INNOVATIONS

Coffee marketing system analysis: The case of Gedeo zone, southern Ethiopia

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Abstract

This study deals with the marketing system analysis of the coffee commodity in the Yirgacheffe and Dilla-zuria districts of southern Ethiopia's Gedeo Zone. The production of coffee in Ethiopia is among the strategic crops where the economy depends on its export earnings and employment, and the Gedeo zone is one of the prominent coffee producer areas in the country known for its highly valued distinctive coffee varieties. The study was conducted using descriptive statistical analyses based on data collected from sampled 200 smallholder producers and 38 traders. Accordingly, the study identified input suppliers, smallholders coffee producing farmers, coffee traders (collectors, wholesalers, processors and retailers), cooperatives and Yirgacheffe coffee producers cooperatives union and customers whose ultimate objective is consumption as main actors in the coffee marketing system. The marketing margin analysis also revealed that collecters created 27.4 birr[1] value addition and wholesalers made an additional value of 109.1 birr in the first channel. On the other hand, both the participants were better off in the second channel. As a result, producers get 14.6 birr in addition to the sales price per kg, and wholesalers earned 121.9 birr more per kg than the first channel.

Keywords: Coffee, Marketing system, Smallholders, Value Chain Mapping, Gedeo Zone and Ethiopia.

Introduction

Like other developing countries, Ethiopia's economy primarily depends on the agriculturalsector for its foreign exchange earnings.Moreover, it is responsible for the employment of more than 73% of the total population whose livelihood is directly or indirectly dependent on agricultural activities and offers more than 70% of the raw materials for the industries in the country. This sector also contributes 36.3% to the gross domestic product (GDP) (UNDP, 2018, cited in Assefa *et al.,* 2019).

[1] Ethiopian currency

The coffee commodity takes first place among agricultural commodities contribution to the Ethiopian economy. Consequently, coffee in the country has been given greater attention and continues to be the groundwork for the country's agriculture-dependent economic development and poverty reduction works (Boansi *et al.,* 2013; NPC, 2016).

Since agriculture in Ethiopia is dominated by smallholder farmers, 95% of the total coffee production comes from 6 million smallholder farmers households.It is grown in a varied agro-ecological environment, including forest, semi-forest, garden and plantation coffee.Furthermore, the coffee subsector employed more than 25 million citizens across its value chain. This statistical evidence tells us that improving the coffee marketing system means a pivotal step in realizing the country's ambitious plan to be one of the middle-income countries lists by the end of 2025 (Samuel and Eva L.,2007; MoFED, 2010; CSA, 2019).

Coffee is one of the most essential traded commodities in the world. Consequently, Ethiopia exported to over 60 countries worldwide. As a result, coffee held 29% of export earnings in 2018/19 and shared 5% of the country's gross domestic product (GDP). Again to this extent, roles played, there is no doubt about the economic importance of the coffee subsector for sustainable development and poverty reduction in the country (ICO, 2010; GAIN, 2019).

The implimntation of the 2nd PRS, the plan for accelerated and sustained development to end poverty (PASDEP) smallholder farmers commercialization issue, gained greater attention in Ethiopia. Sincethen, vital institutional and legal reforms have been undertaken in Ethiopia to promote the coffee sub-sector, which is priority number one in the agricultural sector development strategy of the Ethiopian government. Among these reforms were the establishment of Ethiopian commodity exchange (ECX) in 2008, re-establishment of the Ethiopian coffee and tea marketing and development authority (ECTDA) in 2015 and the Coffee Marketing and Quality Control regulation issued in 2018 significant.
Even though Ethiopia has improved practices and made substantial progress all along its coffee value chain, the smallholder farmers benefit from the coffee market in most parts of the country is minimal. In addition, the producers per capita market share, supply volume, and profit motive worsen from time to time. This mostly happened because the agriculture markets are fragmented and concentrated, resulting in higher transaction costs on producers and loss of the producers' incentives to produce coffee for the market.

Moreover, different literature revealed that Ethiopian coffee farmers are at the bottom of an extended value chain, scattered far from markets. This situation puts them in a difficult bargaining position, mainly as they have limited coffee price share than downstream players. (Jaffee and Henson, 2005; Henson and Reardon, 2005).

