

The impact of vegetables and durum wheat value chains to alleviate unemployment and migration in selected woredas of oromia regional state, ethiopia.

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Abstract

Poor countries, like Ethiopia, at this time are highly attached with different problems like poverty, unemployment, backward culture, famine, illiteracy, and high population growth rate. The study was to contribute creating evidence from the government and NGOs intervention experience for further supporting durum wheat and vegetable value chains players in strengthening, expanding and in creating jobs for vulnerable youth in the target areas. With the specific objectives of this research was identify elements of the intervention that shall be further promoted, adjusted or discontinued, identify a range of market-driven non-farm business and income generation opportunities for youth groups and cooperatives, within the durum wheat and vegetable value chains and across interconnecting markets and identify the COVID-19-related impact on youth and women in the target value chains. Sample size includes vegetable traders 123, for wheat trader 261 and for wheat and vegetable producers 384. Cross-tabulation, charts, figures, percentages, and graphs used along with narrative accounts to present the findings. Qualitative data collected via KII narrated and interpreted to supplement data obtained through questionnaire. Wheat processing private companies in the study areas has been creating job opportunities for a number of unemployed youths. The majority of the durum wheat producers 90 (35.86%) and 62 (35.06%) in the study areas were supplied their product to whole seller and local collectors. Both wheat and vegetable target producers were asked about the possible impact of the current pandemic Covid-19 on their farm production. Creating strong linkages among different actors and/ sectors in the value chain for developments of both durum wheat and vegetable value chain developments and through creating job for youth and stemming irregular migration is crucial recommended.

Keywords: durum wheat, migration, unemployed, value chain, vegetables

Introduction and Background

Poor countries, like Ethiopia, at this time are highly attached with different problems like poverty, unemployment, backward culture, famine, illiteracy, high population growth rate etc. According to Federal Urban Development Package of Ethiopia 2005,

“In Ethiopia, the number of people who can work continues to grow more rapidly than the ability of the economy to provide new employment opportunities. Unemployment, particularly urban unemployment, is one of the critical problems in the country. The rate of urban unemployment in the country was 26.4 percent in medium towns and 40 percent in large urban towns in 2005” [1].

In 2020, net migration rate for Ethiopia was 0.28 migrants per thousand populations. Though Ethiopia net migration rate fluctuated substantially in recent years, it tended to increase through 1975 - 2020 period ending at 0.28 migrants per thousand populations in 2020 [2].

It is estimated that out of Ethiopia’s circa 100 million people

more than 3 million Ethiopians live abroad. The major destinations of Ethiopian migrants are: North America; Europe and the Gulf. South-South migration has primarily been directed to Kenya and the Sudan but recently South Africa has taken over as the major destination in the ‘south’ for Ethiopian migrants. While the migration of Ethiopians to the Republic of South Africa began in the mid-1990s, the flow has become more significant since the 2000s.

These migrant entrepreneurs have left their home country for political and economic reasons. The general drivers of migration from Ethiopia are economic needs and aspirations (despite or because of rapid economic growth); authoritarian governmental practices; high population growth rate (circa 3 %) and the associated issue of rural youth landlessness as well as the problem of unemployment for the urban youth. The phenomenal impact of remittances on the place of origins is also intimately connected to the migration dynamics.

Over the past decade, youth employment has gained significant prominence on the National and global development agendas. In Ethiopia, youth employment presents both an opportunity and a

challenge considering 71% of the population is under the age of 30. If channelized and planned well, this demographic dividend could contribute to the economic growth and progress or else faces the risk of increasing migration numbers through irregular and undocumented channels (in light of the 2013 ban on migration imposed by the Government of Ethiopia) in search for better livelihoods and economic opportunities outside the country.

Despite the economic progress achieved in the last decade, there has not been sufficient and adequate job creation and placement for young people. While access to education has increased over the past years, ironically the number of unemployed educated youth has also increased over the past years. Evidence shows that many young people rarely have a decent job and often none or limited social protection along with being subjected to poor working conditions. The situation is even more so difficult for women, who cannot find decent work opportunities and are most often concentrated in the informal sector. Ensuring productive employment poses a challenge in both rural and urban areas, for the approximately three million young Ethiopians entering the labour force every year. As a result, growing numbers of Ethiopians look for job opportunities in the capital province or other urban areas, often in the informal economy, which serves as a stepping stone for migration outside of the country.

Although the exact number of Ethiopians who have migrated overseas is not known due to the absence of a centralized registration system, there is evidence that large numbers migrate to the Gulf Cooperation Council States, Europe and South Africa seeking employment through irregular migration channels [3].

An estimated 839,000 Ethiopians migrated abroad in the past five years, with 78 per cent aged between 15 and 29 years. Close to 31 per cent of these migrants travelled to the Kingdom of Saudi Arabia while South Africa, United Arab Emirates, United States, and Yemen, were popular destinations. As movement from Ethiopia to the Gulf countries is largely irregular, Ethiopian migrants often experience great perils and are exposed to a wide range of risks on these migration journeys. The survey found that close to 51,000 migrants are missing, a majority of whom are men (85%), with many more believed to have perished or gone missing on the way to their destination country using dangerous land and sea routes (IOM, 2021).

According to, UNIDO Strategic Plan for the Ethiopian Agro-processing Industry Products, Ethiopia is the origin for durum wheat in the world [4]. Some parts of the country like Arsi-Bale region is well known for the production of high-quality wheat. The country, however, generates less export earnings from the production and export of the products of durum wheat, which is characterized by very weak value adding activities. Though the sites (Sinana and Adaba) are suitable for the durum wheat production, there is still need for further intervention on value chain of the sector. Regarding vegetable Value Chain, the sites (Tiyo and Shirka woreda) where different types of vegetables produced. In woredas there is variation in producing different vegetables due to lack of market access and the negative impact from diseases. In addition to this, the negative role of brokers

who distort market prices and cause loss for the producers.

Therefore, this study is mainly focus to identify most promising elements of the intervention, including opportunities across value chains and markets, to further boost business linkages and job creation, whilst adjusting the design in relation to elements that may have not produced the expected results, repositioning the design for continuing supporting the development of these value chains and their capacity to create jobs.

The Overall objective

To contribute creating evidence from the government and NGOs intervention experience for further supporting durum wheat and vegetable value chains players in strengthening, expanding and in creating jobs for vulnerable youth in the target areas.

Specific objectives

- To identify elements of the intervention that shall be further promoted, adjusted or discontinued,
- To identify a range of market-driven non-farm business and income generation opportunities for youth groups and cooperatives, within the durum wheat and vegetable value chains and across interconnecting markets
- To identify the COVID-19-related impact on youth and women in the target value chains.

Methodology and Instruments

The study used both qualitative and quantitative data collection approaches to collect data from a range of relevant sources. Accordingly, the following data collection methods were applied for this study;

Survey Questionnaire: Survey questionnaire which was focus on two targeted value chain analysis prepared and distributed for 384 cooperative members selected randomly. Before sample selection, list of all cooperative's members were identified at all targeted Woredas and based on proportional sample from each cooperatives random sampling technique was used.

Key Informant Interviews (KIIs): KIIs was conducted with different stakeholders vary according to the composition of each platform, and these are:

- Zonal Market and Development representatives, Departments of Market for Cooperative and Agriculture offices, TVET office, Unions and value chain experts.
- Woredas Cooperative promotion and development office, Zonal level Cooperative promotion and development office, Woreda market development office, Agriculture office, Enterprise and Industry development office.
- The consulting teams were planned to use FGD as data collection instrument on inception report, however due to Covid-19 it has replaced by KIIs.

