

# Crop Production Potentials and Strategic Constraints of Gedeb District, Gedeo Zone, SNNPR, Ethiopia

Tizazu Toma , Merkinch Mogiso

**Abstract-** Gedeb district is known for its crop production in Gedeo zone of SNNPRS. The widely cultivated crop types, such as cereals, pulses, coffee and tea spice, among others were manifestations of crop potential of this district although various biological, socio-economic and institutional factors were retaining back development of the sector. Therefore, this study was conducted to identify and document the recurrent production potential and constraints of crop production so as to base research and development works on the output. To achieve these objectives, checklists were prepared; sample Kebeles, focus group discussion (FGD) participants and key informants were purposively selected, interviewed and discussions were made. Secondary data were collected from districts and selected Kebeles. The data collected were analyzed using descriptive statistics and the result indicated that potentiality for production of crops such as maize, food barley, wheat, faba-bean, field-pea, Enset, cabbage, and coffee; increasing trend of production of crops such as coffee and cabbage; increasing trend of using organic and inorganic fertilizers; use of lime to treat acid soils as an amelioration strategy, trend of using improved varieties of various crops and the likes were identified as opportunities in crop production in the district, whereas high price of inputs; disease and pests; Soil acidity; inaccurate use of seed rate and plant spacing and the likes were identified as constraints in crop production. Based on these results, research, demonstrations and trainings related to crop disease and pest management; soil acidity management; agronomic practices; trainings and demonstration of improved crop technologies; and the likes were some of the way forward recommended to be undertaken to enhance crop production and productivity in the study district.

**Index Terms-** Gedeb district; crop production; opportunities; constraints, assessment

## I. INTRODUCTION

Agriculture in Ethiopia is mainstay of the Economy (Welteji, D. 2018) although lots of misfortunes were holding back its development.

Due to that, there were lots of dynamisms in the farming system (Agajie et al., 2018) which can be explained in terms of land use, land cover and enterprise changes. Therefore, assessing production potentials and constraints of the sector in at least in a 3 years basis is found to be important (FAO, 2017) to understand and capture the dynamism, and base research and development interventions in the identified major bottlenecks of agriculture. Therefore, this study was initiated

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and conducted having the above notions in to consideration. The study identified lots of area specific production and productivity potentials and opportunities. It also identified various constraints of agricultural production and productivity as well. All the findings were presented in the forthcoming parts.

## II. RESEARCH METHODOLOGY

Two Kebeles of Gedeb district were selected based on agricultural production and productivity potential by the district's agriculture office experts which were belived to represent the production potentials and constraints of the district well. The Kebeles were GedebGubeta and oticho. One FGD per each Kebele consisting of 8 participants were formed, and discussions were conducted based on the FGD guiding questionnaires and checklists. The participants were from various social strata including model farmers, kebele administration representatives, Elders, women and youth. In addition, key informants were purposively selected, interviewed and discussion were conducted using checklists. In addition, secondary data were taken from Kebele repositories. Finally, the data were analyzed descriptively and priorities of the identified problems were ranked using pair wise ranking method.

## III. RESULTS AND DISCUSSIONS

### A. Description of GedebDistrict

Gedeb district is one of the 7 districts of Gedeo zone. It is located at the southern part of Gedeo zone. Agro-ecologically, the district is 75% *Dega* (Highland)and 25% *woinadega* (Midland) (GARDO, 2021). Two representative sample kebeles namely GedebGubeta and Harmufo were selected from Gedeb district to understand the production potentials and constraints of agricultural production and productivity of the District. The mean land holding of the District was 0.5ha with minim of 0.125 and maximum of 1.25ha. The district production system is crop dominant. Astronomically, the district is located at 7° 19' North latitude and 39° 17' 0" East longitude. The altitude ranges from 2250-2367masl. The figure bellow shows map of Gedeb district.

