

Training Needs Analyses of Cocoa Farmers in Kailahun District

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Abstract

This research analyses the training needs of cocoa farmers in eight chiefdoms in Kailahun District, Eastern Sierra Leone. The paper is an in depth examination of the training needs of the target population in order to bridge the information gap in the existing literature.

The objectives of the research were to describe the socio-economic characteristics of cocoa farmers in Kailahun District, analyse their training preferences in areas of cultivation, harvest, post-harvest and marketing practices taking into consideration what knowledge and skills they need to have, when to have them, where and how to have them and ascertain the perception of cocoa farmers in the district on training.

The findings reveal that cocoa is grown by both male and female cocoa farmers, more adults aged 36-55 than youth aged 18-36 and the aged, 55 and above were involved in cocoa production in the district,

85.4% of cocoa farmers in the district were married compared to the widowed, 10%; divorced, 1.9%; and single, 2.7%. , almost all the male cocoa farmers were polygamous and had many children as labour sources required for work on the cocoa farms, majority of the farmers have been in cocoa farming for a minimum of five years. More than 50% of the farmers had more than one cocoa plantation, the combined acreage of the cocoa farms owned by more than 50% of the farmers was over five acres per farmer, more cocoa farmers (60%) as opposed to 39.7% accepted having received training on various aspects of cocoa farming, major sources of training received were dealers, colleague cocoa farmers, others like development partners interested in cash crop farming, most of the trainings conducted lasted between 1-4 days (29.8%) and 5-10 days (20.5%), a good number of the farmers claimed to have been trained in many of the areas of cocoa farming, though 31.3% of the farmers claimed not to have received any training, the most preferred training method identified by the farmers was on the farm demonstration, the most preferred time of training was in the morning, more youth and adults claimed to have received training in recent times than the aged, cocoa farmers needed training in sorting of dried cocoa beans, grading, cocoa certification, price determination of cocoa, standard number of shade trees per hectare of cocoa, preferable times for under-brushing, strategies for pest management and reasons for the low price of cocoa from Sierra Leone, cocoa farmers had a positive perception about the following: significance of training for cocoa farmers, appropriate spacing of cocoa trees to increase yield, regular under-brushing of cocoa farms to minimise competition with weeds for nutrients, promote easy movement across the

farm, reduce pests and increase yield, cultural justification of child labour, gender imbalance tilted in favour of men, the need for women to know and have a say about the use of proceeds from the sale of cocoa, the need for farmers to produce quality cocoa to attract better prices, the need to ferment and thoroughly dry cocoa to attract better prices, the need for proper waste management on cocoa farms, the need to harvest and break the pods to remove the seeds using the right tools, the need to rehabilitate aging cocoa plantations, and the need to keep cocoa beans in jute bags instead of nylon bags, their perceptions about the following were however negative: child labour, the need to grow cocoa on suitable soil, waste management on cocoa farms and the need for care in harvesting and breaking of cocoa pods and the need to keep cocoa separate from other items among others.

It is concluded that cocoa farmers in Kailahun District have had training in several aspects of cocoa farming, but still genuinely have training needs that should be addressed. This is because in the first place, a good number of the farmers have never had an opportunity to be trained in any aspect of cocoa farming. Second, even those who have benefitted from one training or the other still require refresher training or training in other aspects of cocoa farming that they have not received training in. Third, the world is dynamic and as such, new knowledge and farming techniques come up regularly that need to trickle down to farmers in the field so that the required impact is created on the sector. These can be done through training the cocoa farmers.

It is recommended that farmers should enroll with adult education institutions for some form of adult education in Numeracy, Literacy, record keeping, soil conservation and other related areas for which training. This, coupled with the training by extension agents can enhance their knowledge and skills in cocoa production, increase the quantity and quality of the yield, raise the quantum of their earnings and their standard of living; the Ministry of Agriculture in collaboration with the Ministry of Technical and Higher Education and development partners in agriculture and technical and higher education should take the lead in providing the training opportunities for cocoa farmers by establishing adult education centres in rural communities so that farmers do not envisage many problems attending the classes; farmers who have proven to be resistant to accepting innovations should be encouraged to adopt new techniques, new methods of cocoa production and cultivate new and high yielding cocoa varieties; the Amazon variety was found to be creating the desired impact of cultivation among cocoa farmers in the district.

Keywords: Analyse, Assess, Cocoa, Need, Training.

1. Introduction

Training is a set of pre-organised activities that helps in shaping skills, attitudes and knowledge of individuals in order to contribute positively to productivity. Every training process involves educational methods which can guarantee effective learning. Training helps in the acquisition of knowledge, skills and attitudes which follow systematic and well organised processes. (Ajayi, A. O., Akinmolafe, A. O., 2022) Nwaobiala C. U., Ndukwe I. and Ekumankama O. (2016) defined training as the acquisition of information and development of abilities or attitudes which result to greater competence in the performance of an individual.

Training design takes into consideration four main areas including what learning outcomes will meet the needs of the learners, what aspects should be included in the creation of the training plan, what resources are available, as it is vital to take into account the resources, especially the finances and the potential challenges to this training programme. In the training design programme, there are some challenges that are envisaged and it is vital to put into practice measures for the solution of those challenges. (Ajayi, A. O., Akinmolafe, A. O., 2022)

Training is a process that is a key to improving skills, attitudes, and knowledge. Training helps to build awareness on socio-economic aspects (Epstein & Yuthas, 2017; Hilton, Mahmud, Kabir, & Parvez, 2016; Kabir, Mahmud, Hassan, Hilton, & Islam, 2018; Khan, & Masrek, 2017; Oppenheim & Weintraub, 2017; Walk, Zhang, & Little page, 2018).

Training also plays a pivotal role in increasing production, profit and rate of technology adoption (Gautam, Schreinemachers, Uddin, & Srinivasan, 2017; Nakano, Tanaka, & Otsuka, 2018; Schreinemachers, Wu, Uddin, Ahmad, & Hanson, 2016).

The skills of cocoa farmers can be adequately improved through training, which results in achieving better yield and therefore better income and Gross Domestic Product outcomes (Aragon, Jimenez, & Valle, 2014; Carlisle, Bhanugopan, & Fish, 2011; Dessie & Ademe, 2017; Dhar, 2015; Oppenheim & Weintraub, 2017; Seidle, Fernandez, & Perry, 2016; Sung & Choi, 2014; Ubeda-Garcia, Marco-Lajara, Sabater-Sempere, & Garcia-Lillio, 2013).

To ensure that cocoa farmers have the required skills in cocoa management practices, there is need to train them to become more skillful when carrying out the practices on the field. However, training programmes are not flawless (Kataike et al., 2018). Training programmes have been criticised by some researchers for failure to bring about the expected changes (Bharti, 2014; Horng & Lin, 2013; Iqbal, Malik, & Khan, 2012; Khan, & Ali, 2014; Mahmud, Parvez, Hilton, Kabir, & Wahid, 2014a; Nazli, Sipon, & Radzi, 2014). The short duration of training programmes; selection of inappropriate trainees; failure to provide adequate financial support to the trainees; and lack of proper assessment of training needs have been identified as the major causes of such failure (Bharti, 2014; Denby, 2010; Khan & Ali, 2014; Mahmud et al., 2014a; Tao, Yeh, & Sun, 2006). In fact, the needs of the trainees should be analysed critically to make training programmes effective (Hilton et al., 2016; Kataike et al., 2018; Mahmud et al., 2014a; Sahoo & Mishra, 2019). Undoubtedly, Training Needs Assessment (TNA) assists in selecting the right persons to impart training programmes (Khan, & Masrek, 2017). Iqbal et al. (2012) reported that the appropriate training topics could be selected through the process of TNA. It is generally believed that those who provide training opportunities should focus on the needs of the trainees before launching the training programmes to lessen the failure risks. The influence of training on the quantity and quality of cocoa production does not need to be over emphasised. This study analyses the training needs of cocoa farmers in Kailahun District in Eastern Sierra Leone. In this study, training needs analysis and training needs assessment possess the same meaning and are used interchangeably. "Need" in this context is defined as the process of identifying the gap between existing results and desired results between "what is" and "what should be" (Kaufman, Roger, Rojas, Alicia M., Mayer, Hanna, 1993). Iqbal and Khan (2011) established the relationship between need assessment and need analysis by using them simultaneously but sequentially being two phases of one

process". Primarily, the needs "assessment" process ensures a need for training and identifies the skills and knowledge to be provided by such training, whereas the needs "analysis" aims at identifying component parts of the needs and determines solution requirements. For the purpose of this study, the term "needs analysis" is preferred because it is considered the more commonly known term and easily understood by training practitioners in many organisations. Training needs is the difference between the required level of individual competence and their present level of competence (Youdeowei,A and Kwarteng, J, 2015)

It has been pointed out that one of the main factors limiting the development of effective training programmes for agricultural professionals in developing countries is the inadequate information on their training needs. Training needs identify performance requirements, knowledge, skills, and abilities needed by an agency's workforce to achieve required potentials. (C, 2011)

Identifying training needs of cocoa farmers in aspects of cultivation; harvesting, processing and marketing can enhance farmers' productivity and increase income. According to United States Office of Personnel Management, an effective training needs analyses can help to direct resources to areas of greatest demand. The analyses should address resources needed to fulfill organisational mission, improve productivity, and provide quality products and services. The analyses can also identify the "gaps" between performance required and current performance. When a difference exists, it explores the causes and reasons for the gap and methods for closing or eliminating the gaps. A complete analysis can also consider the reasons for ignoring the gaps (Management, 2022).

Cocoa belongs to the family Sterculiodea. The word comes from the Spanish term 'cacao,' which is in turn derived from the Nahuatl term 'cacahuati.' In the 18th Century, the Swedish Botanist, Carolus Linnaeus renamed the cocoa tree and gave it the Greek name "Theobroma Cacao" which is now the official name; literally meaning the "food of the gods". Cocoa is derived from the Nahautl (Aztec language) word xocolatl, from xococ (bitter) and atl (water).

Cocoa is a smallholder crop. Over 80% of the worldwide production is grown on small family farms of five hectares or less. It originated in Central America over 5000 years ago. However, its popularity and production have spread globally. Cocoa production is an important source of income for millions of farmers across Africa, Asia, Latin America and Oceania. Annual turnover is estimated at twelve million United States Dollars. In 2008-2009, world cocoa production was 3,515,000 tons. The crop provides a livelihood for between 40-50 million farmers, rural workers and family members worldwide. It is a crucial export commodity in countries of origin and plays a significant role in their economy and development (Hardman & Co., 2014)

Cocoa is a valuable crop that was first cultivated in the equatorial region of South America approximately 5,300 years ago, and it is believed that the Mayan and the Aztec people were the first to successfully grow the cocoa trees. The cocoa trees are mainly grown in tropical zones about 20° north and south of the Equator, where favorable climatic conditions (fairly uniform temperatures, high humidity, abundant rain, nitrogen-rich soil, and protection from wind) for the cultivation of the trees are available (Scott, M.,Laderach,P., 2021).

