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A Review on Gender Based Analysis of Teff Adoption in Ethiopia

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Abstract

About 80% of the rural community (of which 50% are women) of the country's over 100 million people and contributing 49.1% to GDP in Ethiopia. This review paper discusses the gender base analysis of teff adoption in Ethiopia. In the developing country including Ethiopia, gender makes differences on the adoption of teff. Women paly a great role to the agricultural sector in Ethiopia. However, there are several economic, cultural, and political factors affect women's level of adoption of teff in the country, and they are not producing as an expected and face constraints that reduce their productivity. Therefore, gender issue is needed to be focused by different stakeholders in order to facilitate agricultural development because of their production role.

Key Words: adoption; gender; teff; ethiopia

Introduction:

Agriculture is backbone of most African countries and an important sector for the majority of the population of the countries (IFAD, 2013). It is known for employing more than 80% of the total populations live in rural areas in Ethiopia (Daniso et al., 2019). Agriculture plays a significant and crucial role in the Ethiopian social and economic development. However, owing to natural and manmade causes made the nation has not properly benefited from its abundant natural resources and good agricultural development which is failed to register the desired economic development to enable its people pullout of poverty (Abraham, 2015).

Thus, of the study of Williams and Funk (2011) in Ethiopia, the issue of food security is still of high prominence. Nationwide food shortages have occurred almost once a in the last 50 years. According McGuire (2015), nearly 795 million people in the world (about 1 in 9) continue to lack sufficient food to live active and healthy lives, and the vast majority of undernourished people (780 million) continue to live in developing regions of the world. A possible explanation for the remaining high food insecurity may be found in the low productivity of Ethiopian agriculture (Hassen, 2019), with smallholder farmers cultivating 95% of the farmland using mostly traditional farming practices and nearly no mechanization (Gebre-Selassie and Bekele, 2012).

According to (Abraham, 2015), Teff is one of the smallest grains and its origin is Ethiopia. It was first domesticated between 4000–1000 BC. Teff based farming system is an indigenous and sustainable agricultural system in Ethiopia (Gizaw et al., 2019). The study of Council (2014) states that the SNNPR is the next producer of Teff followed by Amhara and Oromiya region.

Moreover, farmer's adoption decision of teff is affected by factors related to his/her household characteristics, socio-economic, institutional and technology factors. Gender issues in new agricultural technology adoption may have substantial change on some technologies. Due to this case men and women cannot adopt the technology equally because of the existence of gender disparity (Tadesse, 2001; Lavison, 2013 and Weldegiorges, 2015).

Analyzing gender roles in adoption of new agricultural technology in Ethiopia is very important. Because of agriculture is the foundation of the Ethiopian economy, employing more than 80% of the rural community (of which 50% are women) of the country's over 100 million people, and contributing 49.1% to GDP (Adenew, 2004).

According to FAO (2011) cited in Women UN (2015), women comprise a large proportion of the agricultural labor force in Sub-Saharan Africa, ranging from 30 to 80 percent. However, women farmers are consistently found to be less productive than male farmers. Gender-based inequalities in access to and control of productive and financial resources inhibit agricultural productivity and reduce food security. Due their access problem, cultural influence and low productivity they are limited to accept the new technology and they are exposed to economic, social, and cultural problems.

The study by Mekuria (2013) and Minten *et al*. (2013) showed access to and adoption of new agricultural technologies has been greatly limited by socio-economic, logistical and institutional obstacles in Ethiopia. This problem is also influencing the production capacity of the rural women's in Ethiopia. The objective of the review was gender base analysis of quncho teff adoption in Ethiopia and the specific objectives were to review origin, distribution and production of teff in Ethiopia, and factors affecting the rate adoption of teff variety by gender in Ethiopia.

Furthermore, this review will be used in guiding policy makers, development planners, communication experts and researchers who are concerned to identify measures and create awareness about role of gender that will boost the production and adoption of new technology in the country. The objective of this review is gender base analysis of teff adoption in Ethiopia and the specific objectives are to review origin, distribution and production of teff and factors affecting women in adoption of teff in Ethiopia.

Literature Review:

Origin, Production and Distribution of Teff:

Teff is one of the smallest grains and its origin is Ethiopia. Teff was first domesticated between 4000–1000 BC. According to CSA (2016), teff is major cereal crops in Ethiopia both in terms of area coverage and nutritional importance and it is one of the leading traditional food crops of Ethiopia.