Population

The populations of this study include Producers, Processors, Traders (wholesaler, Retailer and collectors). In addition to these actors' stakeholders of Sinana and Adaba districts on durum wheat production and Shirka and Tiyo districts of on Vegetable

production are the populations of the study. The area is purposively selected based on the production of the crop.

Sampling Procedure and Sample Size

A multistage purposive random sampling procedure was used to select representative of multipurpose, primary and seeds multiplication cooperatives in the study area. In the first stage, 6 cooperatives from Shirka district, 5 cooperatives from Tiyo district, 7 cooperatives from Sinana, and 7 cooperatives from Adaba district were selected purposely as it has the largest area under crop productions in the study area. The consultant entity was selected 384 samples of producers from cooperatives by using proportion random sampling from the total number of 9407. Concerning Processing Company, 5 managers from Sinana and 3 managers from Adaba district wheat flour factories were interviewed. Six (6) small groups engaged in the durum wheat value chain were selected from both Sinana and Adaba districts for interview purpose. The research/consulting teams tried to contact vegetable collectors/small group, however all of them are not fully functional or in operation. On the other hand, three Unions (AwashaOlana, Raya Wakena and Sickomendo) were contacted from vegetable value chain.

In addition to this, 20 samples of traders (i.e. (5 wholesalers and 5 Retailers) from each district were selected by using Snowball sampling technique. Which is, from sinana (10 traders), Adaba (20 traders) were selected. The sample selected begun with a known wholesaler, retailer, and collector and expands the sample by asking those initial participants to identify others that should participate in the study till the required sample size is fulfilled.

Producer Sampling

Appropriate numbers of sample household farmers (producers) from four districts were selected in proportional to population size using Kothari (2004) formula.

$$n = \frac{Z^2 pq \cdot N}{e^2(N-1) + Z^2 pq} = \frac{1.96^2(0.5)(1-0.5)(9,407)}{0.049^2(9,407-1) + (1.96)^2(0.5)(0.5)} = \frac{9,034.48}{23.54} \approx 384$$

Where: **n**: is the sample size for a finite population

N: size of population which is the number of households (producers)

p: population reliability (or frequency estimated for a sample of size n), Where p is 0.5 which is taken for all population and p + q = 1

q: 0.5{(1-0.5) i.e 1-p}

e: margin of error considered is 4.9% for this study.

Z α /2: normal reduced variable at 0.05 level of significance z is 1.96

Methods of Data Analysis

After all the relevant data collected and organized under various thematic aspects, analysis of both the qualitative and quantitative data are completed based on selected variables. Data encoded and entered in Excel, SPSS and STATA software to facilitate the computation. In addition to the descriptive statistics, mapping the value chain to understand the characteristics of the chain actors included. Cross-tabulation, charts, figures, percentages, and graphs used along with narrative accounts to

present the findings. On the other hand, Qualitative data collected via KII narrated and interpreted to supplement data obtained through questionnaire.

Interviews prepared for Durum wheat and vegetable producers, input suppliers, traders, Key informants and processors.

Literature review on durum wheat and vegetable value chain

Durum Wheat Value Chain

Wheat is one of the major staple crops in terms of both production and consumption. It is a highly marketable commodity and it is consumed heavily in different forms. As FOA stated, Sustainable Value Chain framework is built around the core value chain, which relates to the value chain actors adding value to the product starting from producer up to the next or final consumer. A critical element of the core value chain is its governance structure, which refers to the nature of the linkages both between actors at particular stages in the chain (horizontal linkages) and within the overall chain (vertical linkages) (FAO, 2014).

As a result of the rapid urbanization and of the increasing population, consumption of wheat products like flour, bread, biscuits and pasta (e.g. macaroni, spaghetti, etc.) is rising. The demand for quality wheat, especially durum wheat, is high and not met by the local production.

In Central-Eastern Oromia, Bale, Arsi and West Arsi Wheat productivity has increased steadily over the past years, reaching yields as high as 3.6 tons per hectare, well above the national average which stands at 2.53 tons per hectare. Even though reliable information is limited, durum wheat production is accounted 40% of cultivated area in Central- Eastern Oromia. Different varieties are produced in scattered pieces of land (approximately 1 hectare) making it costly and difficult for durum processors to aggregate sufficient quantities at the desired quality. In addition, the productivity of durum wheat is lower than that of bread wheat; however, there is great potential of durum wheat production [5].

Though the Sinana and Adaba Woredas are sites in the wheat belt, competing value chains, particularly Bread Wheat Value Chain, is found to be a competitor where farmers were interested to engage in the production of bread wheat rather than the durum wheat variety. This is due to the need for more inputs for durum wheat production than the bread wheat variety coupled with lack of market linkages to durum wheat which at the end those farmers who produced bread wheat got more gains from more production volume and access to market for bread wheat in the area.

The main factors that negatively affecting durum wheat production and its value chain in the target woredas are: drought particularly during the 'belg' season, excess rain and rust, price differences between durum wheat and bread wheat in the area and lack of subsidy for farmers engaged in durum wheat as this variety requires more inputs incurring higher production cost. Based on the same sources, the major storage facilities used by farmers in the Woredas are pepi bags and traditional warehouses,

which is the result of lack of provision of chemicals and other technologies to prevent weevils, know how on when to harvest grains particularly using combiners as they come to harvest crops on adjacent farm lands which enforces farmers towards harvesting crops which were not fully ripened. This in turn results in decreasing the quality of the wheat. In addition to these, in the target areas farmers produce under quality which does not meet the required standards and the utilization of non-certified seeds results in significantly reduced productivity. It is common practice for wheat producers in rural areas to purchase low-quality (old) seeds from informal market channels [6].

In general Shortage of capital and lack of credit access, Lack of market information, Unfair pricing and cheating of traders during weighting, Unfair competition with unlicensed traders, lack of Market infrastructure and Transportation costs, Poor product quality and high cost of input and Weak market linkages among market participants are major durum wheat value chain challenges in target areas. Beside many challenges raised, increment of the demand, expansion of establishment of food processing plants, conducive environmental conditions are some of the opportunities to be utilized to develop durum wheat value chain in Bale and West Arsi zones.

Vegetable Value chain: (Shirka and Tiyo woreda)

An econometric study about horticulture production in Central and Eastern Ethiopia found out that horticulture is conducive to agricultural commercialization of small-scale farmers with relatively better agricultural resource potential. In addition to economic competitiveness, horticultural crop production is particularly attractive for youth and women than traditional cash crop production for a number of additional reasons. Horticulture requires a relatively smaller land endowment, offers possibilities for year-round production, as well as high potential for value addition and better incomes. Horticultural crop production of vegetables, fruits, potato, and Vegetable in Central and Eastern Ethiopia holds significant potential to generate decent employment opportunities. Engaging women and youth in high value horticulture production is expected to generate sustainable income generation, and hence facilitate access to agricultural inputs, extension services, as well as market, irrigation and other infrastructure. The development of horticulture can thus support the diversification of livelihoods and strengthen food security [4].

The major actors in the vegetables, specifically (Vegetable) Value Chain in Shirka and Tiyo Woreda are input suppliers, farmers (producers), local collectors' association/cooperatives, brokers, processors, retailers, support providers (including information providers, woreda office of Agriculture, cooperatives, research centres, credit associations and NGOs) and consumers market (SINCE, 2017).

In Tiyo Woreda, Value chain assessment in the Vegetable value chain is to increase rural incomes by increasing the number of rural households deriving their livelihood from vegetable business through managing high productivity enterprises while delivering, through a competent and efficient marketing system,

improved quality and affordable Vegetable products to the market. In the other way, the Shirka community used to produce potentially spices (Black and white cumin, Fenu Greek, Pepper, Niger seed) as a cash crop but the problem is the availability of inputs and market linkage. Shirka woreda has conducive environment to produce Vegetable as well as other types of vegetable like potato, carrot, cabbage, onion and garlic (NAR Report, 2017).