On the other hand,adding value to export and domestic commodities is believed to generate substantial profits and employment opportunities along the chains and contributes to poverty alleviation. The promotion of value chains in agribusiness aims to improve the competitiveness of agriculture in national and international markets and generate greater value-added within the country or region. The key criterion in this context is broad impact, i.e., growth that benefits the rural producers to the greatest possible extent or at least does not worsen their position (GTZ, 2006).

Therefore, since such marketing inefficiencies prevailed in the coffee markets in the country primarily hurt the producers and discourage them from producing and marketing coffee, it calls to understand further the coffee sub-sector dynamics, rolls, and linkages of different actors in the value chain.Therefore, this study adopts a value chain approach to coffee marketing analysis in selected districts of the Gedeo zone, southern Ethiopia.

Methodology

Data type, collection and sampling techniques

Regarding the data types used in this study, the primary and secondary data types were collected from the coffee producers and coffee traders at different levels. The primary data were collected on various relevant socio-economic, institutional, and demographic variables to explain the study area's prevailing overall marketing system characteristics. In addition, pre-tested questionnaires were designed and used as a means of data collection for the primary data in line with interview checklists. Moreover, the secondary data were collected by reviewing different report documents to strengthen the primary data analysis.

For this study survey, the study area and the smallholder coffee farmers were selected by multiple-stage sampling techniques. Consequently, the two districts, *Yirgachffee* and *Dilla-zuria* from the Gedeo zone administration, were purposively selected first on their potential in coffee production, accessibility, time and cost considerations. Subsequently, two coffee producer *kebeles*[2]were purposively designated from each district, considering their agro-ecological importance.The selection was proportional. Finally, using the list of the coffee producer farmers,who are smallholders living in these selected *kebeles,* 200 farmer households were sampled for the questionnaire survey by simple random sampling technique. Furthermore, 38 different levels of coffee traders were also included for survey data collection.

Data analysis

This study mainly used descriptive analysis. Therefore, a valuechain analysis technique was adoptedto describe the significant coffee marketing system in the study area. Furthermore,participants were identified, and their linkages, shares, and market channels were also analyzed.

Study area

The Gedeo zone administration is located in the southern part of Ethiopia. It is part of the Southern Nations, Nationalities and Peoples Regional State (SNNPR), one of the ten regional states in thecountry. With 1354 square km of area coverage, it shares administrative borders with the Sidama region in the north and the Oromia region in the south, east and west directions. It is astronomically located north of the equator from $5^0$53'' N to $6^0$27'' N latitude and from 38^0 8'' to 38^0 30'' East longitude. The areais covered by 70% *Woina Dega* (mid-altitude) that ranges from 1800 to 3200 m asl, 28% *Dega* (high land)ranging 2400 to 3200 m asl, and 2% *Qola* (lowlands) ranging 500 to 1800 m asl (Negash, 2010; Negash *et al.,* 2012, as cited in Yoseph *et al.,* 2020).

[2] The lowest administrative unit in Ethiopia

The Gedeo zone has 6 (six) districts and 1 (one) city administration. These are *Wonago, Yirgacheffe, Bule, Kochere, Dilla-zuria, Gedeb districts* and *Dilla city* administration (Figure 1). Being known as a prominent coffee producing area and for its unique test coffee varieties in the country, agriculture in general and coffee production, in particular, is dominant economic activity in the Gedeo zone.

