

Forest Coffee Production in Ethiopia: The Case of Gimbo District, Kaffa Zone, Southwest Ethiopia

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Abstract

Coffee plays a significant social and economic role and serves as a major source of foreign earnings in number of developing countries including Ethiopia. Globally 125 million people in Latin America, Africa and Asia depend on it for their livelihoods. Nowadays coffee is among the few internationally traded important agricultural commodities. Forest coffee have been less recognized and given less attention, despite of its multipurpose benefits for environment and sustainability. Therefore, the objective of this study is to assess and analyze the significance, current status and future prospects of forest coffee production in the area. This study is conducted at Gimbo Woreda, Kafa Zone of SNNPRS at Southwest Ethiopia. Three Kebeles were selected. Each site is sampled with characteristic attributes relevant on the abundance of wild coffee forest, accessibility, time and previous experience of the researcher. The nature of the study commanded methodological pluralism. Thus, combinations of surveys, qualitative and quantitative data collection techniques were employed. Based on the result, the institutional performances of actors on forest coffee production in the study area found to be full of awareness, that wild coffee is the central party of the community livelihood. Moreover, current forest coffee management guaranteed the increasing trend of organic forest coffee production. The study disclosed that wild coffee production is economically rewarding, socially justifiable and ecologically sound as naturally regenerating NTFPs due to its natural existence. These functions of wild coffee initiated the motivation of different stockholders in managing the wild coffee forest and maintain its natural ecology since they drive benefits from it. However, there is high treating factors endangering future of coffee forest. The study concludes that currently forest coffee production has in good state while, the future prospects of forest coffee production at Gimbo district is confronted with potential dangers due to forest coffee tenure insecurity and increasing trend of coffee investors. Thus, the study provides signals to give attentions for the challenges and possible solutions for the bright future of forest coffee production.

Keywords: forest coffee, Non-Timber Forest Products, Indigenous coffee management, future value

Introduction

Coffee plays a significant economic role and serves as a major source of foreign earnings in number of producing countries (Bramel *et al*, 2016). Produced in about 80 countries, an estimated 125 million people in Latin America, Africa and Asia depend on it for their livelihoods (Ibid; Tadesse *et al*, 2013). The importance of coffee is embedded within the growing culture of attraction to the socio-economic significance intrinsic to it (Tadesse *et al*, 2013). Nowadays coffee is among the few internationally traded important agricultural commodities (Franz, 2013; Kew, 2017). Coffee is primarily produced by 50 developing countries and mainly consumed by 20 developed nations (Bramel *et al* 2016). Prominently coffee is believed as a non-seductive drink socializing relationship. It is also regarded as an enlightenment of moments of every-day. Coffee as a living crop from the plant kingdom controversially possesses widely contemplated legends associated with place of origin, identification, ceremony, trade, taxation and others (Grotz, 2013). Despite the high disparities of flavor preferences, influenced by cultural and historic exposure, coffee is a persistent power of attractions for progressively growing number of consumers and producers across the continents- knowing no border.

Down the century and across the country agriculture has been the driving force of livelihood and economic base in Ethiopia (Mekuria, 2004). Coffee is one of the most important and leading export commodities in Ethiopia (Gray, 2014). For so long coffee has been contributing more than 60 percent of the country's foreign exchange earnings. It is also believed that the livelihood of 25% of the population depend directly or indirectly on coffee (Megeressa, 2007). Coffee is proved one an important engine of sustainable development in order to boost farmers above subsistence agriculture and then contribute to sustainable life style.

So far there are four coffee production systems in the country notably: forest coffee production, semi-forest coffee production, garden coffee and plantation coffee production systems (Wirtu, 2007, Gatzweiler, 2005, Zenebe, 2003).

The total land area used to produce wild coffee in Ethiopia is estimated about 400,000 hectare. Wild coffee is defined as coffee that grows and regenerates spontaneously in its natural habitat and is genetically different from known cultivars (Jörg Volkmann; 2008). Mostly, wild coffee grows in the Afromontane rainforest forest situated in the SW Ethiopia in general and Kaffa in particular; basis of current all coffee production and marketing. Currently, reports proved that wild coffee contributes as much as 10% of the total coffee production

system and has a contribution of 5-6% of the total national coffee production (CIP III, 1998).