Challenges and Opportunities of Value chain

Regarding the opportunities, the existence of different sector/institutions in and around the production area especially for vegetable production area are the main opportunities. As mentioned woredas are ready to avail land and/or working premises. On the other and, institution like Arsi University and other colleges are potential stakeholders and considered as main opportunities which further contribute the vegetable value chain. Furthermore, target area, Tiyo and Shirka woredas have untouched potential for vegetable production and the availability of highly demand for vegetable both in central and other local market guarantees the area opportunities [7, 8].

Women participation as cooperative members is significant but still small when compared to male participation [9]. In addition, women are heavily underrepresented at management level where the inequality is even more evident. Nevertheless, examples exist of women-dominated cooperatives in some contexts in Central-Eastern Oromia. Gender dynamics influence the way individuals interact and, therefore, the way the value chain works. Several factors challenge smallholder farmers, both women and men, in their endeavor to seize opportunities within the value chain.

The negative role of broker's in vegetable production are affecting or challenging the production system. Brokers distort market prices and being cause for producer's loss. Though brokers are not the principal natural actors in the value chains, the terms of trend even favor them from all the actors. With respect to product related challenges, insufficient supply of certified improved seeds a major challenge for vegetables producers, which its ultimate effect is on production volumes, also resulting in shortcomings in seed availability and timeliness of delivery. Since, there a problem of high cost of agro-chemicals producer or famers forced or obliged to use limited amount fertilizer or apply inadequate amounts per hectare. There is also limited availability of pesticides and fungicides both in quality and quantity and producers have limited knowledge on type, dosage, application techniques and timing. The frequent appearance of vegetables diseases is being a major issue, contributing in poor vegetables yields and huge post-harvest losses [6, 10].

Seasonality of Vegetables production is one of the major constraints in. Seasonal production limits profitability because prices are high during the growing period and low during harvesting season. Off-season vegetables production is limited where irrigation is available. Under capacity/under performance of cooperatives is another constraint in vegetable production. The role of cooperatives is not effective and many cooperatives are unable

to reduce their transaction costs due to inefficiencies. Intermediaries dominate the value chain, while the role of producers and cooperatives is limited and so is their benefit (that sometimes is not enough to cover costs). In addition, transportation problem particularly during post-harvest a challenge mentioned as cause for losses occur frequently during transportation. Moreover, vegetable are subject to perish ability problem, traditional transportation also leads to loss on transportation and; smallholder producers are often geographically dispersed, making transportation costs very high (Ibid).

COVID-19-related impact on the value chain.

The COVID-19 pandemic, started as a health emergency, is transmitting its negative effects in the Businesses vulnerable to reductions of cash flows –which is the large majority of MSMEs, in turn the largest employer in the country- are prone to bankruptcy, laying off workers/reducing working hours, reducing spending, investments or re-payments to other businesses or just closing down, with cascade effects. Such effects can be further aggravated by pre-COVID vulnerabilities, such as the presence of a large share of informal or of millions of workers with short term contracts. All this takes place into an overall framework where about 80% of population is multi-dimensional poor. In a recent study, the Job Creation Commission estimates that manufacturing, construction and services in urban areas are the sectors potentially most affected, followed by the agriculture/agribusiness sector. In a medium impact scenario, over 1.4 million wage-employment jobs could be at risk at present, which could reach 2.2 million over the coming six months period. In addition, in this and next quarter the commission hypothesized 1.9 million self-employed persons in the service sector is expected to deteriorate sharply (for about the 50%), while the income of 15 million farming HHs may decline of 10%, pointing that daily, temporary and low skilled workers, and youth among most victimized group to be at risk of losing their livelihoods.

Results and Discussions

Socio-Economic and Demographic Background of the Respondents Sex of the household head: Table 1 explains the majority of the sample households 345(89.84%) were male headed households while the remaining 39(10.16%) of the respondents were female headed households in the study area.

Table 1: Sex of the Respondents

Sex	Frequency	Percent	Cumulative
Female	39	10.16	10.16
Male	345	89.84	100
Total	384	100	

Source; Own Survey data (2020)

Education level of the Respondent: As shown in table 2 the education level of the sampled households of the study area, 208 (54 percent) get primary education, while 95(24 percent) attended secondary education level, 3(0.78 percent) attended college and above whereas the remaining 78(20 percent) of the respondents do not have any formal education.

Table 2: Educational Status of the Respondents

Educational status	Frequency	Percent	Cumulative
No formal education	78	20.31	20.31
get primary education	208	54.17	74.48
Secondary education	95	24.74	99.22
College and above	3	0.78	100
Total	384	100	

Source; Survey data (2020)

Marital status of household heads: As presented in the table 3 from the surveyed households, out of total sampled households, 367(95.57%) are married, while 5(1.3%) are unmarried and the remaining 12(3.13%) are widowed.

Table 3: Marital Status of the Respondents

Marital status of the households	Frequency	Percent	Cumulative
Married	367	95.57	95.57
Un married	5	1.3	96.88
Widowed	12	3.13	100
Total	384	100	

Source; Own survey data (2020)

Descriptive statistics for Continues Variables

Under this section, descriptive analysis of Continues Variables such as Age of the respondent, Family size in numbers, Land holding size in hectares, Non/off-farm income earned per annum and Frequency of extension contact per cropping season were discussed as follows.

Table 4: Continues Variables for Durum Wheat and Vegetables Value chain

Variable	Obn	Mean	Std. Dev	Min	Max
Age of the respondent	384	43.476	12.35631	20	80
Family size in nubers	384	6.0703	2.67719	2	15
Land holding size in hectares	384	1.7636	1.39367	0.2	12
Non/off-farm income earned per annum	384	4,444.4	12333.1	0	100,000
Frequency of extension contact per cropping season	384	1.6067	2.46416	0	15

Source: own survey data, (2020)

Age of the respondents: Age is one of the demographic factors that is useful to describe households and provide clue about the age structure of the sample and the population. Age is usually considered in adoption studies with the assumption that older people have more farming experience which enables them to easily adopt new technologies. As indicated in the table 4 above the mean age of sample households was 43.48 years with standard deviation of 12.36. The maximum age for the sample farmers was 80 -years while the minimum was 20 years.

Family size in numbers: Family size in this study refers to the number of members who are currently living within the family. Large family size is an indicator for availability of labor provided that the majority of the family members are within the age range of active labor force. Availability of labor in the household is again one of the important resources in durum wheat production and vegetable production. As it can be seen from the above table 4, the average family size of the sampled households was about 6.07 with SD 2.68; while the maximum family size being 15 and the minimum being 2.

Owned Land holding size in hectares: Owned Farm size is also another important proxy indicator of wealth and social status within the farming community. Accordingly, as shown on above table 4 the minimum and the maximum land holding size of the respondents are 0.2 and 12 hectares, respectively. The average mean and standard deviation land size of the respondents are 1.80 and 1.40 hectares, respectively.

Non or off-farm income of households: The amount of non-farm income from different activities left from consumption could be used to purchase new agricultural inputs and other machineries. As it can be seen in the above table 4, the maximum total annual off-farm income of the respondents was 100,000ETB while the minimum was 0ETB and mean annual off-farm income of total sample respondents were 4444.4ETB-with standard deviation of 12333.1ETB. This indicates that, the relative off-farm income distributions of the sample household were highly dispersed.

Extension contact per cropping season: Extension participation is the most important information dissemination tool. As depicted on the table 4, the maximum total Frequency of Extension contact was 15times/cropping season while the minimum was 0 times/cropping season. The average mean score of total respondents was 1.60 with 2.50score of standard deviation, respectively.

