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OF THE

COCOA RESEARCH

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COCOA PROGRAMME

Experimental Title: Commercial evaluation of boiled cocoa bean shell in layers mash (Olubamiwa O.; Adebawale B.A.; Ogunnaike E.F and Adeoti J.O)

Introduction

Nigeria is currently rated as the number one egg producing nation in Africa, and poultry production contributes 25% to the domestic agriculture (Nasta, 2013). Cocoa bean shell (CBS) is a waste product in the Nigerian cocoa industry. CBS is the seed coat covering the cocoa bean cotyledon. It constitutes nearly 10% of the bean weight resulting in disposal problems for the cocoa processing factories in Nigeria. The national estimated annual production of CBS is about 10,500 tonnes (Aina, 1998). According to Hamzat and Adeola (2011), agricultural byproducts like CBS, spent tea leave and coffee pulp constitute major pollution to the environment as they are discarded into nearby water bodies. The use of CBS as animal feed therefore would represent a significant gain to the cocoa industry (Olupona *et al.*, 2003).

Evaluation of CBS as a non-conventional feed ingredient was first reported by Gohl (1981). Hutagalung and Chang (1978) reported the amino acid profile of CBS to be similar to that of palm kernel cake - a popular fibrous feedstuff. Dried CBS contained 13.12% crude protein, 13.00% crude fibre, 9.87% ether extract, 8.25% ash and 2400 Kcal/kg metabolizable energy (Olupona *et al.*, 2003). Very little attention has been given to the use of CBS in the animal sector due to the presence of theobromine (an antinutritional factor).

Emiola *et al.* (2011) reported that average daily feed intake and percentage hen/day production decreased significantly beyond 15% inclusion of raw CBS in the diets of Shaver Brown pullets fed CBS. This report substantiated the need to pre-treat CBS before inclusion into animal diets. Previous reports have shown boiling as the most efficient method of reducing the theobromine in CBS and thus enhancing its nutritive potential (Olubamiwa *et al.* 2006; Adeyinka and Ademoroti, 2003). This was in agreement with the report of Menon (1982) which indicated that anti-nutritional compounds in feedstuffs could be reduced by heat, sun drying and boiling. To confirm this, a study (Olubamiwa *et al.*, 2006) was conducted on the effect of different boiling durations (15, 30, 45 and 60 minutes) on CBS to determine which will produce the best economic performance of layers. The 15-minute boiled CBS produced the best egg performance measurements.

Objective

This present study aimed at confirming the repeatability of the economic potentials of the 15-minute boiled CBS in the diet of laying hen on a commercial (on-farm) basis.

Methodology

Boiling treatment: Two previous studies showed that pre-boiling CBS prior to dietary incorporation in layers mash proved very profitable (Olubamiwa and Hamzat, 2006; Olubamiwa *et al.*, 2006). As a means of extending the results to feed-millers, an on-farm experiment was conducted within Ogunnaike Agricultural Industry (Hope Farms), Ibadan, Nigeria. Treatment of CBS involved keeping CBS in boiling water (100°C) for a duration of 15 minutes then sun drying (Olubamiwa *et al.*, 2006).

Experimental birds: Seven hundred and fifty (750) point-of - lay black Hacco birds at 20 weeks of age were selected from within several thousands of other birds at Ogunnaike Agricultural Industry (Hope Farms), located within Ibadan metropolis. This farm has about the largest feed milling factory within Oyo state of Nigeria. The farm was a collaborator in this study.

Experimental birds' management: The 750 birds were housed in 5 (1000 bird capacity) battery cages. Birds were arranged in such a way to allow for cross ventilation and easy data taking. They were fed twice daily (8:00 -8: 30 am and 2: 30 - 3: 00 pm).

Experimental design and data collection: A total of 750 birds were randomly allocated into five treatments. Each of the treatment had 10 replicates each of which had 15 birds. The birds were allocated into five dietary treatments in a completely randomized design. CBS replaced a similar feedstuff, wheat offal, in the commercial feed of Hope Farms at 5 and 10% dietary inclusions. This resulted in 5 dietary treatments: 1. (Commercial feed; 0% CBS); 2. (5% Raw CBS); 3. (5% Treated CBS); 4. (10% Raw CBS) and 5. (10% Treated CBS).

Daily egg collection was done and records of each replicate and treatment were taken. Weekly summation of data was used in calculating bird performance. Parameters determined included percent egg production, egg mass, egg weight and feed efficiency. Egg quality determination was done by calculating the mean shell thickness. Yolk colouration was determined using Roche Colour Fan.

Statistical analysis: Data obtained from this study were analyzed using the analysis of variance (ANOVA) and the mean values were separated by Duncan Multiple Range Test of SAS (Duncan, 1955; Steel and Torrie, 1980).

Results and Discussion

Proximate composition analysis of treated and untreated CBS and those of the experimental diets are shown on Tables 1 and 2. CBS showed an improvement in crude protein level. The value was found to be similar to that of Adeyina *et al.* (2011). Data for the untreated CBS was found to be similar to that obtained by Apata and Ogundele (2005) and Emiola *et al.* (2011). Table 3 showed the summary of the productive performance of birds on the dietary treatments. The mean egg weight obtained in Diet 5 was significantly ($P<0.05$) higher than all other dietary treatments.

Egg mass, egg percentage and feed efficiency were also higher ($P<0.05$) on Diet 5. Feed intake did not differ across treatments. As established in the previous study on this subject, the 15-minute boiled CBS at 10% dietary inclusion produced higher egg production and better feed conversion. Egg quality parameters were equal across dietary treatments. Feed efficiency values reflected a better utilization of the 15-minute boiled CBS. This thus solved the earlier reported problem that the higher the dietary inclusion of CBS in feed, the higher the percentage fibre, theobromine level and consequently the poorer the feed utilization. Feed cost/kg egg was least on the 15-minutes boiled CBS diet. This lend further credence to the findings of Olubamiwa and Hamzat (2006) which reported that fifteen minute boiled CBS was efficiently utilized. Mortality of birds fed cocoa bean shell based diets decreased considerably when compared to the control. Price per tonne of compounded feed decreased across treatments. The results supported the replacement possibility of CBS in layers mash as well as the accruing economic benefit.

Conclusion

The essence of the five consecutive studies to establish CBS as a poultry feedstuff in Nigeria was given a boost by the result of this on-farm trial. The outcome was significant. Immediately following the last study, Hope Farms demanded through CRIN some 30 tonnes of CBS from Multi-Trex Integrated Foods PLC to test-run the market. Sequel to this Hope Farm purchased 90 metric tonnes of CBS from Multi -Trex. Given these facts, there is no gainsaying that CBS is moving towards being one of the poultry feedstuffs in Nigeria.

Acknowledgements

The authors are grateful to the Management of Hope Farms, Ibadan, Nigeria for making available 750 birds, feeds, their poultry house and some of their staff for the execution of the on - farm study. A similar gratitude goes to the Management of Multi – Trex Integrated Foods PLC, Ogun State, Nigeria, for providing the CBS and part funding the study.

Table 1: Results of proximate composition of raw and treated cocoa bean shell (% (DM))

Parameter	Raw cocoa bean shell	Treated cocoa bean Shell
Crude Protein (%)	12.82	14.68
Crude fibre (%)	17.42	16.42
Gross Energy(kcal/g)	2.478	2.329

Table 2: Ingredient composition of the experimental diets (%) kg

Ingredients	Diets*				
	1	2	3	4	5
Maize	30.00	30.00	30.00	30.00	30.00
Wheat offal	10.00	5.00	5.00	-	-
Cocoa bean shell (CBS)	-	5.00	5.00	10.00	10.00
Sundry ingredients**	70.00	70.00	70.00	70.00	70.00
TOTAL	100.00	100.00	100.00	100.00	100.00
Calculated Analysis					
Crude Protein (%)	16.80	16.01	17.05	16.45	16.20
Crude fibre (%)	3.67	3.91	4.36	4.76	5.17
ME (K.cal/kg)	2702.00	2715.00	2682.00	2689.00	2700.00

*Diet 1 (0%CBS); Diet 2 (5% Raw CBS); Diet 3 (5% Treated CBS); Diet 4 (10% Raw CBS); Diet 5 (10% Treated CBS).

** Sundry ingredient composition: Groundnut cake(15.0), Soya bean meal(10.0), Palm kernel cake(7.0), Biscuit dust(8.0), Pelletized wheat offal(10.0) Bone meal(1.5), Oyster shell(7.0), Salt(0.3), Choline chloride(0.05), Albac(0.4), Toxynil farm.(0.015), Coliston sulphate (0.05), Vit. C(0.1), Layers premix(0.03), Lysine(0.2) and Methionine(0.2).

Premix composition/kg diet. Vitamin A - 10,000,000 i.u, Vit D3 - 200, 000 i.u, Vit E - 23,000 mg; Vit K3 2000 mg, Vit B1 - 3000 mg, Vit B2-6000 mg, Niacin 50,000 mg, calcium pantotheate - 10,000 mg, Vit B6 - 5000, Vit B12 - 25 mg, folic acid 1000 mg, Biotin - 50 mg, choline chloride - 400,000 mg, Mn - 120000 mg, Fe 100000 mg, Zn - 80,000 mg, Cu - 8,500 mg, I - 1500 mg, Co - 300 mg, Se - 120 mg

Table 3: Performance characteristics of laying hens fed graded levels of treated and raw CBS

Dietary Treatments						
Parameter	1	2	3	4	5	SEM
Egg weight (g)	51.17 ^a	48.80 ^a	48.83 ^a	50.83 ^b	53.25 ^d	0.22
Egg mass (g)	26.49 ^c	27.35 ^b	27.78 ^b	27.20 ^{ab}	29.53 ^{cd}	1.02
Egg Percentage	51.92 ^a	55.35 ^b	55.84 ^b	53.24 ^a	56.32 ^c	0.47
Mean feed Intake	100.29	101.50	101.71	98.50	100.33	n. d
Feed efficiency	0.26 ^a	0.27 ^a	0.27 ^a	0.27 ^a	0.30 ^c	0.42
g/kg egg	211.00	184.10	197.74	190.68	179.34	n. d

Means on the same row with different superscripts are significantly different (p<0.05).

SEM = Standard Error of Mean. Nd – Not determined

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Experimental Title: Extension of CRIN technologies on cocoa value chain through training manual and demonstration plots. (Williams O.A.; Ogunlade M.O.; Jayeola C.O.; Yahaya L.E.; Uwagboe, E.O.; Famuyiwa, B.S.; Oluyole K.A.; Adebisi S.; Ndagi I.; Ogunjobi, M.A.K.; Abdul-Karim I.F.; Agbongaruyi A.E and Lawal J.O.)

Introduction

Cocoa is one of the major cash crops that have placed Nigeria in the 2nd position in the world market in the past. Cocoa production is a major agricultural activity in Nigeria. Its foreign exchange earning capacity and income generating ability cannot be over emphasized. In terms of foreign exchange earnings, no single agricultural export commodity has earned more than cocoa. Value chain in cocoa production is one of the connection or network which links all stakeholders in cocoa production from the field- to - table together. The chain among others includes the farmers, the processors, and cocoa merchants, the processing and manufacturing industries. Cocoa Research Institute of Nigeria (CRIN), has carried out research on technologies to be adopted by farmers and industrialists to improve production. Some of the technologies are cocoa pod husk fertilizer, cocoa pod liquid detergent and cocoa bread among others. There are diverse ways of using cocoa to improve livelihood of farmers and other stakeholders. This can only be achieved through training and dissemination of CRIN technologies. The studies of cocoa and their related products have become an area of

interest owing to their health-promoting properties. In recent years, cocoa and cocoa products, namely cocoa powder, dark chocolate and cocoa liquor, have been shown to suppress the development of atherosclerotic lesions (Kurosawa *et al.* 2005), decrease platelet function (Murphy *et al.* 2003), increase dermal blood flow (Neukam *et al.* 2007), inhibit the proliferation of human breast cancer cells (Ramljak *et al.* 2005) and exert hypoglycemic properties (Tomaru *et al.* 2007).

Nowadays, consumers are more concerned with the nutritional status of foodstuffs. Cocoa powder and chocolate are extremely rich sources of many essential nutrients and phytochemicals that can contribute to a healthy diet (Lecumberri *et al.*, 2007; Ieggli *et al.*, 2011). Hence inclusion of cocoa powder in bread recipe will not only add to the nutritional quality of the bread but also serve as means of adding bioactive compounds to it. Also, local consumption and utilization of cocoa will increase thereby reducing the quantity available for the international market where the price of cocoa is always determined. On the other hand, there is the process which involves the breaking down of plant and animal materials by microorganisms in the presence of water and air with cocoa pod husk. The end - product is known as compost/cocoa pod husk fertilizer. Compost is a store of organic matter and beneficial microorganisms.

In conclusion, soaps are largely produced from materials of petrochemical origin, which are rather finite, expensive and exhaustible in nature. This has rekindled interest in sourcing for alternative for their production. To this end, effort has been geared towards evolving such substitutes and cocoa pod husk stands. The procedure includes potassium salt which is used for soap production being extracted from cocoa pod husk.

Objectives

1. To improve farmers' livelihood.
2. To empower farmers and other stakeholders on the adoption and application of research results, technologies and techniques for agricultural production.

Materials and Methods

The study was carried out in areas where there were quests and prospects for the CRIN technologies. The CRIN technologies are as follows; Cocoa pod husk fertilizer, Cocoa bread, and Cocoa pod liquid detergent.

The study areas were chosen from the following states: Osun and Ondo (the first and second cocoa producing states in the South-West Nigeria). In each state, one cocoa growing community was selected; thus Ondo (Owena) and Osun (Ilare). Thirty five farmers were selected for training on fertilizer and liquid detergent while 10 bakers were selected for training on Cocoa bread. Thus, a total number of 85 farmers will be trained in the 2 states. Participatory approach was used throughout the training session.

Activities

Cocoa bread: The exercise was achieved through participatory approach in a selected bakery in the communities of Ondo and Osun states. The stepwise practical demonstration of cocoa bread production was carried out by Dr (Mrs) C.O. Jayeola and Mr M.A.K Ogunjobi. The bakers were made to know the importance of incorporating cocoa in the ingredients of bread and the NAFDAC recommended ingredients to use in baking bread. The cocoa bread produced was shared to the participants for palatability test and perception of the consumers towards cocoa bread.

Cocoa Pod Husk Fertilizer: Dr. Ogunlade, M. O, a Soil Scientist presented on a power point the use of cocoa pod husk (CPH) and materials such as leaves of chromolaena

odoratum/qliricida/neem/sun flower, cow dung or poultry droppings for making compost fertilizer for cocoa farms. The practical aspect was demonstrated through participatory approach in selected sites by the farmers from both states. The materials (compost) was put in-charge of the representative of the farmers who will do the turning and every other necessary occasional practices required to give the best compost, will be observed by the farmers under the supervision of their representative. It is more effective to ring apply to cocoa stand to avoid loss from the plant roots. A minimum of 5t/ha will effectively compete with mineral fertilizer. Fortification or complementary use with mineral fertilizer will reduce the above rate. Application rate should be based on the result of soil analysis. It can be applied once in a year as it slowly releases plant nutrients into the soil

Cocoa Pod Liquid Soap: Dr. Yahaya, L. E. gave a power point presentation and practical demonstration on the activities involved in liquid soap production from cocoa pod husk. The steps involved started from collection of cocoa pod husk. He explained that ashing of dried cocoa pod husk is done in a drum with an open end, the process continued with the extraction of potash after which the solution is heated in a container and palm kernel oil is added to form a semi-solid mass after which it is dissolved in water to attain the requisite specific gravity.