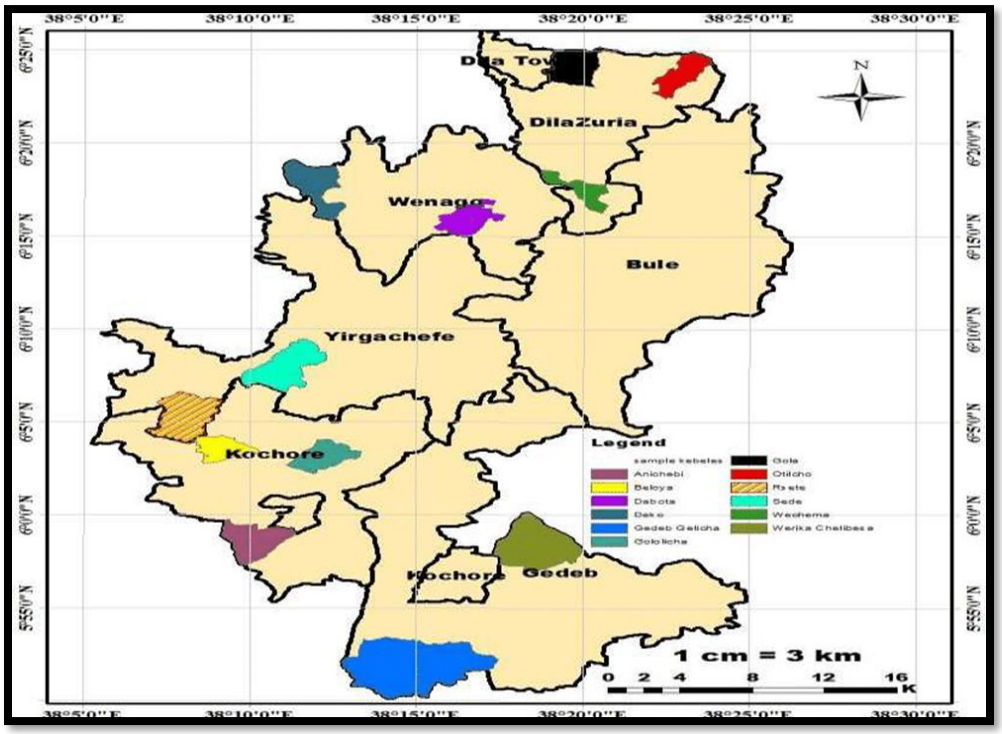

Figure 1:Gedeo zone administrative map
Source: Fekadu *et al*., 2016

Result and Discussion

Value chain mapping

As depicted in figure 2 below, the value chain analysis identified the important value chain actors in the coffee marketing system of *Yirgacheffe* and *Dilla-zuria districts* of the *Gedeo zone*. Consequently, the participants are coffee producer farmers, different level traders, coffee liquor units (CLU), cooperatives,union and consumers. Moreover, processors, financial institutions, transporters, cleaners and graders are also participated to support the value chain.