However, these wild coffee populations are under severe pressure due to land use conflicts in forests and forest fringes (Jörg Volkmann, 2008). Moreover, the wild coffee population is also threatened by the replacement of wild coffee trees by more productive coffee trees from nurseries; would results gene pool erosion. Ironic to the local threat on wild coffee, there is also an increasing demand for wild Arabica coffee in the world market (Surendra Kotecha; 2007) and Local small holder farmer attention. The upcoming coffee production does not take into account the multifaceted values of wild coffee production; would have negative impact on coffee performances both at local and national level in the near future.

Therefore, after recognizing the problem, this study aims to create understanding on wild coffee production significances, analyzing and exploring the current status and future prospects of wild coffee production in Gimbo Woreda: Kaffa zone; Southwest Ethiopia.

2. Materials and Method

The study areas

After the objectives and research questions of the study had been defined, the study was conducted in selected area (Gimbo Woreda) in collaboration with the Kaffa Forest Coffee Farmers Cooperative Union (KFCFCU), and Bureau of agriculture and Rural Development (BoARD) in the Zone and Woreda level. The primary and secondary data sources were widely used in this study and accordingly, the results of the current household socioeconomic surveys, in-depth interviews for key informant, filed observations; and files, archives and documents were used.

Sampling Procedures

The selection of Woreda and Kebeles was done purposely. The rationale for the selection of the Woreda and Kebeles was based on abundance of wild coffee forestland, accessibility, time, security and feasibility. After the purposive selection of the Kebeles, simple random selection of households using lottery methods was employed in proportion (10% from each) to the size of each household found in their respective Kebeles.

3. Result and Discussion

3.1. Significances of wild coffee production

The production of wild coffee is of an enormous relevance for Ethiopia as growing regions, playing a dominant role in economic, socio- cultural and environmental terms. The analysis of wild coffee production is intended to provide a systematic understanding on the immediate local, national and international significances of wild coffee forests in terms of economic, socio-cultural and ecological aspects.

The qualitative analysis of the study indicated that as forest based economic activity the role of wild coffee production proved *beyond the market value*, and the land with coffee is more valuable than the land with no coffee. The study has revealed that the existence of wild coffee in the forest is the leading economic earn for rural household, Socio-cultural maintenance and communication, and in addressing environmental issues as forest protect soil erosion and maintain local ecological balance, Seed pool (source of organic coffee seedlings) and research.

3.2. Economic significance

All of 144 respondents agreed that wild coffee is the only source of coffee produce by which their household support is depends on by stressing the largest yield was consumed locally. All of the 144 respondents, each and every household drinks coffee at least three times a day and two to three cups per gathering of one ceremony and the amount they consume could not be exactly defined well due to the harvesting practice of the local people that is not documented. This is due to the existence of wild coffee harvesting extracted from nearby natural forest.

Wild coffee is also a very important commodity crop for many developing countries and providing a source of income for thousands of small-scale farmers, as well as being a significant source of employment (Dulloo, 2007) and it is the leading source of income for householders in the study area. In addition to this wild coffee serves as means of employment during harvesting season and taken as a guarantee crop for the producers as well as laborers as compared to other agricultural products in the study area.

Table: - The source of Income indices from agricultural out puts including coffee of the respondents.

Statistics(A)	Average production of crops (in quintals) per household			
	Wild Coffee	Teff	Maize	Wheat
Mean	6.62	1.81	11.43	0.93
Minimum	0.5	0.5	1	0.5
Maximum	22	7	25	3
Average price/qt	2,352.9 birr	900 birr	300birr	500 birr
Income/ HH	15,576.47 birr	1,629 birr	3429 birr	465 birr
Income /individual	14.99 birr	1.57 birr	3.30birr	0.45 birr
Statistics (B)	Average Number of live stocks (number)			
	Cows	oxen	Sheep/ goat	horse
Mean	3.13	2.35	3.25	1.14
Minimum	2	1	2	1
Maximum	20	10	15	3
Average price/unit	1,500 birr	2,000 birr	400 birr	1,200 birr
Income/ HH	4,695 birr	4,700 birr	1,300 birr	2,280 birr
Income /individual	4.51 Birr	4.52 birr	1.06 birr	2.19 birr