FAO (2015) figure out major destination areas of Ethiopian teff and its distribution for other countries from 2000-2012. The result indicated that 23.21%, 23.52%, 24.23%, 4.32%, 1.28%, 11.54% and 3.78% quantities of teff were received by Israel, Yemen, United Arab Emirates, United States, Italy, Djibouti and Sudan, respectively.

According to Gizaw et al (2019), the major Teff producing areas are Amhara, Oromia, Tigray and South nation and nationality regional people of Ethiopia. In Ethiopia, teff production is a source of income for an estimated of 25-30 million people. Further, teff is the most commercialized crop with approximately 36% of the total produced being marketed (Minten *et al*., 2013).

Table 1: Teff production by region

Regions	Area (ha)	% share of total area planted	Production (Qt)	% share of total production
Tigray	168,804	6.01	2,098,066	6.02
Amhara	1,014,268	36.77	12,791,077	36.75
Oromia	1,289,405	46.74	16,718,025	48.04
SNNPR	265,377	9.62	2,967,594	8.53
Benishangul	23,648	0.84	231,073	.66
Total	2,758,502	100.00	34,802,836	100.00

Source; Abraham (2015), *Department of Plant Science, Wollo University, Ethiopia*

Factors Affecting Women Adoption of Improved Teff Variety:

According to Gabriel (2000), beginning from 1970, a number of improved varieties of teff seed have been produced and distributed for farmers' utilization. Most of the materials used by the National Teff Improvement Program come from the 4,300 teff accessions preserved in the Institute of Biodiversity Conservation (IBC).

Teff is the most adapted and major crop in the diverse agro-ecologies of the country. Different agricultural research centers released different varieties of teff to increase the production and productivity of farmers through the use of different improved varieties released in different years with their name, characteristics of the varieties, variety code, year released and the center released (MoA, 2010).

In 1970 three improved teff seed varieties were released having on-station average yield ranging between 18-28 quintals per hectare; these varieties were DZ-01-354, 99 and 196. In 2002 other selected seeds were distributed, these were DZ-01-1281, 1285 and 1681 with range of yield 24-26 quintals per hectare on-station production. In 2005 DZ-Cr-387 or Quncho, DZ-1868 and DZ-2423 Teff seed varieties were released, among the three DZ-Cr-387 or Quncho was the most widely distributed and adopted by farmers in current times; DZ-Cr-387 or Quncho variety allow on-station production as high as 27 quintals of Teff per hectare (Fufa *et al.*, 2011).

Aregu *et al.* (2011) states rural women play a great role in Ethiopian agriculture by supplying labor. Despite the importance of agriculture in the Ethiopian economy, and the contribution of women to the agricultural sector, studies on gender aspects of agricultural commercialization are relatively scarce. Women's are influenced by different factors which contribute to gender difference in access and utilization (Bassazinew (2008). However, women play key role in the agricultural system, they are often forgotten in official agricultural statistics and they are usually less likely to adopt new technology (Admassie *et al*., 2010).

Methodology:

This review article is undertaken document analysis through review of published and unpublished materials like books, research articles, published and unpublished reports from national and international organizations (governments), non-governmental organizations, policy briefs, and other indexed scholarly materials. The review has discoursed some concepts and tangible pieces of evidence about gender-based analysis of teff adoption in Ethiopia and its determinants. In addition to the narrative, this review compiled and presented the pieces of evidence and information through employing tables which were adopted from the recognized sources of findings and computed by authors themselves from the whole document review.

Conclusion and Recommendations:

Teff is one of the smallest grains and its origin is Ethiopia. In Ethiopia, teff production is a source of employment and it is the most commercialized crop. But, female farmer's adoption decision of teff is affected by factors related to his/her household characteristics, socio-economic, institutional and technology factors. Due to this case men and women cannot adopt the technology equally because of the existence of gender disparity. Therefore, the credit service to be delivered, the government and other stakeholders should strength, expand and monitor adult teaching program, making the available manpower well equipped with the necessary skill and knowledge through training and the concerned body should be solving land regard problems for female headed household to increase their involvement in teff production. Rural women play a great role in Ethiopian agriculture by supplying labor that enhance agricultural sector development. Due to this case the gender issue is needed to be focused by different stakeholders in order to facilitate agricultural development because of their production role.

