

Tobacco Production Practice of Smallholder in Bilate, Wolaita and Hawassa tobacco farms, Ethiopia



<http://abr.damray.com>

OPEN ACCESS

DOI: 10.26855/abr.2020004

Received: April 5, 2020

Accepted: May 6, 2020

Published: June 8, 2020

Copyright: ©2020 D. Abebe *et al.*

This is an open access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Daniel Abebe*, Mekonnen Tadesse

Department of Research and Quality Assurance, National Tobacco Enterprise (Ethiopia), Addis Ababa, Ethiopia

*Corresponding authors: Email: danjitu79@yahoo.com

Abstract

This study was conducted tobacco growing farmers' house hold in the Wolaita ,Bilate and Hawassa tobacco farms in Southern Nations, Nationalities and peoples' Regional state, Ethiopia. The objective of the study was to investigate socioeconomic and technical factors that affect tobacco production smallholder tobacco producers at southern Ethiopia. In conducting the research, data relevant to the study were collected from both primary and secondary sources. Prior to interviewed back ground information and secondary data were collected from extension section of each tobacco development farm. Two peasant associations (PAs) were selected totally 30 sample farmers were randomly selected from each district based on tobacco production potential. Surveys were used to measured like area of plots with tobacco plants, household farming practiced at present and in the past, other crop species planted before, labor source, farm size and input. The findings from this study point to several recommendations for research, extension, and policy makers. The study recommended technologies to mitigate farmer's labor shortage, regularly revised price of green tobacco price policies, good relation with local administrator and training of smallholder tobacco producers that would increase number of tobacco producers.

Keywords

Ethiopia, Tobacco, Production Factors, Socioeconomic

1. Introduction

In Ethiopia small-scale tobacco is mainly grown traditionally at the homestead in the countryside either for home consumption or for sale to local consumers (to be used either as a local made cigarette for chewing). A large-scale tobacco production in the country has solely owned by the National Tobacco Enterprises (Ethiopia) S.C at its different farms (Bilate, Hawassa and Shewa Robit) to supply leaf processing plants and furnish the cigarette making factory in Addis Ababa. Nevertheless, the domestic production has never full filled the demand of the factory for processed tobacco leaves for cigarette manufacture; the challenge now is to exert maximum effort towards increase tobacco leaf production to reach self sufficient because the production and productivity of tobacco has never been improved since the tobacco production began. Nyala, Gissila, Delight and Elleni brand cigarettes which are totally manufactured from Virginia type of tobacco. Account for over 86.3% of the total production by quantity and 94.5% of the total sales value of the National Tobacco Enterprises (Ethiopia) S.C. Looking at the supply side of leaf tobacco to the local cigarette manufactory only some 45-50% of filter tobacco leaves requirement of the factory are met locally by the farm station, the flavor tobacco is met through importance [1].

In Ethiopia, tobacco sub-sector offers employment to many Ethiopians in three (3) farms and in the tobacco

processing factory at Addis Ababa. In addition, the National Tobacco Enterprises (NTE) is one of the leading companies that contributes highly to the government's annual cash out-flows (about 170 million Birr) annually in the form of VAT. Ethiopia does not export any tobacco products, but imported 600 tons of unmanufactured tobacco and around 200 million cigarettes in 1990. In 1990, Ethiopia spent USD 7.1 million importing tobacco (0.6% of all import costs), more than double the amount spent in 1985 [2].

In southern Ethiopia small scale farmer's around tobacco development farms are working as daily labor for the farm and engaged in different activities from planting to processing. The National Tobacco Enterprises give planning and operating guiding as well as providing various supports of input and market of Virginia type of tobacco and over 70% of the total domestic production is obtained from outer growers [3]. These encouraged farmer, tobacco growing often presents an attractive alternative crop to food, for as well as bringing, tobacco growers may also receive practical as well as financial assistance from the tobacco industry. It is surprise that interventions designed to encourage efforts have been made to raise the number of out grower's tobacco but no special place in the socio- culture structure of the society, besides being an important cash resource. Therefore, this work was initiated with the following specific objectives: - to study socioeconomics and technical factors that affect tobacco production at southern Ethiopia