Source: - Compiled through field Survey

As indicated above coffee harvest leads all other agricultural practices in the study areas. That is why the respondents agreed that the wild coffee is more valuable in their livelihood and their prosperity is the direct productivity of wild coffee forest. In 2002, Oxfam noted that some farming households dependent on coffee were pulling their children out of school; they could no longer afford basic medicines and were cutting back on food consumption. Some coffee traders were going out of business while many seasonal workers – among the poorest and most vulnerable participants in the coffee chain – lost their jobs (PETIT, April 2007). According to the ZoARDB, at woreda and zonal level high tax revenue collected from wild coffee farmers and traders indeed.

3.3. Socio-cultural maintenances

Coffee has played an important role in tradition and culture of African societies as it was first used in religious ceremonies (Irwin, 2003). All respondents confirmed that, in addition to its economic importance wild coffee serves as center in indigenous cultural worshipping practices and ritual, marriage and memorial ceremonies. Moreover, coffee is the center for creating community based local communications and neighborhoods gathering – ‘*Bunoo Uyot!*’ literally meaning ‘come and drink coffee!’ This is too meaningful in Kaffa people showing the extent of belongingness.

3.4. Ecological significance

Wild coffee forest as forest it protects soil erosion and maintains local ecological balance; and as coffee become the source of wild coffee seed pool that is directly and indirectly play great role for farm diversification and source organic coffee seedlings where the available coffee seedlings are missing originality due to chemical fertilizer utilization in plantation coffee farm states.

Contribution to research activities on the history of wild coffee use, its natural existence and the wild coffee production system in the study area in particular and Kaffa in general. Due to these multifaceted values of Wild coffee get great attention from different actors.

3.5. Institutions involved in wild coffee production system

3.5.1. Transitional Institution

According to FAO (2010) rights over land and other natural resources (water, forests, rangelands etc) are of particular importance of indigenous peoples as they experience a spiritual attachment to their hereditary basis and commonly rely on natural resource for survival. The people have respected the system for centuries but there are some visible gaps among the youngsters in the current condition. This was due to the erosion of acceptance of these indigenous institutions and practices with respect to modernization, religious faith and low integration between indigenous practice and the available or visible management strategies.

The forest adjacent communities had already developed a diversified indigenous management practices and insights conserving forest for economical as well as spiritual purposes. These forest management practices were

sustainable and contributed significantly for conservation and protection of the existing residual natural forest resources. The foot print of indigenous management practices are also seen traditionally protecting the common indigenous forest trees including wild coffee by PFM and others for its multifaceted values.

3.5.2. Participatory forest management (PFM)

Most forest covered areas with their resources are protected areas as state owned. Protected area management in Ethiopia, as indeed in most of Africa has been based on models that exclude local communities and perceive their concerns as incompatible with conservation (Ethiopian, 2006). The situation is begun to change with the realization that effective protected area management is not possible without the collaboration of the communities living within and around the protected areas. Some effort has been put to initiate the process that will lead to communities participating in decision making as far as protected area management is concerned. For instance, in our country Ethiopia the Proclamation (No. 94/1994) manages the forests and enjoy with them. This manifestation gives information on conservation, development and utilization of forest resources. It is described shortly for what national issues the "Ministry of Natural Resources Development and Environmental Protection" is responsible.

The community's objective; to obtain various benefits in terms of products and services from the forest on sustainable basis facilitated through legal recognition by the government, limit resource extraction based on FMP (forest management plan) prescription, develop forest so as to earn increased and sustainable income, obtain support to stop non members harvesting of the forest so that a lasting forest management is realized in collaboration with government.

3.5.3. Kaffa Forest Coffee Farmers Cooperative Union (KFCFCU)

The KFCFCU was founded in March 2004, with a total membership of 3,269 coffee-producing farmers. KFCFCU is a large coffee union with number of different cooperatives in Ethiopia, where farmer households are organized to collect wild growing forest coffee. It is the first wild collection project to obtain fair for life certification (EWNHS, 2008).