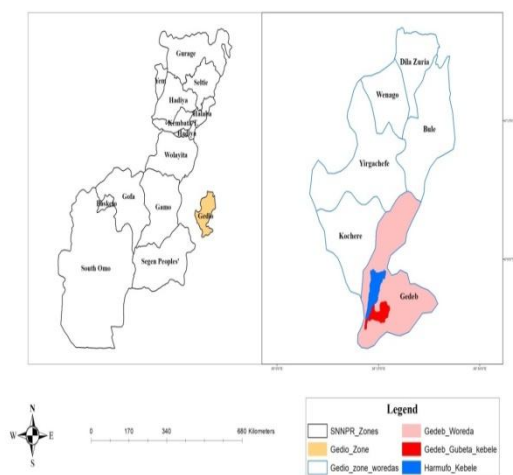


Figure 1. Location map of Gedeb District

**B. Crop Production and Management in the Study District**

*a. Dominant crops grown in the district*

The crop is dominantly produced in the highlands of Gedeb and the major crops grown in the area were cereals, pulses, root and tubers, vegetable, and coffee tea spice are widely cultivated crops among others.

*b. List of important crops grown, purpose and trend of production*

The major crops grown in the area are cereals (maize, food barley, and wheat), pulses (faba bean and field pea), root and tubers (Enset), vegetables (cabbage), Coffee tea spice (coffee) are widely cultivated crops among others (Table 1). The major crops in the area are mainly grown for food for Table 1. Production, purpose, and cropping season of major crops in Gedeb district

home consumption and as for the market to generate income through the exchange in the local market. In addition, most farmers use maize to feed animals. The crops produced in belg cropping season are Maize, Enset, and coffee whereas the remaining food barley, wheat, faba bean, field pea are mainly produced in meher cropping season. On the other hand, cabbage is produced both in belg, and meher under rain-fed and irrigation conditions. Other than cabbage all the above-listed crops are produced under rain-fed conditions.

Based on the trend of production since 2009, coffee and cabbage are increasing as compared to other major crops cultivated in the area (GARDO, 2021). As per agricultural experts in the districts and FGD participants, the main reason for the trend is due to the increasing demand for the crop, the conduciveness of the environmental condition, and the application of organic fertilizer. On the other hand, when we see the trend of maize, food barley, bread-wheat, enset and faba bean the trend showed decreasing of production. The production of enset is decreasing due to security issues/ political instability of the area and the high price of planting material. In addition, disease and vertebrate pests also affect the production of enset in the area. Maize is one of the major crops grown in the area. The trend of maize production is decreasing due to low soil fertility, political instability, high seed price, and untimely supply. Production of wheat and barley are also showed a decreasing trend as they said it might be due to soil acidity, the trend of growing the same crop year after year (mono-cropping), and erratic rainfall. Low soil fertility, lack of improved variety, and political instability of the area are listed as the main reason for the decreasing trend of faba bean since 2009. Based on the data collected from farmers lack of improved variety and weed management problem is the reason for the decreasing trend of field pea production.

Crops grown	Purpose	The trend of production since 2009 (In, De, NC)	Reason for trend	Cropping season (Meher, Belg, Irrigation)
1. Enset	food & income	De	Security, disease, the high price of planting material	Belg
2. Coffee	food & income	In	Increasing demand (high value), conducive environmental conditions,	Belg
3. Maize	Food, income & feed for animals	De	Low Soil fertility, security issues, high seed price, untimely supply	Belg
4. wheat	food & income	De	Mono-cropping, erratic RF, soil acidity and disease	Meher
5. Barley	food & income	De	Mono-cropping, erratic RF, soil acidity	Meher
6. Faba bean	food & income	De	Low soil fertility, lack of improved variety, Security issues	Belg
7. Field pea	food & income	NC	Lack of improved variety	Meher
8. Cabbage	food & income	In	High demand,	Meher, Belg,

application of organic fertilizer Irrigation

Note: In=increasing, De=decreasing, NC= no change

c. Inputs used for crop production

Farmers use organic and inorganic fertilizers for crop production in Gedeb district but there is still a gap in using as per crop-wise recommendations. NPS, NPSB, and urea were commonly used inorganic fertilizers in the area. They have experience of using compost and farmyard manure for major crops whereas vermin-compost technology is not yet introduced in the area. Soil acidity problem is common in highlands of Gedeb and is one of the most important soil factors which affect plant growth and ultimately limit crop production. Therefore, farmers use lime to acid soils as an amelioration strategy in wheat and barley field to improve production. Likewise, chemicals were also used for the sack of crop protection from disease, insect pests, and weeds. Farmers reported that among pesticides fungicides and herbicides were used for wheat and barley.