Wheat and vegetable Value Chain Analysis

Agricultural outputs pass through different market stages in the value chain before it reaches to final consumers. In wheat value chain there are primary or direct actors who involved in commercial activities in the chain and different chain supporters who provide financial or non-financial support services.

Input supply

The major agricultural inputs used in the targeted woredas are fertilizers, herbicides, pesticides and improved seed varieties which are essential inputs at the production stage. At this stage of the value chain, there are different actors who involved directly or indirectly in agricultural input supply in the study areas. Currently, primary cooperatives, local shopkeepers, women owned Agriculture input suppliers and fellow farmers are the major sources of agricultural inputs in both durum wheat and vegetable production. Women owned agriculture input suppliers Cooperatives participating in agricultural input supply in collaboration with multipurpose cooperatives. As shown in table 5 the majority of the producers (79.41%) get their agricultural inputs

from primary cooperatives.

Table 5: Major Sources of agricultural inputs

Sources of inputs	Frequency	Percent	Cum.
Local shop keeper	73	16.7	16.7
Cooperatives	347	79.41	96.11
Fellow farmers	17	3.89	100
Total	437	100	

Source: own Survey Data (2020)

Input Access: Input application is one of the most important agricultural practices that are used by both durum wheat and vegetable producers in the study area.

Table 6: Timely accessibility of input

Response	Frequency	Percent	Cum.
No	180	46.88	46.88
Yes	204	53.13	100
Total	384	100	

Source: Own Survey Data (2020)

The table 6 shows that about 204 (53.13 %) of sampled producers are getting agricultural input at the right time and the rest of respondent 180 (46.88%) replied that they have no getting input at the right time. This implies that the majority of households have access to input at the right time.

Regarding the farmers or households those not getting input at the right time, there is much constraint facing the producer for not getting the agricultural input at the right time. According to Table 7 about 148 (82.22%) of respondents are not get the right quantities due to Unavailability of agricultural input. As woreda irrigation experts of Tiyo and Shirka noted that, since nature of vegetable production by irrigation is year-round, the availability of agricultural input limited in the market. In addition to this, 18 (10%) and 14 (7.78%) of respondents are not getting the right time due to far distance and impact of COVID-19 break out.

Table 7: Reason for not getting input at the right time

Reasons	Frequency	Percent	Cum.
Unavailability	148	82.22	82.22
far distance	18	10	92.22
COVID-19 break out	14	7.78	100
Total	180	100	

Source: Own survey data, (2020)

Access to credit

Access to credit is one way of improving smallholder farmers' production and productivity. Farmers' ability to purchase inputs such as improved seed and fertilizer is tied with access to credit. Farmers with access to credit can minimize their financial constraints and buy inputs more readily than those with no access to credit. Thus, it is expected that access to credit increase the production of agricultural crops in general.

Table 8: Access to credit services

Response	Frequency	Percent	Cum.
No	260	67.71	67.71
Yes	124	32.29	100
Total	384	100	

Source: Own survey data, (2020)

The table 8 shown that, only 124 (32.29%) of sample respondents took credit and the rest of 260 (67.71%) respondents were not access to credit. The reason why most of the farmers were not getting credit services are found to be: limited supply of credit, huge bureaucracy of accessing credit services, religious aspect, collateral problem and others. The survey result revealed that major constraints that hinder sample respond from getting credit services are collateral problems 85 (32.69%), religious aspect 71 (27.31%) and low supply of credit services in the study areas 63(24.23%) as shown in the table below.

Table 9: Constraints that hinder access to credit services

Response	Frequency	Percent	Cum.
Low Supply of Creit	63	24.23	24.23
Huge bureaucracy	41	15.77	40
Religious aspect	71	27.31	67.21
Collateral	85	32.69	100
Total	260	100	

Source: own Survey Data (2020)

Source of credit: Famers accesses credit from different sources such as microfinance, cooperatives, friend and relatives, local money lenders and NGO. From table 10 result most of the sampled households 107(86.29%) accessed credit from micro finance organization.

Table 10: Sources of credit

Type of source	Frequency	Percent	Cum.
Microfinance Organization	107	86.29	86.29
Saving and cooperatives (SACO)	11	8.87	95.16
Relative	2	1.61	96.77
NGOs	4	3.23	100
Total	124	100	

Source: Own survey data, (2020)

Purpose of credit received by respondents

Producers who received credit from different sources of credit were using the money for different purpose. As shown in table 11, 109 (88.62%) of them used credit to purchase farm inputs, 10 (8.13 %) of respondent were used to carry out farm operation and the rest of 1 (0.81%) of them were used for the purpose of buying harvesting equipment, to purchase food, to rent or purchase land and others

Table 11: Purpose of credit received by respondents

Purpose Type	Frequency	Percent	Cum.
To purchase farm inputs	109	88.62	88.62
To carry out farm operation	11	8.13	96.75
For buying postharvest equipment	1	0.81	97.56
To purchase food	1	0.81	98.37
For renting /purchase land	1	0.81	99.19
Others	1	0.81	100
Total	124	100	

Source: own survey data, (2020)

Access to marketing information:

ccesses to marketing information's are essential factors in promoting competitive markets and improving agricultural sector development. A well-organized market intelligence information system helps all the producers and traders freely interact with one another in arriving at prices. Access to reliable market information help farmers sell their crops and choose modes of transaction, each of which yields a different benefit. It has been postulated that farmers will choose a profitable mode of transaction if they can receive reliable market information on the prevailing market conditions.

As shown in table 12 most of the respondent 199 (51.82%) of them had access to market information and the remaining 185 (48.18%) of respondent had not access to market information.

Table 12: Access to market information

Response	Frequency	Percent	Cum.
Yes	199	51.82	51.82
No	185	48.18	100
Total	384	100	

Source: own survey data, (2020)

Households Sources of market information: Those producers who produce durum wheat and vegetable product are selling their product by gathering information from different sources. Source of market information of respondents in table 13 shown that the major source of market information was from local market and DAs, with 72 (36.18%) and 60 (30.15%) respectively. About 59 (29.65%) and 8 (4.02%) of the respondents are getting market information from Brokers and Radio respectively. As the informal interview producers noted that even though brokers provide or being a source of market information for producers they provide or tell them wrong or distorted information especially about the price of product.

Table 13: Sources of market information

Sources of Market Information	Frequency	Percent	Cum.
Das	60	30.15	30.15
Brokers	59	29.65	59.8
From Local market	72	36.18	95.98
Radio/mobile	8	4.02	100
Total	199	100	

Source: own survey data, (2020)

Households Training participation

The table 14 shown that, 67 (17.45%) was not participated in any types of training for both vegetable and wheat production. While, 317 (82.55%) was participated in both vegetable and wheat production training. According to the respondents even if majority of them receiving training they are not effective due to the training is not given in time and not specific to their production.

Table 14: Households Training participation

Response	Frequency	Percent	Cum.
No	67	17.45	17.45
Yes	317	82.55	100
Total	384	100	

Source: own survey data, (2020)

Types of training received by households: The table 15 shows that about 20.57% of the producer participated in organic fertilizer, 23.73% application of organic fertilizer like compost, 52.22% in crop production, 0.63 in livestock production, and 2.53% in irrigation practice 0.32% in marketing. this study showed most of the training was giving for crop production in general however, the main challenge in the areas are marketing problem specifically for perishable crop and the producer were interested in receiving training to know about vegetable production, post-harvest management and in livestock production specifically. Respondents also mentioned that they need better trainings on production and the use of fertilizers and chemicals to achieve higher productivity and quality.