References:

1. Abraham, R. (2015). "Achieving food security in Ethiopia by promoting productivity of future world food Teff: A review." Adv Plants Agric Res 2(2): 00045.
2. Adenew, B. (2004). The food security role of agriculture in Ethiopia. J. Agric. Dev. Econ. 1, 138–153.
3. Aregu, L., Puskur, R., Bishop-Sambrook, C. (2011). The role of gender in crop value chain in Ethiopia. Retrieved from: https://cgspace.cgiar.org/handle/10568/21037
4. Fufa, B., Behute, B., Simons, R., & Berhe, T. (2011). Strengthening Teff Value Chain in Ethiopia: Teff diagnostic report. ATA, Addis Ababa, Ethiopia.
5. Council, W. G. (2014). Teff and millet: November grains of the month.
6. CSA (2016). Agricultural Sample Survey: Area and Production of Crops, Main Season. Addis Ababa, Ethiopia.
7. Daniso, B., Muche, M., Fikadu, B., Melaku, E., & Lemma, T. (2020). Assessment of rural households mobile phone usage status for rural innovation services in Gomma Woreda Southwest Ethiopia.pdf. 6.
8. FAO, IFAD and WFP (2015). The State of Food Insecurity in the World 2015. Meeting the 2015 international hunger targets: taking stock of uneven progress. FAO, Rome, Italy.
9. Gabriel, A. H. (2000). "Development strategies and the Ethiopian peasantry: supply response and rural differentiation." Development strategies and the Ethiopian peasantry: supply response and rural differentiation.
10. Gebre-Selassie, A. and Bekele, T. (2012). A Review of Ethiopian Agriculture: Roles, Policy and Small-scale Farming Systems. In: Eder, C., Kyd---Rebenburg, D. and Prammer, J., 2012. Global Growing Casebook: Insights into African Agriculture. Institut zur Cooperation bei Entwicklungs-Projekten ICEP, Austria. Pp. 36-65.
11. Gizaw, B., ZerihunTsegay, G. T., Aynalem, E., Abatneh, E., & Amsalu, G. (2019). Traditional knowledge on teff (Eragrostis tef) farming practice and role of crop rotation to enrich plant growth promoting microbes for soil fertility in East Showa: Ethiopia. Agric. Res. Technol, 16.
12. IFAD (2013). African agricultural development: opportunities and challenges. Statement by IFAD President at the 6th Africa Agriculture Science Week and FARA general assembly, 2013). http://www.ifad.org/events/op/2013/fara.htm.
13. Larson DF, Murray S, Palacios-Lopez A (2015) Are women less productive farmers? How markets and risk affect fertilizer use, productivity, and measured gender effects in Uganda. World Bank Policy Research Working Paper (7241).
14. Lavison, R. K. (2013). Factors influencing the adoption of organic fertilizers in vegetable production in Accra, University of Ghana.
15. McGuire, S. (2015). FAO, IFAD, and WFP. The state of food insecurity in the world 2015: meeting the 2015 international hunger targets: taking stock of uneven progress. Rome: FAO, 2015. Advances in Nutrition, 6(5), 623-624.
16. MoA, 2010. Ministry of Agriculture, Animal and Plant Health Regulatory Directorate, Crop Variety.Register Issue No. 13, June 2010, Addis Ababa, Ethiopia, 227pp.
17. Minten, B., Tamru, S., Engida, E., & Kuma, T. (2013). Ethiopia's value chain on the move: the case of teff. ESSP Working Paper series 52, 1-26.
18. Tadesse, B. (2001). "Differential Adoption of Technologies and its Implications for Policy choice between Equity and Growth."
19. Weldegiorges, Z. K. (2015). Benefits, constraints and adoption of technologies introduced through the eco-farm project in Ethiopia, Norwegian University of Life Sciences, Ås.
20. Williams, A. P., & Funk, C. (2011). A westward extension of the warm pool leads to a westward extension of the Walker circulation, drying eastern Africa. Climate Dynamics, 37(11-12), 2417-2435.
21. Women, U. N. (2015). The cost of the gender gap in agricultural productivity in Malawi, Tanzania, and Uganda.