2. Materials and method

2.1. Description of the study area

Bilatte and walaita tobacco farms situated in Wolaita zone. Wolaita zone is located about 400 km south of Addis Ababa and the zone is roughly divided in two distinct altitudinal zones, the highlands (land between 1700-2600 m.a.s.l) and the lowlands (land between 900-1700 m.a.s.l) [4]. Altitude has significant influence on human settlement, temperature, rainfall and farming practice. The average annual rainfall is 1189 mm at Sodo in the highlands and 803 mm at Abela Faracho in the lowlands. The lowlands have one long growing season that extends from March to August, while the highlands have two distinct growing seasons, one in summer and the other in spring. Crop production is the most important means of livelihood, but livestock is also kept as a source of food, cash income, draught power and insurance against uncertainty [5].

Hawassa tobacco farm is found in Sidama zone. Geographically Sidama zone is situated between the coordinates of 5 0 45' and 6 0 45' N latitude and 38 0 39' and 38 0 29' E longitude with altitude ranging from 1100 to 3500 meter above sea level (masl) [6]. Rainfall pattern of the zone is bimodal type with small rainfall during the months of February to April followed by the main rainy season from July to September. Sidama zone consists of 19 districts with total area coverage of 10,000 km². It has a diverse agro ecology classified as highlands (dega), midlands (woinadega) and semi-dry lowlands (kolla) covering 30%, 60% and 10% respectively [6]. The farming system of the zone is characterized as mixed crop and livestock farming. The zone endowed with different livestock resources such as cattle, small ruminants, equines, poultry and honeybee.

2.2. Data collection and statistical analysis

The selection of the sample farmers involved two stages sampling procedure. The sample peasant associations (PAs) were selected using Randomized sampling procedure. Following the selection of the peasant association two peasant associations (PAs) were selected totally 30 sample farmers were randomly selected from each district based on tobacco production potential. Data relevant to the study were collected from both primary and secondary sources. Prior to interviewed back ground information and secondary data were collected from extension section of each tobacco development farm. The primary data were collected from sample farmers by administrating a structures questionnaire. The data collected like area of plots with tobacco plants, household farming practiced at present and in the past, other crop species planted before, labor source for clearing, ploughing, planting, weeding and harvesting. Discussion on farming system was held with individual farm using questionnaires that consisted of open – ended and structured question. The data were analyzed using statistical package [7&8] and the quantitative data were analyzed with simple descriptive statistical methods such as mean, standard deviation and whereas categorized data was calculated in percentage.

3. Results

3.1. Demographic and socio-economic characteristics

3.1.1. Sex and age of the household head

In relation to the main objectives of this particular research: - sex head of house hold, age of head and family size are considered as the basic demographic the sample of house hold are shown in for 3 locations. From the above three study locations, among randomly selected sample house hold the mean age of head of family house hold 31.06 - 41.4 in the range of active labor force and to new technology. In all study area, the number of male-headed house hold is larger than that of the female 96.7% in Bilatte and Hawassa 93.34 at Wolaita (**Table 1**). Our result in agreement with [9], male households are likely to be wealthier and capable of adopting new, expensive and more risk adverse agricultural technologies.

3.1.2. Household size and labor

According to the survey result Small-scale farmers in the south the tobacco-growers farm less than 1 ha. Average farm is 0.3 to 0.9 ha under tobacco it decrease when going to Sidama and increase towards Wolaita zones. The average size of households was nearly four (4.3-4.6) (**Table 1**). The size of house hold has a positive effect on the size of land. The positive effect can be explained by the fact that tobacco is a labor intensive crop; and thus house hold need more labor to cultivate more land. On contrast Hawassa (Sidama zone) this study indicated that in Wolaita zone the number of house hold members doesn't match with number of labor available (**Table 2**). The labor that was available in the house can be categorized in to Children and Adult labor. On average 52.56 and 57.57 the labor was those of children whereas the rest being adult labor, in Bilatte, Wolaita respectively.

3.1.3. Variety and type of tobacco

Survey finding in the study areas small holder farmers were restricted in the type of tobacco they could cultivated and were restricted to whom they could sell. All small holder green tobacco was sold to NTE where they received input and seedling. In Bilatte the majority type of tobacco cultivated Virginia K110 variety tobacco in Belg (short rainy season), at Wolaita and Hawassa flue-cured (Virginia) and oriental out growers planted in main rainy and dry season in southern Ethiopia.