The cocoa beans serve as the main ingredients for making chocolate and many Mesoamerican foods.

The top ten cocoa producing countries have warm and wet climate similar to where the bean originated. Nations across four continents make up the top ten cocoa producers globally. Four of the top five countries in 2013- Ivory Coast, Ghana, Nigeria and Cameroon are in Africa.

Seventy percent of the world cocoa production is by small holders in West Africa. Small holders traditionally plant their cocoa at random under thinned forest shade.

Situated on the southwestern coast of West Africa, the Republic of Sierra Leone is the eighth-largest cocoa producer globally, producing about 193,156 tons of cocoa beans annually. Over the years, cocoa has been one of the most vital export products of Sierra Leone. Commercial cocoa production in Sierra Leone dates back to the late 1940s when the colonial government introduced cocoa in Ghana, Nigeria and Sierra Leone and also established plantations. In the early 1990s, the government of Sierra Leone liberalised the agricultural commodity market as a precondition to access donor loans and grants. The time and how cocoa was introduced in Sierra Leone is exactly not known. It seems likely however that the crop was introduced to the country much earlier than to other parts of West Africa, possibly by the Portuguese who are known to have introduced the coco nut palm and pineapples in the 15th and 16th centuries. In 1890, it was estimated that there was 202 hectares (500 acres) of cocoa in Sierra Leone. 304 kg of cocoa was exported in that year; presumably there were still small exports. There were two further introductions of cocoa unto Sierra Leone from the Gold Coast (now Ghana) in 1905 and 1912 to the Agricultural Experimental Farm at Njala. Seedlings from the 1912 introductions died because of drought.

In 2019, about \$33.2 million worth of cocoa beans were exported by Sierra Leone, which made it the world's 17th largest cocoa bean exporter. A significant part of the country's annual cocoa production is exported to the Netherlands, Belgium, Italy, Malaysia, and the United States. (Kedem, 2021 and Worldatlas.com, 2022)

The contribution of cocoa to the country's gross domestic product is significant and supports the livelihood of many farming households. The production of the crop in the country at the moment is by manual labour. Cocoa is the leading agricultural export commodity of Sierra Leone, with great potential to contribute to poverty alleviation and economic development. At present, however this potential is inadequately exploited. The cocoa policy on Sierra Leone provides a competitive approach for the sustainable development of the cocoa sector in the country by 2023, enhancing the full potential of the sector by doubling farmers' incomes, creating jobs, addressing the food security deficit and training farmers on climate change adaptation and mitigation techniques (Climate-Smart Cocoa production) (MAF, 2019).

Cocoa has been and continues to be a major export crop of Sierra Leone with high production and export levels before the war.

The Eastern region alone had 215,442 ha (91.4 per cent of total land under cocoa production) and 18.6 per cent of total land under tree crop production. The Cocoa production at national level occupied 235,749 ha of land which was 20 per cent of total land under tree crop

production. Southern region had 16,473 ha under cocoa plantations, which was 6.9 per cent of total land under cocoa production and 14.2 per cent of total land under tree crop (Sierra Leone 2015 Population and Housing Census Thematic Report on Agriculture).

Cocoa as the leading export crop in Sierra Leone is grown in many parts of the country, but the most favourable and major production areas are in the belt that spans the Moa River drainage basin from north east of Kailahun District in the Eastern Region to Barri and Makpele Chiefdoms in Pujehun District in the Southern Region. (MAFFS/ PEMS, 2015).

The lead cocoa producing District in Sierra Leone is Kailahun followed by Kenema and Kono in the Eastern Region; Bo, Bonthe, Moyamba and Pujehun in the Southern Region. A total of 47 chiefdoms across the country are cocoa producing chiefdoms including Jahn Chiefdom one of the recently de-amalgamated chiefdoms in Kailahun District (Statistics Sierra Leone, 2013).

In 2013, Sierra Leone was ranked 16th of the world's top twenty cocoa producers. Cocoa is one of the agricultural products that provides substantial export earnings and important family income for many small holder farmers in the Eastern Region of the country. Cocoa growing is primarily focused on Kailahun and Kenema Districts of the region which borders on the Republic of Liberia. The economy remains centered on agriculture, which is the main source of livelihood for around 50% of the adult working population, making economic diversification in the country exceptionally difficult. In 2020, the country's economy, like many others around the world, was affected by the COVID-19 pandemic which led to slowdown in all sectors following global supply disruptions and lockdown measures (Godfrey, 2022). Even though the country is the cradle of Western Education in West Africa, the bulk of the population ekes a living mainly from farming. The country has produced a large number of literate people, but it may not be surprising to state that farmers are generally illiterate. Even though there are highly literate people in agriculture ranging from certificate holders to professors, majority of them cannot boast of their own farms.

This scenario poses a big challenge for the agricultural sector. One way of addressing the problem could be training the farmers; a good number of whom are illiterate to enhance their capacity.

Objectives of the study

The aim of this study was to analyse the training needs of cocoa farmers in Kailahun District.

The specific objectives of the study were to:

- Describe the socio-economic characteristics of farmers of the cocoa enterprise in Kailahun District.
- Analyse the training preferences of cocoa farmers in areas of cultivation, harvest, post-harvest and marketing practices taking into consideration what knowledge and skills they need to have, when to have them, where and how to have them.
- Ascertain the perception of cocoa farmers in the district on training.

Cocoa production is essential to the economic health of Sierra Leone.

The research was done in Kailahun District in eight cocoa producing chiefdoms in the District. The study focused on finding out the training needs of cocoa farmers in the district in areas of cocoa cultivation, harvesting, processing, post-harvest and marketing practices; and climate change variability. The reasons for the choice of Kailahun as the study district were obvious.

First, Kailahun is the highest coco producing district in the country. Tree crop farming currently employs about 100,000 rural producers in Sierra Leone. Almost all cocoa production in the country currently takes place on small holder plantations averaging 1-2.5 ha in size. A total of 3,164,472ha of land was reported to be under tree crop production (Coffee, Cocoa, Oil palm, Citrus and Cashew) in the 2015 census. Cocoa production occupied 235,749 ha of land of which Kailahun had the highest area under cocoa cultivation (114,125 ha), followed by Kenema (58,086ha), Kono with 43,232 ha. Bo had a distant fourth with 11,715ha (MAF, 2019)

Therefore a research in training needs of cocoa farmers in Kailahun District, the main cocoa producing district in the country is significant in the following ways:

The research helps to identify the gaps in various activities in the cocoa sector ranging from cultivation to marketing. Recommendations of what new knowledge and skills farmers need to have to fill the gaps based on the research findings can be significant to the sector by raising both the quality and quantity of cocoa production in the district and beyond.

The findings of the research can be used as a basis for similar research activity in other cocoa producing districts in Sierra Leone and other countries. Findings can then be compared so that harmonious actions can be taken to salvage the problems faced by the cocoa sector.

It is stated in the introduction of this work that the world is yet to raise the production level of cocoa in order to meet its demand. Identifying and meeting the training needs of the smallholder farmers; majority of whom (especially in the study district) are illiterate can help immensely to solve the problems they face in the cocoa value chain.

The study can be a brain teaser to the Ministry of Agriculture and Forestry, development partners in the field of Agriculture and Agricultural Research Institutions to critically think as to what else needs to be done in addition to all that has been done to boost the quality and the quantity of production in the cocoa sector by providing appropriate training opportunities for the farmers.

The recommendations of the work when adhered to will also have the impact of raising the farmers' household income and eventually their livelihood.

Raising the quality and quantity of cocoa production in Sierra Leone can also mean increased foreign exchange earnings. This can help to reduce the foreign exchange stress the country is currently grappling with and that is responsible for the continuous upsurge in the general price level of various commodities across the country.

The work further sheds light on the supreme importance of Agricultural Extension and Extension Agents who reach out to farmers in remote places irrespective of the mammoth challenges they face in doing so.

2. Methodology

Research Design

The research used the non-experimental design which was the mixed method type where both qualitative and quantitative data were used. One reason for the use of this method was to ensure data triangulation confirming both quantitative and qualitative data.

Description of Study Area

Kailahun District where this study was done is in the Eastern Region of Sierra Leone. The name of the district, “Kailahun” is a Mende word literally meaning Kai’s town after Kailondo; a famous Kissi warrior of his time who fought against Ndawa in defense of the people. After that victory against their adversary, the people wrapped the soil in a piece of white cloth and handed it over to Kailondo in appreciation of their redemption from the Ndawa menace and as a show of solidarity with his authority. Its capital and largest city is Kailahun Town located 270 miles from Freetown.

Administratively Kailahun District is divided into fifteen (15) Chiefdoms; the newest chiefdom being Jahn Chiefdom DE amalgamated from the Njaluahun Chiefdom. The second most populous city in the district is Segbwema. Other major towns in the District include Koindu, Pendembu and Daru. As of the 2015 census, the district had a population of 525,372.

Kailahun District borders Kenema District to the west, Kono District and the Republic of Guinea to the north, and the Republic of Liberia to the east. The border of the district with Guinea is formed by a section of the Moa River. The total area of the district is 4,859 km² (1,876 sq. mi). The vast majority of the people of Kailahun District are ethnic Mende. However, the district is home to a significant minority of Mandingo, Kissi, Fula, Gola and Vai. The Vai, Kissi and Gola make up the majority of the population in the villages and small towns in the district at the international border with the Republic of Liberia. (Wikipedia, 2012)

The major economic activities in the district are farming, mining and trade. Kailahun is rich in both mineral and agricultural wealth. It has deposits of diamond and gold; and vast expanses of arable land. Food crops such as rice, the country’s staple food; cassava, the fall back; oil palm and a few others as well as cash crops such as cocoa and coffee are cultivated in the district.

Kailahun District is governed by a district council headed by a District Council Chairman, who is the chief executive officer in the district and is responsible for the general management of the district. The District Council Chairman is elected directly by the residents of the district every four years.

The topography of the district is undulating, ranging from low lying inland plains to more dissected upland areas with elevation between 600-700 meters altitude. Most of the area has an average annual rainfall of over 2,500 mm, with 80 percent of this average falling during the period of June to November, average annual temperatures vary between 25°C and 28°C with higher values occurring in March/April when solar radiation is most intense. The vegetation of the district is dense farm bush dominated by fast growing, fire resistant species that thrive under the bush fallow system. The district also has over 5,000 acres of forest reserves and protected forest areas (Gola rainforest).