Table 2. Fertilizer, lime, pesticides, and weeding frequency used for major crops

Major Crop	Inorganic Fertilizer (√)		Organic Fertilizer (√)	Lime(kg/ha)	Fungicides	Herbicides	Hand weeding Frequency per cropping season
	NPS/NPSB	Urea	Compost /FYM				
Enset	-	-	✓	-	-	-	3
Coffee	-	-	✓	-	-	-	4
Maize	✓	✓	✓	-	-	-	3
Wheat	✓	✓	✓	✓	Yes	Yes	2
Barley	✓	✓	✓	✓	Yes	Yes	2
Faba bean	✓	-	✓	-	-	-	3
Field pea	-	-	✓	-	-	-	0
Cabbage	✓	-	✓	-	-	-	2

d. Sources of input

The source of agricultural inputs used by farmers in Gedeb district has come from the district bureau of agriculture and natural resource and local market.

e. Variety characteristics and productivity

Farmers at Gedeb have experience of using both the local as well as improved varieties for production. Among the major crops, improved and the local cultivar of maize, wheat, food barley, and coffee are widely used at Gedeb. However, farmers still produce using the local cultivars of enset, faba bean, field pea, and cabbage. Based on the survey result Gedeo has huge potential of enset production and diversity. According to the discussants, in the present survey more than 20 different names of enset landraces under cultivation were recorded in the area, namely; Ganticho, Astara, karase, korkoro, filial, koshe, hagene, toracho, gasira, dambale, dubari, kake, turungo, worabesa, nifo, ado, mundo, shawicho, dimaye, harambe, dinke, dantra, karasse. Farmers have experience of producing the improved varieties of Coffee (74110), maize (BH661), food barley (Nuru and shage), and bread wheat (Gudene, shorma and damphe). However, most of the farmers use local cultivar due to the

inflated cost of improved seeds of different crops, particularly the poor households. The price of improved seeds of different crop varieties was not easily affordable to use in Gedeb district. Farmers get all the above listed improved crop varieties from the bureau of agriculture and natural resource whereas farmers are a source of local cultivars, they use their seed.

The productivity of varieties varies across locations and management practices needed. Under Gedeo condition the productivity of coffee improved variety was 24 quintals clean coffee and the local cultivar gave 16 quintal ha<sup>-1</sup>. The average productivity of maize variety was 15 quintals per hectare whereas the local cultivar was given 8 quintal ha<sup>-1</sup>. Improved variety of bread wheat was produced 28 quintals and the local gave 8 quintal ha<sup>-1</sup>. The improved and local cultivar of food barley was produced the respective 14 and 8 quintals of grain yield ha<sup>-1</sup>. On the other hand, the average productivity of the local cultivars of enset, faba bean, field pea, and cabbage was 120, 17, 8, 20.8 quintal yield per hectare, respectively (Table 3). Overall, the productivity of crop varieties obtained at Gedeb was by far below its potential due to the high price of improved crop seeds they use repeatedly for a long time.

Table 3. Variety characteristics, productivity, and source of seed in Gedeb district

Major crops grown	Local variety			Improved variety			Durationof utilization
	Name	Yield/ha (qt)	Source	Name	Yield/ha (qt)	Source	
Enset	*	120	Farmers	-	-	-	Continuous
Coffee	Wolisho&GaloKurumo,	16	Farmers	74110	24	District ANRB	Continuous