The importance of keeping records of every activity in their farms was emphasized by the economists. Economic decision is always based on data collected and this can only be possible if data are collected by the farmers. The importance of inventory records, farm production records and financial records were also emphasized.

Record Keeping: On the Economists aspect; Emphasis was made on the importance of keeping record of every activity in their farms. Economic decision is always based on data collected and this can only be possible if data are collected by the farmers. Explanation was made on inventory records, farm production records and financial records are types of records a farmer should always keep for his activities.

Knowledge Management and Platforms: The Extensionists, gave a power point presentation explained the overall objective information through sharing ideas, innovation and experiences for quality practice along the value chain.

The wrap-up session was an interesting aspect. Majority of the participants came out to explain how much they understood what they have learnt. In addition, the farmers were made to know the benefits of each technology; the use compost fertilizer to improving soil nutrient on their farms, and the advantages over chemical fertilizer as supported by European Union (EU) Regulations on environment pollution. There was a Health talk/awareness session delivered by the project coordinator on Ebola Virus Disease (EVD). The numbers of participants during the training were more than the expected; 118 participants were present instead of the expected 85.

Conclusion

Farmers in Owena appreciated CRIN for the training on compost fertilizer and promised on adopting of the technology. The drying period for the pod husk was between 6-8 weeks after which dried cocoa pod husk fertilizer/compost was put into bags and kept for the next cocoa planting season on a farm plot selected by farmers. This process was monitored from the 1st to the 8th week through telephone conversation and visit to both States. Bakers commended CRIN on the Cocoa bread training and promised to include the technology in production. Soap makers especially women saw the need of including Cocoa pod liquid soap in their production to boost their business in addition to the convectional black soap. Analysis is on going.



The Monarch (Olu of Owena) and the Participants at the training in Owena, Ondo State.



Cocoa bread



Cocoa Pod husk fertilizers in a box



The Monarch Owalere of Ilare Osun State (middle), Participants and Scientists

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Experimental Title: Survey and evaluation of sprayer desings and pesticide application practices adopted by farmers for controlling insect pests and diseases of cocoa in southwest Nigeria (Adeleke, S.A.; Okeniyi, M.O and Agbongiarhuoyi, A.E)

Introduction

Global food insecurity and hunger have led to various approaches to strengthen food production methods and raise agricultural productivity. Pesticides have been emphasized by the producers along with a range of policy incentives as the only solution to pest and disease problems with farmers being progressively encouraged to apply pesticides to control diseases and pests. More so, abrupt change in cropping systems by farmers from mixed cropping to a more intensified mono-cropping has tendency of increasing pest and disease population, their distribution and dynamic because the natural ecosystem would have been destroyed in the process.

The right choice of sprayer, correct calibration and observing the right agro-technical requirements are essential in achieving good results in pesticide application.

This study intends to obtain information on various sprayer designs and understanding of the concept of good spraying practices by farmers so as to determine if there is need to design a special sprayer for Nigeria cocoa farmers and educate them on the importance of good spraying practices in order to obtain better results in controlling pests and diseases of cocoa trees.

Methodology

1. Administration of questionnaire to cocoa farmers in two states in Southwest Nigeria with different levels of cocoa production (Ondo and Oyo).
2. Two villages were selected from one Local Government Area (LGA) from each state.
3. Selected major dealers in Agricultural Equipment (Sprayers) will be interviewed verbally on the various designs and current prices of sprayers recently adopted by most cocoa farmers in the selected states. Information received from them will be assisted with physical inspection of the sprayers and manufacturer manuals to determine the best sprayer design among those currently adopted by the majority of cocoa farmers.
4. Analysis of data obtained from farmers through questionnaire by using the appropriate statistical tools such as Descriptive Statistics and Pearson Product Moment Correlation Coefficient.

Results and Discussion

The work is on-going and data is yet to be collected. The administration of questionnaire to farmers was earlier scheduled to commence from 21 January, 2015.

Experimental Title: Analysis of the factors affecting the practice of cocoa rehabilitation techniques in Nigeria: A case study of South- West and South-South geo ecological zones.(Adejobi, K.B.; Taiwo,O.; Ogunlade,M.O.; Ayegboyin, K.O.; Famaye,A.O.; Adeniyi,D.O., Oyedokun,V.A. and Adeosun,A.S.)

Introduction

The Nigerian cocoa economy has a rich agricultural history which is well documented in literature. It is a known fact that the cocoa industry in Nigeria contributed greatly to the country's GDP in the 50s and 60s up until early 70s when oil was discovered. The proceeds from cocoa were used in the development of schools, roads and several other infrastructures. However, the discovery of oil led to the neglect of the agricultural sector, which also affected the cocoa industry. Consequently, cocoa farmers abandoned their farms and shifted focus to other areas. There was equally massive migration of youths who hitherto were engaged in farm labour to the city in search of white collar jobs. As a result of this, most cocoa plantation in Nigeria became old and moribund and are thereby characterized by very low yield (Montgomery, 1981 and Olaiya, 2001). Hence these followed great decline in national cocoa output.

Folayan et al (2006), noted that cocoa production in Nigeria witnessed a downward trend after the 1971 season, when its export declined to 216,000 metric tons in 1976, and 150,000 metric tons in 1986, therefore reducing the country's market share to about 6% and placing Nigeria who used to be second largest producer in the world to fourth largest producer to date. This worrisome development led to the recent cocoa stakeholders forum held in Calabar, Nigeria by the Presidential Initiative on Cocoa, to deliberate on the state of the cocoa sub-sector and reach consensus on how investments in the cocoa sub-sector can be strengthened and increased among other issues that bother on the cocoa sub-sector, so as to boost cocoa production, domestic utilization and export.

In order to address this problem, Cocoa Research Institute of Nigeria (CRIN) developed various Cocoa Rehabilitation Techniques (CRTs) with the bid to rehabilitate and regenerate the old cocoa farms in order to improve on cocoa production output.

In view of the need for increased cocoa production, the institute has garnered effort in the sustenance of cocoa rehabilitation program and practice. Rehabilitation techniques considered for this study are grafting, planting under old cocoa trees (Turrialba method), chupon regeneration and coppicing methods. Rehabilitation according to Opeke (2005) is in two ways: the first is putting a cocoa field back into good condition, while the second is clearing the old cocoa trees and replanting with young seedlings. In his study, Adebisi (2013) found that farmers in Oyo State are already old with low level of adoption and that farm size and farming experience are the factors affecting adoption of cocoa rehabilitation. He also found that majority (73.7%) of the cocoa farms have passed their productive ages which shows the need for rehabilitation of cocoa trees. This is in line with the assertion of Montgomery (1981) and Olaiya (2001) that the highest cocoa yield is achieved between 15 and 25 years and that a profitable life span may be 50 years, that from the twenty-sixth year, yields decline gradually and production cost rise steadily. This corroborates the findings by Adeogun (2010), that cocoa farmers were old and had aged trees older than 30 years of age of which diminishing return on production is expected to set in. Opeke (2003) opined that the prime-forest lands for cocoa cultivation are virtually exhausted and hence there is the need to focus research on rejuvenating the old moribund cocoa trees for greater cocoa production.

However, in spite of the fact that there are technologies on cocoa rehabilitation techniques available, cocoa productivity is still not at a near satisfactory level and hence the question, what are the factors militating against cocoa rehabilitation practices in Nigeria? Other pertinent questions among others are what is the level of awareness of the various rehabilitation techniques available? Do socio- economic factors affect cocoa rehabilitation? What are the various types of rehabilitation techniques the farmers practice? To this end, there is the need to focus research attention on the factors affecting cocoa farm rehabilitation practice in Nigeria since with such rehabilitation practices cocoa output is expected to increase hence the reason for the study.

Main Objective of the Study

The main objective of the study is to determine the factors affecting the practice of cocoa rehabilitation techniques in Nigeria.

The Specific Objectives are to:

- 1 Ascertain the socio- economic characteristics of the cocoa farmers in the study area.
- 2 Determine the level of awareness of cocoa rehabilitation techniques in the study area.
- 3 Ascertain the type of rehabilitation techniques practiced by the cocoa farmers and the relationship this has with age and farm size of the farmers.
- 4 Determine the rehabilitation constraints faced by the cocoa farmers.
- 5 Make policy recommendation is that can improve on the practices of cocoa rehabilitation

Methodology

Four States were selected using a multistage random sampling technique. The selection was done across the South- West and South- South agro ecological zones of Nigeria. The four states, namely, Osun, Ondo, Cross River and Ogun were selected for the study. Three Local Government Areas (LGAs) planting cocoa in the selected states were randomly chosen to obtain 12 LGAs. Finally, fifty cocoa farmers were randomly selected in each of the local government Areas and interviewed using well structured questionnaires bordering on socio economic characteristics, Agronomic practices, production, and rehabilitation techniques practiced among others. Out of all the respondents interviewed, only four hundred and fifty questionnaires representing 75 percent were found useful for the analysis.

The data collected were analyzed using inferential statistical tool such as correlation coefficient to determine the factors affecting cocoa rehabilitation practices and descriptive tools such as frequencies and percentages as well as cross tabulation to determine the socio economic variables, type of rehabilitations techniques and practice, constraints faced by farmers and how these variables are related.

Results and Discussion

Personal characteristic of respondents: The socio economic characteristics of the farmers are important variables in the understanding of the farmer's practice of cocoa rehabilitation techniques in the study area. Analysis on Table 1 showed that majority(68.7%) of the farmers are male and 26.2% of the farmers constituting the majority falls between the ages 51-60 years while 24% are between ages 41-50years. This indicates that though there are more males in cocoa farming which is an indication of the farmers' ability to cope with the strenuous demand for the practice of rehabilitation techniques however, most of the farmers are fairly aged and have passed economic age of productive life hence a probability of low practices of rehabilitation techniques on cocoa. Analysis further

showed that 60.7% of the farmers have no formal education while 18.9% and 15.3% possess the primary and secondary education respectively. This findings corroborate with the findings by Adebisi *et al* (2013) and Leonard Kyei *et al* (2011) that most of the cocoa farmers have passed their productive age and have no formal education hence a strong indication that the practice of rehabilitation will be low. Table 1 further revealed that 65.8% of the farmers have cocoa farm size of less than 1ha while 10.2% have between 1-2ha and 13.8% have between 4-5ha. This show that most of them are smallholders farmers who are merely subsistence cocoa farmers. Further analysis shows that 76.1% of the farmers cocoa farms are aged between 21- 50 years and above. This indicate a diminishing return on cocoa productivity as asserted by Montgomery (1981) and Olaiya, (2001) on cocoa yield as the tree age.

Awareness of cocoa rehabilitation: Analysis on Table 1 also shows that 51.8% of the respondents have knowledge of cocoa rehabilitation. This constitutes the majority. However, further analysis showed that only 16.7% indicated that they practiced one form of rehabilitation techniques or the other. The low level of practice of rehabilitation techniques could be due to low educational level, age and financial constraints faced by the farmers, particularly cost of labor required. This level of awareness also corroborated the finding of Adebisi (2013) that over 88% of the respondents in Oyo State are aware of cocoa rehabilitation techniques. Furthermore, the various cocoa rehabilitation programs and extension work by CRIN and other stake holders must have been responsible for this. Table 1 also showed that most (84%) of the farmers are faced with lack of finance and labor as a major constraint hindering them from practicing cocoa rehabilitation techniques. Analysis on Table 2 showed that most (20.9%) of the farmers practice coppicing type of rehabilitation followed by coppicing/ complete replanting (8.2%). This is in line with a-priori expectation since coppicing form of cocoa rehabilitation is relatively easier to carry out and less laborious than others forms of rehabilitation techniques.

Analysis on Table 3 showed the cross tabulation between the types of rehabilitation practiced and the age groups of the farmers. On Table 3, analysis showed that majority (54.4%), across all the age groups practice coppicing type of rehabilitation. However, ages 31-40 years constitute the majority (15.7%) who practiced coppicing across the age groups considered and 27% of the farmers between ages 31-40 years practiced one form of rehabilitation techniques or the other. This is expected as this age group are considered agile and are still in their productive years, hence their ability to cope with the stress involved in coppicing method of rehabilitation. Further analysis on Table 4 revealed that coppicing is mostly practiced (39%) among all types of rehabilitation methods, across all the farm sizes considered. However, most of them (31.5%) that practice coppicing have less than 1ha of cocoa farm. Furthermore, the analysis showed that 64.3% of the cocoa farmers having less than 1ha practice one form of rehabilitation or the other. This indicated that the farmers are smallholder farmers who could easily practise coppicing due to the small land size and low labour cost/input required.

Determinants of the types of rehabilitation techniques practised among cocoa farmers:

Analyses on Table 5 showed the Pearson correlation coefficient of the variables that influenced the type of rehabilitation practices among the farmers. The analysis revealed that all the variables considered were positively correlated. However, critical factors that influenced the type of rehabilitation practices are level of education of the farmers (5% level of significance), farm size and years of farming experience (1% level of significance). This indicated that an increase in the variables will give a corresponding increase in the practices of the various types of rehabilitation techniques.

Table 1: Socio-economic characteristics of respondents

Gender		
male	309	68.7
female	141	31.3
Age of respondents (years)		
less than 30	60	13.3
31-40	103	22.9
41-50	108	24.0
51-60	118	26.2
61-70	43	9.6
Above 70	18	4.0
Educational level		
No formal education	273	60.7
Primary education	85	18.9
Secondary	69	15.3
Tertiary	21	4.6
Others specified	2	0.4
Farm size		
Less than 1ha	296	65.8
1-2ha	46	10.2
3-4ha	33	7.3
4-5ha	62	13.8
Above 5ha	13	2.8
Farm age(years)		
Less than 5	28	6.2
5-10	75	16.7
11-15	49	10.9
16-20	68	15.1
21-25	45	10.0
26-30	36	8.0
31-35	15	3.3
36-40	59	13.1
41-45	19	4.2
46-50	19	4.2
Above 50	37	8.2
Cooperatives		
Yes	329	73.1
No	121	26.4
Knowledge of rehabilitation		
Yes	233	51.8
No	217	48.2
Practice of rehabilitation		
Yes	75	16.7
No	375	83.3
Rehabilitation constraints		
Lack of finance and labour	378	84
No spare time	10	2.2
Lack of seeds and other inputs	49	10.9
Others specify	13	2.

