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Constraints and Opportunity of Teff Production in the Case of Assosa Woreda, Benishangul Gumuz Regional State, Ethiopia

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Abstract
Teff is the crucial cereal for home consumption and playing a significant role in the local economy as a means of earning livelihoods for millions of farmers, creating jobs and generating foreign currency in Ethiopia. Assosa woreda's which is found in Assosa zone of Benishangul gumuz regional state western part of Ethiopia is potential in cereal production; maize, teff and sorghum are the cereals in the woreda's. However, currently, farmers are not benefited and production and productivity of the cereals are being decreasing from time to time because of some constraints of them. Therefore, this study was attempted to assess the production constraints and opportunities of teff in the woreda's. Random sampling method and quantitative and qualitative data type has been employed for data collection. Accordingly, data was collected from 194 randomly selected teff producing households in the woreda's four kebeles (Amba 1, Amba 10, Ura, Selga 24 and Afasizm). Focus Group Discussion and Key Informant Interview were made to organize qualitative data type. The result showed that disease, insect pests, lodging, distance to farmer cooperative, distance to extension service, distance to local market and weed were the core production and productivity constraints of teff in Assosa woreda's. Therefore, the policy makers should have to encouraging the researcher to release generation of disease and insect tolerant varieties of teff, strengthening extension services and also enhance knowledge and skills of smallholder farmers' developmental endeavors should work and participate on the support research and development should be focused to improve the livelihood and economy of the farmers.
Keywords: Assosa, Cereal, Production; Teff, Ethiopia
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Introduction

Highland Ethiopia is one of the most densely populated regions of Africa and has long been associated with both Malthusian disasters and Boserupian agricultural intensification (Headey et al.,2014). Agricultural subdivision in Ethiopia is the backbone of the country's economy with raising crop is the main activity experienced by farmers (UNDP,2016). Tef (Eragrostis Tef) is an earliest grain, central to the Ethiopian food and culture. It is also gluten-free and high in iron and fiber, which in recent years has caused its demand to surge on the international market (Martin et al., 2014).

The major crop production constraint like, Disease, Storage pest, lack of disease resistant varieties and low cost and market demand that forces farmers not to give attention for the production (Lemma etal.,2017). The major constraints of maize, wheat and teff were found to be: Crop worm and disease, Price problem, lack of inputs (chemicals, Fertilizers, Seed, etc.,). Lack of appropriate threshing facilities and storage facilities, high post-harvest losses, lack of farming oxen, lack of rural credits, lack of education and lack of rural feeder roads (Bultossa,2018). Challenges are nature of crop like smallness of seed size, difficulties of crossing, shattering and lodging; Limited focus, mechanization problems and capacity building. Some of these challenges are relatively solved and some are persisted (Misgana,2018). Teff producer farmers in the study areas face a number of constraints in teff production and supply to the market. The major constraints of teff production and marketing are lack of finance to invest, lack of improved teff seed, lack of improving production tool and very poor harvesting methods and device, shortage of land and the high cost of production (HABTEWOLD and Challa, 2019).

The major opportunity of teff production is creating awareness, The market opportunity should be given to farmers to sell their products in fair and relative market advantage, increase linkage between farmers and extension experts and the government should help the farmers by offering mechanized planter (Moges,2017). Applying appropriate technologies like climate-smart agriculture (CSA) can help to resolve the constraints of smallholder farming systems (Zerssa et al.,2021). According to the study of HABTEWOLD and Challa (2019) result shows opportunities of teff production and market of the study areas are clearly identified which includes high demand of teff in the market, nearness to market, availability suitable climate and soil and high support and encouragements by the government.

Though teff is one of the major cereal crops produced in the area the production challenges and opportunities have yet not identified. Therefore, the study was done to identify constraints and opportunity on teff production of smallholder farmers in the study area.