The major objective of the Union is to integrate and improve coffee production and marketing. Its main mission is generating and distribution of net benefits among its members (local producers). In addition, the Union manages coffee project-funding. The union is financially and technically supported by PPP-Project (GTZ) to develop and introduce a scheme for sustainable coffee production and marketing adopting international quality standards.

3.5.4. Formal institutions

include the concerned governmental agencies at different level responsible for national resource sustainability. Among the formal Institutions engaged in forest management in the study area are Kaffa Zone Agriculture and Rural Development Department, Kaffa Zone Administrative Council, Kaffa Zone Investment Bureau, Woreda Agriculture and Rural Development Bureau, Woreda Administrative council, Kebele Administration, and DAs.

3.6. Institutional Integration

Wild coffee forest is the most equitable in character in the study area that is why about 71.52 percents of the respondents from each Kebele; who have wild coffee forest are members of union and PFM. The union is motivating the producer farmers (PFM members) by providing a mesh wire they to produce more by giving marketing guarantee, thus most farmers are free from threats of coffee market price fluctuation as before; it is sold in the international market with high price through the union. And the government agents facilitate the legality conditions and solve related problems through the routines.

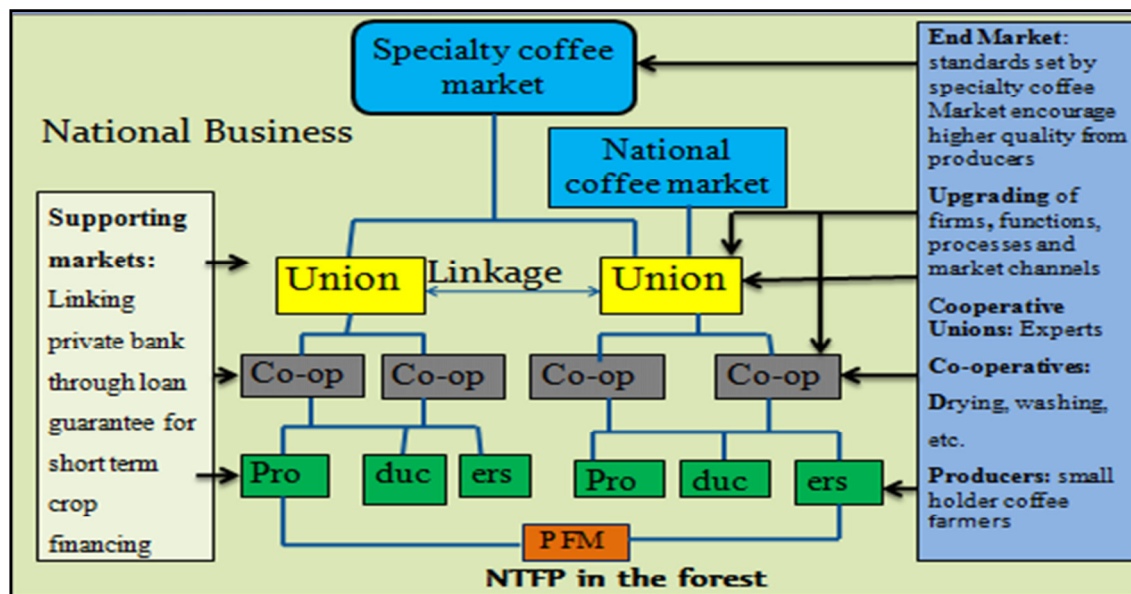


Figure 4. Ethiopian wild forest coffee value chain through the coordination of Union with PFM.

3.7. Current status wild coffee production in Study area

Due to the involvement of different institutions the current status of wild coffee production tells us the present potential of the production in the study area. Wild coffee covered area in Gimbo Woreda is characterized in to unmanaged and managed wild coffee forest, forest with no coffee and coffee coverage under investment by private owners. The data taken from the Kaffa Zone agricultural and rural development office indicated wild coffee proportion of Gimbo Woreda in the following bar graph.