Source: Field Survey, 2014

Type of rehabilitation techniques practiced		
Type of Rehabilitation	Frequency	Percent
No response	246	54.6
Coppicing	94	20.9
Complete replanting	12	2.7
Partial replanting	8	1.8
Phased replanting	3	.7
Planting under old cocoa tree(Turriaba method)	1	.2
Copicing/phased planting	22	4.9
Copicing/partial planting	23	5.1
Complete planting and phased planting	4	.9
Copicing and complete planting	37	8.2
Total	450	100

Source: Field Survey, 2014

Table3: Cross tabulation of type of rehabilitation practiced and Age

Type of Rehabilitation		Age						Total
		less than 30years	31- 40years	41- 50years	51- 60years	61- 70years	above 70years	
Coppicing	0 C 5 o u n t % 2.1%	24	38	23	25	13	3	131
		9.9%	15.7%	9.6%	10.4%	5.4%	1.2%	54.4%
	o f T o t a l							
Complete /replanting	C 1 o u n t % .4%	3	5	0	1	2	0	12
		1.2%	2.1%	0.0%	.4%	.8%	0.0%	5.0%
	o f T o t a l							
Partial replanting	C 1 o u n t % .4%	1	3	2	1	0	0	8
		.4%	1.2%	.8%	.4%	0.0%	0.0%	3.3%
	o f T o t a l							
Phased	C 1	1	0	0	0	1	0	3

replanting	o u n t %	.4%	.4%	0.0%	0.0%	0.0%	.4%	0.0%	1.2%
	o f								
	T o t a l								
Planting under old cocoa tree(Turriab a method)	C o u n t %	0	0	0	0	1	0	0	1
	o f								
	T o t a l								
Copicing/p hased planting	C o u n t %	0	6	4	3	5	3	1	22
	o f								
	T o t a l								
Copicing/pa tial planting	C o u n t %	0	2	5	4	9	2	1	23
	o f								
	T o t a l								
	C o u n t %	0	.8%	2.1%	1.7%	3.7%	.8%	.4%	9.5%

	Complete planting and phased planting	o f							
		T o t a l							
		C 0	0	1	1	0	1	1	4
		o u n t							
		% 0.0%	0.0%	.4%	.4%	0.0%	.4%	.4%	1.7%
	Copicing and complete lanting	o f							
		T o t a l							
		C 5	1	9	11	8	0	3	37
		o u n t							
		% 2.1%	.4%	3.7%	4.6%	3.3%	0.0%	1.2%	15.4%
Total		o f							
		T o t a l							
		C 13	38	65	44	50	22	9	241
		o u n t							
		% 5.4%	15.8%	27.0%	18.3%	20.7%	9.1%	3.7%	100.0%
		o f							
		T o t							

Source: Field Survey, 2014

Table 4: Cross tabulation of type of rehabilitation practiced and Farm size

			Farm size						Total
			0	less than 1ha	1-2ha	3-4ha	4-5ha	above 5 ha	
type rehabilita tion practiced	No response	Count	4	24	3	0	5	1	37
		% of Total	1.7%	10.0%	1.2%	0.0%	2.1%	.4%	15.4%
	Coppicing	Count	2	76	3	6	6	1	94
		% of Total	.8%	31.5%	1.2%	2.5%	2.5%	.4%	39.0%
	complete replanting	Count	0	6	0	1	5	0	12
		% of Total	0.0%	2.5%	0.0%	.4%	2.1%	0.0%	5.0%
	partial replanting	Count	1	6	1	0	0	0	8
		% of Total	.4%	2.5%	.4%	0.0%	0.0%	0.0%	3.3%
	phased relanting	Count	0	2	1	0	0	0	3
		% of Total	0.0%	.8%	.4%	0.0%	0.0%	0.0%	1.2%
	planting under old cocoa tree(turria ba method	Count	0	1	0	0	0	0	1
		% of Total	0.0%	.4%	0.0%	0.0%	0.0%	0.0%	.4%
	coppicing/p hased planting	Count	0	6	2	3	10	1	22
		% of Total	0.0%	2.5%	.8%	1.2%	4.1%	.4%	9.1%
	coppicing/p atial planting	Count	0	16	1	2	3	1	23
		% of Total	0.0%	6.6%	.4%	.8%	1.2%	.4%	9.5%
	complete planting and phased planting	Count	0	1	1	0	2	0	4
		% of Total	0.0%	.4%	.4%	0.0%	.8%	0.0%	1.7%
	coppicing and complete	Count	6	17	5	2	7	0	37
		% of Total	2.5%	7.1%	2.1%	.8%	2.9%	0.0%	15.4%

Total	lanting	Count	13	155	17	14	38	4	241
		% of Total	5.4%	64.3%	7.1%	5.8%	15.8%	1.7%	100.0%

Source: field survey 2014

Table 5 : Correlations analysis

Control Variables							Yrs farming experience	type rehabilitation practiced	Labor cost	Extensio-n visit
yield 11	Gender	Age	Edu level	Farm size	Farm Age					
	Gen der	1.000	-.020	-.116	-.120	-.008	-.071	.053	-.084	-.012
	Age	-.020	1.000	-.019	.079	.349**	.491**	.120	.111	.034
	Edu level	-.116	-.019	1.000	.653**	-.014	.010	.151*	-.029	-.099
	Farm size	-.120	.079	.653**	1.000	-.035	.055	.184**	-.027	-.058
	Farm age	-.008	.349**	-.014	-.035	1.000	.529**	.056	.012	-.037
	Yrs farm in	-.071	.491**	.010	.055	.529**	1.000	.182**	.043	.027
	type reha b practice	.053	.120	.151*	.184**	.056	.182**	1.000	.021	.032
	LAB O11(000)	-.084	.111	-.029	-.027	.012	.043	.021	1.000	.109
	Extn visit	-.012	.034	-.099	-.058	-.037	.027	.032	.109	1.000

** . Correlation is significant at 0.01 level

* . Correlation is significant at 0.05 level

Source: Field Survey, 2014

Conclusion and Recommendation

Considering the findings from the study, most of the respondents were male subsistence farmers with less than 1ha of cocoa farm size. They are aged farmers with little or no productive life. Most of them are aware of cocoa rehabilitation techniques. However, just

few practise it. Coppicing techniques is widely practiced among the farmers. Ages 31-40years mostly practiced one form of rehabilitation techniques or the other. Major significant factor that affect the practices of cocoa rehabilitation are farmers educational level, farm size, and farmers years of experience.

It is recommended that more training on cocoa rehabilitation techniques be encouraged by extension agents and other stakeholders. Youth should be encouraged to go into cocoa farming by providing land and other inputs at subsidized rate to them as a form encouragement. Hybrid cocoa should equally be introduced to farmers so that other rehabilitation techniques such as Turrialba method, phased planting method, etc; can be adopted and practised by farmers.

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Experimental Title: Effects of nematode management options on old cocoa farms for improved productivity in South-Western Nigeria (Orisajo S. B. and Okeniyi M. O.)

Introduction

Cocoa farming in Nigeria reached its peak in the early seventies, and has since then been on the steady decline. Many reasons have been adduced for this serious problem. Two however stand out. These are: the age of the old cocoa farms and the difficulties encountered by farmers in rehabilitating old cocoa farms and establishing new ones. Many reasons have been put forward by soil scientists as being responsible for the problem encountered in rehabilitating old farms. One prominent one is the accumulation of copper ions in the soil due to decades of spraying copper fungicides to control the black pod disease of cocoa in the old farms.

One area of research that has been very much neglected in the search for solution to rehabilitation and establishment problems is the effect of nematodes on young cacao seedlings and the effect of years of uncontrolled multiplication of these microorganisms on adult trees. Studies in the past have shown that nematodes cannot be ignored without repercussion in the search for sustainable solution to this problem (Afolami, 1981, 1984, 1996, Orisajo and Afolami, 2008).

Plant-parasitic nematodes are microscopic roundworms that are obligate parasites of plants. They are known to be polyphagous, surviving on weeds when the main crop host is absent. Being soil-inhabiting microorganisms, they survive from year to year on both crops and

alternative weed hosts until a favoured crop is planted again. There is abundant evidence in literature to show that they are inimical to the health of arable and tree crops. In Nigeria, their harmful effects on arable crops have been studied and publicized better than on tree crops. Available literature however clearly reveals that they cannot be ignored in a serious program of replanting of older farms and establishment of new ones.

Studies in Nigeria, Brazil, Ghana Central America and Central Africa have shown that the root-knot nematodes, *Meloidogyne* species are major culprits in this regard.

Four of the over fifty species of root-knot nematodes have been documented to be of global economic importance in a coordinated research involving scientists from seventy-five countries. Three of these (*Meloidogyne incognita*, *M. arenaria* and *M. javanica*) are found in Nigeria; *M. incognita* being the most prevalent in the Southern parts of the country. Research in the countries earlier mentioned revealed that the latter species is cosmopolitan in its effect.

There is ample evidence in Nigeria that this root-knot nematode causes a lot of harm to young cocoa plants. There is also the suspicion that these hidden enemies of the farmer are playing a key role in the difficulties being faced all over the cocoa-producing states in establishing new farms and rehabilitating old ones. The problem with nematodes is that they are too small to be seen, and their effects are generally mistaken for soil problems until definite nematode control programmes are put in place to firmly establish the true cause of the problem. It was so in Europe and America for potato, citrus and wheat. It is time we conclusively find out if the lingering problem of cocoa farmers in Nigeria could be solved by including nematode management strategies in the rehabilitation and new establishment programmes of the cocoa-producing states of the country.

Objective

To study the effect of nematode control in old moribund cocoa plantation yield

Methodology

Six 40m x 10m plots will be used in a Randomized Complete Block Design (RCBD) to test the effect of nematode control on established farms for improved productivity of trees in established plantations and the effect of nematode control in rehabilitation of old farms in Ibadan and Ondo

Testing the effect of nematode control on Productivity of adult cocoa trees: Initial soil sampling will be done before cocoa pod husk, neem powder and nematicide application to ascertain the level and types of nematodes associated with trees in the experimental plots. Carbofuran or any other systemic nematicide will be applied as granules in a ring at the base of trees in treated plots at the beginning of the rains in April/May. Data will be collected monthly on number of pods harvested and weight of fresh and dry cocoa beans for one year. Samples of the beans will be analyzed for nematicidal contamination/residue. Soil will be sampled in September/October to determine the level of nematode control achieved and the effect on yield. Data will be subjected to statistical and economic analysis for efficacy of nematode control and the consequence on yield and profit. Soil will also be analyzed for microbial content and the effect of nematicide on non-target micro-organisms. The experiment will be replicated in two locations.

Effect of nematode control on replanting of older farms and establishment of new plantations, using nematode-resistant cocoa varieties: Seedlings of recommended cocoa variety/clones will be raised in the nursery in sterile soils to ensure nematode-free seedlings are transplanted to the field. At the time of transplanting in May/June, initial soil sampling

will be done to ascertain the types and population levels of nematodes in experimental plots. The treatments will be applied at the base of seedlings to kill nematodes in order to establish nematode-free plots while no nematicide will be applied in the control plots. Data on seedling vigour and survival will be taken every six months for two years. Analysis of variance will be carried out to ascertain the effect of nematode control on cocoa seedling establishment ability and plant vigour as measured by plant height, girth, leaf area. Yield will also be analysed where available for precocious stands.

Results and Discussion

From the 60 samples examined, ten genera of plant-parasitic nematodes were found in the rhizosphere of cacao plants in Ibadan. The plant-parasitic nematode encountered are *Meloidogyne* spp., *Pratylenchus* spp., *Helicotylenchus* spp., *Paralongidorus* spp., *Eutylenchus* spp., *Scutellonema* spp., *Hemicyclophora* spp., *Xiphinema* spp., *Longidorus* spp., *Anguillulina* spp. *Meloidogyne* spp. was the most frequently occurring specie in the soil with a frequency rating of 67% and having a population of 28,234/250g soil. This was followed by *Anguillulina* spp. with a frequency rating of 50% and a population of 5,893/250g soil. *Paralongidorus* spp. had 33% frequency rating and a population of 9,573/250g soil. While *Pratylenchus* spp and *Scutellonema* spp. had a frequency rating of 16% and 28% and a population of 4541 and 4238 respectively. *Helicotylenchus* spp. had the lowest frequency rating of 8% and a population of 1204 (Figure 1).

Thirteen genera of plant-parasitic nematodes were encountered in the soil sample collected from Owena in Ondo State. The plant-parasitic nematodes identified were *Meloidogyne* spp., *Pratylenchus* spp., *Helicotylenchus* spp., *Paralongidorus* spp., *Eutylenchus* spp., *Scutellonema* spp., *Hemicyclophora* spp., *Xiphinema* spp., *Longidorus* spp., *Anguillulina* spp., *Psilenchus* spp., *Tetylenchus* spp. and *Heterodera* spp. *Meloidogyne* spp. was the most frequently occurring specie in the soil with a population of 40,307/250g soil and a frequency rating of 75%, this was followed by *Hemicyclophora* spp. and *Paralongidorus* spp. with a population of 10,326/250g soil, 9,445/250g soil and a frequency rating of 33% and 20% respectively. The specie with the lowest population was *Anguillulina* spp. with a population of 1,045/250g soil and a frequency rating of 8% (Figure 2).

Daramola (2004), observed declined from over 300,000 tonnes to 155,000 tonnes with average annual growth rates of cocoa output decline from 8.3% in Nigerian cocoa output during the 1997-2001 period. Some studies (Opeke 1987, 2003, 2005 and Wood and Lass, 1989) on sustainable cocoa production have made it known that the maintenance of production in Nigeria deserves a good standard husbandry for rehabilitation of old and moribund cocoa trees.

The root-knot nematodes (*Meloidogyne* spp) is a major obstacle to the production of sufficient food, beverage and fibre crops in Nigeria and many other developing nations (Sasser, 1989). Root-knot nematode species are obligate, sedentary endoparasites of many plant species. Their potential host range encompasses more than 3000 plant species. Among the many genera of nematodes having some economic impact, *Meloidogyne* sp. are responsible for a large part of the annual billion dollar losses attributed to nematode damage (Sasser, 1982). The most economically important species are *Meloidogyne incognita*, *M. hapla*, *M. arenaria* and *M. javanica* of which *M. hapla* is exclusive to the temperate regions of the world. *M. incognita* is found in every temperate and tropical country, and it is possibly the single most damaging crop pathogen in the world (Trudgill and Blok, 2001). Losses due to nematodes are often difficult to assess since small reduction in yield may pass unnoticed. Yields are commonly reduced by up to 30% per year (Caveness, 1992). *Meloidogyne* spp are the most important nematodes of cacao due to their pathogenicity and wide distribution in cocoa producing regions (Campos and Villain, 2005). It is a common pest of cacao in West

Africa (Whitehead, 1969; Asare- Nyako and Owusu, 1979; Fademi *et al.*, 2006). Symptoms of *M. incognita* damage on cacao seedlings are dieback, stunting, wilting, chlorosis and reduction in size of the leaves, galling of the root or complete death of the seedlings (Afolami and Caveness, 1983; Orisajo and Fademi, 2005; Orisajo *et al.*, 2007; Okeniyi *et. al.* 2009).