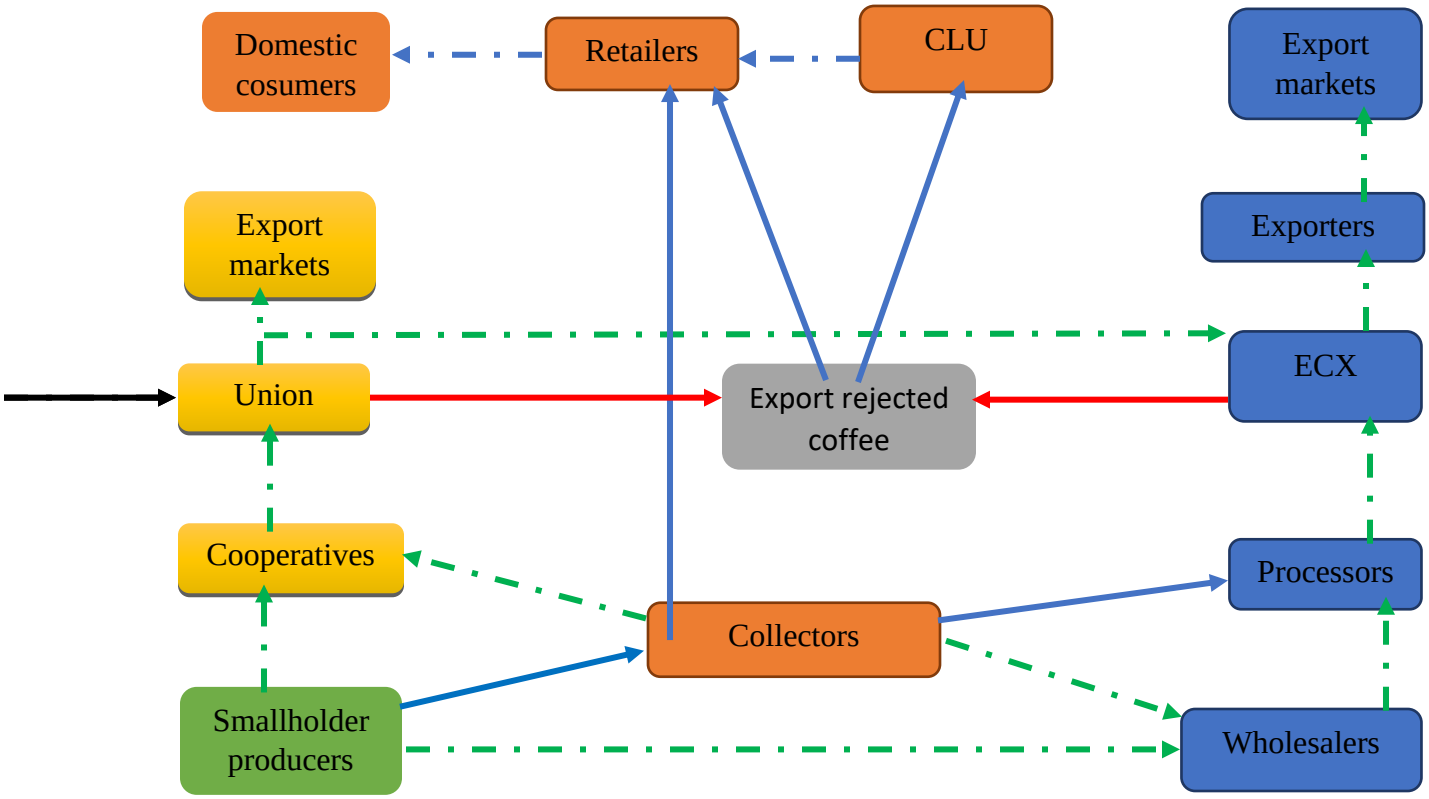

Figure 2: Schematic presentation of coffee value chain actors' interaction in the study area.

Source: Authors' sketch from the survey result, 2021.

Represents principal coffee channels targeted for export.

Represents coffee market channels targeted for the domestic market.

Coffee value chain actors, roles and linkages

Input suppliers: inputs in the study area were supplied by research centres, cooperatives, private enterprises and NGO's for the producers and coffee traders. Furthermore, some model farmers also participated in coffee seedling multiplication and supply. On average, one sampled farmer used 422 coffee seedlings and 0.5 kg of improved coffee seed in the study year. Additionally, these actors played important roles indelivering packaging and different farm materials. Most importantly, input suppliers, especially government research institutions, cooperatives and NGO's regularly provide field pieces of training on modern coffee production techniques.

Smallholder farmers: these are the source of the coffee commodity in the value chain. The producers in the study area performed different activities inthe coffee production process on less than 0.5 ha of farmland with less than 3.5 qt/ha of productivity rates on average; as a result, most of them are smallholders. Moreover, producers are responsible for harvesting, marketing,primary processing, sorting and grading, storing, and post-harvest handling providedunsold on the farm. On theotherhand, buyers would be liable for post-harvest handlings if coffee is sold on the farm. The

survey revealed that 61 % of the producer's sun-dried their coffee produce while 57% further graded and sorted their coffee traditionally by handpicking method before supplying to the market. Nevertheless, according to Bart (2006), coffee producers played significant roles in the coffee production chains; their produce reaches consumers domestically and globally in different countries passing through intermediaries at different levels.

Moreover, in the study area, the smallholder farmers indicated that they would preferably supply sun-dried coffee beans to the market than wet. The reason stated by households was it fetches a relatively better higher price. However, most farmers considered only the quick,somewhat higher price from suppliers, retailers and direct consumers than thinking of the double payment (dividend) and other services they would get from cooperatives. Thus, cooperatives need to do morethoroughly to attract farmers, not to focus only on the immediate better price.

Traders: traders are those business operators involved in coffee transactions in the area at different levels to supply for other markets. This category includes processers, collectors, retailers and wholesalers. Coffee processors performed basicform changing value-adding activities in washing, hulling, pulping, sorting, grading and packaging of coffee in bulk in their stations. The processing includes dry and wet coffee beans. Collectors are mainly involved in assembling coffee from different village market centres to supply to processors, domestic roasters, wholesalers or retailers. However, licensed collectors can deliver coffee to the Ethiopian commodity exchange (ECX) auction market.Collectors were instant buyers of coffee, especially from smallholders

They encompass supermarkets that mainly supply coffee to the consumers regarding the retailers. They purchased coffee from collector's, wholesalers, roasters, and cooperatives in different forms. Furthermore, wholesalers are legally licensed enterprises of individuals to participate in the coffee exchange. They mainly purchased and processed coffee and made transactions at the ECX platform to export standard coffee independently or sell it to other exporters. Moreover, they also purchased coffee products rejected from export markets at the auction market to supply for retailers and CLU in the domestic markets.