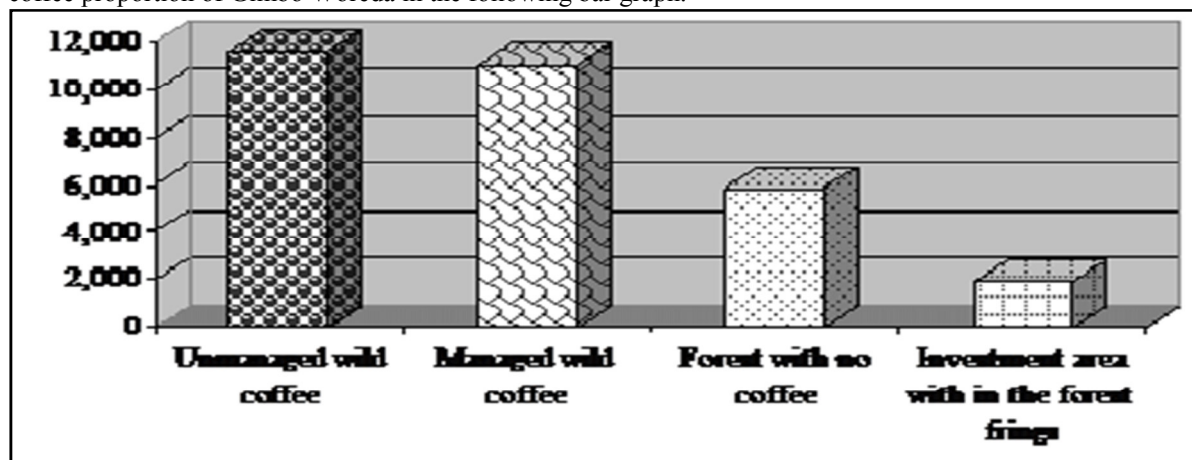


Figure 5. Occurrence of wild coffee forest in Highland Forest Units in Gimbo Woreda (in ha)

The above coverage can be also characterized in to unmanaged, slightly managed and fragmented; or core, buffer and transitional zones.

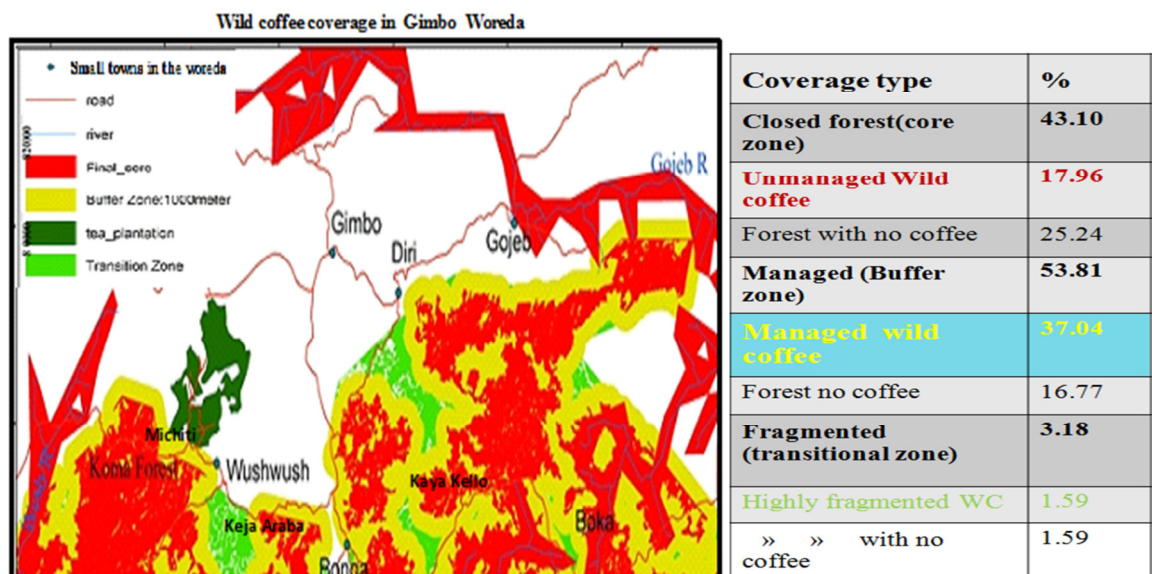


Figure 6. Wild coffee forest coverage in Gimbo Woreda (in ha)
 Source: - SUPAK and ZoARDB 2014