Maize	Sharda, mukadima	8	Farmers	BH661	15	District ANRB	1-3 years
wheat	Unknown	8	Farmers	Gudene, shorma&damphe	28	District ANRB	3 years
Barley	Horsiso, Burkudu, Bosh&Batire	8	Farmers	Nuru, Shage	14	District ANRB	3 years
Faba bean	Unknown	17	Farmers	-	-	-	Continuous
Field pea	Dube, gonder	8	Farmers	-	-	-	Continuous
Cabbage	Shemo, shana	20.8	Farmers	-	-	-	Continuous

\*Names of local Enset cultivars grown in the area were Ganticho, Astara, karase, korkoro, filial, koshe, hagene,.....

f. Commonly applied agronomic practices

Crop management practices are that the activity applied to improve soil quality and manage crops and improve the environment. Intercropping is less

practiced in the area as compared to other agricultural practices (Table 4). Among the major crops, enset with coffee and maize with common bean intercropping are commonly practiced. Most cereals,

commonly grown in rotation with other crops as a fertility management practice. Farmers have good experience of using row sowing than broadcasting but the main problem observed is using a variable amount of seed rates especially for cereals. They are not familiar of using row plant for enset. Based on the surveyed report farmers use less number of enset per hectare which means they didn't use land efficiently which further decreases the productivity per unit area. The spacing reported in the case of faba bean is not the recommended one.

maize, wheat, food barley, field pea, faba bean are

Table 4. The agronomic management practices applied in Gedeb district, Gedeo zone

Major Crop	Tillage frequency	Planting method(broadcasting/ Row)	Seed/seedling rate	Inorganic fertilizer rate(kg/ha)		Plant Spacing (cm)		Crop system (Yes/No)	
				NPS/ NPSB	Urea	Intra	Inter	Intercropping	Crop rotation
Enset	1-2	No row arrangement	640 suckers	-	-	1.5	1.5	No	No
Coffee	1-2	Row	2250 seedling	-	-	2	2	Yes	No
Maize	3	Row	25 kg	100	50	40	80	Yes	Yes
wheat	3	Row& broadcasting	150 & 120kg	150	100	-	20	No	Yes
Barley	3	Row& broadcasting	150 & 120kg	150	100	-	20	No	Yes
Field pea	2-3	broadcasting	20 kg	-	-	-	-	No	Yes
Faba bean	2-3	Row	124kg	100	-	30	30	No	Yes
Cabbage	2-3	Row	3 kg	100	-	25-30	25-30	No	Yes

g. Crop protection practices

Hand weeding is the oldest and widely practiced management practice in the area. However, farmers in the surveyed area use chemicals for wheat and barley field to control weeds. Farmers commonly used chemicals to weeds as well as disease on wheat and barley. On the other hand, no weeding is practiced on the fields of field pea. Generally, the trends of using chemicals to control crop pests are limited.

Table 5. Pesticides used for major crops in Gedeb district

MajorCrop	Chemicalsused and frequency of application				Hand weeding Frequency
	Fungicides(Yes /No)	Frequency (1,2,3...)	Herbicides (Yes /No)	Frequency (1,2,3...)	
Enset	-		-		3/year
Coffee	-		-		4/year
Maize	-		-		3
Wheat	Yes	2	Yes	2	2
Barley	Yes	2	Yes	2	2
Faba bean	-		-		3
Field pea	-		-		0
Cabbage	-		-		2

*h. Post-harvest Handling Methods*

Post-harvest handling methods vary by farmers of the district irrespective of the crop types used. Farmers of the surveyed district have commonly been used the processing and storing method as well as wrapping and tying off the squeezed kocho with enset leaf. Some of the farmers of the area have sometimes used jute sacks as a handling method for enset. Coffee is also commonly kept through processing and storing. However, most of the crops are kept using jute sacks after harvesting. On the other hand, cabbage seeds are collected and kept by hipping method for the next growing season.