The three major ethnic groups are the Mende who predominantly live in most of the chiefdoms and have over the years acculturated members of other ethnic groups in the district, the Kissi who live mainly in the three Kissi chiefdoms of Kissi Kama, Kissi Teng and Kissi Tongi as well as some parts of Luawa, Penguia and Yawei Chiefdoms toward the boundaries with Guinea and Liberia where their kits and kinds are found and the Kono also in the Penguia and Yawei chiefdoms; the two chiefdoms sharing boundaries with the Kono District. . In the Malema and Dia Chiefdoms which share boundaries with the Republic of Liberia are found the Vai, the Gola and the Gbandi which are ethnic groups also found in the neighbouring country. Apart from the tribes mentioned, members of other ethnic groups including the Fullah, Themne and Limba are also found in the district.

Most of the chiefdoms in the district are not properly connected by a good road network. The only good road in the district at the moment is the trunk road connecting the regional headquarters; Kenema to the district headquarters, Kailahun through Segbwema, Daru and Pendembu which are major towns in the district.

The district experiences two seasons; the rainy season which usually sets in in May and lasts till October and the dry season which sets in November and lasts till April. The seasons, the quantum rainfall per annum, the soil fertility and vegetation of the district make Kailahun very suitable for cocoa production.

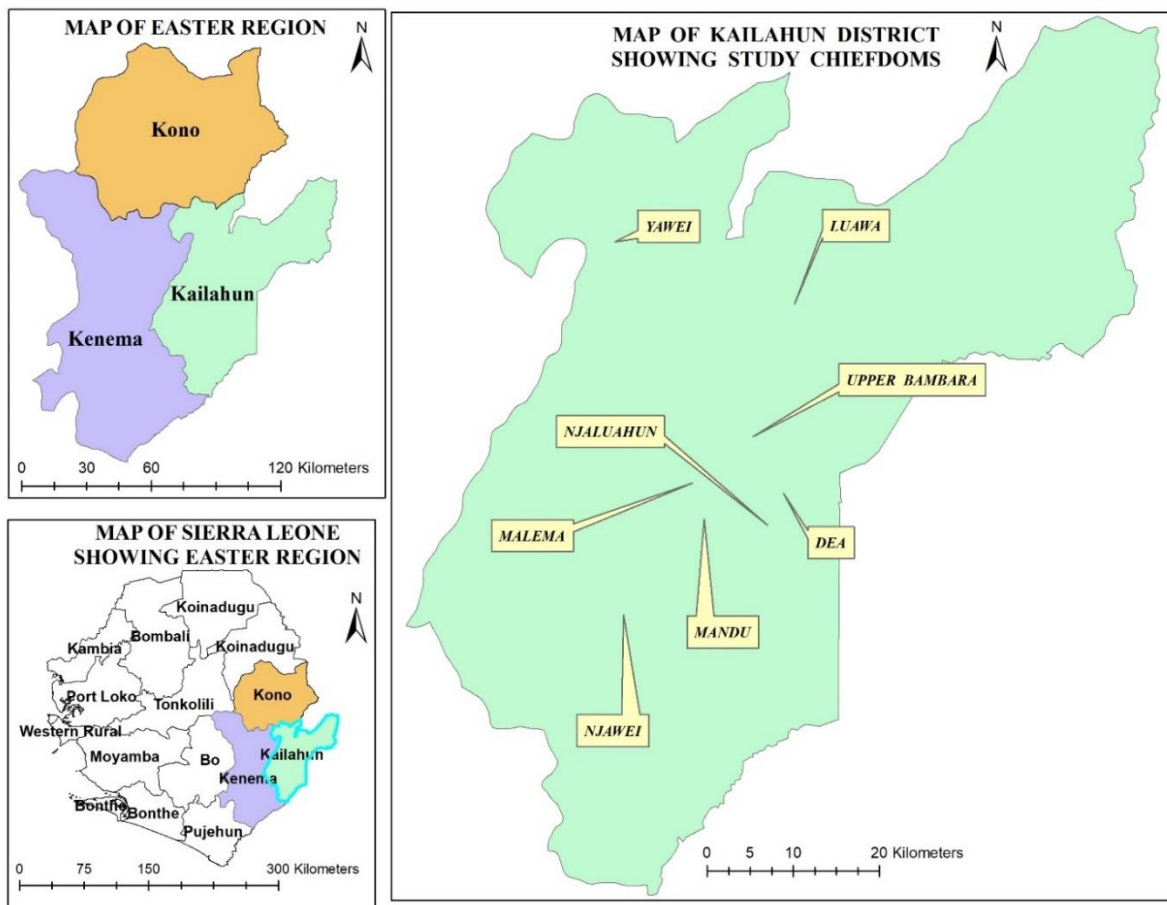


Figure: 1 Research study area Map showing Sierra Leone, Kailahun District and the selected chiefdom.

Population and Sample Size of the Study

Population of the Study

The population of this study comprised all farmers who were involved in cocoa production in in the study chiefdoms in Kailahun District, since the chiefdoms selected are cocoa producing areas. The population of the selected chiefdoms is seen in the table below:

The sample comprised 1000 cocoa farmers of 622 males and 378 females (approximately 2 males to 1 female cocoa farmer) selected at random to respond to the items in the questionnaire.

Table 1: Population and Sample Size of the Selected Communities

Chiefdom	Population	Sample Size	Percentage (%)
Dea	13414	102	10.2
Jawei	50951	122	12.2
Luawa	81044	233	23.3
Malema	37095	94	9.4
Mandu	30984	114	11.4
Njaluahun	61212	50	5.0
Upper Bambara	26848	108	10.8
Yawei	29322	177	17.7
Total	330870	1000	100.0

Source: Compiled by researcher 2021.

3.3.3 Sample Size Calculation

$$n_0 = z^2 pq \div e^2 \text{ (Cochran 1963)}$$

$$n_0 = z^2 p (1-p) \div e^2$$

$$n_0 = ? \quad Z = 1.89, \quad P = 0.99, \quad q = 0.7066, \quad e = .05$$

$$n_0 = 1.89^2 * 0.99(0.7066) / 0.05^2$$

$$= 999.52216056$$

$$= 1,000$$

Therefore the sample size for the study was 1000

Sampling Techniques

The sampling techniques used were the probability and non-probability sampling techniques. In the selection of the chiefdoms, the simple random type of probability sampling technique was used. Having liaised with officers of the Ministry of Agriculture and Forestry, cocoa buyers and members of the Cocoa Cooperatives, a number of chiefdoms were identified as major cocoa producing chiefdoms and others as minor producing chiefdoms in the district. The

names of the chiefdoms were written on pieces of papers according to their production capacity and folded. Four of the folded papers bearing the names of the major producing chiefdoms were selected from among them. Selected chiefdoms were Luawa, Upper Bambara, Yawei and Malema. The same procedure was repeated for minor producing chiefdoms and among those that were selected were Dea, Mandu, Njaluahun and Jawei.

The villages in the chiefdoms and the respondents were selected by means of non-probability sampling methods. Villages were selected by convenience sampling. One thing that should be noted is that every village in the sample chiefdoms produces cocoa and so villages that were easily accessible were the ones chosen. Respondents in the villages were identified by use of voluntary sampling methods. Farmers who were willing to respond to the questionnaires were used. This was done in the ratio 2: 1 between male and female cocoa farmers respectively until the number of respondents per chiefdom as specified in table 1 was obtained.

Types and Sources of Data

Data for this research exercise was obtained from two main sources- primary and secondary sources. Primary data was gathered from the field from respondents (cocoa farmers, staff of Ministries, Departments and Agencies interested in cocoa farming and dealers in cocoa) through questionnaires, interviews, focus group discussions, key informant interviews and observation while secondary data was gathered from archived data from the Ministry of Agriculture, SLARI, Farmer and Community Based Organisations, educational institutions and private companies.

Instruments used in the study

A structured questionnaire was used to collect quantitative data. The questionnaire was organised into sections encapsulating the demographic and socio-economic characteristics of cocoa farmers, analyses of training preferences and the perception of cocoa farmers on training needs. In addition to the administration of the questionnaires, focus groups discussions were conducted among cocoa farmers (adult male, female and youth separately) key informant interviews (KIIs) conducted with institutions including ministries, departments and agencies providing support to cocoa farmers to ascertain the level of their support to the sector and field observation (non-participant observation) of cocoa farmers was also done to further ascertain the validity of the quantitative data.

Method of Analysing Data

The data was analysed both quantitatively and qualitatively.

Quantitative Analysis

Quantitative data was analysed using excel software and Statistical Package for Social Sciences. The data was downloaded from the Open Data Kit (ODK) using the Microsoft Excel Software.

Excel was used to clean, transform and manipulate some variables and the data was exported to the Statistical Package for Social Scientists (SPSS). The SPSS was then used to do both descriptive and inferential analyses.

Descriptive Analyses

The descriptive analyses were done using frequencies and percentages, and the results were presented in tables and charts.

Inferential Analyses

In the inferential analyses, tools such as ANOVA, Chi-Square, Regression Analyses and Correlation Coefficient were adopted and the results were presented in tables.

3. Results/Findings and Discussions

Demographic and Socio-Economic Characteristics of Cocoa Farmers

Cocoa is an economic tree cultivated by both men and women though the level of production by the sexes varies. Table 2 shows the number of men and women that were involved in cocoa production in the eight chiefdoms of Kailahun District that were targeted in this research exercise.

Table 2: Sex Disaggregation of Cocoa Farmers

Sex	Frequency (n)	Percentage (%)
Male	622	62.2
Female	378	37.8
Total	1000	100.0

Source: Data collected, 2021.

Table 2 shows that more of the cocoa farmers reached in the research were men (62.25%) compared with 37.8% who were females.

Age Distribution of Cocoa Farmers

Youth are integral in the cocoa value chain. They are either farm owners or they provide the labour required to do various work from land clearing to the sale of cocoa and even beyond. Table 3 shows the level of youth participation in cocoa production in Kailahun District.

Table 3 Age Distribution of Cocoa Farmers in Kailahun District

Age	Frequency (n)	Percentage (%)
Youth (18-35yrs)	346	34.6
Adult (36-55yrs)	455	45.5
Aged (56yrs and above)	199	19.9
Total	1000	100.0

Source: Data collected, 2021.

Table 3 shows that 34.6 % of cocoa farmers in Kailahun District were youth aged 18-35, 45.5% were adults aged 36-55 and 19.9% were aged 56 years and above.

Marital Status of Cocoa Farmers

Marriage is a universal culture. Marriage is of the essence in cocoa farming because it is the basic unit from which a greater proportion of the labour required is obtained. Table 4 shows the marital status of cocoa farmers reached in this research.

Table 4: Marital Status of Cocoa Farmers in Kailahun District

Marital status	Frequency (n)	Percentage (%)
Single	27	2.7
Married	846	84.6
Divorced	19	1.9
Widow	108	10.8
Total	1000	100.0

Source: Data collected, 2021.