Figure 1a &b: The frequency of occurrence and percentage frequency rating of plant-parasitic nematodes extracted from CRIN headquarters Ibadan.

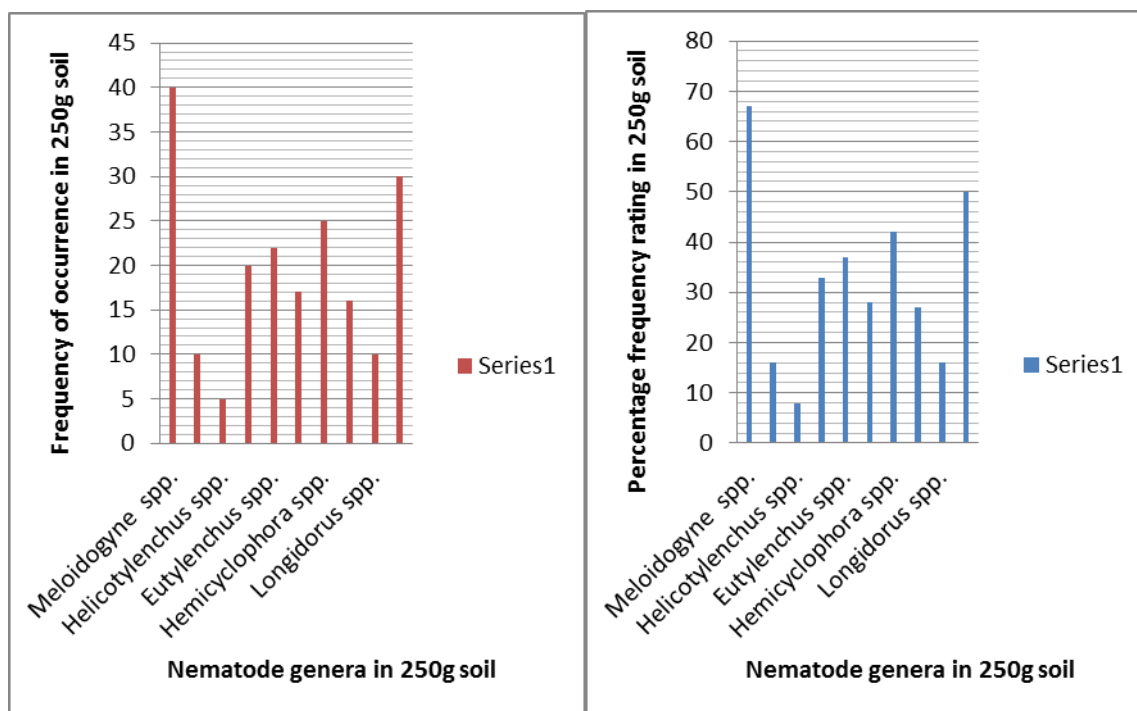


Figure 2a &b: The population and percentage population of plant-parasitic nematodes extracted from CRIN headquarters Ibadan.

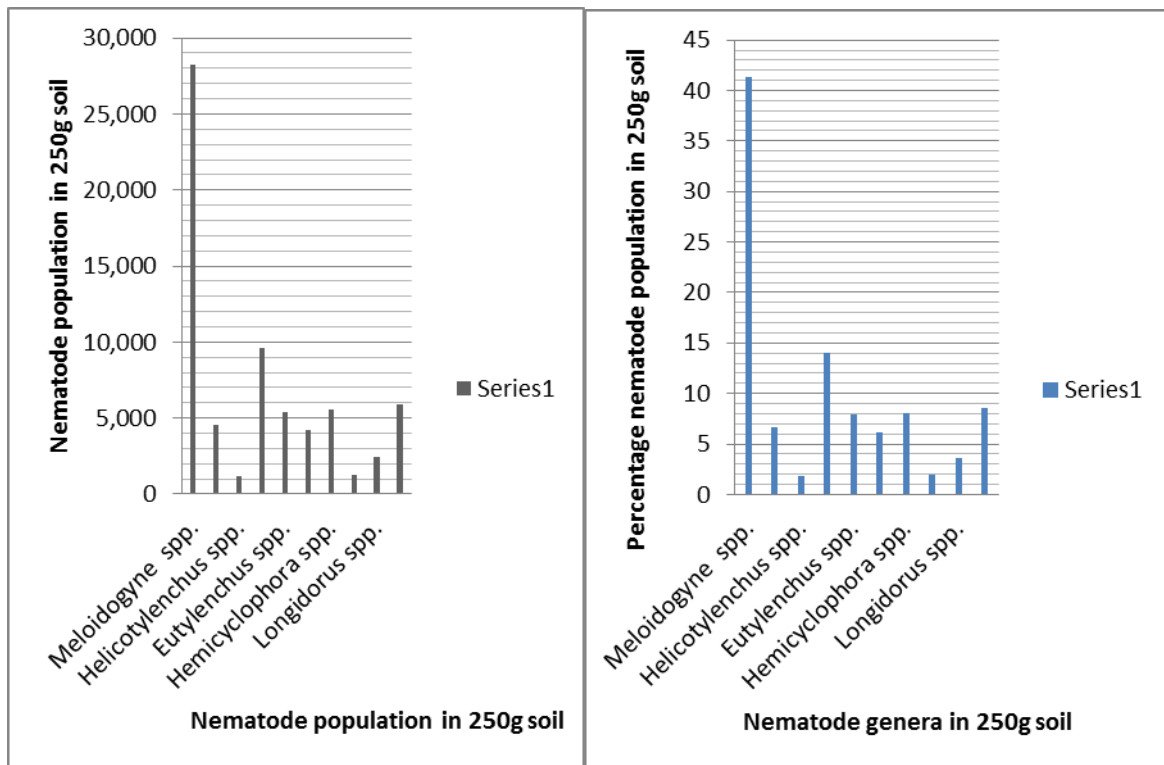


Figure 3a & b: The frequency of occurrence and percentage frequency rating of plant-parasitic nematodes extracted from Owena Ondo State.

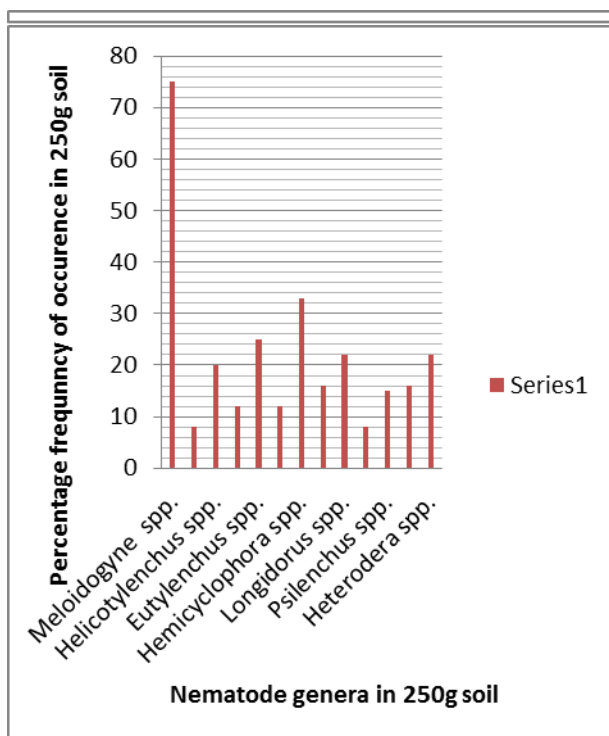
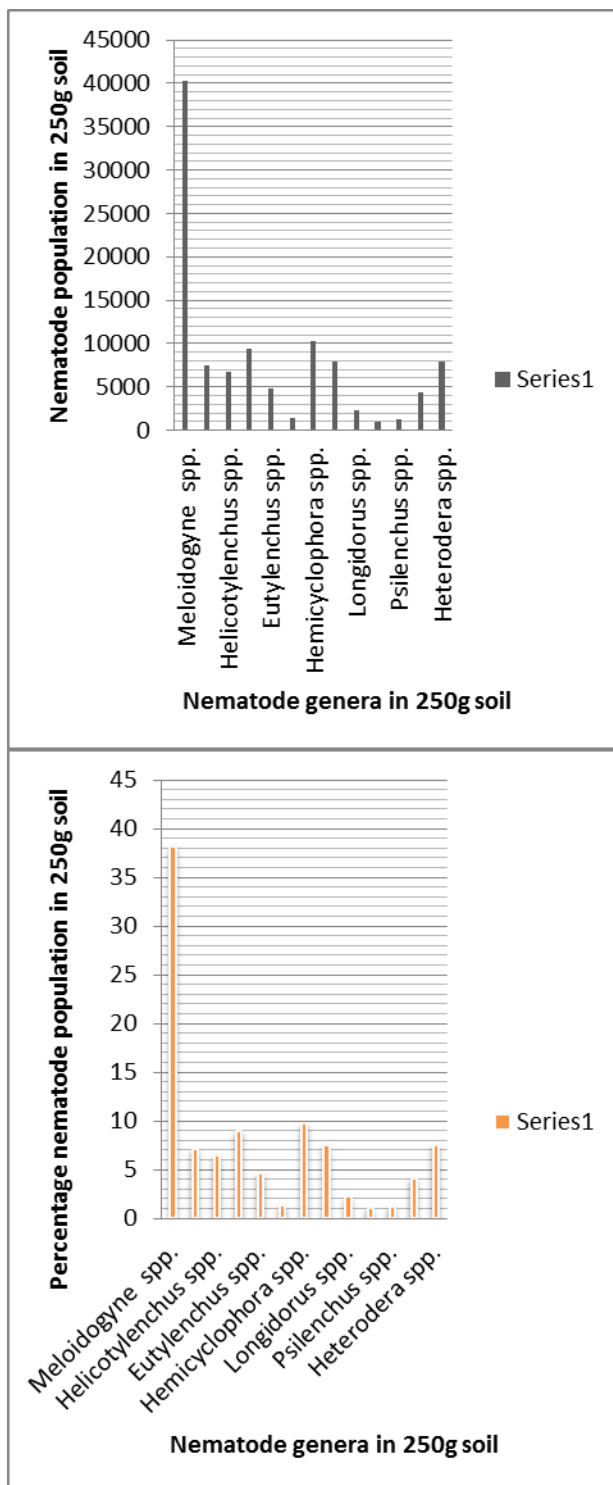


Figure 4a & b: The population and percentage population of plant-parasitic nematodes extracted from Owena, Ondo State.



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Experimental Title: Live mulch weeds control system for field establishment of new varieties of cocoa (*theobroma cacao* l.) in two contrasting ecologies (Idrisu, M.; Adejobi K.B. and Ogunlade M.O.)

Introduction

Living mulches are cover crops that are planted between the rows of a main crop and are maintained as a living ground cover during the growing season of the main crop.

Necessity to develop alternative weed control methods in cocoa using living mulch: Since weeds are one of the major problems in cocoa production around the world destroying a total plantation at seedling stage and at present, weed control highly depends on chemical and mechanical practices that are very expensive, hazardous for the environment and, consequently, unsustainable. For example, few of the weed experiments carried out on cocoa seedlings at cocoa research Institute of Nigeria (CRIN) since its inception in 1964 to date were herbicide based; with little work done on mechanical control like slashing and brushcutting (CRIN Annual Reports: 1963 and 1994, 1972 and 1973, 1985, 1986, 1987). Hence the necessity to develop alternative weed control methods that will be adaptable and sustainable, cheap, not laborious, neither time wasting nor tedious and would be good for those wishing to be certified as organic producers of cocoa.

Objective

The objective of this study is to improve cocoa production using living mulch weed control materials, know the level of weed tolerance of some of the CRIN newly released cocoa varieties to living mulch to be used, have knowledge of the important weeds affecting cocoa seedlings and their level of infestation.

Methodology

The experiment is conducted in the farm of CRIN headquarters and Owena substation on split plot design replicated 3 times. The main plot treatments comprise of 3 varieties of cocoa (CRIN-Tc1, CRIN-Tc2 and Local (F3 Amazon)) and the sub-plot treatments comprise of 2 types of cover crops as live mulch for weed control; 3 food and 1 none food plus a control (weeded and unweeded plots) randomly assigned to the main plots. The food types planted are creeping varieties of cucumber, water melon and egusi melon and the conventional none food legume type used is *Pueraria phaseolides*. Plantain used as a shade crop in between the cocoa stands was established a year before the planting of cocoa.

Work done: The project is ongoing. However, the following activity has been carried out in both locations: Site selection & initial soil sample collection, Felling /clearing of trees, pegging& holing. The 3 varieties of cocoa, plantain suckers and live mulch materials have been planted. Weed sample collection and morphological parameters on cocoa from June to December 2014. The soil and weed samples collected is being prepared for analysis.

Conclusion

About 40% of the work is done but more funds are required to complete the project going by the main proposal I submitted.

Experimental Title: Evaluation of pesticide residue in cocoa beans using multiresidue analytical technique (Aikpokpodion P.E., Ajao A.A. and Ndagi I.)

Introduction

The menace of pests and diseases is a strong factor responsible for the dwindling production of cocoa in Nigeria. Among the various insect pests of *Theobroma cacao*, the brown Mirid, *Sahlbergilla singularis* Haglund is the most harmful insect pest of cocoa tree in Nigeria (Opeke, 1992). Mirid feeds by inserting its mouth parts into the plant and sucking the juices and at the same time, salivary secretions are injected into the tissue which results in plasmolysis of the cells. The cellular lysis results in necrosis, followed by the appearance of lesions (Mariau, 1991). Canker sores develop from lesions due to invasion by cryptogamous parasites causing weakness. The combination of tissue necrosis and cryptogamic attack results in wilting of the plant leading to very low productivity (Mariau, 1999). Yield loss of about 30 – 70% has been attributed to Mirid infestation and damage (Idowu, 1989; Ojelade *et al.*, 2005).

In order to combat the destructive activities of Mirid, Nigerian cocoa farmers use various brands of insecticides including organochlorine, organophosphorus, carbamates etc. Organochlorine pesticides have been used extensively worldwide since the early 1950s (Kin *et al.*, 2006; Kuet and Seng, 2004) until restriction were introduced in several developed and developing countries due to their persistence in the environment and growing evidence of adverse associated health implications. Many organochlorine and organophosphorus pesticides pose substantial short and long-term health risks (WHO, 1990). They are known to disturb the biological and physiological functions of erythrocytes and lymphocytes (Banerjee *et al.*, 1999). The adverse health effects include a series of chronic end-points including cancer (Settim *et al.*, 2003), neurotoxic (Kamel and Hoppin, 2004), immunotoxic, developmental, endocrine, reproductive (Yucra *et al.*, 2006) and neuro- behavioral effects (Amr *et al.*, 1993). In recent time, many developed nations discovered an increase in the case of cancer among their citizens. This made the European Union to become conscious of the quality of food products meant for consumption among her citizens. Parts of the measures to monitor food safety and quality was the setting of maximum residue limits (MRL) of pesticides in all agricultural products entering Europe from different parts of the world. This regulation limits the amount of pesticides that must be left on agricultural produce after phytosanitation activities. The penalty attached to the violation of the regulation is a total rejection of such product at the International market. Cocoa which is the main non- oil source of foreign earnings in Nigeria economy is not left out of the maximum residue limit regulation. In order to ensure that pesticide residues in Nigerian cocoa beans fall within the MRL limit, the project was executed to assess the pesticide residues in cocoa beans obtained from selected places in Ondo State with a view of identifying the various brands of insecticides being used by cocoa farmers in Ondo State using multiresidue analytical technique.