**Table 6. Post-harvest handling methods used for major crops grown in Gedeb district**

Majorcrops	Methodofvarietymaintenance	Post-harvest handlingmethods	Postharvestconstraints
Enset	Corm splitted and burial in the hole	Processing and storing, Kocho is wrapped and well tied using enset leaf, Jute sack	Theft is the main problem in the field
Coffee	Seeds are put in the container which is made of clay soil	Processing and storing	Fungus formation in the storage
Maize	Garner, jute sack, Hipping	Garner, Jute sack	Weevil and rat
Barley	Jute sack	Jute sack	Weevil and rat
wheat	Jute sack	Jute sack	Weevil and rat
Faba bean	Hipping	Jute sack	Weevil and rat
Field pea	Jute sack	Jute sack	Weevil and rat
Cabbage	Jute sack, hipping	Hipping, processing and storing	-

*i. Commonly used value addition practices*

Different types of value addition practices were used for different crops in the area. Washing and separation of kocho from dirt materials, drying of freshly harvested coffee cherries before storage, flour preparation from maize for porridge and bread, preparation of enjera, bread, and a

snippet from barley and wheat, shirro preparation from faba bean and field pea, and cabbage stew preparation from cabbage is the most commonly used value addition practices in the surveyed district. In general, there are limited value addition technologies adopted in Gedeb district. According to the survey data collected the research center would have a big assignment on value addition practices of different crops.

**Table 7. Value addition practices commonly used for major crops in Gedeb district**

Croptype	commonlypracticedvalueadditionactivities	Constraintsabout valueaddition
Enset	Washing with water and separation of kocho from dirt materials	It takes more time to process
Coffee	Drying of fresh coffee cherries before storage	-
Maize	Maize flour, porridge, bread etc	-
Barley	Flour, preparation of enjera, bread, snippet	-
wheat	Bread, enjera, snippet	-
Faba bean	Flour (shirro), roasting	-
Field pea	Flour (shirro), roasted grain	-
Cabbage	Cooking, stew	-

*j. Sources of inputs*

Farmers get the agricultural inputs from district agriculture and natural resource bureau and the local market.

*k. Farm mechanization*

Most the agricultural activities have been conducted by hand tools. Farmers use hand tools for digging, harrowing, cutting, weeding, and

harvesting crops. Tillage is performed by oxen-drawn. They didn't use machinery for agriculture due to the uneven landscape of the area. They get farm implements such as hand tools and Animaldrawnequipment's from the local market. The main things that they are facing are lack of

quality, the inflated price of hand tools, and the decreasing number of oxen. Farmers say that the number of oxen is decreasing from time to time due to the shortage of grazing land in the area.

Table 8. Farm implements used for crop production in Gedeb district

Typesoffarmimplements	Purpose	Source	Problems	Possible solutions
Handtools	Digging, harrowing, cutting	Farmers	Lack of quality and inflated price of hand tools	Supply of quality hand tools with lower/reasonable cost
Animaldrawnequipment's	Plowing, slashing	farmers	The decreasing number of oxen due to shortage of grazing land	Increasing grazing land and planting of forage for animals

*l. Crop marketing*

Marketing is the most important service in crop production to supply agricultural produce to consumers/end users. Based on the data surveyed, all the major crops grown in the area are marketable and the local market is the main market route that is used to exchange crop produce. According to farmers' reports there is access to the local market to sell their products despite the low demand for the crop during harvesting time. Market linkage is the common problem that limits the exchange of crop produce from one area to another. Producers and whole sellers are the main actors of the local market in the process of exchange.

*m. Gender role in crop production and post-harvest handling*

The women have roles in crop production, post-harvest handling and marketing. They have actively participated in weeding and harvesting activities. Likewise, they have roles in post-harvesting handling practices especially "kocho" handling, which needs special care.

*n. Crop Production, Post-Harvest Handling and Marketing Constraints*

*1. Biotic constraints*

The major constraints, which affect crop production and productivity in the surveyed area, were discussed with the selected representative farmers considering all social strata of the kebeles. Accordingly, the following production constraints were identified and prioritized. Pests (disease, storage pest, and weed) were identified as biotic constraints limiting crop production and productivity. Among biotic constraints, disease and storage pests ranked as the first serious production problem in the area while weed as the second production problem. However, vertebrate and

insect pests were reported as the least serious production constraints as compared to others. Among the major crops, wheat is the most disease-affected cereal crop in the area followed by faba bean and enset. Enset bacterial wilt is a problematic disease in Gedeb and any enset growing areas in the south. It severely affects the production and productivity of enset.