Table 4 shows that 2.7% of cocoa farmers reached in this research were single, 84.6% were married, 1.9% was divorced and 10.8 were widowed. 53.5 % of the cocoa farmers reached in this study had between 1-4 spouses, 12 % had between 5-10 wives and 2.6 % had 11 wives and above. However, 31.9 % of the cocoa farmers were unmarried females.

Sources of Information to Cocoa Farmers in Kailahun District

It is an old and common saying that information is power. No single source of obtaining information about anything can ever be enough. Farmers have information from diverse sources. Figure 7 shows the sources from which farmers obtain information.

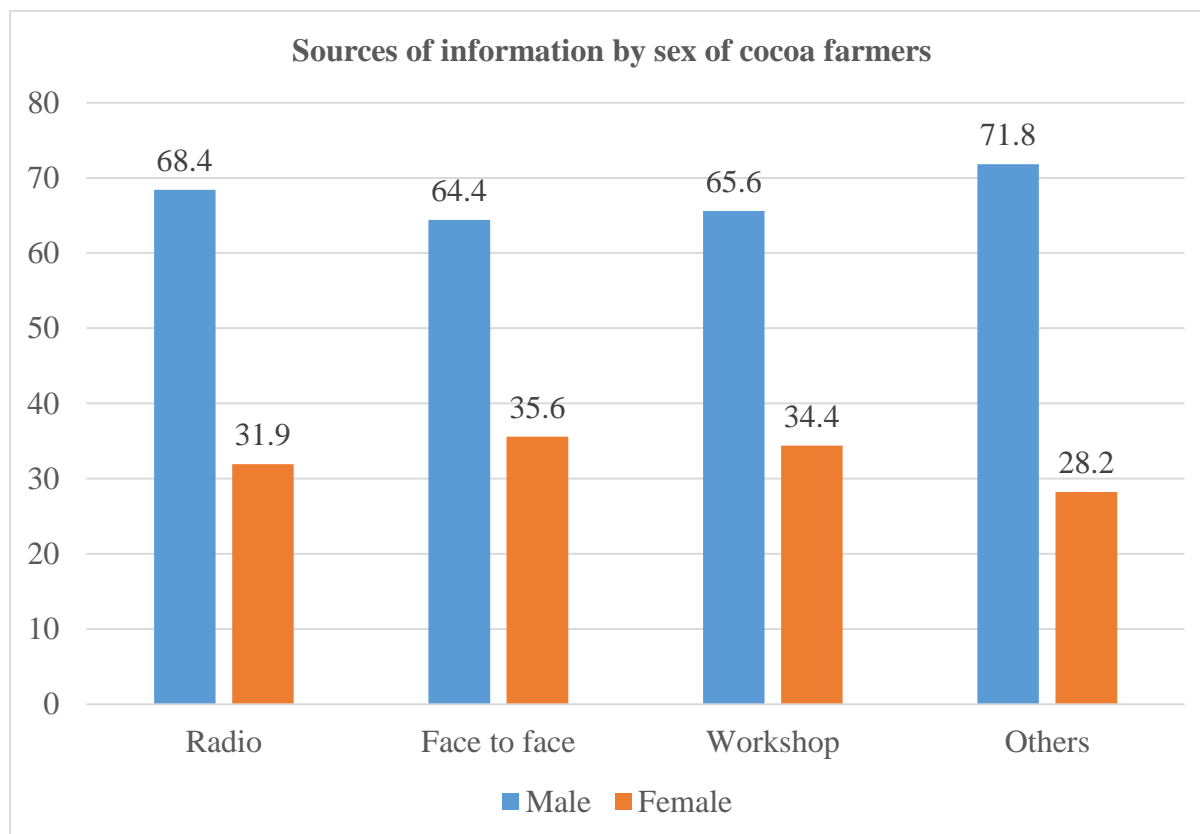


Figure 2: Sources of Information by Sex of Cocoa Farmers

Source: Data collected, 2021.

Figure 2 shows the sources from which cocoa farmers in Kailahun District obtained information. The figure shows that males had more access to information from the various sources than females. While the rate of access to information by men from other sources including newspapers, magazines, leaflets, brochures was 71.8% (the highest), it was the least for females (28.25%). The second highest source of information to male cocoa farmers was the radio (68.4%) which was the third highest for female cocoa farmers. The third source of information for male cocoa farmers which is the second for female cocoa farmers was workshops (65.4 and 34.4% respectively).

Training Received in Cocoa Farming

There are a number of institutions that support cocoa farming through training including the Ministry of Agriculture and Forestry, the Sierra Leone Agricultural Research Institute, Gola Rain Forest Conservation Limited by Guarantee, SOLIDARIDAD, Cocoa dealers such as Tropical Farms, Capitol Trading and a host of others. Table 29 shows the number of cocoa farmers that had received training or not.

Table 6: Trainings Received in Cocoa Farming

Received trainings in cocoa farming	Frequency (n)	Percentage (%)
No	397	39.7
Yes	603	60.3
Total	1000	100.0

Source: Data Collected, 2021.

The table shows that 60.3% of cocoa farmers had received trainings in cocoa farming while 39.7% stated they had received no training.

Sources of Training

Trainings provided were obtained from various sources as specified in the table 8 below.

Table 8: Sources of Training Provided

Source of Training	Frequency (n)	Percentage (%)
Colleague farmers	322	27.1
Ministry of Agriculture	173	14.6
SLARI	12	1.0
Dealers	376	31.6
University	14	1.2
Others	291	24.5
Total	1188	100.0

Source: Data collected, 2021.

Multiple responses

Table 8 shows that the reliable sources of trainings for cocoa farmers were dealers, 31.6%; colleague cocoa farmers, 27.1%.; Ministry of Agriculture, 14.6% and Universities and SLARI 1.2 and 1.0 respectively.

Length of Training

The length of time for which trainings provided lasted was a thing worthy of note. Table 9 shows the various periods for which trainings that have been provided had lasted.

Table 9: Length of Trainings Provided

Length of trainings	Frequency (n)	Percentage (%)
1-4days	298	29.8
5-10days	205	20.5
More than 10days	100	10.0
No extension training on cocoa	397	39.7
Total	1000	100.0

Source: Data collected, 2021.

Table 9 shows the duration for which trainings provided by various institutions lasted. 29.8% of cocoa farmers indicated 1-4 days while 20.5% and 10.0% indicated the trainings lasted between 5-10 days and more than 10 days respectively. However, 39.7 % of farmers indicated that they had received no extension training as earlier indicated in table 29.

Trainings Provided/Required

Responses from farmers showed that some reasonable efforts have been made in the past to address the training needs of cocoa farmers. However, much was still desired. It is important to note a number of factors which leave training for cocoa farmers inevitable including the emergence of young cocoa farmers into farming, not all farmers are captured by the trainings that have been organised, new ideas and technics in cocoa farming evolve with time that farmers need to be aware of, some of the skills and knowledge imparted in previous training(s) need to be refreshed. Trainings provided and or required by cocoa farmers covered broad areas of the cocoa value chain as shown in table 10.

Training areas	Training done		Training required	
	Frequency	Percentage	Frequency	Percentage
PRODUCTION				
Cultivation				
Site selection	539	10.9	363	8.5
Land preparation	523	10.6	348	8.2
Selection of seeds for cultivation	505	10.2	330	6.7
Establishment of nursery	492	10.0	316	6.4
Transplanting seedlings	485	9.8	333	7.8
Shade management	439	8.9	403	9.5
Weeding	349	7.1	443	10.4
Pruning	316	6.4	393	9.2
Budding/Grafting	241	4.9	321	7.5
Disease control	294	6.0	393	9.1
Handling of disease pods removed from farm	266	5.4	365	8.6
Soil analysis	263	5.3	234	4.5
Appropriate form of soil replenishment	299	4.6	200	3.6
Harvesting	253	48.1	437	48.9
Time	273	51.9	457	51.1
Tools needed				
PROCESSING				
Breaking of pods	512	14.3	479	12.3
Removal of cocoa beans	465	13.0	443	11.4
Fermentation	510	14.3	471	12.1
Drying	500	14.0	472	12.1
Sorting	349	9.8	421	10.8
Grading	305	8.5	397	10.2
Sacking	297	8.3	386	9.9
Storage	371	10.4	479	12.3
Certification	264	7.4	352	9.0
MARKETING				
Time	366	37.5	293	39.2
Where	297	30.4	22	29.7
To whom	313	32.1	233	31.1
OTHER AREAS				
Labour exploitation	431	17.6	244	16.0
Environmental management	404	16.5	213	15.2
Record keeping	340	13.9	215	15.3
Numeracy	248	10.1	149	10.6
Gender issues	283	11.6	170	12.1
Literacy	349	14.3	214	15.3
Community development	391	16.0	218	15.5

Source: Data collected, 2021.

Table 10 shows the need for training cocoa farmers in the district as it shows training done was 50.3% while training required was 49.7%. The table further specifies that under cultivation, trainings were required in shade management, weeding, pruning and disease control; under processing, trainings were required in sorting, grading, storage, sacking and certification; under marketing, timing; and under other areas, record keeping. One of the clusters in which farmers needed training in addition to whatever might have been done was cultivation for which weeding (10.4%), shade management (9.5%), pruning (9.2%) stood prominent.

Still under the cultivation cluster, other training needs identified were handling of diseased pods removed from the farm (8.6%), site selection (8.5%) and land preparation (8.2).

Training Technics

Adults learn and or can be trained in a number of ways. Two prominent ways are the individual training technics and the group training technics which can also be divided into small and large group training technics. Table 33 shows respondents' preferences of topics that should be treated under group training technics covering various aspects of the cocoa value chain ranging from cultivation to marketing as well as other relevant areas.

Table 11: Group Training Techniques

Cultivation	Technic Required		Frequency (n)	Percentage (%)
	Group	Individual		
Site selection	√		285	10.8
Land preparation	√		268	10.2
Selection of seeds for cultivation	√		252	9.6
Establishment of nursery	√		231	8.8
Transplanting of seedlings	√		237	9.0
Shade management	√		242	9.2
Weeding	√		261	9.9
Pruning		√	210	8.0
Budding/Grafting		√	170	6.5
Pest/Disease control	√		217	8.2
Handling of disease pods removed from the farm		√	187	7.1
Soil analysis		√	42	1.5
Appropriate form of soil replenishment		√	31	1.2
Total			2633	100.0

Source: Data Collected, 2021.