Objectives

1. To assess the level of organic pesticide residues in cocoa beans obtained from selected parts of Ondo State.
2. To be acquainted with the various brands of organic pesticides used by cocoa farmers in Ondo State through questionnaire administration.
3. To use multi-residue analytical technique as an investigating tool used in validating information supplied in questionnaire as it correspond with the residues found in beans.

Methodology

Cocoa beans were obtained from selected areas in Ondo State where cocoa is being cultivated, harvested, fermented and sun-dried. The samples were oven-dried until constant weights were attained. The samples were de-husked, ground, extracted with organic solvent and treated for multiresidue analysis using standard method.

The samples were subjected to full multi-residue analysis. The instrument conditions for organochlorine was: Rxi-5sil Ms/Rxi-35sil Ms @ 140°C for 2 min then 10°C/min to 290°C; For organonitrogen residues, instrument condition was Rtx-5/Rtx-50 @150°C for 3 min then 10°C to 280°C; For organophosphate, the condition was Rtx-50@140°C for 2min, then 10°C/min to 290°C; For N-methyl carbamates residues, HPLC scan was used with instrumental conditions: pickeringcarbamate C18, 511/4 4.6x150mm, 40°C, post column OPA derivitization.

Results and Discussion

The result of concentration level of organophosphate pesticide residues is presented in Table 1. In cocoa samples obtained from selected area of Ondo State. Methamidophos residue in cocoa beans ranged from nd – 0.01 mg kg⁻¹ with a mean value of 0.0058mg kg⁻¹. No ethionphos was detected in any of the samples. Phorate residue in the samples ranged from nd – 0.005mg kg⁻¹. Sample from OD 2 had the highest value while sample obtained from OD 6 had the least detectable phorate. On the other hand, phorate was below detectable limit in 80% of the sample population. The residue of Fonofos was detected in 20% of the sample population at a concentration range of nd – 0.005mg kg⁻¹ with an average value of 0.0040mg kg⁻¹. There was however, no detectable fonofos in 80% of the samples.

Diazinon residue was detected in 60% of the samples ranging from nd – 0.02mg kg⁻¹. Sample from OD 10 had the highest value while sample from OD 1 had the least detectable diazinon. Dimethoate was detected in 30% of the samples at a concentration range of 0.003 – 0.006mg kg⁻¹ with an average value of 0.0037mg kg⁻¹. Pirimiphos-methyl residue ranged from nd – 0.004mg kg⁻¹, Chlorpyrifos residue ranged from nd – 0.015mg kg⁻¹ with a mean of 0.0098mg kg⁻¹. Sample from OD 8 had the highest residue while sample from OD 3 had the least detectable residue. Fenitrothion residue ranged from nd – 0.021 with an average of 0.009mg kg⁻¹. It was detected in 70% of the sample population. Parathion residue was detected in 40% of the samples. Chlorfenvinphos residue was detected in only 10% of the sample at a concentration of 0.003mg kg⁻¹. Profenofos and malathion residues were detected in 30 and 50% of the sample population respectively.

Levels of organochlorine pesticides in cocoa beans are shown in table 2. The organochlorines were the most prominent pesticide residues detected in cocoa beans among the various classes of pesticides considered in the investigation. With the exception of p,p, DDD and p,pDDT which were detected in 80% of the sample population, the remaining organochlorine (p,p DDE, endosulfan sulphate, β -endosulfan and α -endosulfan) were detected in 100% of the sample population.

Table 3 showed the residual levels of pyrethroids residues in cocoa beans. Four pyrethroid pesticides were detected in the cocoa samples analysed i.e cypermethrin, Deltamethrin, permethrin and Fenvalerate. Among the four pyrethroids, cypermethrin and Deltamethrin were detected in all the samples which only 30% of the samples had detectable permethrin. There was no fenvalerate residue in the analysed beans.

The distribution pattern of the various pesticide residues in the analyzed cocoa beans indicates a widely use of organochlorine insecticides among cocoa farmers in Ondo State. The absence of the carbamates and organonitrogen residues in the analyzed cocoa was an indication that, cocoa farmers in the selected area of Ondo State may not have used carbamate and organonitrogen insecticides on their plantations. On the other hand, it could be as a result of complete degradation of the pesticide which is a factor of persistence and resident time.

On overall, the levels of the various pesticide residues in the examined cocoa beans were below the maximum residue limits set by the European Union. Hence, cocoa beans from the

Pesticides	OD 1	OD 2	OD 3	OD 4	OD 5	OD6	OD 7	OD 8	OD 9	OD1 0 mg kg ⁻¹	Mean
Methamino dophos	nd	nd	0.006	0.003	nd	nd	0.010	0.004	Nd	nd	0.0058
Ethopropho s	nd	nd	nd	Nd	nd	nd	nd	nd	Nd	nd	Nd
Phorate	nd	0.005	nd	Nd	nd	0.003	nd	nd	Nd	nd	0.0040
Fonofos	0.003	nd	nd	0.005	nd	nd	nd	nd	Nd	nd	0.0040
Diazinon	0.004	nd	nd	0.006	0.007	nd	nd	0.005	0.01	0.02	0.0087
Dimethoate	nd	nd	0.004	Nd	0.006	nd	nd	nd	0.003	nd	0.0037
Pirimiphos- methyl	nd	0.004	0.003	Nd	nd	nd	0.004	nd	Nd	nd	0.0037
Chlorpyrifo s	0.011	0.010	0.005	0.006	nd	nd	0.012	0.015	Nd	nd	0.0098

studied area of Ondo State are fit and safe for consumption with respect to the minimum level of pesticide residues.

Table 1: Organophosphate residues in cocoa beans

Fenitrothion	0.002	0.015	0.006	0.021	0.006	nd	nd	0.008	0.005	nd	0.009
Parathion	nd	nd	nd	0.002	0.005	nd	nd	0.004	Nd	0.004	0.0038
Chlorfenvinphos	nd	nd	nd	Nd	0.003	nd	nd	nd	Nd	nd	0.003
Profenofos	0.002	0.005	nd	Nd	nd	0.003	nd	nd	Nd	nd	0.003
Malathion	0.009	0.003	0.002	Nd	nd	0.002	nd	0.001	Nd	nd	0.0034

Table 2: Organochlorine pesticide residues in cocoa beans

Pesticides	OD 1	OD 2	OD 3	OD 4	OD 5	OD6	OD 7	OD 8	OD 9	OD 10	Mean
	mg kg ⁻¹										
P,p DDD	0.002	0.004	0.005	nd	0.004	0.008	0.003	0.007	nd	0.016	0.0061
p,p DDE	0.008	0.005	0.002	0.009	0.002	0.042	0.037	0.003	0.021	0.006	0.0135
P,p DDT	0.001	0.002	0.001	0.002	nd	0.003	0.005	Nd	0.002	0.001	0.0021
Endosulfan SO4	0.004	0.002	0.006	0.008	0.01	0.004	0.015	0.012	0.006	0.008	0.0075
β – endosulfan	0.002	0.001	0.003	0.006	0.006	0.003	0.007	0.004	0.002	0.004	0.0038
α – endosulfan	0.005	0.021	0.005	0.014	0.004	0.016	0.018	0.006	0.015	0.003	0.0107

Table 3: Pyrethroid residues in cocoa bean

Pesticides	OD 1	OD 2	OD 3	OD 4	OD 5	OD6	OD 7	OD 8	OD 9	OD 10	mean
	mg kg ⁻¹										
Cypermethrin	0.008	0.013	0.005	0.002	0.006	0.016	0.007	0.006	0.012	0.014	0.0089
Deltamethrin	0.003	0.006	0.008	0.004	0.007	0.006	0.016	0.009	0.008	0.007	0.0074
Permethrin	0.002	nd	nd	0.005	nd	Nd	nd	nd	Nd	0.001	0.0027
Fenvalerate	nd	nd	nd	Nd	nd	Nd	nd	nd	Nd	nd	nd

Values are means of three replicates

nd: not detected

Conclusion

The study showed that, cocoa farmers in the study areas used various brands of insecticides in controlling insect pests on their farms. It also revealed that, the residues of the various pesticides detected were much below the maximum residue limits set by European Union. This infers that cocoa beans obtained from the selected areas of Ondo State are safe for consumption with respect to pesticides residue in food.

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Experimental Title: Screening cacao genotypes for resistance to *Phytophthora megakarya* (Dongo, L. N.; Agbeniyi, S. O.; Orisajo, S. B.; Adedeji, A. O. and Kolawole, O. O.)

Introduction

Phytophthora pod rot (Black pod disease) is an important disease of cacao production in Africa including Nigeria. Black pod disease causes very serious losses, affecting the pods, beans, flower cushion, leaves, stems and root of cacao (Peter and Agus, 2004). In fact it is considered the most important disease of cacao in Africa. Pathogens of the genus *Phytophthora* are the causative agent of black pod disease. *P. megakarya* is known to be the predominant causal agent for black pod disease in Nigeria with about 60% -70% yield loss in uncontrolled plots. Controlling of black pod disease is quite a challenging task. Several methods are adopted for the control of the pathogen, but the use of copper-based fungicide is the most predominant. Although the fungicides offer a very good solution to reducing the incident of the disease, notwithstanding, there is still outbreak every cropping season. Breeding cacao with resistance to disease has been long regarded as the most economical, environmentally friendly and effective way of disease control (Iwaro *et al.*, 2004). Cacao genotype with resistance to *Phytophthora* pathogens will be a great feat to controlling black pod disease. To breed for resistance to cacao diseases, there is the need to screen available germplasm in order to select for resistant genotypes. Resistance to black pod disease of cacao is quantitative in nature. Field resistance evaluation takes many years of observation in uniform, well designed trials in order to obtain reliable outcomes (Kebe *et al.*, 1999). Early screening for resistance to *Phytophthora* invasion has shown to be effective using leaf disc inoculation (Nyadanu *et al*; 2009, Nyasse *et al.*, 1995). This method is said to speed up breeding and selection activities such as large scale evaluation of germplasm collections, breeding trials, early selection of individual plants or progenies growing in the nursery or field studies of host and pathogen interaction.

Objectives

This study seeks to screen different cocoa genotypes for their resistance to *Phytophthora megakarya* using detached leaf disc assay.

Methodology

Cacao Seedlings: Twenty genotypes of cacao were used for screening test. The seedlings of the different genotypes were raised in the screen house at Cocoa Research Institute of Nigeria headquarters, Ibadan.

Isolation of Pathogen and inoculum preparation: Isolation of *Phytophthora* species was done from naturally infected pods collected from the cacao plantation. The disease pods were washed with distilled water and surface cleaned with 70% ethanol. Samples were cut from the pod in area of actively growing region of the infection. The cut samples were minced and surface sterilized with 10% sodium hypochlorite. Flooded with two rinse of sterile water and blotted on filter paper. The samples were inoculated on V8 agar and incubated at 25°C for 5-7 days. Pure cultures were obtained by sub-culturing the isolates on V8 agar and incubated under dark and light environment for 7 days to enhance sporulation. The isolates obtained were identified as *Phytophthora megakarya* base on the morphology observed under the microscope.

Pure culture was grown on agar for 10 days and a 15mm diameter agar disc was inoculated into healthy pods to enhance easy harvest of spores. The pods were incubated by hanging pod method at 25°C for 4-5 days. Spores were harvested from the sporulating pods and suspended in water. The concentration of spore suspension was determined and adjusted to 2.0×10^5 per ml as reported by (Nyadanu *et al*, 2009) using the hemacytometer.

Assessment of Leaf Resistance to *P. megakarya* using Leaf Disc Test: Leaf disc inoculation as describe by Nyasse *et al.* (1995) was adopted for the leaf disc screening test. 50-60 days old seedling leaves of the cacao genotypes were used. Ten leaf disc of 15mm diameter was made from the leave of each clone with a semi-automated perforating machine, with three replicates each, totaling 30 discs per genotype. Leaf discs were placed with their abaxial surface upwards on moist tray lined with double layer of filter-paper. Leaf discs were prepared under humid environment; air conditioned room and water sprayed into the room to increase the humidity. Disc belonging to the same replication were randomly arranged in groups of 20 within each tray, giving 200. However, an extra 20 discs were made, 10 each for a known susceptible and resistant genotype, bringing it to a total of 220 discs per tray. Inoculation was carried out on the same day after preparation of the leaf discs. 10ul of the inoculum was placed on each disc and incubated at 25°C. Reading on the disease severity were taken on the fifth to seventh day using a 0-5 point assessment score developed by Nyasse *et al* (1995). The mean of the disease severity scores for 6th day of the leaf disc test was analyzed using analysis of variance.

Results and Discussion

The ANOVA (Duncan multiple range test) result for leaf disc test is shown in table 1 below. The result of disease severity score was based on the sixth day data collected as adapted by Nyadanu *et al.* (2009) using the disease severity leaf disc score by Nyasse *et al.* (1995). Disease severity score on leaf discs of the 20 cocoa genotype inoculated with *P.megakarya* were significant at ($P < 0.05$) among some genotypes. The disease severity scores varied from 0.033 to 2.63. The genotypes that showed resistance were T65/7 and CRIN Tc-5. The moderately resistant genotypes were CRIN Tc-8, CRIN Tc-6, CRIN Tc-4, T82/7, T101/15, CRIN Tc-7 and WACRI. While the susceptible genotypes were P27, Amazon 15, F3 Amazon, PA150, CRIN Tc-3, MAN15, APA4, and N38. Among the 20 cacao genotypes screened for resistance to *P.megakarya*, genotype P27 was the most susceptible. The significant differences in response among the cacao genotypes to *P. megakarya* and the distribution of scores for resistance to *P.megakarya* from this trial indicates that the leaf disc test effectively discriminated the various levels of resistance within the cacao genotypes assessed in this study. Similar conclusions which support this study have also been made by several others elsewhere (Nyasse *et al.*, 1995; Tahi *et al.*, 2006).