Table 15: Training type received by households

Training Type	Frequency	Percent	Cum.
To use organic fertilizers/making compost	65	20.57	20.57
How to apply inorganic fertilizer	75	23.65	44.3
Crop production in general	165	52.22	96.52
Improved Livestock production	2	0.63	97.15
Irrigation practices	8	2.53	99.68
Marketing/markets	2	0.64	100
Total	317	100	

Source: own survey data, (2020)

Advisory support/service providing institution or organization As revealed in the following table 16, the participant has men-

tioned that Development Agents advisory Services accounts about 11 (55.22%), NGO47 (23.38%), research center 33 (16.42%) woreda agriculture office 8 (3.98%) and friends 2 (0.64%). According to farmers NGOs provide training and advisory support on capacity building on production, collection, processing and different support in market linkages. As indicated in open ended question and informal interview with producers they have indicated that advisory support haven given by different ways like farm to farm visit, Experience sharing tour, Visit to demonstration/model farmers and by Training.

Table 16: Advisory support institution

Who provides the advisory Services	Frequency.	Percent	Cum.
Development Agents (DA)	111	55.22	55.22
NGO	47	23.38	78.61
Research Centers (specify)	33	16.42	95.02
Woreda Agricultural Office experts	8	3.98	99
Neighbors and friends	2	1	100
Total	201	100	

Sources: own survey data, (2020)

Major reasons for vegetable spoilage

According to the table 17, about 57 (75%)of the spoilages are occur due to lack of market, 12 (15.79%) lack of transportation, followed by 5 (6.58%)lack of appropriate storage and 2 (2.63%) due to another factor like environment. The spoilage is communal in vegetable unless they are managed after harvest because of they are perishable.

Table 17: Reasons for Vegetable spoilage

Reason for spoilage	Frequency	Percent	Cum.
Lack of market	57	75	75
Lack of Transportation	12	15.79	90.79
Lack of Storage facilities	5	6.58	97.37
Other(specify)	2	2.63	100
Total	76	100	

Source: own survey data, (2020)

Durum wheat and vegetable production

Wheat producers and Vegetable growers are the major actors who perform most of the value chain functions right from farm inputs preparation on their farms to post harvest handling and marketing. Smallholder farm households are the main operators at this stage of the value chain in the study areas. The major value chain functions that smallholder farmers perform include plugging, planting, fertilization; irrigating, weeding, pest/disease controlling, harvesting, post-harvest handling and marketing. As shown in table 18 mean number of durum wheat produced by smallholder farmers is found to be 89.6 quintals per households. Regarding the vegetable production, potato, cabbage and carrots are the major vegetable produced in the study areas.

Table 18: Descriptive statistics of quantity produced

Crop type	observation	Quantity produced in Quintals			
		Mean	Std. Dev.	Min	Max
Durum wheat	256	89.58984	45.33474	0	400
Cabbage	79	28.43354	36.84235	1.5	200
Potato	109	45.05505	22.16524	1	125
Carrots	51	39.14634	22.23236	5	80
Onion	30	24.08	50.63226	5	300
Beat roots	18	17.125	18.90153	1	60
Garlic	11	46.36364	45.52202	3	140

Source: Own Survey Data, (2020)

Durum wheat and Vegetable channel identification

The survey result revealed that durum wheat and vegetable marketing chains prevailing in the study areas is found to be comprised of few marketing channels and market outlets with limited to a number of respective market players. The major marketing actors in the study areas were found to be smallholder producers, wholesalers, brokers, collectors, primary cooperatives and retailers. The number of intermediaries in a given marketing channel would have a bearing effect on both producer and consumer prices.

The shorter the channel, the more likely that the consumer prices will be low and the producer will get a higher return. Different types of marketing channels were identified in the study areas during the survey period. Accordingly, the following channels were identified for durum wheat marketing:

- Channel 1 - Producer's individual consumers
- Channel 2 - Producers → whole sellers → Retailers → consumers
- Channel 3 - Producers → collectors → whole sellers' → consumers
- Channel 4- producer's → primary cooperatives → processors consumers
- Channel 5 – Producers → retailer' → sconsumers

The majority of the durum wheat producers 90 (35.86%) and 62 (35.06%) in the study areas were supplied their product to whole seller and local collectors, respectively as it is depicted on the table of 19 and the value chain map of durum wheat illustrated in figure 1.

Table:19 durum wheat marketing channels.

Market channel	Frequency	Percent	Cumulative
Direct to consumer	62	24.7	24.7
Whole sellers	90	35.86	60.56
Retailers	4	1.59	62.15
Through collectors	88	35.06	97.21
Through cooperatives	7	2.79	100
Total	251	100	

Source: own Survey Data (2020)

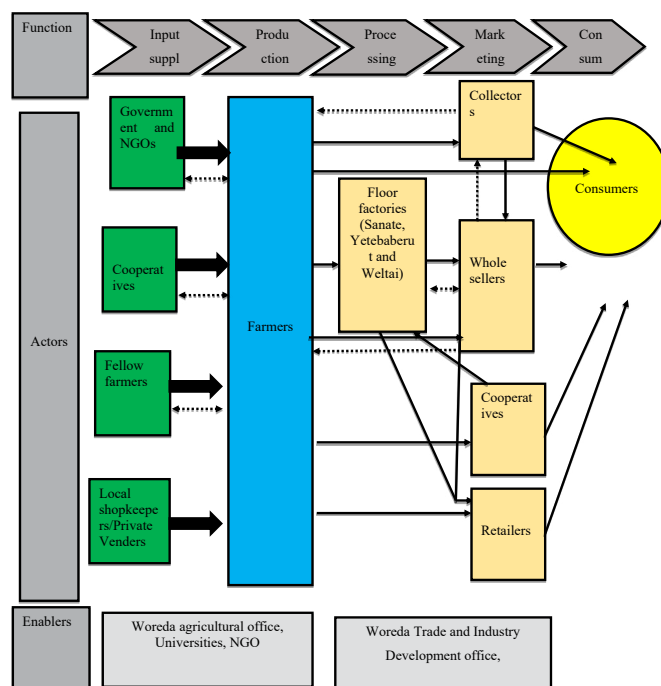


Figure 1: Wheat Value Chain Map in the study area, 2020

Regarding the vegetable marketing, the following channels were identified:

Potato marketing channels:

- Channel 1 – Producer's → individual consumers
- Channel 2 – Producers → whole sellers → Retailers → consumers
- Channel 3– Producers → (brokers) → whole sellers' →consumers
- Channel 4 – Producers → retailer's → consumers

The study revealed that, majority of potato producers 47.27% in the study areas were supplied their product to whole sellers through brokers (table 21).

Carrot marketing channels:

- Channel 1 – Producers → whole sellers → Retailers → consumers
- Channel 2– Producers → brokers → whole sellers' → consumers
- Channel 3 -- producer's → primary cooperatives → consumers
- Channel 4 – Producers → retailer's → consumers

Among the four alternative identified channels, the 3rd channel is identified to be important channel of carrot distribution. According to survey result, about 74.51% of carrot producers supplied their produce through brokers (table 20).

Cabbage marketing channels:

- Channel 1 – Producer's → individual consumers
- Channel 2 – Producers → whole sellers → Retailers → consumers
- Channel 3– Producers → brokers → whole sellers' → consumers

Channel 4 -- producer's → primary cooperatives → consumers
 Channel 5 – Producers → retailer's → consumers

The majority of the cabbage producers (30%) in the study areas were supplied their product to market through brokers as indicated on the table below.