As indicated in the map and its attribute table showing the forest coverage and wild coffee composition in Gimbo woreda. Accordingly, from the total 23,763ha forest coverage about 56.59% is wild coffee forest and the rest 43.6% is forest with no coffee in the study woreda; this shows wild coffee make the forest of Gimbo as coffee forest, but not forest coffee.

7. The Aspect and trend of wild coffee production

The occurrence of wild coffee is different in each of three Kebeles. The recent developments indicate that wild coffee is in the process of management so as to increase production. More management by institutions' demanded for more production and leads for the increasing trend of wild coffee production. As indicated in the graph bellow with the cooperative influence of institutions on wild coffee management the trend of coffee production is increasing since 1995 E.C. The rate of management is absolutely high in Keja Araba where the total coffee forest has got under management and in both Kaya Kello and Michiti even though there is management there is still unmanaged wild coffee forest.

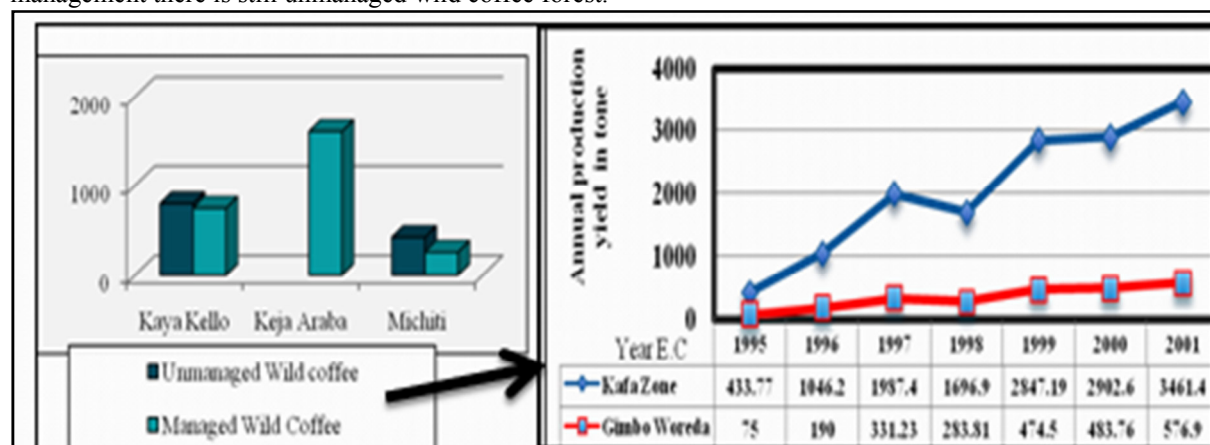


Figure 7. Trend of forest coffee production in study area

The increasing involvement of institutions in Wild coffee management ironic to increasing production it reduces the free utility of forest coffee; the state of art in Ethiopia where forest is protected as state forest restricting free use. This give birth to Tenure Insecurity due to state induced development projects and alienations of customary use right. For this matter households in all study sites confirmed that they are under either of the two options like Registering in PFM Scheme and get benefitted and domesticating wild coffee seedlings on their farmlands as forest get far and far from settlements. In study area almost all households are planting coffee seedlings in their farmlands and are members of PFM to get current value of forest resources. As DAs indicated that, the habit of wild coffee production in the study area was known by conserving and using the natural ecosystem in the last couple of decades, whereas planting wild coffee seedlings on the plots of land in small scale and large scale is the new acculturation of the local people; due to the existing high pressure on the

wild coffee ecosystem and the related tenure insecurity right.