Cooperatives and unions: cooperatives are primary coffee producers' organizations mainly engaged in settling price-related and market problems by collecting coffee directly from the members at a fair price. There are 12 primary coffee cooperatives certified with fair trade and organic coffee in the study area. Since most of these have their processing sites, cooperatives undertook to process the purchased coffee beans before supplying them to the market through their union for domestic or export markets. Therefore,the coffee producers' cooperatives union is the secondary level coffee producer's organization formed by the cooperatives. In the study, area cooperatives established a *Yirgacheffe* coffee cooperatives union (YCCU) in June 2002, primarily for export activities. Furthermore, beyond their marketing duties, these types of farmer organizations promote the producers' collective bargaining powers and the farmers' productivity through the supply of modern inputs and training. They are also used as an alternative source of finance.

Customers: consumers indicate the ultimate actors of the coffee value chain. These groups purchased coffee only for personal consumption needs. Therefore, they mainly obtained coffee from the retailers in the processed (roasted and packed) form or raw beans in the study area.

The coffee value chain supporters

These institutions and associations indirectly participated in the coffee value chain to assure and calibrate the smooth transaction in coffee marketing. In addition, their participation is to create enabling hospitable marketing environment for the prominent value chain actors to undertake their business deals. Furthermore, these institutions and associations provide training and consultancy services to positively influence the productivity of coffee, coffee quality, and standardization and its marketing systems as a whole.

Therefore, the coffee value chain supporters in the study area include commercial banks and micro-financial institutions, loading and unloading workers associations, transporters associations, warehouse service providers, coffee quality controlling units, research institutions, extension service and technology transfer experts and NGO's. Moreover, different government organizations like Ethiopian commodity exchange (ECX) and Ethiopian coffee marketing and development (ECTDA) have facilitative positions in quality inspection, transaction, law enforcement and contract agreement administrations.

Coffee marketing channels margin

The supply chain analyzes the sequential business transactionsin the coffee commodity marketing system. This technique was intended to briefly describe a systematic flow of the coffee produced in the study area from the origin to the final destination. However, despite the study identifying 6(six) main coffee supply channels, the first two channelswere widespread, dominantly serving more than 70 % of the coffee transaction in the area. These were presented as follows:

Furthermore, marketing margin analyses were conducted to describe the distribution of the value addition along the coffee value chain in the study for the participants in the two selected channels (Table 1). The analyses revealed that collecters created 27.4 *birr*[3] value addition in the first channelwhile wholesalers created an additional value of 109.1 *birr*. Regarding channel II, the producer's sales price increased by 14.6 *birr* per kg compared to the first channel price, and wholesalers made an additional value of 121.9 *birr,* which is greater than the value-added in channel I. Therefore, this case indicates that the wholesaler created more value addition in a coffee transaction in the study area.

[3]Ethiopian currency

Table 1:Marketing margin analysis summary

Channel actors	Selling price (Birr/kg)		Gross margin (%)		Net margin (%)	
	Channel I	Channel II	Channel I	Channel II	Channel I	Channel II
Producers	205.8	220.4	60.1	64.4	56.9	58.6
Collectors	233.2	-	8	-	4.3	-
Wholesalers	342.3	342.3	31.9	35.6	38.8	41.4

Source: Survey result

In addition, the gross margin and net margin distribution analysis indicated that the shorter the supply chain, participants in the transaction would fetch a better share. This is because, as shown in Table 1 above, as the producers and wholesalers make a direct transaction, their gross margin increased by 4.3% and 3.7%, respectively. In the same case, the net margin share increased by 1.7% to the producers and 2.6% to the wholesalers.

Conclusions and implications

The actors identified in the coffee value chain analysis in the study areas were categorized into prominent actors and actors with facilitative roles. The principal actors in the coffee marketing system are input suppliers, smallholders coffee producing farmers, coffee traders (collectors, wholesalers, processors and retailers), cooperatives and *Yirgacheffe* coffee producers cooperatives union and customers whose ultimate objective is consumption. Additionally, wholesalers added higher value to the coffee commodity purchased before selling to the following levels in the coffee value chain. Furthermore, commercial banks, microfinance institutions, loading and unloading workers, transporters associations, warehouse service renders, quality inspection and certification, the Ethiopian commodity exchange (ECX), and Ethiopian coffee and tea development authority (ECTDA) have a facilitative role in the coffee transaction. Moreover, 6(six) main coffee transaction channels were identified in this study in the area.