Table 1: The 6th-day Leaf Disc Disease (LDS) severity score of different cacao genotypes

Genotype	LDS
Amazon 15	0.7667bcd
Spec 54-1	1.0667bc
F3 Amazon	0.9000bcd
CRIN TC-1	1.4333b
CRIN TC-2	1.1333bc
P27	2.6333a
PA150	0.7333bcd
CRIN TC-3	0.8667bcd
CRIN TC-4	0.6333bcd
T65/7	0.0000d
MAN 15	1.4333b
APA 4	0.8667bcd
T82/7	0.4000cd
T101/15	0.3333cd
N38	1.1000bc
CRIN TC-8	0.2333cd
CRIN TC-7	0.3667cd
CRIN TC-6	0.1667cd
CRIN TC-5	0.0333d
WACRI	0.3333cd
N38 (Susceptible Control)	0.0000d
CRIN TC-7(Resistant Control)	0.0000d
LSD (P<0.05)	0.7420

Conclusion and Recommendation

Despite the fact that the experiment indicated that the leaf disc test effectively discriminated the various levels of resistance within the cacao genotypes assessed in this study, nonetheless more trials will be needed to further establish this finding.

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Experimental Title: Cultural elements and women subservient roles among cocoa farm families in Southwest Nigeria: Implications for HIV prevention strategies (Famuyiwa, B. S.; Williams, O. A.; Lawal, J. O.; Oduwole, O. O. and Abdul-karim, I. F.).

Introduction

The HIV/AIDS pandemic is no longer restricted to cities. The disease is now spreading at an alarming rate into rural areas, thereby threatening the lives and livelihoods of millions of the rural farming population, especially those in their most productive age bracket of 15 and 49 years (Hilhorst *et al* 2006, Factsheet, 2011). In most part of Nigeria, rural infection rates are higher than urban (Federal Ministry of Health, 2009) and about 60% live in rural areas and make their living from agriculture (Omoyibo *et al* 2010). In Nigeria, 6 million people (5.4% of the population) had HIV/AIDS in 2003 and 5.3 million (4.4% of the population) in 2005 (HIV/AIDS Policy Fact Sheets, 2005). It is currently estimated that 3.6% of the population is living with HIV/AIDS. (USAID/Nigeria, 2010) Studies on other nations' prevalence rate showed that Nigeria has a higher incidence rate than many other countries around the globe. HIV/AIDS hit hard on women than men, yielding corresponding decline in agricultural production at both household and community levels. This affects women directly or indirectly. Directly as HIV/AIDS is currently more intense among women, because they are biologically and socio-culturally susceptible to the disease and other STDs than men. Indirectly, women as the care givers become affected whenever any member of the family is entrapped by HIV/AIDS.

Most harmful sexual practices have their origin in patriarchal societies that promote the superiority of men over women; gender insensitive and gender biased laws which are usually male dominated women keep subservient to men. Gender inequality creates fear of abandonment and rejection in women, as a result, they are not empowered to negotiate safe sex, and also, they find it difficult to insist that men wear condoms (Ezumah, 2003; Smith, 2004). Manus and Bateye, 2006 observed that traditional practices such as widow inheritance, widow 'cleansing' and polygamy are recognised as being directly responsible for the spread of HIV/AIDS. All these have detrimental effect on women's health and productivity.

The study focus on cocoa-farming households in the southwest Nigeria, where cocoa is one the most popular crop. Koppelman and French (2005) stated that household is the level at which all farm decisions are made. However, despite the significant role played by women in agricultural production, processing and marketing, men have continued to dominate farm decision making (Barasa, 2006). Studies have assessed the level of awareness of HIV/AIDS among farmers in Ondo State (Adesoji and Olalekan, 2003) and among fishing population in Kogi and Niger States (Olowosegun, 2008), however despite high prevalence rate of infection among women, no study had so far being conducted among women in cocoa farming households. This paper is important because, it could provide baseline information for implementing women's freedom and empowerment to participate in decision making process, at the family and community levels, to both the control and the eradication of HIV/AIDS. This calls for drastic steps to curb the gender inequity problems in decision making in Nigeria, especially in the rural areas, which is exposing the women, who are the majority of the agricultural labour force, to HIV/AIDS plagues.

The objectives of this study are to:

1. identify cultural elements that situate vulnerability of women in cocoa farm families to HIV/AIDS;
2. identify women subservient roles that militate vulnerability to HIV/AIDS among cocoa farm families;
3. assess women adoption quotient of some HIV/AIDS prevention strategies among cocoa farm families in south west Nigeria.

The null hypothesis underlying this study is that there exist no significance relationship between women subservient roles and practice of HIV/AIDS prevention strategies among women in cocoa farm families in southwest, Nigeria.

Methodology

The study was carried out in the Southwest Nigeria among cocoa farm families. This area comprise six out of thirty-six states; Lagos, Ogun, Osun, Oyo, Ondo, and Ekiti, in Nigeria. Majority of the farm families cultivate average acre of 2.5, intercropping cocoa with crops such kola, plantain, yam, cocoa yam and cassava. Multi-stage sampling procedure was used in selecting the respondents. Stage one is the selection of three states from six states of the southwest Nigeria: Oyo, Ogun and Osun were selected randomly by hat. Stage two involved a purposive selection of two zones of Agricultural Development Programme (ADP) per state, which gave a total of six ADP zones; Saki and Ibadan/Ibarapa in Oyo State, Iwo and Ife/Ijesha in Osun State and Ilaro and Abeokuta Ogun State. Stage three also consists of random selection of two blocks from the lists of blocks per zones selected. The blocks selected were Saki, Igboho, Ido and Akinyele in Oyo State; Iwo, Ejigbo, Ijebu jesha and Atakumosa in Osun State; Oke-Odan, Adoodo, Ilugun, and Opeji in Ogun State. Stage four comprised of two cells selected randomly from the selected blocks. Ipokia, Oke-Odan, Ipaja, Ihumbo, Ado-Odo, Ilaro, Iwoye, Owode, Odeda, Osiele, Kila, Olodo , Alabata, Araromi, Opeji and Stage five involved random selection of five farm families from two cells from each of the blocks selected using snow ball techniques. This gave total respondents of 120 farm families.

The data collected were analysed using descriptive such as; frequency count, percentages, means, standard deviation, and inferential statistical techniques; Regression and One way analysis of variance (ANOVA) using SPSS17.

Results and Discussions

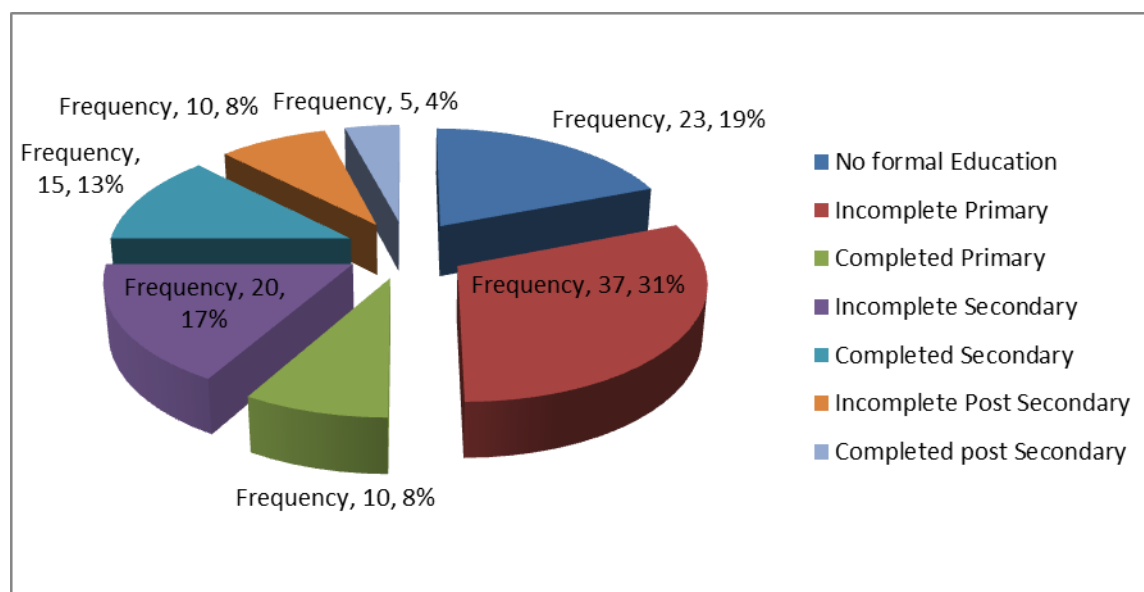


Figure 1 reveals that education among the women is poor with only 10.8% having completed primary education. Half (50%) of the respondents had no formal education and incomplete primary education. About 30% of the women completed secondary school and attempted to further to post tertiary, while only 5% completed tertiary school. The low level of education increases the subservient status of the women thereby making them susceptible to HIV plague. This result shows that majority (91%) of the respondents received primary school and above.

Table 1: Respondents' Subservient status: Sex, economic, social and cultural elements

S/N	Servitude	Frequency	Percentage	Mean	t-test
1	I am in a polygamous family	118	98.33	0.98	.000
2	I cannot determine when to have sex	76	63.33	0.63	.000
3	I cannot determine where to have sex	83	69.17	0.69	.000
4	I cannot determine how to have sex	85	70.83	0.71	.000
5	I do not have right to abstain from sex	70	58.33	0.58	.000
6	I did not have sex education before marriage	74	61.67	0.62	.000
7	I do not have right to protect myself during sex	69	57.50	0.58	.000
8	I do not have right to family planning	102	85.00	0.85	.000

Source: Field Survey, 2012

Some of the complexities in preventing AID/HIV stemmed from the cultural myths and the under girded belief in gender inequality, specifically, male superiority and women marginalization. This cultural gravitation to male superiority provided other cultural and traditional beliefs in polygamy, wife inheritance and other types of marriage arrangements. Table 1 showed that 98.33 % of the respondents have polygamous family and 85% with no rights to family planning. Majority of the women do not have right to when (63.3%) where (69.2%) and how (70.8%) to have sex. The polygamous marriage practices tend to support an equally traditional promiscuous lifestyle for men. Different types of cultural arrangements have made it permissible for men to engage in sexual activity with multiple partners. Ezumah (2003) described how inequality and disparity in gender relations affect contraction of HIV. Gender inequality creates fear of abandonment and rejection in women, and as a result, women are not capable of or empowered to negotiate safe sex because they find it difficult or impossible to insist that men wear condoms (Ezumah, 2003; Smith, 2004). These sexual disparities and inequalities between men and women create a cultural imbalance between the genders, and they also limit the available choices and options women have for safe sex (Ezumah 2003; Smith2003). Studies have shown that cultural practices such as polygamy, wife inheritance and surrogate wife among the Igbos of Anambra state provide a potentially supportive and conducive environment for the contraction and spread of diseases such as HIV/AIDS (Ezumah, 2003; Manus and Bateye, 2006). This is especially true among women because their subservient traditional cultural roles which culminate to their marginalization have driven the women to the margins of the society. Thus, Anambra state women have become dependent on men not only financially but also in making some personal decisions (Okeibunor, 1999). The culture of the Igbos of Anambra state condones male supremacy and subjugation of women to men. Thus, many women are not capable of negotiating or empowered to negotiate safe sex because they are too dependent on men to insist that men wear condoms (Ezumah, 2003; Smith, 2003). The culture and gender norms dis- empower women sexually and make them vulnerable to HIV infection (Nguyen 2006).

Table 2: Knowledge and Practice scores on adoption of HIV prevention strategies

S/N	Variable	Knowledge scores	Practice scores
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1	Abstinence	95 (79.17)	49 (40.83)
2	Condom use	105 (87.50)	56 (46.67)
3	Status check	40 (33.33)	38 (31.67)
4	Safe sex	59 (49.17)	40 (33.33)
5	Blood transfusion	60 (50.00)	54 (45.00)
6	Sharp object	68 (56.67)	57 (47.50)
7	Faithfulness	97 (80.83)	63 (52.50)

Source: Field Survey, 2012

Knowledge and practice of HIV Prevention Strategies among women in cocoa farm families:

Table 7 shows that there was a distinct difference between knowledge and practice of HIV/AIDS prevention strategies among women in cocoa farm families. The respondents had high knowledge in Condom use; 87.50% with a low practice of 46.67%, faithfulness; 80.83% with a practice of 52.50%, while Abstinence, 79.17% with 40.83% practice. Though their knowledge on the seven prevention strategies considered were high except for Status check 33.33% and Safe sex 49.17% but they all showed a corresponding low practices.

In a situation where there is no hope for cure of HIV, knowledge of prevention is important to reduce vulnerability to the infection. However, knowledge is not important when the information acquired is not put to use. Badcock-walter (2004) adduced that knowledge does not always equal to practice while Asenso-Okyere and Davis (2009) further stated that proper articulation of innovation is as a result of knowledge created, accumulated, shared, used and valued. It may be adduced that the gap between the knowledge and practiced may be explained by subjective norms; which may include some elements of sexual, economic, domestic, and social deprivation embedded in the culture.

Table 3: Correlation of factors of servitude with knowledge and practice of HIV prevention

Servitude	Mean	Std Dev.	Knowledge of HIV Prevention	Knowledge	Practice of HIV Prevention	Practice
			Pearson Corr. Coeff.	T-test. values	Pearson Corr.coeff.	T-test Values
Sexual	5.641	1.718	-0.478	0.000**	-0.436	0.000**
Domestic	5.633	1.328	0.006	0.946	-0.049	0.597
Economic	5.208	1.114	0.013	0.891	0.086	0.348
Social	4.625	1.539	-0.024	0.798	-0.028	0.763
Cultural	5.183	1.772	-0.119	0.197	-0.057	0.537

** Sig at P=0.001

Table 3 showed that a sexual element is significantly and negatively correlated to knowledge ($r = -0.478$; $P < 0.001$) and practice ($r = -0.436$; $P < 0.001$) of HIV prevention strategies among women in cocoa farm families in the study area. This is related to the male dominance which is reflected in the polygamous nature of marriage, inability to have rights as to when, where and how to sex. Furthermore faithfulness to their partners cannot be practiced because of polygamy. Even though they have high knowledge of use of condom, it cannot be practice and they cannot demand for safe sex. Other cultural elements are not significant. However, domestic, social and cultural elements are negatively correlated with respect to the practice of HIV prevention. Economic element is however positively correlated to knowledge and practice of HIV prevention. This indicates that women cannot practice effectively the HIV

prevention strategies and are more vulnerable to HIV because of their subservient status. Education and training may increase their knowledge of the prevention but they may not be able to put it into practice because of their subservient status. Lewis (2013) opined that Nigeria women are more vulnerable to HIV because of their subservient status. The women can only be protected by law, giving them rights to make decisions with regards to sex even concerning their husbands and furthermore they can be empowered financially to carry out regular status checks

Conclusions and Recommendation

This study revealed that as subservient roles reduce among the respondents, there would be increase in practice of HIV/AIDS prevention strategies, hence the hypothesis is rejected. There is a high level of illiteracy and polygamy in the study area yet the women in cocoa farm households had high knowledge of HIV prevention strategies but a low score in the practice of the strategies. However, there is positive and significant correlation between knowledge and practice of HIV/AIDS prevention strategies. The low scores observed in the practice of the prevention practices were due to the servitude status of the women. The study revealed that sexual elements explains 47% of the knowledge of HIV prevention while the low practice is explained by 43% of the denial of sexual rights of women due to their subservient status This calls for a drastic steps to curb the gender inequity problems in decision making in Nigeria, especially in the rural areas, which is exposing the women, who are the majority of the agricultural labour force, to HIV/AIDS plagues.