Multiple responses

Harvesting	Technic Required		Frequency (n)	Percentage (%)
	Group.	Individual		
Time	√		404	48.7
Tools needed	√		425	51.3
Total			829	100.0

Processing	Technic Required		Frequency (n)	Percentage (%)
	Group	Individual		
Breaking of pods	√		339	13.1
Removal of beans	√		296	11.4
Fermentation	√		322	12.4
Drying	√		332	12.8
Sorting	√		258	10.0
Grading	√		256	9.9
Sacking	√		248	9.6
Storage	√		331	12.8
Certification	√		209	8.1
Total			2591	100.0

Multiple responses

Marketing	Technic Required		Frequency (n)	Percentage (%)
	Group	Individual.		
Time	√		342	38.7
Where	√		266	30.1
To whom	√		275	31.3
Total			883	100.0

Other Areas	Technic Required		Frequency (n)	Percentage (%)
	Group	Individual		
Child Labour exploitation	√		272	14.8
Environmental management		√	275	15.0
Record keeping	√		277	15.1
Numeracy	√		216	11.8
Gender issues	√		228	12.4
Literacy	√		279	15.2
Community development	√		286	15.6
Total			1833	100.0

Source: Data Collected, 2021.

Multiple responses

Table 11 shows respondents' preferences for group training for the various aspects of training. The highest levels of interest for group training were expressed for site selection (10.8%), land preparation (10.2%) followed by weeding (9.9%), seed selection (9.6%), shade management (9.2%), transplanting (9.0%) and nursery establishment (8.8%), pest and disease control (8.2%) and pruning (8.0%).

Two areas under cultivation that farmers expressed less interest in for group training were soil analysis (1.5%) and appropriate form of soil replenishment (1.2%).

Another area cocoa farmers expressed interest for group training was harvesting capturing two key areas of time and tools used. 51.7% of them expressed interest in tools used while 48.7 expressed interest in time for harvesting.

Next to harvesting, cocoa farmers also expressed interest in areas of processing as follows: breaking of pods (13.1%), drying and storage (12.8%), fermentation, (12.4%), removal of beans (11.4%), grading and sacking (9.6%) and certification (8.1%).

A fourth cluster of areas farmers expressed interest in for group training was marketing capturing time of marketing (38.7%), when to market (31.3% and where to market (30.1%).

The other cluster of training needs expressed by cocoa farmers for group training was in other areas covering community development (15.6%), literacy (15.2%), record keeping (15.1%), child labour exploitation (14.8%), gender issues (12.4%) and numeracy (11.8%).

Next in the cluster for group training needs were Environmental Protection (15.0%), Child Labour exploitation (14.8%), Gender Issues (12.4%) and numeracy training (11.8%).

Apart from the issues identified for group training in the cocoa value chain, the following were identified by cocoa farmers in the district for individualised training: pruning, 8.0%; budding and grafting, 6.5%; handling of diseased pods, 7.1%; soil analysis, 1.5%; replenishment of soil nutrient, 1.2% and environmental management, 15.0%.

Table 12: Preferred Training Channels

Preferred channels	Frequency (n)	Percentage (%)
Farmer Field Schools	43	4.3
Mass Media	55	5.5
On farm demonstration	530	53.0
workshops	77	7.7
Not receiving extension service	295	29.5
Total	1000	100.0

Source: Data Collected, 2021.

Table 12 shows that majority of the cocoa farmers (53.0%) preferred training on the farm to any other. Irrespective of all these, 29.5% of cocoa farmers still insisted they had not received any extension service.

Preferred Time of Training

Time is of the essence for every human activity; not least cocoa farming. Table 36 shows the preferred period during the year cocoa farmers considered suitable for them to engage in training opportunities.

Table 13: Preferred Period of Training

Preferred time of training	Frequency (n)	Percentage (%)
Early dry season (Nov./Dec.)	290	29.0
End of the raining season (Sept./Oct.)	23	2.3
Immediately before the raining season (April/May)	365	36.5
Peak of the dry season (Jan-March)	99	9.9
Peak of the raining season (July/August)	65	6.5
Any time convenient for farmers	158	15.8
Total	1000	100.0

Source: Data collected, 2021.

Table 13 shows that most cocoa farmers (36.5 %) preferred the period immediately before the raining season (April/ May) while others identified the early dry season (Nov./Dec.), (29%). Irrespective of the above, 15.8% of the farmers suggested any time convenient for them. About this time, farmers normally do not have much on their farms to do.

Preferred Time of Day for Training

In addition to the period of the year that could be identified for training, it is also good to consider the time during the day to organise training for cocoa farmers that could be suitable thinking of their engagements. Table 14 gives an idea of what time of day cocoa farmers considered appropriate for them to attend training programmes.

Table 14: Preferred Time of Day for Training

Preferred time of the day for the training	Frequency (n)	Percentage (%)
In the afternoon	2	0.2
In the evening	31	3.1
In the morning	817	81.7
Not receiving extension service	150	15.0
Total	1000	100.0

Source: Data collected, 2021.

From the table, the most preferred time of day by cocoa farmers to attend training sessions was in the morning. As many as 81.7% of cocoa farmers identified this time as the most preferred unlike the afternoon (0.2%) and evening hours (3.1%).

Training Received by Cocoa Farmers in Cultivation by Age and Sex

Cocoa farmers in Kailahun District have received training in various aspects of the cocoa value chain as shown in previous figures and tables.

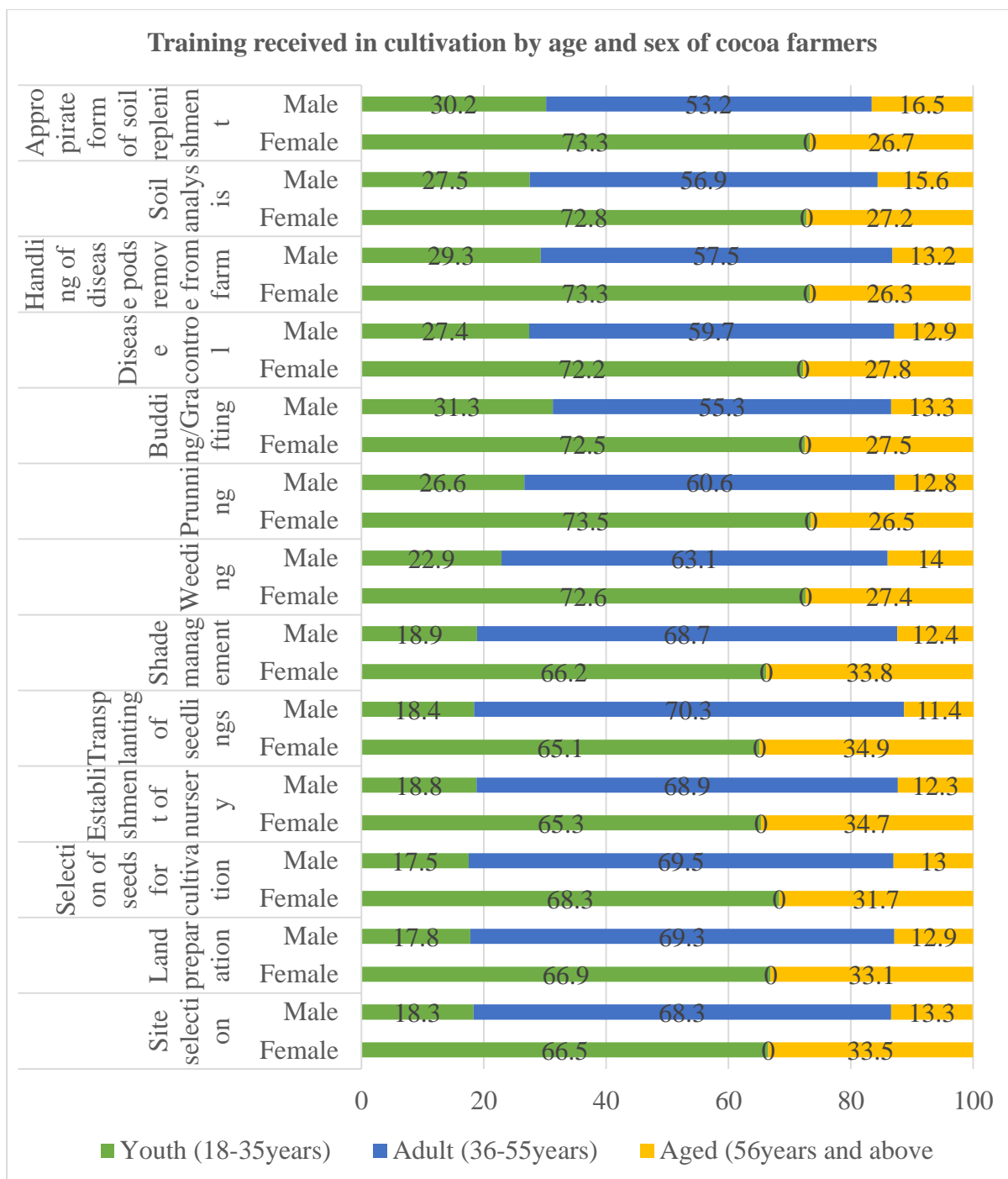


Figure 3: Training Received in Cocoa cultivation by age and sex of cocoa farmers

Figure 3 shows training received by cocoa farmers in the various aspects of the value chain. The figure shows that on average 63.2% of adult males received training in various aspects in cultivation while no adult female received training in those aspects. On the other hand, more female youth (69.9%) received training in various aspects of cocoa cultivation than male youth (23.5%). The figure also shows a minimal involvement of the two categories (male and female) of the aged in cocoa cultivation being 12.3% and 30.1% respectively even though the female involvement was almost 21/2 times the male involvement.

Ascertaining Cocoa Farmers’ Knowledge on Training Needs

One of the objectives of this research exercise was to ascertain farmers' knowledge and perception on training needs. Table 49 gives such information about the cocoa farmers accessed in this research exercise.

Table 14: Cocoa Farmers' Knowledge on Training Needs

Knowledge on training needs of cocoa farmers	Frequency (n)	Percentage (%)
Shade management is the maintenance of the appropriate number of shade trees on a cocoa farm to ensure good yield.	765	9.1
Sorting is the categorization of dry cocoa beans on the basis of the quality of the beans	547	6.5
Grading is the assignment of letter values to dry cocoa beans on the basis of the quality of the beans	526	6.3
Two cocoa certification bodies are Organic Cocoa and Fair Trade.	495	5.9
Child Labour is the involvement of children in doing work that affects their growth, development, health and regular school attendance.	684	8.2
Cocoa should be fermented for 6- 7 days.	775	9.2
Cocoa should be dried for 5-6 days.	763	9.1
13 Kilograms of cocoa is Le65,000.00	401	4.8
The standard number of shade trees per hectare is 18-19	269	3.2
The best bag for storing cocoa is jute bag	700	8.3
Two preferable times for under brushing cocoa are before harvest and at the beginning of the dry season.	663	7.9
It is necessary to do under brushing of cocoa farms at the beginning of the dry season in-order to reduce competition for nutrients between cocoa trees and weeds.	662	7.9
To reduce pests on their farms and ensure easier harvest of the pods, farmers should prune the cocoa trees and regularly do under brushing	660	7.9
Two reasons for the low price of cocoa from Sierra Leone are high moisture content of more than 12% and high defect rate of 20-25%.	482	5.7
Total	8392	100.0

Source: Data collected, 2021.