Table 20: Major Vegetables market channel analysis

Vegetable type	Market Channel	Frequency	Percent	Cumulative
Potato	Direct to Consumer	10	9.09	9.09
	Whole Sellers	29	26.36	35.45
	Retailers	19	17.27	52.73
	Through Brokers	52	47.27	100
Carrot	Whole Sellers	4	7.84	9.76
	Retailers	6	11.76	24.39
	Through Brokers	38	74.51	92.68
	Through Cooperatives	3	5.88	100
cabbage	Direct to Consumer	9	11.25	11.25
	Whole Sellers	20	25	36.25
	Retailers	24	30	66.25
	Through Brokers	24	30	96.25
	Through Cooperatives	3	3.75	100

Source: own Survey Data (2020)

For all vegetables the number of intermediaries between the producers and consumers are large in numbers and this resulted in exploitation of farmers. This calls further strengthening of the marketing linkages to reduce the higher marketing margin that might be created due to involvement of brokers all vegetables value chain map shown in figure 2.

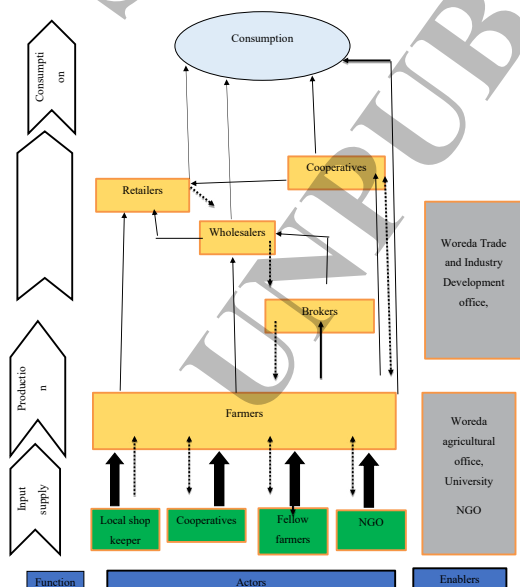


Figure 2: Vegetable Value chain map in the study area, 2020

Marketing pricing decision: Pricing issue of crop output (both durum wheat and vegetable) marketing is the most important factor in determining the success of farmer's productivity.

Table 21: Pricing decision for their wheat/ vegetable output at the market place

Response Category	Obs	Frequency	Percentage	Cumulative
Your Self	384	67	17.45	17.45
Buyers	384	102	26.56	44.01
By Demand and Supply	384	91	23.7	67.71
Negotiation through brokers	384	124	32.29	100
Total		384	100	

Source: Own Survey Data, (2020)

As ranked by the respondents/ sampled cooperatives members as shown in table 21 most of time 124 (32.29%) farmers set price for their product by negotiating with buyers/brokers even though it is very sided/favors for broker's interest. Informal interview while enumeration (members) and office level interview also showed that, most of the time brokers withhold market information (manipulate farmers) while they negotiate selling price with the farmers. Especially for Tiyo and Shirka Woreda as indicated on formal interview with Cooperatives members (farmers), respective Woreda agricultural Offices and cooperatives unions, brokers' informal bargaining power or price manipulation is critical producers/ famers problem. At the second level, members 102 (26.56%) mentioned that buyers by themselves set price alone without engaging the producer's consent. As it is supported by interview and explained in the open-ended question, since there are very limited in number and informally interconnected brokers, the farmers have nowhere to sell and forced to agree with broker's idea.

In addition, 67 (17.45%) of sample respondents set price of their product/output by their own and; 91 (23.7%) agreed that their output price is determined at market center is set by interaction of demand and supply of the product.

Specific Objective #1: To identify elements of the intervention that shall be further promoted, adjusted or discontinued

Table 22: Households ranking of elements of the intervention by government and NGOs

Elements of interventions	Obs	Mean	Std. Dev	Rank
Experience sharing, tour and farm visit	384	3.033	1.429	5
Provision of agricultural inputs in kind	384	3.044	1.427	4
Creating market linkage for their outputs	384	4.468	0.499	1
Provision of post-harvest handling facilities and equipment	384	3.526	1.061	2
S ME capacity building to promote job creations	384	3.497	1.133	3
Provision of general trainings	384	2.953	1.400	6

Source: Own Survey Data, (2020)

As a capacitating organization, government and NGOs has priorities activates and programs. Therefore, in order to identify the most relative important interventions elements, households were asked to rank possible involvements. Accordingly, household were asked to rank intervention that have been made by different organization. As shown in table 22 from the total number of surveyed farmers, the overwhelming number with a mean of (M=4.468) and SD.0.499 have ranked creating market linkage for their outputs as first and most important factor or intervention to be continued. Even if there is a challenge for vegetable marketing, the project area is also potential for producing high amount of durum wheat and vegetable product and most farmers in the target Woredas are also know by both vegetable and durum wheat production. The interview results also confirmed the potentiality of the target areas and as it needs to be supported by strong market linkage.

Producers also ranked provision of post-harvest handling facilities and equipment as the second intervention elements with a mean of (M=3.526) and SD. 1.061. Specifically, for vegetable target area were perishability is a critical problem sustaining intervening facilities with post-harvest handling facilities and equipment like support to existing and newly established youth and women farmers' cooperatives, establishment of women-led small and medium tomato processors' cooperatives, support to agriculture research centers and TVET in terms of human capacity and equipment, support to establishing agreements between cooperative unions and the industry, technical and financial support to improve existing minor infrastructure (e.g. irrigation, storage, etc.) is highly demanded.

In addition to this for durum wheat targeted areas facilities with post-harvest handling facilities and equipment has needed to strengthen value chain across different actors. These facilities include building a marketing information network between farmers, cooperative unions, and agro-food processing indus-

tries, physical infrastructure (communications and roads, storage facilities, logistics and distribution channels, etc.), specific applicable product standards, licensing and issuing of permits.

Lastly, households ranked SME capacity building to promote job creations, Provision of agricultural inputs in kind and Experience sharing, tour and farm visit were ranked as third, fourth and fifth intervention elements that needs to be continues with a mean of (M=3.497, 3.044 and 3.0338) and SD. 1.133, 1.427 and 1.429 respectively.

Specific objective #2: To identify a range of market-driven non-farm business and income generation opportunities for youth groups and cooperatives, within the durum wheat and vegetable value chains and across interconnecting markets

Market driven non – farm business and Income generation opportunities for youth and cooperatives within the durum wheat and vegetable value chain in the Study Employment Opportunities related to durum wheat value chain

According to survey result, there are huge job creation opportunities for youth group and cooperatives within the durum wheat value chain from the inception/production stage up to the last point of the chain in the study areas. At stage of input supply, a lot of individuals were engaged in the supply of inputs, especially in the trading of chemicals so that they were generating their own income. There were also women owned Agriculture input suppliers who engaged in supplying of inputs for durum wheat producers. After harvesting of the wheat, many groups of youth's form collector cooperatives and collect and assemble wheat from farmers and supply to the next stage of chain actors (traders).

There were also individuals who organized in cooperatives and engaged in bread preparation and distribution by the assistance of governments and NGOs in the study areas.

Among the opportunities identified; Proximity to market centers / urban areas/processing industries, easy availability of agricultural inputs; more demand for the output/crop in the market, Relatively higher price for the crop produced , Short gestation period of the crop, Better support obtained from experts/ Development agents/NGOs, availability of irrigation water /pond/ lakes/ rivers and less requirement of agricultural inputs and man-power are the major opportunities ranked from the first to the last in their importance respectively. According to the survey results, Proximity to market centers / urban areas/processing industries is the first ranked opportunity by respondents with the mean number of 3.456 in the study areas. For durum wheat value chain, the presence of wheat processing plants with their full capacity of processing, especially in sinana district is found to be the great opportunity to enhance the level of commercialization.

According to FGD, there are huge job creation opportunities for youth group and cooperatives within the durum wheat value chain from the inception/production stage up to the last point of the chain in the study areas. At stage of input supply, many

individuals were engaged in the supply of inputs, especially in the trading of chemicals so that they were generating their own income. There were also women owned agricultural input suppliers who engaged in supplying of inputs for durum wheat producers. After harvesting of the wheat, many groups of youths form a collector group who collect and assemble wheat from farmers and supply to the next stage of chain actors (traders). The collector groups in both Sinana and Adaba wereda during FGD replied that government and NGOs provided training on product collect, business skill and life skill along with the startup capital for running business. They organized into product collector group and worked closely with Cooperatives. In future, the group has a plan to expand business to bakery, flourmill, agricultural input shop, manually operating thresher machine, hotel etc.