Likewise, CBD is also reported as the major yield-reducing biotic constraint of coffee in the area. Insect pest is the most serious problem in crop production that affects the quality as well as yield of a crop. Leafhopper has caused a moderate effect on maize. Aphids are most commonly observed and cause an effect on cabbage and field pea. Farmers also ranked major crops based on the prevalence of insect pests. Accordingly, cabbage, maize and faba bean were ranked at 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> level based on the damage caused by an insect.

On the other hand, the storage pest is the major problem for maize, wheat, and faba bean respectively. Weevil is the most commonly reported storage pest. Based on the discussant, among vertebrate pests, mole rate is reported as the serious pest of enset at the field. Weeds reduce crop yields, production efficiency, and erosion of crop quality. Its damage is depending upon crop type. The survey report indicated that among the major crops weeds greatly affect faba bean, wheat, and barley, respectively. The grass weed species "Muja" is commonly affecting all the major crops (Table 9).

Table 9. Biotic constraints of crop production, post-harvest handling and marketing

Major constraint	Disease	Insect pest	Storage pest	Vertebrate pest	Weed	Score	Rank	Major Crops affected			Proposed Interventions
								1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	
Disease (Di)	----	DI	DI, SP	DI	DI	4	1	Wheat	F.bean	Enset	Using improved variety, chemicals and creating the appropriate growing conditions for crops /remove disease infected enset plant, avoid weeding of faba bean when there is dew
Insectpest (IP)		----	SP	VP, IP	IP, WD	2	3	Cabbage	Maize	F.bean	Close inspection, application of chemicals
Storage pest(SP)			----	SP	SP, WD	4	1	Maize	Wheat	F.bean	Managing storage environments and seed treatment with chemicals
Vertebratepest(VP)				----	VP, WD	2	3	Enset	-	-	Using prevention methods
Weed(Wd)					----	3	2	F.bean	Wheat	Barley	Appropriate land preparation, three times plowing, and timely weeding

Table 10. Diseases and pests of major crops and their severity\*

Major Crops	Disease		Insectpest		Vertebratepests		Weed	
	Name	Severity*	Name	Severity*	name	Severity*	name	Severity*
Enset	Wilt- locally “Wol’o or Xete“	High	-	-	Mole rat	High	Locally they call “Muja”	Low
Coffee	CBD	High	-	-	-	-	Locally they call “Muja”	Low
Maize	Wag	Low	Leaf hopper	Moderate	-	-	Locally they call “Muja”	Moderate
Barley	Wag	High	-	-	-	-	Locally they call “Muja”	Moderate
wheat	Wag	Low	-	-	-	-	Locally they call “Muja”	Moderate
Faba bean	Wag/rust	Moderate	Aphid	Moderate	-	-	“Muja”	Moderate
Field pea	-	-	Aphid	-	-	-	“Muja”	Moderate
Cabbage	-	-	Aphid	Moderate	-	-	Locally they call “Muja”	Moderate

\* Low, Moderate, High

2. Abiotic constraints

Erratic rainfall, soil fertility, soil erosion were identified as the core abiotic constraints that lessened crop production in the area. Farmers have ranked constraints of crop production based on their insight. According to their report inflated input price, lagging of input delivery, lack of credit, knowledge gap, post-harvest loss and lack of improved variety are the major crop production

constraints among other abiotic constraints raised by farmers (Table 11). Soil fertility is the major problem for maize followed by barley and wheat. Barley and maize, faba bean and wheat were ranked at 1<sup>st</sup> to 3<sup>rd</sup> level based on their vulnerability to erratic rainfall. On the other hand, wheat/maize, barley, and faba bean/field pea ranked at 1<sup>st</sup> to 3<sup>rd</sup> level based on their sensitivity and damage caused by soil erosion.