Regarding the distributions of margins among the actors by taking the first two channels, the analyses revealed that collecters created 27.4 *birr* value addition and wholesalers made an additional value of 109.1 *birr* in the first channel. On the other hand, both the participants were better off in the second channel. As a result, producers get 14.6 *birr* in addition to the sales price per kg, and wholesalers earned 121.9 *birr* more per kg than the first channel. To this end, it is recommended to the local administrations of the area to design effective intervention strategies to improve the existing extended coffee value chain in line with ensuring the benefits of the producers, especially the smallholders. Furthermore, a lot has to be done by the concerned body of either the government or NGO's to address the shortage of farmland, absence of market linkage, the occurrence of different recurrent bacterial coffee diseases and shortage disease resistance high yielding coffee seedlings problems.

Reference

1. *Assefa Ayele, Jema Haji and Bosena Tegegne, 2019. Technical Efficiency of Wheat Production by Smallholder Farmers in Soro District of Hadiya Zone, Southern Ethiopia. East Africa journal of science, 13(2): 113-120.*
2. *Boansi, D., 2013. Export performance and macro-linkages: A look at the competitiveness and determinants of cocoa exports, production and price for Ghana. MPRA Paper No. 48345. University Library of Munich, Germany mpra.ub.uni-muenchen.de.*
3. *Buzualem Assefa and Zekarias Shumeta, 2018. Value chain analysis of coffee in Jimma zone of Oromia regional state, Ethiopia. American based research journal, 7(11): 9-17.*
4. *CSA (Central Statistics Agency), 2019. Agricultural sample survey Volume I; report on area and production of major crops, Addis Ababa, Ethiopia.*
5. *Fekadu Gemechu, Melesse Mayo and Girmay Benti, 2016. The prevalence and impact of coffee arthropod pests in the Gedeo indigenous agro-forestry systems, southern Ethiopia. International journal of biodiversity and conservation, 8(10): 234-243.*
6. *GAIN (Global Agriculture Information Network), 2019. Ethiopian coffee annual report, Report number ET 1904, Addis Ababa, Ethiopia.*
7. *Henson, S. & Reardon, T. 2005. Private Agri-Food Standards: Implications for Food Policy and the Agri-Food System. Food Policy 30:241-253.*
8. *ICO (Last updated 2010)) "Monthly Coffee Market Report" (a webpage of International Coffee Organization). It was accessed November 15, 2021, dev.ico.org*
9. *Jaffee, D., 2003. 'From Challenge to Opportunity Transforming Kenya's Fresh Vegetable Trade in the Context of Emerging Food Safety and Other Standards in Europe'. Agriculture & Rural Development Discussion Paper 1. Washington, DC: The World Bank.*
10. *Jaffee, S. & Henson, S. 2005. Agro-food exports from developing countries: the challenges posed by standards. In A.M. Aksoy & J.C.Beghin, eds. Global agricultural trade and developing countries. Washington, DC, The World Bank.*
11. *MOFED, Growth and Transformation Plan: 2010/11-2014/15, Volume I: main text, November 2010, Addis Ababa.NBE (National Bank of Ethiopia), 2019. Annual Report 2017-2018, Addis Ababa, Ethiopia*
12. *Negash L., 2010. A selection of Ethiopia's indigenous trees: biology, uses and propagation techniques. Addis Ababa University Press, Addis Ababa, Ethiopia.*
13. *Negash, M., Yirdaw, E., & Luukkanen, O., 2012. Potential of indigenous multi strata agroforests for maintaining native floristic diversity in the south-eastern Rift Valley escarpment, Ethiopia. Agroforestry Systems, 85(1): 9–28.*
14. *NPC (National Plan Commission), 2016. Growth and Transformation Plan II (2015/16-2019/20) main text, volume I, Addis Ababa.*
15. *Samuel G. and Eva L., 2007. Agricultural commercialization in coffee-growing areas of Ethiopia. Paper presented at the 5th international conference on the Ethiopian economy, 7-9 June 2007, Addis Ababa, Ethiopia.*
16. *UNDP (United Nations development programme). 2018. Ethiopia's progress to warding eradicating poverty. Paper to be presented to the inter-agency group meeting on the implementation of the third United Nations decade for the eradication of poverty (2018-2027) Addis Abeba, Ethiopia.*
17. *Yoseph Maru, Aster Gebrekirstos & Getahun Haile, 2020. Indigenous ways of environmental protection in Gedeo community, Southern Ethiopia: A socio-ecological perspective. Cogent Food & Agriculture, 6(1): 1-26.*