Multiple responses

The table shows the knowledge of cocoa farmers on various aspects in the cocoa value chain. Some of the aspects farmers showed the fairest knowledge in were cocoa fermentation, shade management and cocoa drying as 775, 765 and 763 of the farmers reached identified them. Next in the knowledge level were the farmers preference to do under brushing before harvest and at the beginning of the dry season (663), the periods for under brushing (663), the need to do so to reduce competition between the cocoa trees and other trees (662) and the need to also do so regularly to reduce pests on the farm and promote easy harvest (660).

Perception of Cocoa Farmers about various Services and Practices in the cocoa value Chain

Cocoa Farmers' perception about various services and practices in the cocoa value chain is specified in table 50.

Table 15: Farmers' Perception on various Services and Practices in the cocoa value chain

Perception of Cocoa Farmers on services and practices	Agree		Disagree		Neutral		Strongly Agree		Strongly Disagree	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Training of cocoa farmers is highly significant	140	14.0	0	0.0	0	0.0	859	85.9	1	0.1
Training of cocoa farmers is a waste of time	15	1.5	331	33.1	0	0.0	30	3.0	624	62.4
Appropriate spacing of cocoa seedling increases the yield	442	42.4	2	0.2	5	0.5	551	55.1	0	0.0
Spacing of cocoa seedling reduces the yield per hectares	149	14.9	292	29.2	127	12.7	127	12.7	305	30.5
Cocoa should be regularly under brushed to minimize pests, enhance free movement across the farm and increase yield	332	33.2	2	0.2	3	0.3	662	66.2	1	0.1
Frequent under brushing is a	606	60.6	125	12.5	11	1.1	228	22.8	30	3.0

financial burden on cocoa farmers										
Child Labour is justifiable by culture.	586	58.6	156	15.6	183	18.3	49	4.9	26	2.6
Child Labour is inimical to children's health, growth, development and school attendance on a regular basis	574	57.4	24	2.4	37	3.7	357	35.7	8	0.8
Men should be the sole custodians of proceeds from the sale of cocoa since they are the bread winners	398	39.8	45	4.5	8	0.8	525	52.5	24	2.4
Women should have a say and know about the use of proceeds from the sale of cocoa	678	67.8	28	2.8	3	0.3	204	20.4	87	8.7
Farmers should produce quality cocoa to attract better prices from dealers	362	36.2	0	0.0	1	0.1	637	63.7	0	0.0
Cocoa is in high demand and so no matter the quality produced; dealers can still buy	752	75.2	26	2.6	8	0.8	210	21.0	4	0.4
Cocoa beans should be thoroughly fermented and dried after harvest to be of the quality that can attract a good price.	331	33.1	2	0.2	1	0.1	666	66.6	0	0.0

Farmers can sell raw cocoa without having the burden to ferment and dry the beans	228	22.8	283	28.3	1	0.1	113	11.3	375	37.5
Farmers should ensure proper waste management on their farms	566	56.6	85	8.5	10	1.0	331	33.1	8	0.8
There is no need for waste management in the bush	420	42.0	249	24.9	44	4.4	48	4.8	239	23.9
Farmers should be knowledgeable about the type of soil to grow cocoa for good yield	335	33.5	8	0.8	1	0.1	656	65.6	0	0.0
Cocoa can be cultivated anywhere in the Eastern Region	103	10.3	432	43.2	110	11.0	25	2.5	330	33.0
Cocoa pods should be harvested and broken with care to remove the seeds using the right tools	355	35.5	4	0.4	3	0.3	636	63.6	2	0.2
Cocoa pods can be plucked and broken anyhow during harvest	240	24.0	416	41.6	24	2.4	54	5.4	266	26.6
Old cocoa plantations should be rehabilitated to increase the yield	389	38.9	4	0.4	6	0.6	601	60.1	0	0.0
Farmers can still reap what God has apportioned for them even when	768	76.8	39	3.9	36	3.6	127	12.7	30	3.0

their cocoa trees are old.										
Cocoa should be kept in jute bags and stored alone on pallets	389	38.9	0	0.0	0	0.0	609	60.9	2	0.2
Cocoa can be kept in any bag and stored with other items anywhere (even on the bare floor) as long as the place is dry	51	5.1	360	36.0	1	0.1	83	8.3	505	50.5

Source: Data collected, 2021.

Table 15 shows farmers' perception on various aspects of the cocoa value chain in the district. Some of their perceptions on some of the issues identified were so contrasting that they necessitate training. 58.6 % of the farmers agreed that child labour is justifiable by culture ignoring its negative consequences on the child's growth, health, development and above all, regular school attendance. 7.4 % and 35.7 % of them agreed and strongly agreed respectively that it is inimical to children. While 33.2 and 66.2% of the farmers agreed and strongly agreed respectively that cocoa plantations should be regularly under brushed to reduce pests, promote free movement across the farm and easy harvest, 60.6% and 22.8 % of farmers also considered frequent under brushing as a financial burden on the farmers. While 67.8 of the farmers agreed that women should have a say and be made to know how proceeds from the sale of cocoa are used, 39.8 and 52.5% of farmers respectively agreed and strongly agreed that men should be the sole custodian of the proceeds from the sale of cocoa.

Also, while 36.2% and 63.7% of farmers agreed and strongly agreed that cocoa farmers should properly dry their cocoa beans in order to attract better prices for their product, 75.2 % of them stated that cocoa is in high demand and so dealers can always buy no matter the quality ignoring that cocoa when not properly dried will not attract good price. Another area where the farmers held opposing views was management. While 56.6% and 33.1 % of farmers respectively agreed and strongly agreed that wastes should be managed on cocoa farms, 42.0% of them stated there was no need for waste management in the bush.

Finally, while 4 and 6 out of 10 farmers respectively agreed and strongly agreed that there was need to rehabilitate the aging plantations, some 8 and 1.3 out of 10 farmers with a fatalistic awareness respectively agreed and strongly agreed that whether or not cocoa farms are rehabilitated, farmers can always earn what God has marked for them.

4. Conclusion and Recommendations

The findings reveal that cocoa is grown by both male and female cocoa farmers. However, there are more male than female cocoa farmers in the district. More adults aged 36-55 than youth aged 18-36 and the aged, 55 and above were involved in cocoa production in the district.

85.4% of cocoa farmers in the district were married compared to the widowed, 10%; divorced, 1.9%; and single, 2.7%. Almost all the male cocoa farmers were polygamous and had many children as labour sources required for work on the cocoa farms. Majority of the farmers have been in cocoa farming for a minimum of five years. More than 50% of the farmers had more than one cocoa plantation. The combined acreage of the cocoa farms owned by more than 50% of the farmers was over five acres per farmer. Almost 50% of the cocoa farms were inherited and 8.4% were bought. 48% of the cocoa farms were more than 20 years old while 52% were less than 20 years.

30% of the cocoa farms were owned by individuals, 33% by couples and 28% by families.

More cocoa farmers (60%) as opposed to 39.7% accepted having received training in various aspects of cocoa farming. Major sources of training received were dealers, colleague cocoa farmers, others like development partners interested in cash crop farming as aforementioned.

Most of the trainings conducted lasted between 1-4 days (29.8%) and 5-10 days (20.5%).

A good number of the farmers claimed to have been trained in many of the areas of cocoa farming. However, some areas including weeding, pruning, handling of diseased pods, transportation of seedlings, time of harvesting, drying, sorting, grading, sacking, storage, certification, time of marketing, where and to whom to market, record keeping, numeracy, literacy, gender issues and community development were found to be very necessary. Individual training techniques were identified to be preferred for most of the training areas specified.

Cocoa farmers needed training in sorting of dried cocoa beans, grading, cocoa certification, price determination of cocoa, standard number of shade trees per hectare of cocoa, preferable times for under-brushing, strategies for pest management and reasons for the low price of cocoa from Sierra Leone. Cocoa farmers had a positive perception about the following: significance of training for cocoa farmers, appropriate spacing of cocoa trees to increase yield, regular under-brushing of cocoa farms to minimise competition with weeds for nutrients, promote easy movement across the farm, reduce pests and increase yield, cultural justification of child labour, gender imbalance tilted in favour of men, the need for women to know and have a say about the use of proceeds from the sale of cocoa, the need for farmers to produce quality cocoa to attract better prices, the need to ferment and thoroughly dry cocoa beans to attract better prices, the need for proper waste management on cocoa farms, the need to harvest and break the pods to remove the seeds using the right tools, the need to rehabilitate aging cocoa plantations, and the need to keep cocoa beans in jute bags instead of nylon bags. Their perceptions about the following were however negative: child labour, the need to grow cocoa on suitable soil, waste management on cocoa farms, the need for care in harvesting and breaking of cocoa pods and the need to keep cocoa separate from other items.

Cocoa farmers in Kailahun District have had training in several aspects of cocoa farming, but still genuinely have training needs that should be addressed. In the first place, a good number of the farmers have never had an opportunity to be trained in any aspect of cocoa farming. Second, even those who have benefitted from one training or the other still require refresher training or training in other aspects of cocoa farming that they have not received training in.

Third, the world is dynamic and as such, new knowledge and farming techniques come up regularly that need to trickle down to farmers in the field so that the required impact is created on the sector. These can be done through training of cocoa farmers.

In order to meet their training needs, cocoa farmers should:

- Enroll with adult education institutions for some form of adult education in Numeracy, Literacy, record keeping, soil conservation and other related areas for which training is required as identified by cocoa farmers in the district. This, coupled with the training they will receive from extension agents will enhance their knowledge and skills in cocoa production, increase the quantity and quality of the yield, raise the quantum of their earning and their standard of living.
- The Ministry of Agriculture in collaboration with the Ministry of Technical and Higher Education and development partners in agriculture and technical and higher education should take the lead in providing the training opportunities for cocoa farmers by establishing adult education centres in rural communities so that farmers do not envisage many problems attending the classes.
- Farmers who have proven to be resistant to accepting innovations should be encouraged to adopt new technics, new methods of cocoa production and cultivate new and high yielding cocoa varieties. The Amazon variety found to be creating the desired impact of cultivation among cocoa farmers in the district should be cultivated by cocoa farmers. Extension workers should pay special attention to such farmers to see the need for adopting changes that are bound to bring about improvements in their living standards. Cocoa farmers should impress upon the minds of the political leaders at both the local and national levels to improve on rural infrastructure. When this is done, Extension Agents can easily reach them with innovations in the practices as well as acquire better prices for their products within their localities and to easily move their products to urban communities in pursuit of better prices if they find the farm gate prices not encouraging.
- Cocoa farmers especially the male who have in the past propelled cultural impediments against women should champion the course against such impediments to allow women to have more say about determining when and to whom to sell their produce, what use the money can be put to and why. This can motivate women to double their efforts in the cocoa value chain which can go a long way to raise the level of productivity. Women were found to be strong pillars in the development of the cocoa sector as people who constitute the labour source as well as giving the required support to men in establishing and maintaining the farms. Cocoa farmers should be cautious about letting children work on their farms just so that the work they let them do does not affect their growth, development, health and regular school attendance. Farmers should let children work on their family farms after school, during weekends and holidays for limited number of hours per day. Cocoa cooperatives in the localities should monitor compliance on this and take punitive measures against farmers who flout such rules.
- Cocoa farmers should learn to manage waste on their cocoa farms. They should not take it that the farms are in the bush and so there is no need for waste management.