Methodology

The study was conducted in Assosa woreda of Assosa zone in Benishangul Gumuz regional state of west Ethiopia. Assosa woreda is 681 km far from the capital Addis Ababa in west of the country. The study was conducted in the four kebeles (Amba 1, Amba 10, Ura, Selga 24 and Afasizm) which found in Assosa Woreda, Assosa zone, Western Ethiopia. Those kebeles have been selected purposively based on their potential mango production. Primary data was collected from 194 households using structured questionnaire. Qualitative data also collected using Focus Group Discussion (FGD) and Key Informants (KII). Moreover, secondary data was also collected from different published and un-published documents.

Descriptive statistics such as percentage, mean, standard deviation, tables, graphs and charts were used to analyze and describe the collected data.

Results and discussion

Characterization of Teff Production in Assosa woreda

The major sources of income of the farmers in the study areas are Cereal, pulse and oil, tropical fruits and livestock. However, cereal, particularly teff are very important in terms of consumption and area coverage in the woreda.

The result showed that on average a farmer has 2.99 ha of land from this land 0.29 ha of land is covered by teff. Averagely teff per production per hectare was 10.64 quintal. The averagely productivity of teff low due to disease, lodging, soil degradation, rain season fluctuation and insect pest and poor post-harvest management (Table 1).

Table 1: Teff production owned by households

Variable	Mean	Std. Dev.	Min	Max
Total owned land area (ha)	2.99	3.54	0.25	30
Teff area owned (ha)	0.29	0.41	0 .25	2
Teff production (Quintal)	10.64	1.02	0	35

Source: Survey results, 2019

Household composition and characteristics

According to the survey results, table 2 below indicates that mean farm experience of the sample household heads was 22.56 years, the mean of age of the sample household heads was 47.94, the mean of distance to farmers' cooperative was 2.56 minutes, the mean of distance to extensionist was 4.72 minutes and, the mean of distance to local market was 18.25 minutes. Even if the farmers in the area have produce the teff the distance to cooperative, extensionist (FTC) and local market were challenging the farmer to enhance productivity of the crop to the study area (See table 2 below).

Table 2: Household composition and characteristics

Variable	Mean	Std. Dev.	Min	Max
Farm experience(year)	22.56	9.63	0	40
Age of the house hold	47.94	15.58	0	85
Distance to farmer cooperative (Minute)	2.56	10.14	0	100
Distance to extension (Minute)	4.72	30.82	0	300
Distance to local market (Minute)	18.25	4.24	1	40

Source: Survey results, 2019

Crop damage is decrease of the crop yield, definite both in terms of quantity and quality that can occur in the field (preharvest) or in the storage (post-harvest) due to biotic or a biotic factor. The result of the study described that cereal product losses due to pests and diseases are a major threat to incomes and food security of the households in the woreda. Accordingly, the result of the study exposed that 6.28, 7.19, 1.77 and 2.52 mean percentage of teff production is lost due to diseases, weed, insect pests and lodging respectively (Table 3).

Table 3: The major constraints of teff production

Variable	Mean	Std. Dev.	Min	Max
Disease	6.28	7.54	0	67
Weed	7.19	5.86	0	17
Insect pests	1.77	1.56	0	11
Lodging	2.52	3.54	0	12

Source: Survey results, 2019

Opportunities for teff production

- Working to stabilize the price of teff
- Land availability; particularly for indigenous community
- Increasing support of extension services by development agents to control insect pests and disease

- Willingness for smallholder farmers to train on cereal farms for improved crop production
- Developing farmers' knowledge on mango tree management and mango seedling
- Rising demand in the country and global level
- Suitability of the area for the production

Conclusion and Recommendation

This study has tried to generate information on the constraints and opportunities of teff production Homosha woreda of Assosa zone at Benishangul Gumuz region. As a result, it provides basic and relevant information on production of teff. Henceforth, developmental activities should be work on the identified gaps that could exploit the opportunities and fill skills and knowledge gaps of small holder farmers so as to improve their livelihoods the following mitigation measures were suggested;

- Training on diseases and pests' control of teff production
- To increase production and productivities and enhance knowledge and skills of smallholder farmers' developmental endeavors should work and participate on the provision of improved crop varieties, input delivery, support research and development should be focused.

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