3.1.4. Oxen usage

Farmers prepared land for tobacco producing using mainly a pair of oxen. A large proportion of farmers (74 %) use their pair of oxen to cultivate their tobacco area farmers in study area (**Table 3**). Despite variation in soil types, rainfall and cropping.

3.1.5. Weed control

Mechanical weed control methods have long been practiced in study areas. Hoeing is the most important method used in tobacco production. Three hand hoeing weeding in controlling weed in tobacco field using hired seasonal or community and family labor . 56.66 Bilate, 66.66 wolaita and sidama 53.30 % uses family labor to control weed on their lands. While, 43.33,33.33 and 46.7 Bilatie , wolaita and sidama area respectively used hired season labor for this activity (**table 3**).

3.1.6. Crop rotation

76.6 Bilatte and 63.3 percent in Hawassa tobacco growers rotated tobacco with maize. On the other hand, 83.33% at Wolaita tobacco is grown, farmers before and after tobacco planted beans, potato and tomato (**table 3**) . Shortage of land due to rapid population growth has changed the system of traditional fallow that had been used to regenerate soil fertility: continuous cropping and tobacco rotated with a cereal crop like maize crop heavy uptake of soil nutrient, vulnerability to sheet erosion under poor management and minimum recycling of nutrient is now common.

Table: 1 Demographic and socioeconomics characteristics of tobacco farming in the study area

Characteristics	Location		
	Blate Mean ±SD	Wolaita Mean ±SD	Hawassa Mean ±SD
Sex head of house hold (1=male 0= female)	1±0.18	0.93±0.25	1±0.18
Age of head	31.06±9.7	35.27±10.50	41.4±3.31
House hold size	4.33±3.03	4.53±2.79	4.66±2.59
Are of tobacco(ha)	0.9±0.62	0.4±0.23	0.3±0.24

Table 2: Correlation between areas of land holding with number of households members

variable	area of land holding		
	Bilate	Wolaita	Hawassa
Households members	-.074	-.109	.257

Table 3: Tobacco Management practice of farmers in the study area

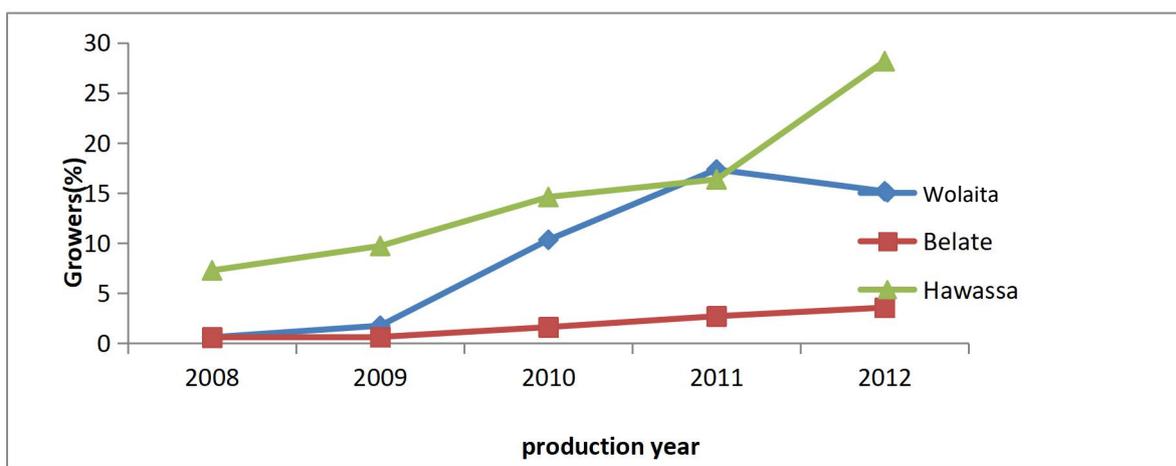
characteristics	Bilate		Wolaita		Hawassa	
	N	%	N	%	N	%
1. land preparation						
1.1. Tractor	12	40	-		11	36.7
1.2. own pair of oxen	18	60	30	100	19	63.3
total	30	100	30	100	30	100
2. weeding						
2.1 hire seasonal or common labor	13	43.33	10	33.33	14	46.7
2.2 use family labor	17	56.66	20	66.66	16	53.3
total	30	100	30	100	30	100
3. previous crop						
3.1 Maize (<i>Zea mays</i> L.)	23	76.66	5	16.66	19	63.33
3.2 other crops	7	23.34	25	83.33	1	36.7
Total	30	100	30	100	20	100