Extension personnel should let farmers know how and why they need to effectively manage waste on their cocoa plantations.

In order to meet the training needs of cocoa farmers, Extension Agents should:

- Fight tooth and nail to reach cocoa farmers even in the remotest communities of the district. The Extension Unit of the Ministry of Agriculture and Forestry should ensure to recruit more extension personnel, incentivise and thoroughly monitor them to be genuinely committed to their work so as to reach out to the least farmer in the remotest community.
- Considering that a good number of the farmers are illiterate, on the farm demonstration should be one of the methods extension personnel should use to teach cocoa farmers new cocoa farming techniques that can improve their farming practices.
- Where possible, the number of days for training cocoa farmers any time they organise training for them should increase. The training venues should not be far removed from the localities of the farmers and the language of communication of the training should be one the farmers understand and comfortable to use with maximum ease.
- Increase the number of cocoa farmers they target with training opportunities without hindrance. The organisers of the training should ensure that those who are recruited for trainings in cocoa farming are the actual cocoa farmers, not their wards or nominees. There should be a means of verifying the identity of the farmers so that there can be no impersonation.
- Where possible, Extension Agents should be selected from among people who are fluent in speaking the language of the locality in which they are assigned to work so that there would not be any need for an interpreter which can create room for information to be distorted.

Development partners interested in cocoa farming should:

- Increase the number of farmers they target for their support to cocoa farming in the district. The partners should increase their funding to cocoa farming so that they could be able to reach more farmers with their support. The partners should also ensure that whatever support they give actually gets down to cocoa farmers and not surrogates who may not have much or anything to do with cocoa farming.
- Cut down on the number of intermediaries between them and the farmers so that support given actually trickles down to the farmers no matter how remote the communities the farmers find themselves may be. Development partners should ensure that their personnel are trustworthy in doing their work and should closely monitor the activities of their field staff so that they do the right things.
- Ensure that support given to cocoa farmers filters down to the least farmer in the remotest community by cross checking with the farmers once in a while to ensure that what is planned and given out for them through the field staff actually gets to them.

References

- 1) Johnson, J. and Finn, K. (2017). *Designing User Interfaces for an Aging Population Towards Universal Design*. Elsevier.

- 2) Merem,E.C., Twumasi,Y.A, Wesley,J., Olagbegi,D., Crisler,M., Romorno,C., Alsarari,M., Isokpehi,P., Hines, A., Ochai, G.S., Nwagboso, E., Fageir, S., Leggett, S. (2020). Exploring Cocoa Farm Land use in the West African Region. Scientific and Academic Publishing.
- 3) (2009). Project “Increasing incomes and food security of small farmers in West and Central Africa. ome: Food and Agricultural Organisation.(2015). Sierra Leone Kailahun District Profile. Freetown: OCHA.
- 4) The German Initiative on Sustainable Cocoa. (2017, April). Retrieved June 10, 2022, from info@kakaoforum.de.
- 5) (2019). Brazil Ambassador to Sierra Leone visits Cocoa Farmers in Kenema and Kailahun. Freetown: Sierra Leone Telegraph.
- 6) (2020). Bringing Agricultural Services Closer to Cocoa Farmers in Sierra Leone. Deutschland: Solidaridad.
- 7) Sierra Leone web . (2022). Retrieved May 23, 2022, from Sierra Leone National Tourist Board.
- 8) Administration, I. T. (2021). Sierra Leone Country Commercial Guide, Agriculture Sector. U S Department of Commerce.
- 9) Amara, D., Momoh, E. and Toyin, O.A. (2014). An Economic Analysis of the Production and Export of Cocoa in Sierra Leone. Academic Publishing made Easy.
- 10) Amudavi, D. M., Z. R. Khan, J. M. Wanyama, C. A. O. Midega, J. Pittcher, I. M. Nyangau, A. Hassanali, and J.A. Pickett. (2009). Assessment of Technical Efficiency of Farmer Teachers in the Uptake and Dissemination of Push-pull Technology in Western Kenya. *Crop Protection*, 987–996.
- 11) Aragon, M. I. B., Jimenez, D. J., & Valle, R. S. (2014). Training and performance: The mediating role of organizational learning. *BRQ Business Research Quarterly*, 17(3), 161–173.
- 12) Aremu, P. A., Longe, M. F,Adewale, G. A.,Olagoke, O.,and Isong A. (2019). Imperativeness of Training and Re-Trainig of Extension Workers forEfficiency in Agricultural Technology Transfer. Ilorin: *International Journal of Pure and Applied Bio Science*.
- 13) Bharti, N. (2014). The role of training in reducing poverty: The case of microenterprise development in India. *International Journal of Training and Development*, , 18(4), 291–296. doi:10.1111/ijtd.12042 [Crossref], [Google Scholar].
- 14) Bharti, N. (2014). The role of training in reducing poverty: The case of microenterprise development in India. *International Journal of Training and Development*,, 291–296 .
- 15) Board, P. M. (2019). Home Botany, History of Cocoa in Sierra Leone. Freetown: Produce Monitoring Board.
- 16) C, M. (2011, February). . Available from: http://www.managementhelp.org/trng_dev/analyze/analyze.htm. Retrieved February 2011, from Available from: http://www.managementhelp.org/trng_dev/analyze/analyze.htm.
- 17) Carlisle, J., Bhanugopan, R., & Fish, A. (2011). Training needs of nurses in public hospitals in Australia: Review of current practices and future research agenda. *Journal*

- of European Industrial Training, 35(7), 687–701. doi:10.1108/03090591111160797 [Crossref], [Google Scholar].
- 18) Casaburi, L., Reed, T., Suri, T. (2017). Agricultural Technology Initiative. Berkeley: University of California.
 - 19) CGIAR. (2020). Annual Performance Report. Montpellier: Consultative Group for international Agricultural Research.
 - 20) Christoplos, I. (2010). “Mobilizing the Potential of Rural and Agricultural Extension.”. Office of Knowledge Exchange, Research and Extension, .
 - 21) Crossman, A. (2020). Understanding Functionalist Theory. Moldova: LAP Academic Publishing.
 - 22) Denby, S. (2010). The importance of training needs analysis. *Industrial and Commercial Training*, 42(3), 147–150. doi:10.1108/00197851011038132 [Crossref], [Google Scholar].
 - 23) Deory, O. (. (2017). *Sensory Blending: On Synaesthesia and Related Phenomena*. Oxford University Press.
 - 24) Dessie, W. M., & Ademe, A. S. (2017). Training for creativity and innovation in small enterprises in Ethiopia. *International Journal of Training and Development*, 21(3), 224–234. doi:10.1111/ijtd.12107 [Crossref], [Web of Science @], [Google Scholar].
 - 25) Dhar, R. L. (2015). Service quality and the training of employees: The mediating role of organizational commitment. *Tourism Management*, 46, 419–430. doi:10.1016/j.tourman.2014.08.001 [Crossref], [Web of Science @], [Google Scholar].
 - 26) Diakite, S. (2020). Addressing Challenges in West African Cocoa Farming. Rainforest Alliance.
 - 27) Ebert, P., and Smith, M. (2012). "Introduction: Outright Belief and Degrees of Belief". *Dialectica*, 66(3):305-308.
 - 28) Epstein M.J., Yuthas K. (2017). Cash Flow Training and Improved Micro-finance outcomes. *Journal of International Development*, 29(1), 106-116. doi:10-1002/jid.2918 (crossref), [Web of Science@] [Google Scholar].
 - 29) Essegbey, O., Ofori-Gyamfi, E. (2012). Ghana Cocoa Industry- An analysis from the innovation system perspective. *Technology Investment Volume 3*, 276-286.
 - 30) FAO. (2022). Online training about AGRIS and the implementation of sustainable initiatives on Open Science in agriculture. AGRIS Data Providers.
 - 31) FAO. (2022). Research and Extension. Food and Agricultural Organisation of the United Nations.
 - 32) Fountain, P., Bush, R. and Feener, M. (2015). *Religion and the Politics of Development*. Palgrave Macmillan.
 - 33) Gautam, S., Schreinemachers, P., Uddin, M. N., & Srinivasan, R. (2017). Impact of training vegetable farmers in Bangladesh in integrated pest management (IPM). *Crop Protection*, 102, 161–169. doi:10.1016/j.cropro.2017.08.022 [Crossref], [Web of Science @], [Google Scholar].
 - 34) Gayi, S.K. and Tsowon, K. (2016). *Cocoa Industry: Integrating Small farmers into the global Value Chain*. New York and Geneva: United Nations.
 - 35) Godfrey, N. (2022). USAID works with the government of Sierra Leone to help women realise their rights. Washington, DC 20523: USAID.