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Experimental Title: Screening of cocoa genotypes for nutrient use efficiencies (Ogunlade M.O; Adeyemi, E.A.; Oluyole K.A.; Adebiyi S.; Ibiremo O.S.; Iloyanomo, C.I.; Asowata F. E. and Taiwo N.)

Introduction

Suitable cacao cultivar that grow and produce well at lower levels of soil nutrients may be an important component of a cacao improvement program aiming to increase its productivity. Cacao genotypes that are efficient nutrient utilizers are most desirable because they can produce well at low soil nutrient levels and respond well to applied nutrients. The objectives of this experiment are to (i) evaluate the responses of cacao genotypes to varying nutrient levels (ii) assess genotypic differences for uptake and use efficiency of N, P and K.

Materials and Methods

Three newly released cocoa varieties by CRIN, TC2, TC4, TC8 and one F3 were used in this study. Seeds of these cocoa varieties were obtained from CRIN, Ibadan. Two cocoa beans were sown in 2kg washed river sand placed in plastic pots. These were thinned to one seedling before the application of nutrient solution. The application of nutrient solution started about 10 days after the loss of cotyledon leaves when the seedlings were about 40 days after planting. Four levels of nutrient were used at the rate of 0, 50, 100 and 150 ml N,P, K/pot equivalent to 0.5, 10 and 15 kg/ha respectively. The experiment was carried out under greenhouse conditions for five months.

Nutrient solution was added weekly for 5 months. The seedlings were watered every other day. After each watering, the leachate from the pot was collected in a plate placed under each pot and put back into the respective pots. A complete randomised design was adopted with a factorial arrangement consisting of 4 genotypes, 4 nutrient levels and 3 replications (4x4x3). The experiment was terminated at the end of six months. Cocoa seedlings were harvested, leaves, stems and roots were separated, washed, oven dried and dry matter yield determined. The leaves, stems and roots were milled and analysed in the laboratory for their N, P and K contents. Data analysis was done using SAS.

Results and Discussion

Table 1 shows the pre-cropping chemical properties of soil used for the trial. N, P and K contents of the soil were lower than the critical values required for cocoa. This is expected because river sand was used to ensure a medium with nutrient depletion that will easily show

response of cocoa to nutrient application. Given the source of the soil used, the sand particle was very high.

Table 1: Pre-cropping chemical properties of river sand used for the experiment (DM)

S/N	Properties	Values
1	pH(H ₂ O)	7.3
2	Total organic carbon(g/kg)	0.9
3	Total nitrogen(g/kg)	0.3
4	Phosphorus(mg/kg)	2.02
5	Potassium(cmol/kg)	0.11
6	Calcium(cmol/kg)	8.28
7	Magnesium(cmol/kg)	1.26
8	Sodium(cmol/kg)	0.28
9	Manganese(mg/kg)	49.25
10	Iron(mg/kg)	23.80
11	Copper(mg/kg)	1.80
12	Zinc (mg/kg)	5.75
13	Sand(mg/kg)	93.2
14	Silt(mg/kg)	4.4
15	Clay(mg/kg)	2.4

DM: Dry matter yield

The leaf, stem and root dry matter yield of cocoa varieties as affected by nitrogen is shown in Table 2. Nitrogen applied at 10kgN/ha to TC4 gave the highest total dry matter yield. TC4 produced higher leaf, stem and root dry matter yield than TC2, TC8 and F3 Amazon using different rates of nitrogen (Table 2). This suggests that the efficiency of nitrogen conversion by TC4 might be better than TC2, TC8 and F3.

Table2: Dry matter yield (DMY) of cocoa varieties treated with varying levels of nitrogen

Cocoa varieties	N rates(kg/ha)	Leaf DMY(g)	Stem DMY(g)	Root DMY(g)
TC2	0	0.24f	0.34def	0.18cd
TC4	0	0.48d	0.39bcd	0.2cd
TC8	0	0.23f	0.21i	0.103d
F3	0	0.42de	0.23hi	0.2cd
TC2	5	0.41de	0.52a	0.24bc
TC4	5	1.14a	0.44bc	0.39a
TC8	5	0.47d	0.25ghi	0.23bcd
F3	5	0.49d	0.25ghi	0.21bcd
TC2	10	0.42de	0.42bc	0.25bc
TC4	10	1.16a	0.46ab	0.34ab
TC8	10	0.84b	0.37cde	0.25bc
F3	10	0.51d	0.31efg	0.27abc
TC2	15	0.43de	0.43bc	0.31abc
TC4	15	0.65c	0.39bcd	0.30abc
TC8	15	0.32ef	0.24ghi	0.17cd
F3	15	0.53cd	0.28fgh	0.21bcd

Nitrogen uptake: Nitrogen uptake values were highest in the leaves of F3 Amazon cocoa at 0, 10 and 15 kgN/ha treatments (Table 3). The higher values in leaf N uptake of F3 Amazon cocoa did not reflect in higher DMY as shown in Table2. N uptake value in the stem of TC4 treated with 10kgN/ha was significantly higher than other cocoa genotypes.

Table 3: N-uptake in leaf, stem and root of cocoa varieties treated with varying levels of nitrogen

Cocoa Varieties	N rates(kg/ha)	Leaf N-uptake	Stem N-uptake	Root N- uptake
TC2	0	0.38g	0.21f	0.06fg
TC4	0	1.68fg	0.28ef	0.14efg
TC8	0	1.59fg	0.2f	0.04fg
F3	0	4.66e	0.06g	0.03g
TC2	5	0.41g	0.59b	0.13efg
TC4	5	7.39d	0.42cd	0.36bc
TC8	5	4.34e	0.26ef	0.23de
F3	5	7.20d	0.11g	0.14efg
TC2	10	1.46fg	0.67b	0.28cd
TC4	10	12.99bc	0.77a	0.44b
TC8	10	10.99c	0.47c	0.28cd
F3	10	14.36ab	0.39cd	0.61a
TC2	15	2.13fg	0.65b	0.24de
TC4	15	7.07d	0.34de	0.48b
TC8	15	3.34ef	0.29ef	0.17def
F3	15	15.62a	0.22f	0.13efg

Conclusion

TC4 produced higher leaf, stem and root dry matter yield than TC2, TC8 and F3 Amazon using different rates of nitrogen. TC4 efficiently converted nitrogen into dry matter better than the other three varieties.

Experimental Title: Introduction of soil test kit to smallholder cocoa farmers in southwestern Nigeria (Ogunlade M.O.; Oluyole K.A.; Adebiyi S.; Adeyemi E.A. and Aikopkodon P.E)

Introduction

Cocoa belongs to the family *steruliaceae* and genus *theobroma*. It is a perennial tree crop grown in tropical climates, with over 66 per cent produced by smallholder farmers in West Africa. Since the introduction of the crop into Nigeria in around 1874 (Oyedele, 2007), it has grown to be a major export crop. Nigeria is the third largest producer of cocoa in Africa, producing about 12% of the total world production behind Ivory Coast which produces 35% and Ghana's 13% (Wilcox and Abbot, 2004).

The Nigerian cocoa economy has a rich history which is well documented in literature. The contributions of cocoa to the nation's economic development are vast and have been reported by many authors (Olayide, 1969; Olayemi, 1973; Folayan, *et al*, 2006). In terms of foreign exchange earnings, no single agricultural export commodity has earned more than cocoa. With respect to employment, the cocoa sub-sector still offers quite a sizeable number of people employment, both directly and indirectly (Sanusi and Oluyole, 2005; Abang, 1984;

Folayan, *et al*, 2006). In addition, it is an important source of raw materials, as well as source of revenue to governments of cocoa producing states (Oluyole and Adeogun, 2005). Because of its importance, the recent Federal Government's concern of diversifying the export base of the nation has placed cocoa in the centre-stage as the most important export tree crop. Evidence has however shown that the growth rate of cocoa production has been declining, which has given rise to a fall in the fortunes of the subsector among other reasons (Nkanget *al* 2006). Folayan *et al* (2006) noted that cocoa production in Nigeria witnessed a downward trend after 1971 season, when its export declined to 216,000 metric tons in 1976, and 150,000 metric tons in 1986, therefore reducing the country's market share to about 6% and to fourth largest world producer to date. Prior to the Structural Adjustment Programme (SAP), cocoa marketing was carried out by the erstwhile highly regulated Commodity Marketing Boards, which were known to pay farmers far less than the export price of cocoa. This situation affected cocoa production and export in the past as it served as a disincentive to investment in cocoa production. Even after the abolition of the Marketing Boards structure, cocoa production has still not fared better as is evident in the declining production trend reported in previous studies (Nkanget *al*, 2009). One of the possible reasons for this low yield may among other things, be due to nutrient depletion of cocoa plantation soils as a result of "nutrient mining" through cocoa pod harvest without nutrient replacement as more than 85% of smallholder cocoa farmers in Nigeria do not use fertilizer on cocoa (Ogunlade *et al*, 2009). Cocoa farmers are being sensitized to use fertilizer on cocoa to increase bean yield given the low fertility status of cocoa plantation. Most cocoa farmers are showing interest to use fertilizer on their cocoa farms. However, blanket application must be avoided to derive maximum benefit from fertilizer usage. There is need for soil testing which should precede fertilizer recommendation and application. Soil testing through the conventional method is costly and electricity dependent with some logistic problems which makes it difficult for small holder farmers to use. This difficulty notwithstanding, soil testing before fertilizer application is necessary.

The objective of this study was to introduce an affordable, quick soil test kit that has significant correlation with the conventional soil testing method as reported by Ogunlade *et al* (2012) to cocoa farmers.

Methodology

The study was carried out in four cocoa farming communities in Ondo and Osun states in the Southwestern part of Nigeria. Multistage random sampling technique was used to select the respondents from the study area. The first stage was the random selection of two cocoa producing States from the region; these are Ondo and Osun States. The second stage was the random selection of four Local Government Areas from the randomly selected States. The third stage was the random selection of four communities from the randomly selected LGAs while the final stage was the random selection of eighty two respondents from the randomly selected communities. Information was collected from the respondents with the aid of structured questionnaire and the data retrieved from the questionnaire were analysed using descriptive statistics.

Results and Discussion

Table 1 shows that majority (81.71%) of the respondents were males while the proportion of the female respondents was 18.29%. This showed that males are frequently more involved in the ownership of cocoa farms in the study area. Table 1 also showed that 93.90% of the total respondents were married while 3.66% were widowed and 2.44% were single. Since majority of the respondents were married, this signifies the possibility of more availability of family labour for farming activities. 29.27% of the respondents were 40 years and below while 70.73% were more than 40 years of age showing that only few youths are involved in

cocoa farming in the study area. However, majority of the respondents (81.71%) were of age 60 years and below while just 18.29% are above 60 years of age. This shows that the substantial proportion of the respondents is still in active stage of farming. However, the mean age of the farmers in the study area is 49 years. Furthermore, Table 1 shows that about 84.15% of the respondents had formal education while just 15.85% of the respondents had no formal education. The result indicated a high level of literacy among the farmers. High level of literacy will positively and significantly influences the farm business. High literacy levels will enable farmers to understand the intricacies of factor and product markets and also predispose them to adopt and use improved farm practices (Oluyole, 2005). About 86.60% of the total respondents had 5 hectares (12.5 acres) and below of farm while 13.4% had more than 5 hectares of farmland. However, the least proportion of the respondents (2.4%) had more than 10 hectares of land. The results however showed that majority of the farmers were small scale cocoa farmers. Meanwhile, the mean farm size for the study area is 3.52 hectares (8.8 acres). Hence, on average each farmer has less than 5 hectares of farm land. The result on Table 1 also showed that some (48.78%) had between 1 and 6 household members while 51.22% of the total respondents had more than 6 household members. The mean household members for the study area were 7. This shows that the substantial proportion of the farmers is having a reasonable number of household members that will significantly contribute to labour supply in the study area.

Table 2 shows that only 20.73% of the respondents carries out soil test while the remaining 79.27% do not. Hence, majority of the farmers do not carry out soil test on their farms. Soil test revealed both the physical and chemical properties of the soil body thereby showing the nutrients that are deficient in the soil and hence would need replacement. If this kind of replacement is not carried out or not properly carried out, then it would result in the low performance of the crop that is planted on it.

Going by Table 3, one could not conclude that farmers do not have the knowledge of the relevance of soil test. According to the Table, 46.34% of the farmers agreed that soil test makes them to know the type of fertilizer they should add to their soil while another 39.02% of the respondents submitted that soil test makes them to know the fertility status of their farm. Hence, a total of 85.36% of the farmers had the knowledge of the relevance of soil test. Therefore, what could have been responsible for their inability to carry out the technology is likely to be the operational difficulty of the technology. Hence, if the farmers are trained on how to carry out the technology, the technology would be adopted by the farmers. Therefore, the farmers need training on how to carry out soil test. This statement is however corroborated by the response of the farmers as revealed on Table 4. The result of the analysis on Table 4 shows that almost all (98.78%) the farmers responded that they need training on soil test. The high response of the farmers shows how anxious the farmers were to receive training on soil test. Their eagerness to receive training on the technology also informed their readiness to apply the technology on their farms. The farmers' response on their readiness to apply the technology is shown on Table 5. The Table shows that 97.56% of the total respondents agreed that if they are trained on the technology, they are ready to apply it on their farm. This result shows that majority of the farmers are anxious to adopt the technology if they are trained on it. This is positive signal towards high cocoa productivity as soil test would enable the farmers know the required nutrients to be added to the soil to enhance cocoa production. However, the conventional soil test technology is specialized, costly and far away from rural communities where most of the farms are located, hence the farmers may not be able to afford it. This study has come up with a less laborious, less specialized and less costly technique by which farmers can carry out soil test themselves on their farms. This involves the use of a soil test kit. The kit is very easy to use and affordable. Like the

conventional soil test technology, soil test kit technology gives an accurate result. This kit was introduced to the farmers and the farmers' response as regards the acceptability of the kit by the farmers is shown on Table 6. The Table shows that almost all the farmers (98.78%) are ready to acquire the kit to be used on their farms.

The study concluded that with the wide acceptance of the soil test kit and with the claim of the farmers that they would adopt the technology, the inherent problems associated with soil test among farmers would be resolved. This would have a positive impact on cocoa production and hence improves farmers' welfare thus contributing meaningfully to Nigerian government Agricultural Transformation Agenda (ATA) policy.

The study therefore recommends that

- i. The soil test kit should be included among the subsidized inputs that government supplies to farmers from time to time.
- ii. Private entrepreneurs in cocoa business should procure the test kit and make it available to the farmers.
- iii. More youths need to be encouraged into cocoa farming. This is quite imperative in as much that the proportion of the youths in cocoa farming in the study area is low.