3.1.7. Fertilizer application and efficiency

In the study area coupled with low soil improvement measures has resulted in a decline of soil fertility and decrease in total tobacco productivity. Fertilizer use is not only a means of increasing yield of tobacco, it is also a lead practice in the introduction improved practice. Tobacco is highly responsive in better management practice, particularly fertilizer and manure. Smallholder farmers tend to have difficulties in obtaining fertilizer as they lack financial mean, the enterprise to all out growers supply the fertilizer by credit.

3.1.8. Increased out growers numbers

The rate of out growers tobacco increased for the period 2008 -2012 was 0.6-15.6, 0.6-3.56, and 7.2 - 28.15 % for Bilatte, Wolaita and Hawassa leaf development farms (**Figure 1**). The increase in number of grower tobacco meant that more household are participating in one or another in the tobacco industry.

**Figure 1** Number growers planted tobacco (2008-2012) at three farms

4. Discussion

In the study area means age of head of family house hold in the range of active labor force, it is assumed that the male adult house hold family members worked to use their full time in over the being they are physical strong when compared with old year one and it is one of source of income. In addition to with age of farmers can become more or less risk averse to planting tobacco.

Regarding sex household male , they finding suggest that tobacco production in southern Ethiopia has gender face, to the extent that women are discourage participant in the production of lucrative crop.

Since the economy of the study area mainly depends upon agriculture, land is considered as the basic asset and due to land pressure in study area from cultivated 0.3-0.4. The available labor involved in the farm daily work in average for 5 hours with a range of 3 to 8 hour.

The study also indicated that the rate of out growers mainly increased because of farmers supported access to extension, credit, input and increased price of purchased tobacco leaf by national tobacco enterprises, organizing farmers day, an important forum where farmers openly discuss their problem and argue about elements they are dissatisfied with. During each farmer's days, model farmers award one of the important approaches to encourage farmers to produce more.

Tobacco planting time different from location to location because of planting time of out grower rely on a seedling that is ready for transplanting (one with eight leaves) or 40-60 days after planting on nursery field by leaf development farm of National Tobacco Enterprises farms.

In the study area a large proportion of farmers 74 % use their own pair of oxen or rent tractor from National Tobacco Enterprises 700 Ethiopian birr/ hr to cultivate their tobacco farm. This result of study shows that farmers in the study area weeded grass and broad leaf types of weed up to three timed depend on weed density in the area. Virtually none of the farmers in the sample used herbicides to control weed.

All farmers responded the National Tobacco Enterprises spray freely pesticides only for the management of diseases and insect pest on their field and no available recommended herbicides. Hence, Research constraints associated with weed completion are not addressed and it is urgent that tobacco research program should address the deficiencies in updating herbicide technology packages [10].

Finally, a number of factors were postulated that prevent farmers from growing tobacco and several recommendation were made for research, extension and policy makers