Table 11. Abiotic constraints of crop production, post-harvest handling, and marketing

Majorconstraint	SF	Dr	ER	SE	LS	Score	Rank	MajorCrops affected			Proposedinterventions
								1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	
Soilfertility(SF)	--	SF	ER	SF	SF	3	2	Maize	Barley	Wheat/faba bean	Using organic fertilizer and inorganic fertilizer, crop rotation
Drought(Dr)		---	ER	SE	LS	0	5	-	-	-	-
Erraticrainfall(ER)			---	ER	ER	4	1	Barley/maize	F.bea n	Wheat	Applying moisture conservation practices
SoilErosion(SE)				--	SE	2	3	Wheat/maize	Barley	F.bean/field pea	Making tie ridge and other conservation structures
Land slid(LS)					--	1	4	Enset	-	-	Making drainage

a. Socio-economic and institutional constraints

Farmers have ranked constraints of crop production based on their insight. According to their observation, they gave rank from the most to the least serious constraint as follows; inflated input price, lagging of input delivery, lack of credit, knowledge gap, post-harvest loss, and lack of improved variety. Actually, there is a gap on timely supply of inputs, quality-related problems of improved varieties. On the other hand, due to the inflated price of improved varieties and inputs some of the poor farmers were forced to use the low-yielding local cultivar.

harvest loss, and lack of improved variety. Actually, there is a gap on timely supply of inputs, quality-related problems of improved varieties. On the other hand, due to the inflated price of improved varieties and inputs some of the poor farmers were forced to use the low-yielding local cultivar.

Table 12. Socio-economic and institutional constraints

Majorconstraints	IV	QS	ID	Cr	KG	PL	M	IP	RA	ES	IG	Score	Rank	Proposedinterventions
LackofImprovedvariety(IV)	---	QS,IV	ID	Cr	KG	PL	IV	IP	IV	IV	IG	4	5	district bureau of agriculture should supply
Lackofquality seed (QS)		---	ID,QS	Cr	KG,QS	PL	QS	IP	QS	QS	IG	6	4	district bureau of agriculture should supply quality seed timely
Laggingofinputdelivery (ID)			---	Cr, ID	KG,ID	ID	ID	IP	ID	ID	IG,ID	9	2	Discussing with DA's for timely supply of inputs
Lackofcredit(Cr)				---	KG,Cr	PL,Cr	Cr	IP	Cr	Cr	IG	8	3	Improving saving system
Knowledgegap(KG)					---	KG	KG	IP	KG	KG	IG	8	3	Creating farmers knowledge sharing system
Post-harvestloss(PL)						---	PL	IP	PL	PL	IG	6	4	Timely harvesting , take care of threshing and storage activities
Marketingproblems(M)							---	IP	M	ES	IG	1	7	-
Inflatedinputprice(IP)								IP	IP	IG,IP	10	1	Integrated use of fertilizers and subsidy is recommended	
Roadaccess(RA)								---	ES	IG	0	8	-	



Weakextensionsservice(ES)	---	IG,ES3	6	extension workers and DA's are responsible
InformationGap(IG)	---	10	1	Filling the information gaps through improving communication systems and contact with other farmers in different areas

#### IV. CONCLUSION AND RECOMMENDATION

This study was conducted to identify major Potentials and Constraints of crop production in Gedeb district of Gedeo zone so as to base the forthcoming research and development works on the identified potentials and constraints in the district. Production of major crops such as maize, food barley, wheat, faba bean, field pea, Enset, cabbage, and coffee; increasing trend of production of some crops such as coffee and cabbage; increasing trend of using organic (compost) and inorganic fertilizers (NPS, NPSB, and urea) for crop production; use of lime to treat acid soils as an amelioration strategy, and trend of using improved varieties of various crops were identified as major opportunities of crop production among others in the district. In contrast, high price of inputs; disease and pests; Soil acidity; and inaccurate use of seed rate and plant spacing were identified as major constraints of crop production among others in the district. The study recommended that researches, demonstrations and trainings related to crop disease and pest management; soil acidity management; agronomic practices; trainings and demonstration of improved crop technologies should be implemented to further enhance crop production and productivity in the study district.

#### V. ACKNOWLEDGEMENT

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