Furthermore, wheat processing private companies in the study areas has been creating job opportunities for a number of unemployed youths. For example, waltai floor factory creates jobs for about 23 people, Sanate floor factory create jobs for 20 youths and similarly Yetebaberut floor factory creates job opportunities for about 41 people. Primary cooperatives and unions also have been contributing their own part in creating jobs for people in the study areas. According to the manager of Sikomendo union, in collaboration with different NGO and government stakeholders, they created job opportunities for about 34 persons in the past time within durum wheat value chain and they have a plan to expand to more than 38 people. However, due to shortage of budget only 20 individuals got job opportunity in the year 2020. In addition to this, many young unemployed youths were getting their daily income by participating on daily laborer on loading and unloading activities at different stages of durum wheat value chain in the study areas.

There were also individuals who were organized in groups to produce breads in Sinana Woreda. Sanbitu Bread Making Durum Wheat Processor and Distributor is one of them and engaged in bread preparation and distribution by the assistance of government and NGOs in the study areas. From interview carried out with the group member at Sanbitu, they repeatedly replied that there is a potential to produce more breads. In the future, an increase in number of flour factories, increase in demand for agricultural inputs, ongoing industrial park construction in Robe Town and urbanization has the possibility of enhancing job creation opportunities for unemployed youth within the durum wheat value chain.

Employment Opportunities related to vegetable value chain

The presence of universities near the production areas, growing numbers of hotels and cafeterias in near towns also identified as the first ranked opportunities that can encourage development of vegetable value chain in the study areas. According to information obtained from the household farmers; easy accessibility of agricultural inputs from the local market and/or cooperatives and relatively cheap labor force are the second ranked opportunities that must be utilized to upgrade the value chain.

The creation of primary farmers cooperatives even though they are operating under extremely low designated capacity, support given to the sector by NGOs effort made by universities and research centers are also identified as opportunities that can encourage development of durum wheat and vegetable value chain in the study areas. Especially, the support providing by NGOs such as: provision of inputs, provision of capacity building training, facilitation of experience sharing through farm visit, construction of storage facilities to reduce post-harvest losses were found to be essential opportunities to enhance the development of both durum wheat and vegetable value chain developments and thereby increase job creation. According to information obtained from Awash Olana Union manger, **UNIDO** project is agreed to buy modern refrigerated truck for union to transport vegetable from site of production to market and this is the great opportunity to be utilized. Lastly favorable or suitable climate condition for the production of potential vegetable and cereal crops is also raised an opportunity to be utilized.

According to woredas trade office (Tiyo and Shirka), there are many informal businesses operating as a means for sources of income for youth and women in vegetable value chains. However, progress in this arena remains limited due less formalization of their business. Their business is progressed if the current gaps in youth engagement are addressed through formalization and incapacitating of youth groups with different administrative and technical services. This can influence youth initiatives along vegetables value chains in creating more employment opportunities in formal business. Moreover, due to proximity of the study area to big towns and cities, there is a high demand for vegetables. This increase in demand for vegetables would create more job opportunities along the value chain stages for youth and women.

According to the key informant interview made with the representatives of Sherka Woreda agricultural offices, three pack houses for vegetables and 33 water pumps were provided by government and NGOs, 17 irrigation canals were constructed by AGP and there are 3 on-going irrigation canal projects by Oromia regional state. All the above endowments of facilities by the Woreda can create more opportunities for youth and women to be employed in vegetable chains

tha table 23 shown that Ranked opportunities of durum wheat and vegetable value chain development.

Table 23: Ranked opportunities of durum wheat and vegetable value chain development

Variable	Obs	Mean	Std. Dev.	rank
Availability of irrigation water /pond/lakes/ rivers	384	2.5	0.972	7
Better support obtained from experts/ Development agents/ NGOS	384	2.539	0.89	6
Availability of agricultural inputs	384	3.055	0.573	2
less requirement of agricultural inputs and man-power	384	2.336	0.953	8
more demand for the output/ crop in the market	384	3.026	1.256	3
Proximity to market centers / urban areas/processing industries	384	3.456	0.91	1
Relatively higher price for the crop produced	384	2.784	0.957	4
Short gestation period of the crop	384	2.688	0.895	5

Source: Own Survey Data (2020)

Durum wheat and Vegetable Constraints

Durum wheat marketing constraints: As indicated on the below table 24, the major durum wheat marketing constraints identified were: low price of output, Lack of labor for loading and unloading, lack of market information, Lack of transport facilities, Losses during transportation/transaction and lack of formal implementation of contract marketing with different stakeholders (processor) in the target area of durum wheat production. According to the survey result, among the major durum wheat marketing constraints, low price of output, lack of market information and lack of transport facilities were ranked by respondents from first to third with the mean number of 2.556, 4.019 and 4.042 respectively as it is depicted on the table below.

Table 24: Wheat Marketing Constraints

Variables	Obs	Mean	Std. Dev.	Rank
Brokers withhold market information	261	4.261	1.295	4
Lack market information	261	4.019	1.932	2
Lack of labour for loading and unloading	261	4.358	2.007	5
Lack of storage facilities	261	4.534	2.299	7
Lack of transport facilities	261	4.042	1.634	3
Losses during transportation/ transaction	261	4.364	2.245	6
Low price of outputs and price fluctuation	261	2.556	2.147	1
Demand problem	261	4.723	2.192	8

Source: Own Survey Data (2020)

Vegetables marketing constraints: As observed on the table 25, respondents were asked to rank the possible challenges or constraints of vegetable marketing. The sampled respondents

ranked lack of transport facilities as a first and most constraints of vegetable marketing (M=5.167). Additionally, low price of outputs and product perishability are identified as second and third most challenges in vegetable marketing with the mean of 5.154 and 4.886 in the study areas respectively. Besides, Lack of storage facilities, Brokers withhold market information and producers lack of market information are also ranked as fifth, sixth and seventh important challenges or constraints of vegetable marketing with a (M=4.659, 4.634 and 4.154) respectively. As producers' representatives explained on interview, farmers have no access to transportation facilities that helps them to take their product to the street of where the buyers can easily access. It is mentioned that, farmers who have horses and donkey took their product to market by using them and can access market in time while others who have no horses and donkey took their product to the market by their back loading and finally forced to deal vegetables with brokers at very low selling price at production place and this finally leads their product for perishability.

While interviewing Producers representatives they revealed that there is loss of vegetables production and also, they have been stated that the cause of losses of vegetable production in the area is due to the lack of appropriate storage facilities at community level besides market problems. Additionally, the involvement of brokers is highly affecting farmers by hiding market information and enforcing them to sell their product by low price. Market information system is a crucial issue for improving smooth market linkage between different actors. Lack of market information, particularly for vegetable producer is a serious problem that need intervention activities by concerned bodies.

Table 25: Vegetables marketing constraints

Variables	Observation	Mean	SD	Rank
Brokers withhold market information	123	4.659	2.153	5
Lack market information	123	4.886	2.147	6
Lack of labour for loading and unloading	123	5.154	2.291	7
Lack of storage facilities	123	4.634	2.306	4
Lack of transport facilities	123	3.707	1.987	1
Losses during transportation/transaction	123	5.167	2.302	8
Low price of outputs	123	4.106	2.605	2
Perishability	123	4.154	2.695	3

Source: Own Survey Data (2020)

Specific objective #3: To identify the COVID-19-related impact on youth and women in the target value chains.