- 36) Hardman & Co. (2014). *Giant on a Pinhead: A Profile of the Cocoa Sector*. London.
- 37) Hilton, D., Mahmud, K. T., Kabir, G. M. S., & Parvez, A. (2016). Does training really matter to the rural poor borrowers in Bangladesh? A case study on BRAC. *Journal of International Development*, 28(7), 1092–1103. doi:10.1002/jid.3133 [Crossref], [Web of Science ®], [Google Scholar].
- 38) Hiltton D., Mahmud K.T., Kabir, G.M.S.,& Parvez A. (2016) . (2016). Does training really matter to the rural poor borrowers in Bangladesh? A Case Study on BRAC. *Journal of International Development*, 28((7) 1092-1103.dol:1002/jid.3133[crossref] [Web of Science @][Google search].
- 39) Holman, E. (2013). "Phenomenal Concepts as bare recognitional concepts: Harder to debunk than you thought...but still possible". *Phiosophical Studies*, 164:807-827.
- 40) Horng, J. S., & Lin L. (2013). Training needs assessment in a hotel using 360 degree feedback to develop competency-based training programs. *Journal of Hospitality and Tourism Management*,, 20, 61–67. doi:10.1016/j.jhtm.2013.06.003 [Crossref], [Google Scholar].
- 41) Iqbal, M. Z., Malik, S. A., & Khan, R. A. . (2012). Answering the journalistic six on the training needs assessment of pharmaceutical sales representatives: Comparative perspectives of trainers and trainees. . *International Journal of Pharmaceutical and Healthcare Marketing*, , 6(1), 71–96. doi:10.1108/17506121211216914 [Crossref], [Google Scholar].
- 42) Iqbal, M. Z., Malik, S. A., & Khan, R. A. (2012). Answering the journalistic six on the training needs assessment of pharmaceutical sales representatives: Comparative perspectives of trainers and trainees. *International Journal of Pharmaceutical and Healthcare Marketing*,, 6(1), 71–96. doi:10.1108/17506121211216914 [Crossref], [Google Scholar].
- 43) Iqbal, M. Z., Malik, S. A., & Khan, R. A. (2017). Answering the journalistic six on the training needs assessment of pharmaceutical sales representatives: Comparative perspectives of trainers and trainees. *International Journal of Pharmaceutical and Healthcare Marketing*,, 6(1), 71–96. doi:10.1108/17506121211216914 [Crossref], [Google Scholar].
- 44) Iqbal, M.Z &Khan, R.A. (2011). The growing concept and uses of training needs assessment: A review with proposed model. *European Journal of Industrial Training*.
- 45) Islam, M. M., D. Gray, J. Reid, and P. Kemp. (2011). “Developing Sustainable Farmer-led Extension Groups: Lessons from a Bangladeshi Case Study.”. *Journal of Agricultural Education and Extension*, 425–443.
- 46) Kabir,G.M.S., Mahmud, K.T., Hassan, A.,Hilton, D.& Islam,S.M. (2018). Training in Building Awareness about formalin abuse:Evidence from Bangladesh. *International Journal of Islamic and Middle Eastern Finanace and Management.*, 11(1), 96-108 dol:10.1108/IMEFM-08-2017-0198[crossref] [Web of Science] [google scholar].
- 47) Kataike, J., Modekurti, D. P. V., Butali, E., Magumba, D., Mugenyi, A. R., Aine-Omucunguzi, A., & Gellynck, X. (2018). A parametric test evaluating smallholder farmers’ training needs in Uganda: A case of dairy farmers in the Rwenzori regeion. . *Journal of Agribusiness in Developing and Emerging Economies*,, 8(3), 537–553. doi:10.1108/JADEE-08-2016-0053 [Crossref], [Web of Science ®], [Google Scholar].

- 48) Kataike, J., Modekurti, D. P. V., Butali, E., Magumba, D., Mugenyi, A. R., Aine-Omucunguzi, A., & Gellynck, X. (2018). A parametric test evaluating smallholder farmers' training needs in Uganda: A case of dairy farmers in the Rwenzori region. *Journal of Agribusiness in Developing and Emerging Economies*, 8(3), 537–553. doi:10.1108/JADEE-08-2016-0053 [Crossref], [Web of Science ®], [Google Scholar].
- 49) Kaufman, Roger, Rojas, Alicia M., Mayer, Hanna. (1993). *Needs Assessment; A User Guide*. Englewood: Educational Technology Pubns.
- 50) Kedem, S. (2021, November 2). Sierra Leone gets first cocoa factory. *New African Magazine*.
- 51) Khan, A., & Masrek, M. N. . (2017). Training needs analysis based on mismatch between the acquired and required levels of collection management skills of academic librarians. *Collection Building*, 36(1), 20–28. doi:10.1108/CB-06-2016-0012 [Crossref], [Google Scholar].
- 52) Khan, M. A., & Ali, A. J. . (2014). The role of training in reducing poverty: The case of the ultra-poor in Bangladesh. *International Journal of Training and Development*, 18(4), 271–281. doi:10.1111/ijtd.12041 [Crossref], [Google Scholar].
- 53) Khan, M. A., & Ali, A. J. (2014). The role of training in reducing poverty: The case of the ultra-poor in Bangladesh. *International Journal of Training and Development*, 18(4), 271–281. doi:10.1111/ijtd.12041 [Crossref], [Google Scholar].
- 54) Khan, A. & Masrek, M. N. (2017). Training Needs Analysis based on mismatch between the acquired and required level of collection of Management Skills of academic librarians. *collection Building*, 36(1), 20-28, doi:10.1108/CB 06-2016-9912 [crossref].
- 55) Kiptot, E., and Franzel, S. (2015). *Farmer to Farmer Extension: Opportunities for Enhancing Performance of Volunteer Farmer Trainers in Kenya*. Development in Practice.
- 56) Leonard, J. (n.d.).
- 57) Leonard, J. (2021, May). *Research 4Life* <http://www.research4life.org>. Retrieved 2022, from AGORA: <http://www.fao.org/ogora>.
- 58) Lukuyu, B., F. Place, S. Franzel, and E. Kiptot. (2012). Disseminating Improved Practices: Are Volunteer Farmer Trainers Effective? *Journal of Agricultural Education and Extension*, 525–540.
- 59) MAF. (2019). *National Cocoa Value Chain Policy*. Freetown: Government Printing Press.
- 60) Mahmud, K. T., & Hilton, D. (2019). Does microcredit really matter for healthcare expenditure of the poor fish-farmers? Perspective from rural Bangladesh. *Journal of Poverty*, 1–21. doi:10.1080/10875549.2019.1668901 [Taylor & Francis Online], [Web of Science ®], [Google Scholar].
- 61) Mahmud, K. T., Parvez, A., Hilton, D., Kabir, G. M. S., & Wahid, I. S. (2014a). The role of training in reducing poverty: The case of agricultural workers receiving microcredit in Bangladesh. *International Journal of Training and Development*, 18(4), 282–290. doi:10.1111/ijtd.12039 [Crossref], [Google Scholar].
- 62) Management, U. S. (2022). *Policy, Data, Oversight: Training and Development*. Washington D.C.: United States Office for Personnel Management.

- 63) Nakano, Y., Tanaka, Y., & Otsuka, K. (2018). Impact of training on the intensification of rice farming: Evidence from rainfed areas in Tanzania. *Agricultural Economics*, 49(2), 193–202. doi:10.1111/agec.12408 [Crossref], [Web of Science ®], [Google Scholar].
- 64) Nazli, N. N. N. N., Sipon, S., & Radzi, H. M. (2014). Analysis of training needs in disaster preparedness. *Procedia - Social and Behavioral Sciences*, 140, 576–580. doi:10.1016/j.sbspro.2014.04.473 [Crossref], [Google Scholar].
- 65) Oppenheim, B., & Weintraub, M. (2017). Doctrine and violence: The impact of combatant training on civilian killings. *Terrorism and Political Violence*, 29(6), 1126–1148. doi:10.1080/09546553.2015.1131156 .
- 66) Oppenheim, B., & Weintraub, M. (2017). Doctrine and violence: The impact of combatant training on civilian killings. *Terrorism and Political Violence*, 29(6), 1126–1148. doi:10.1080/09546553.2015.1131156 [Taylor & Francis Online], [Web of Science ®], [Google Scholar].
- 67) Osarenren, C.O., Ejuetueyin, J.O. and Eweka, K.I. (2016). Socio-Economic Characteristics of Cocoa Farmers in Edo State, Nigeria. *Journal of Applied Sciences and Environmental Management*.
- 68) Report, R. D. (2017). Reuters Institute.
- 69) Sahoo, M., & Mishra, S. . (2019). Effects of trainee characteristics, training attitudes and training need analysis on motivation to transfer training. *Management Research Review*, 42(2), 215–238. doi:10.1108/MRR-02-2018-0089 [Crossref], [Web of Science ®], [Google Scholar].
- 70) Schenk, T. (2020). A multi-stakeholder initiative for more sustainability in the cocoa value chain. *Swiss Platform for Sustainable Cocoa*.
- 71) Schreinemachers, P., Wu, M., Uddin, M. N., Ahmad, S., & Hanson, P. (2016). Farmer training in off-season vegetables: Effects on income and pesticide use in Bangladesh. *Food Policy*, 61, 132–140. doi:10.1016/j.foodpol.2016.03.002 [Crossref], [Web of Science ®], [Google Scholar].
- 72) Scott, M., Laderach, P. (2021). *Climate and Chocolate*. Climate. gov. Science and Information for a Climate Smart Nation.
- 73) Seidle, B., Fernandez, S., & Perry, J. L. . (2016). Do leadership training and development make a difference in the public sector? A panel study. *Public Administration Review*, 76(4), 603–613. doi:10.1111/puar.12531 [Crossref], [Web of Science ®], [Google Scholar].
- 74) Ssemakula, E., and J. K. Mutimba. (2011). Effectiveness of the Farmer-to-farmer Extension Model in Increasing Technology uptake in Masaka and Tororo Districts of Uganda. *African Journal of Agricultural Extension* , 30–46.
- 75) Sulaiman, R. V., and K. Davis. (2012). “The ‘New Extensionist’: Roles, Strategies, and Capacities to Strengthen Extension and Advisory Services. *Global Forum for Rural Advisory Services*.
- 76) Sung, S. Y., & Choi, J. N. (2014). Do organizations spend wisely on employees? Effects of training and development investments on learning and innovation in organizations. *Journal of Organizational Behavior*, 35(3), 393–412. doi:10.1002/job.1897 [Crossref], [PubMed], [Web of Science ®], [Google Scholar].

- 77) Tao, Y., Yeh, C. R., & Sun, S. (2006). Improving training needs assessment processes via the internet: System design and qualitative study. *Internet Research*, 16(4), 427–449. doi:10.1108/10662240610690043 [Crossref], [Web of Science ®], [Google Scholar].
- 78) Ubeda-Garcia, M., Marco-Lajara, B., Sabater-Sempere, V., & Garcia-Lillio, F. (2013). Does training influence organizational performance? Analysis of the Spanish hotel sector. *European Journal of Training and Development*, 37(4), 380–413. doi:10.1108/03090591311319780 [Crossref], [Google Scholar].
- 79) UN, F. O. (2022). *AGROVOC Multilingual Thesaurus*. Rome: F.A.O.
- 80) Walk, M., Zhang, R., & Littlepage. (2018). Don't you want to stay?" The impact of training and recognition as human resource practices on volunteer turnover. *Nonprofit Management and Leadership*, 29(4), 509–527. doi:10.1002/nml.21344 [Crossref], [Web of Science ®], [Google Scholar].
- 81) Weinand, J. (2002). *Farmer-to-Farmer Extension. Opportunities and Constraints of Reaching Poor Farmers in Southern Malawi.*
- 82) Wikipedia. (2012, December 16). *World Gazetteer*. Search for a geographical Entity Archived from the Original. Freetown.
- 83) worldatlas.com. (2022). *The Top Cocoa Producing Countries In The World*. Moldova: LAMBERT Academic Publishing.
- 84) Youdeowei, A and Kwarteng, J. (2015). *Tool Kit for the production of agricultural extension materials; A Guide Book*. *International Journal of Forestry and Horticulture (IJFH)*, 14-21.