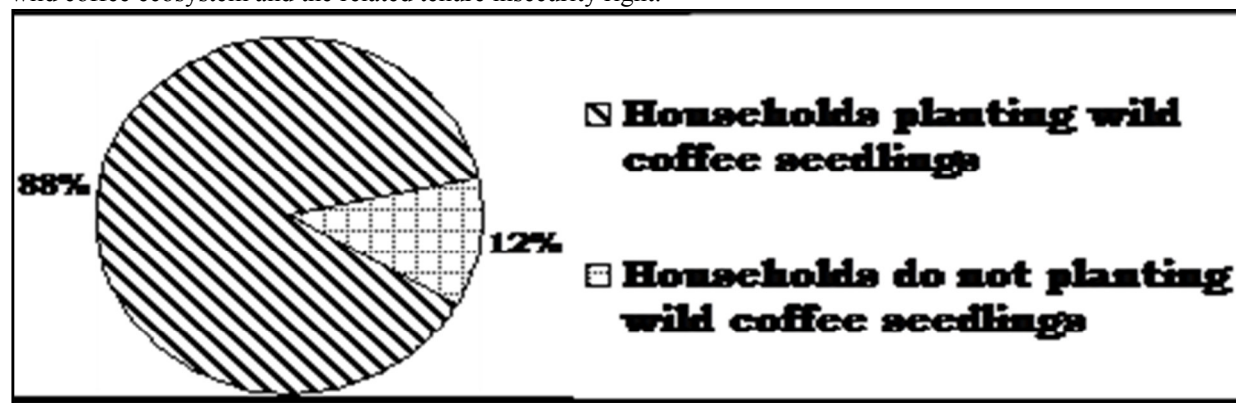


Figure 8. Households planting wild coffee seedlings on their farm land

4. Future Prospects of wild coffee production

As indicated above the avail pressure and management approach make the future fate of wild coffee under possible challenges and opportunities indeed. The challenge was manifested by wild coffee forest tenure insecurity with increasing transformation of forest land in to farmland due to population pressure; and deforestation and degradation due to farmland encroachment to the forest land. As key informant DA stated that 'More over the tenure insecurity based challenge has got great due to state induced development projects and alienations of customary use right'. This reduction has effect on the quality of wild coffee status, reduction of area coverage, fragmentation and degradation in natural forest composition. Moreover, there is intensive timber extraction that contributed to the serious degradation of the resources. The researcher had conducted transect walk to make field observation on the level of deforestation and degradation.

However, within such challenges wild coffee production has bright future as opportunity for its prospects with its significance based institutional coordination and its international market value. That is why farmers involved in PFM and KFCFCU as members of both institutions. As a result farmer's skill development through PFM on conservation and management of NTFP including wild coffee and the growing demand for wild organic coffee in the international market as Specialty coffee from the KFCFCU is its manifestation. In other hand it gave birth to the ever institutionalization of production and marketing of wild coffee; that is possibly will have increased revenue from organic coffee sale, scientific research center and will be reason for the restoration of forest ecosystem and paradigm shift of marketing forest by restoring over deforestation (Carbon trade).

5. Conclusions

As forest based economic activity the role of wild coffee production is beyond the market value, and the land with coffee is more valuable than the land with no coffee. The study has revealed that wild coffee is economically rewarding, socially healthy and environmentally friend; and also wild coffee forest is equitable resource. The significance of wild coffee production initiated the collaborated efforts from different actors to sustain the existing functions and get benefited. Currently, the largest proportion of wild coffee forest coverage is under managed to boost up its productivity. The current wild coffee forest tenure right insecurity from individual use right leads the cooperation of community member's participation on the conservation and management of wild coffee forest.

Efforts from PFM practices and KFCFCU with the growing international market demand for wild Arabica coffee found to be the great opportunity for future prospects of wild coffee production.

6. Recommendations

Wild coffee forest ecosystem conservation should be given priority in order to safeguard the existing production trend for the future. In order to secure wild coffee forest ecosystem significances there must be efforts for aintaining the aged indigenous knowledge experiences on resource conservation is demanding and elders with better know-how on should have sayings, improving cooperation between stakeholders and forest management quality; and encouraging local farmer's participation by granting use rights and development of trust building measures.

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