Covid-19 and its impact on wheat/vegetable production

Table 26: Response on the effect of COVID-19 on farm activities

Response	Frequency	Percentage	Cum.
No	226	58.85	58.85
Yes	158	41.15	100
Total	384	100	

Source: Own Survey Data (2020)

Both wheat and vegetable target producers were asked about the possible impact of the current pandemic Covid-19 on their farm production. Accordingly, as shown in table 26 about 226 (58.85%) were replied that the pandemic did not impact on their activities. On the other hand, 158 (41.5%) the pandemic has affected their farm activities in different ways.

Table 27: Major types of COVID-19 effect on agricultural activities

Variable	obsn	mean	SD	rank
high price of agricultural inputs	158	4.468	0.501	2
low supply of agricultural inputs	158	4.494	0.502	1
low supply of credits	158	2.943	1.468	6
Machineries and equipment are not available in enough manner	158	3.456	1.104	5
reduced frequency extension contacts due to travel ban	158	3.930	0.823	4
shortage of markets for outputs /deficiency of demand	158	3.975	0.806	3

Source: Own Survey Data (2020)

Application of a range of agricultural packages and inputs including appropriate use of fertilizer and improved seeds, pesticides and improved agronomic practices are required to increase during Covid-19 for agricultural production and productivity (HGT and LIFT, 2019).

However, COVID-19 pandemic affects imports and distribution of agro-inputs due to financial priority given to health, limited production and movement restriction, it lastly impacted on supply of Agricultural inputs, price of Agricultural inputs, Credit access, and Market for output according to this survey. In this report, the impact of COVID-19 pandemic was ranked from highly affected agricultural related activities to low affected activities in decreasing order. Accordingly, low supply of agricultural inputs, high price of agricultural inputs, shortage of markets for outputs /deficiency of demand, reduced frequency extension contacts due to travel ban, Machineries and equipment are not available in enough manner and low supply of credits were ranked from the first to the least affected activity, respectively.

Covid-19 impact on durum wheat and vegetable value chain Effects on traders (retailers and wholesalers)

According to interview made with selected legal traders (retail-

ers and wholesalers) of Assela and Sherka local market told, vegetable trade and consumption were reduced at the time where COVID-19 case was appeared in Ethiopia and; this has created tension and reduction in supply from the vegetable sources. This was due to less trading activity in vegetable wholesale market since the start of the COVID-19 crisis. Retailers also noted that, especially larger and wealthier customers/consumers were taking precautionary measures to avoid exposing themselves to the virus and reduced their vegetable consumption which finally affects their daily income. Also restaurants and other cafeterias were experienced slowdown in business this also resulted for less vegetable purchases. However, this was only lasted for around a month from its appearance.

Impact on farmers/producers

Immediately on Covid-19 virus appearances, producer prices for vegetables were declined as noted by the farmers. Since limited wholesalers were traveling to rural areas because of the travel ban/prohibition, the social distancing policy, and fear of infection. This were also combined with reduced urban demand and resulted in rapidly decline of prices. Similar to retailer's case, the effect was not lasted for more than a month.

One cooperative member differently said day Laborer scarce was also a problem. As he said, Vegetable production is labor intensive and usually attracts a large number of daily laborers from local and nearest towns of the vegetable production area. Due to response to restrictions on travel and gatherings, these workers were gradually returning to their home areas.

Regarding durum wheat value chain, the impact of Covid-19 on wheat traders was not significantly disrupted the level of their day-to-day transactions. However, there were reduction of durum wheat demand for days due to client turnover and increment in transportation cost.

Table 28: Support received due to disruption of economy by COVID-19 pandemic

Response	Frequency	Percentage	Cumulative
No	372	96.88	96.88
Yes	12	3.13	100
Total	384	100	

Source: Own Survey Data (2020)

As it is indicated on table 28 from the total surveyed farmers, the overwhelming number 372 (96.88%) responded that they did not get any support from both government and NGOS. the remaining 12 (3.13%) said that they have received support or assistances due to Covid-19 specifically from NGOS in kind like mask and sanitizer.

Conclusions and Recommendations

Conclusions

The following conclusions were drawn based on the findings of the study;

- Project target were targeted four (4) woredas where potential durum wheat and vegetable production are found. As study shows the woredas have tremendous potential in producing and both durum wheat and vegetable and; in improv-

ing households' livelihood and substantially contribute in reducing irregular migration of the targeted Woredas.

- In wheat value chain there are primary or direct actors who involved in commercial activities in the chain and different chain supporters. Regarding agricultural inputs primary cooperatives are major source and followed by local shopkeepers and fellow farmers both durum wheat and vegetable productions. Even though most of the farmers getting agricultural at the right time there are still gap with respect to vegetables.
- Credit service or access is viewed as important means for famers productivity is improvement. Most of the targeted woredas didn't access bank credit and limited supply of credit (which is suitable for famers level borrowing), huge bureaucracy in accessing credit services, religious aspect, collateral problem is mentioned as credit access problem. Famers were borrowed money for the purpose of purchasing farm inputs; carry out farm operation and buying harvesting equipment.
- Farmers had access to market information; however, it is much distorted since the brokers are highly in the chain.
- Households have got Crop production training in general which is provided by Development Agents (DA).
- Two woredas (tiyo and shirka) specifically experienced by vegetable spoilage a due to lack of market and transportation which helps them to take to main road where their products are easily access.
- Concerning durum wheat distribution channel, producers majorly sell their crop to wholesalers and local collectors, while vegetable producers (tiyo and shirka) woreda sell to brokers. Also, the bargaining for product pricing left on the hands of buyers/brokers especially for Tiyo and Shirka Woreda.
- Targeted area especially (Tiyo and Shirka Woreda) creating market linkage and provision of post-harvest handling facilities (storages especially) are the important elements of intervention that has to be further promoted. Also, they ranked SME capacity building to promote job creations and provision of agricultural inputs in kind also mentioned as other interventions areas.
- In all targeted woredas, proximity to market centers / urban areas/processing industries and more demand for the output/crop in the market are found to be the great opportunity to enhance the level of commercialization. Especially, the presence of universities near the production areas, growing numbers of hotels and cafeterias in near towns also identified as the first ranked opportunities that can encourage development of vegetable value chain in the study areas.
- Low price of output, lack of labor for loading and unloading and market information are the main constraints durum wheat marketing the target area, whereas lack of transport facilities, low price of outputs and product perishability are identified as a first, second and third most challenges in vegetable marketing respectively.

Recommendation

Based on the finding the following recommendations were forwarded:

- As an important intervention there should be sufficient supply of agricultural inputs especially for vegetable targeted woredas and sustainable timely provision of inputs for both durum wheat and vegetable producers.
- Farmers education/training needed on irrigation related practices especially via forming partnership with potential institution like universities and colleges for both crops.
- Most dominantly there should be storage facilities for all targeted areas and market linkages for vegetable and durum wheat value chains so that producers would use their maximum effort or potential and produces with expectation. Especially for vegetable producers cutting broker from middlemen and engaging /capacitating the cooperatives to have or launch marketing or storage place in different towns like Assela, Adama, and through direct provision of their product to the Universities such as Arsi, Adama and other would be best options.
- Creating strong linkages among different actors and/ sectors in the value chain for developments of both durum wheat and vegetable value chain developments and through creating job for youth and stemming irregular migration is crucial.
- Organizing unemployed youths on the vegetable market as collector by capacitating them in economically and mentally and linking them with potential market to cut off the unnecessary brokers are the way forwarded to vegetable marketing
- Generally, there is no doubt that cooperatives have capacity in providing full range of agricultural inputs, therefore, establishing means through which they could get these inputs sustainable from government or central market with low price supply for the famers.

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