- 1) Religious is one of the major socio- culture factors influence growing tobacco in the study areas, the largest religious groups are orthodox Christians and protestant smoking devalued by religious scholars.
- 2) The supply of tobacco is determined by the price of tobacco. Price of tobacco much less rapidly than price of others agricultural crops and basic commodities.
- 3) The district agricultural office encourage farmer to grow alternative food crop and ceased tobacco production to achieve the goal of food self sufficient of local and national agricultural police.
- 4) The means of transportation enterprises purchased green tobacco leaf from out growers' tractors or truck. Sometimes, purchased delay 1-2 days after lost the moisture the green leaf is one of the burden of farmers at harvest time. As a result, farmers forced to sell the green not immediately after harvest with low moisture which reduced green leaf prices.
- 5) The component tobacco production technology recommendation farmers may not adopt or reject by farmers that lead low yield and quality that required for National Tobacco Enterprises. Farmers adoption behavior ,especially in low income countries like Ethiopia, is influenced by a combination effect of a number of factors related to farmers objectives and constraints such as: farmers socio-economic circumstances (age): farmers resource endowments as measured by size of family labor, farm size and oxen owner ship and institutional support system available to farmers [11].
- 6) Farmers reported that tobacco production, a labor-intensive activity and time consuming is another key determinant of farmer's ability to grow tobacco. In this study, family size measures the number of persons that live in the farmer's house. It was postulated that technologies that increase the seasonal demand for labor may be less attractive to house hold with limited family labor. Therefore, Emphasis should also be given to develop farm implements tobacco technologies to mitigate farmer's labor shortage and facilitate their activities in farming.

5. Conclusion

This work indicated that tobacco is important crop for income of s mall holder in Bilatte, Wolaita and Hawassa

the main supply of green tobacco leaf to National Tobacco Enterprises the cigarette machining factory in Addis Ababa. Therefore, this study was assessed technical and socioeconomic factors that affect tobacco production in southern Ethiopia; opportunity of enhancing productivity has been described briefly. The result should be useful to farmers, researchers and policy makers. The research program should provide farmer with more alternative tobacco production technologies and study to understand the reasons for the disparity between farmer's actual yields and the yield could obtain with improved technologies. For tobacco breeder, useful in developing improved tobacco varieties. For tobacco extension, the finding of the study should provide opportunities for improving upon tobacco productivity at the farm level. Finally, the recommendations derived from the study are expected to form the basis for policy initiatives, especially in institutions dealing with inputs and marketing. It is hoped that the subsequent research, extension and police intervention will lead to improved tobacco productivity, higher income for producer, and for tobacco cultivation can has the potential to contribute to the expansion of land under tobacco cultivation in southern Ethiopia.

Acknowledgments

We would like to express our deepest gratitude the support of Bilatte, Hawassa and Wolaita site managers and head of extension sections for the purpose of this work for their assistance in providing information, help during data collection and facilitating transportation to sample sites.

References

- [1] NTE (2006) Draft of strategic plan of National Tobacco Enterprises. Addis Ababa, March 2006.
- [2] FAO (1995) Country Information Brief, Agricultural Production and Diversification programme, reviewed of food and cash crops production.
- [3] Girma, M and Awulachew, S. B. (2007) Irrigation practice in Ethiopia: characteristics of selected irrigation Scheme, Colombo, Sir Lanka: Water Management Institute IMWI working paper 124.
- [4] EMA (Ethiopian Mapping Authority) 1988. National Atlas of Ethiopia, Addis Ababa.
- [5] Tesemma, A. (2008) Livelihood Adaptation, Risks and Vulnerability in Rural Wolaita, Ethiopia. Department of International Environment and Development Studies, Noragric Norwegian University of Life science, UMB. PhD Thesis, Dissertation No. 2008: 46
- [6] Sidama Development Corporation. 2000. Planning and statistics bulletin.
- [7] MINITAB for window1994 MINITAB release 10, 2, Minitab Inc, 3081 National Tobacco Enterprises Drive, state college, A 1680-3008, 814-238-3280.USA
- [8] Mead, R., Curnow, R.N. and Hasted, A. M. (1994) Statistical methods in agricultural and experimental biology, 2nd edition. Published by Chapman and Hall, 2-6 Boundary Row, London SE1 8HU, UK, 115PP
- [9] Chiona, S. (2011) Technical and Allocative Efficiency of Smallholder Maize Farmers in Zambia. Msc Thesis. University of Zambia, Lusaka, Zambia. 64p
- [10] D. Abebe, Me. Tadesse, M. Shiferaw. (2020) Hand Hoeing Weeding Frequency on Growth of Tobacco under the Ecological Conditions of Shewa Robit and Bilatte Tobacco Farms, Ethiopia. International Journal of the Science of Food and Agriculture, 4(1).97-100
- [11] Feder, G. E. and Ilberman, D. Z. (1985) Adoption of agricultural innovation in developing countries: A survey. World Bank staff working paper, No.542.USA.