Table 1: Socio-economic variables of the farmers

Variables	Frequency	Percentage
Age (years)		
≤ 40	24	29.27
41-60	53	52.44
>60	5	18.29
Total	82	100.00
Mean 49		
Std. Deviation 14.05		
Sex		
Male	67	81.71
Female	15	18.29
Total	82	100.00
Educational level		
No formal education	13	15.85
Primary education	32	39.02
Secondary education	26	31.71
Tertiary education	11	13.41
Total	82	100.00
Marital status		
Single	2.00	2.44
Married	77.00	93.90
Widow/widower	3.00	3.66
Total	82.00	100.00
Farm size (acres)		
≤ 12.5	71.00	86.60
12.6-25	9.00	11.00
> 25	2.00	2.40
Total	82.00	100.00
Mean	8.80	
Std. Deviation	6.64	
Household size		

1- 6	40	48.78
7-10	36	43.90
>10	6.00	7.32
Total	82	100.00
Mean	7	
Std. Deviation	3.04	

Source: Field Survey, 2013

Table 2: Proportion of farmers that carry out soil test

Category of farmers	Frequency	Percentage
Farmers that carry out soil test	17	20.73
Farmers that do not carry out soil test	65	79.27
Total	82	100.00

Source: Field Survey, 2013.

Table 3: Relevance of Soil Test

Responses	Frequency	Percentage
No response	8	9.76
It makes me to know the fertility status of my farm	32	39.02
I don't need soil test because my soil is fertile	4	4.88
It makes me to know the type of fertilizer I should add	38	46.34
Total	82	100.00

Source: Field survey, 2013.

Table 4: Proportion of farmers that need soil test training

Categories of farmers	Frequency	Percentage
No response	1	1.22
Farmers that need training on soil test	81	98.78
Farmers that do not need training on soil test	0	0.00
Total	82	100.00

Source: Field Survey, 2013.

Table 5: Proportion of farmers that are ready to carry out soil test on their farms

Categories of farmers	Frequency	Percentage
No response	2	2.44
Farmers that are ready to carry out soil test	80	97.56

Farmers that are not ready to carry out soil test	0	0.00
Total	82	100.00

Source: Field Survey, 2013.

Table 6: Proportion of farmers that are ready to acquire soil test kit on their farms

Are u ready to acquire the soil test kit	Frequency	Percentage
No response	1	1.20
Farmers that are ready to acquire soil test kit	81	98.78
Farmers that are ready to acquire soil test kit	0	0.00
Total	82	100.00

Source: Field survey, 2013.

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Experimental Title: Knowledge attitude and practice analysis on cocoa certification among farmers in Southwest Nigeria: Implications for sustainable cocoa production (Famuyiwa, B. S.; Agbongiarhouyi E. A.; Adeyemi, E. A.; Okeniyi, M. A.; Aroyeun, S. O. and Yahaya, R.)

Justification

There is need for Nigeria to revert to developing the non-oil sector of the economy, by focusing on her rural economy. Cocoa is one of the cash crops that have placed Nigeria in the 2nd position in the world market in the past. It has suffered neglect in the past years but through the discovery of high yielding varieties, the country has a potential of increasing her production. However the treat from the European Union (EU) to ban cocoa bean from farmers not conforming with the Minimum Residue level (MRL) of .01mg (ICCO, 2010), has created exporting problem. ICCO (2010) also made a recommendation of best known practices on cocoa production to have a sustainable standard in the aspect of economy, social, environmental sustainability. Badcock-walter *et al* (2004) as reported by Famuyiwa and Torimiro (2011) attributed that key antecedents of behavioural change are knowledge, attitude and belief. Information builds up knowledge while knowledge is an important factor in risk aversion because it shapes attitude hence behaviour. Therefore there is need to study the knowledge, attitude and practice of cocoa farmers' on certification process to understand conformity or non-conformity to save Nigeria cocoa bean for world market.

This project is very much in line with the Agricultural Transformation Agenda (ATA) of Federal Government of Nigeria because cocoa certification is an important aspect of the policy with respect to Cocoa Transformation Agenda (CoCTA). About 25% of farmers group are expected to be certified so as to improve on the quality of bean from Nigeria. This idea will no doubt promote payment of premium to farmers and attract cocoapartners or International projects to our country as is presently obtained in Ghana who is a major player in world cocoa production.

Objectives:

1. Determine level of awareness of cocoa farmers' on certification process in the study area,
2. Investigate the perception level of cocoa farmers on certification process
3. Investigate knowledge, attitude and practice of cocoa farmers' certification in the study area
4. Assess the factors militating against the adoption of cocoa farmers certification process
5. Determine and evaluate cocoa farmers training needs on certification process
6. Disseminate and train farmers on cocoa certification process in attempt to have sustainable cocoa bean production along the value chain.

Material and Methods

Cocoa is produced in five of the Nigerian six geo-political zones; southwest, southeast, North-central, North-east and south-south. Smallholder cocoa farmers in Southwest, Nigeria will be considered for the study. Onasanya (2009) opined that 80% of cocoa farmers are smallholders. Based on the earlier visit by CRIN Scientists to two earlier maturing cocoa adopters in Ilare Osun State, a purposive sampling technique was used in selecting Ilare in Osun state and Ile Oluji Farm settlement in Ondo state. Questionnaires will be administered to assess the level of knowledge of the farmers on certification process after which training will be executed as required by the result of the questionnaire analysis. Inferences will be drawn to show level of knowledge acquisition.

Results and Discussion

Diagnostic survey was carried out in the two project locations and revealed results for the stated objectives: Sixty cocoa farmers were sampled in each locations, who were selected through a multistage sampling procedure, in Ilare and Ile-Oluji.

Socioeconomic characteristics

Table 1: showing socioeconomic characteristics of respondents

Variable	Frequency	Percentage	Frequency	Percentage
Age		Ilare		Ile-Oluji
20-40yrs	14.00	23.33	12.00	20.00
41-60yrs	25.00	41.67	26.00	43.33
61-80yrs	21.00	35.00	32.00	53.33
Sex				
Male	45.00	75.00	50.00	83.33
Female	15.00	25.00	10.00	16.67
Years of farming experience				
10 - 12years	12.00	20.00	10.00	16.67
11 - 20years	5.00	8.33	6.00	10.00
21 - 30years	4.00	6.67	8.00	13.33
31 - 40years	25	41.67	4.00	6.67
41 - 50years	10	16.67	30	50.00
51 - 60years	4.00	6.67	2.00	3.33
Farm size		-		-
0.5 - 10 acres	12.00	20.00	15.00	25.00
11 - 20 acres	9.00	15.00	12.00	20.00
21 - 30 acres	14.00	23.33	25.00	41.67
31 - 40 acres	25.00	41.67	8.00	13.33
Age of farm				
11 - 20 years	4.00	6.67	2.00	3.33
21 - 30 years	12.00	20.00	2.00	3.33
31 - 40 years	3.00	5.00	18.00	30.00

41 - 50 years	5.00	8.33	21.00	35.00
51 - 60 years	15.00	25.00	9.00	15.00
61 - 70 years	12.00	20.00	5.00	8.33
> 70 years	9.00	15.00	3.00	5.00
Farmers' Extension contact		-		
Yes	12.00	20.00	6.00	10.00
No	48.00	80.00	54.00	90.00

Source: Field Survey, 2014
N = 60

Table 2: Showing respondents awareness, knowledge and practice of cocoa certification

S/N	Variables		Percentage	
			Ilare	Ile-Oluji
	Awareness	Aware	10.5	37.6
		Not aware	89.5	62.4
	Knowledge	Know	11.2	9.8
		Do not Know	88.8	90.2
	Practice	Practice	5.6	7.3
		Do not Practice	94.4	92.7

Source: Field survey, 2014
N = 60

Table 3: Distribution of respondents by level of their perception towards certification process

Perceived effect Level	Scores	Percentage	
		Ilare	Ile-Oluji
High Perception	> 5	69.1	64.3
Low Perception	< 5	30.9	35.7

Source: Field Survey, 2014
Minimum = 2
Maximum = 10
N = 60

Assess the factors militating against the adoption of cocoa farmers' certification

process: Factors militating against the adoption of cocoa certification process were gathered through a Focus Group Discussion (FGD) which was generally discussed as lack of awareness and knowledge of the process. However, haven explained the process it was

believed that it will improve the open market system brought about by Liberalization of commodity crops.

Determine and evaluate cocoa farmers training needs on certification process: The training needs were achieved using Borich's need assessment model as explained in Famuyiwa et al (2011). Ten statements of perceived level competencies and importance were constructed and standardized for the survey in a Likert scale of 5 – point. Overall cocoa farmers' needs were analyzed and ranked using mean weighted discrepancy scores (MWDS). It was revealed from the survey that farmers' need to be sensitized in the areas of hazardous practices (MWDS= 12.58), identification of banned cocoa chemicals (MWDS=11.08), and awareness of different certification bodies (MWDS=10.37). It was concluded that concerted training of farmers on cocoa certification is very important in the study areas to enhance sustainable production of cocoa in the study area.

Training: In achieving objective 6, training was organized in the two locations on Cocoa certification - awareness and sensitization - through a training manual. The training covered; meaning and scope of certification, types and process of certification, none or responsible use of chemicals, standard method of cocoa processing, environmental sustainability in cocoa farming, and consumer certification/farmers' economic responsibilities.

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Experimental Title: Response of new cocoa varieties' seedlings to different watering regimes (Asowata, F. E.; Ogunlade M.O.; Iloyanomom C. I. and Adenuga O.)

Justification

The need for cocoa genotypes with drought tolerant abilities is on the increase especially with global weather changes that have even made areas which originally had favourable soil moisture regime for optimal cocoa growth now getting drier(Omolaja *et al*, 2006)

Drought has taken its toll on cocoa production with high mortality rate of young seedlings and low yields of young farms. It therefore necessary to practically investigate these CRIN new cocoa varieties for their abilities to thrive with minimum amount of water for planting in marginal cocoa area with less than optimum amount of rainfall for cocoa production.

Objective

To identify drought tolerant varieties among the new cocoa varieties (Tc-1 to Tc-8) for marginal cocoa areas

Materials and Methods

Soil samples were collected for use in the laboratory and the screen house. The chemical and physical analysis of the soil was carried out in the laboratory to determine the available nutrients of the soil, Field capacity and the percentage sand, clay and silt contents.

This is a screen house experiment at CRIN headquarters. Soil samples were collected, processed and representative samples were analyzed. The experiment was a 3plx3x3 factorial in a completely randomize design thus giving 27 treatments to be replicated thrice to give 81 experimental units.

The treatments were as follow:

A: Three different cocoa genotype, viz; CRINTc-4, CRINTc-5 and F3 Amazon and B: Three watering regimes of 40%, 60% and 80% field capacity. C: Three fertilizer levels @ 0kgN/ha, 10kgN/ha and 20kgN/ha.

Cocoa beans were sown in 5liter plastic pots filled with 5kg soil. Watering continued after sowing for all the pots until fully grown four-leaf stage seedlings have developed in about six weeks after which the watering treatment was imposed. Growth parameters were taken monthly and the data will be subjected to statistical analysis. Also, agro climatological data will be collectedfor the same period.

Results and Discussion

The experiment is still on-going and Data collection still in progress.



F-3 Amazon @40%FC 4months of treatment.



F3 Amazon@60%FC. 4months of treatment



F3 Amazon@80%FC 4months of treatment



CRIN Tc-4@40%FC 4months of treatment CRIN Tc-4 80% FC, 4months of treatment



CRIN Tc-4@60FC 4months of treatment



CRIN Tc-5@40%FC, 4months of treatment



CRIN Tc-5@80%FC, 4months of

Treatment



CRIN Tc-5@60%FC, 4months treatment

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KOLA PROGRAMME

Experimental Title: Evaluation of Kola-pod Husk meal in broiler finisher diets

(Olubamiwa, O.; Raji A.M.; Adejinmi O. O.; Owosibo A. O. and Adebawale B. A.)

Introduction

The high cost and scarcity of conventional feedstuffs have slowed down the growth and development of the poultry industry in Nigeria. Increasing competition between man and animals for available grains (Tegbe *et. al.*, 1984) and inadequate production of farm crops to meet the needs of man and his livestock (Babatunde *et. al.*, 1990), have exarated the situation. The consequence has been sharp increase in market price of grains up to a level that has directly increased the production cost of farm animals and their products (Emiola *et. al.*, 2006). One possible means of reducing cost of poultry production is the use of available and suitable by-products of little or no value to man. Profitable inclusion of such farm by-products in poultry feeds have been reported (Oluremi *et. al.*, 2010; Olubamiwa and Oduwale, 2009; Emiola *et. al.*, 2006). Nigeria is the worlds largest producer of kola nut. The fruit is made up of about 50% kola pod husk of which Nigeria produces 2 million tonnes (Oluokun and Olaloku, 1999). The kola pod husk meal (KPHM) is fast gaining considerable interest as a livestock feed ingredient in Nigeria. Babatunde *et. al.* (2001) suggested that it could replace up to 50% maize in rabbit diets. Olubamiwa *et. al.* (2001) suitably substituted up to 60% maize with KPHM in laying hen diets. The objective of this study was to evaluate the performance and economic returns of finisher broiler chickens fed KPHM-based diets in partial replacement of maize.

Materials and Methods

One hundred and eighty (180) day-old Mashal broiler chicks from a commercial hatchery were raised on a common broiler starter diet (Table 1). At four weeks, the runts and significantly heavier birds were culled leaving 150 medium weight range birds. These were randomly allocated to five experimental dietary treatments. Each treatment consisting of 30 birds was divided into 3 replicates. Feed and water were provided Libitum during the four week trial.

Kola-pod husk of *Cola nitida* was obtained from Kola Unit of Cocoa Research Institute of Nigeria, Ibadan. The dried, milled sample was incorporated into the diets of broiler finisher in partial replacement of maize. Five diets were formulated in which diets. Diet 1 served as the control without KPHM. Diets 2, 3, 4 and 5 contained 10, 20, 30, and 40% maize replacement with KPHM (Table 2). Proximate composition of KPHM and the experimental diets were carried out using the procedure of AOAC (1990). Data on feed intake, weight gain, feed conversion ratio and the cost benefits of the diets were collected. The prevailing market prices of the feed ingerdients at the time of the study were used to calculate the cost of 1 kg feed consumed and the cost of 1 kg feed consumed per weight gain. The experimental design was the completely radomized design. Data collected were subjected to Analysis of Variance according to the procedure of SAS (1995). The differences in treatment means were separated using Duncan s option of the same software.

Results and Discussion

The composition of experimental diets were presented on Table 2, while the proximate composition of KPHM was presented on Table 3. The values obtained for KPHM agreed with the range of values obtained by Oluokun and Olaloku (1999), Olubamiwa *et. al.* (2000), Babatunde *et. al.*(2001) and Abioye *et. al.*(2006). The crude protein and crude fibre increased as KPHM increased across the diets while NFE decreased.

Table 4 showed the growth performance of the broilers. The decrease in the final live weight of birds with increasing levels of KPHM was not significant. This may imply that KPHM promote growth in broiler finisher similarly as maize. The feed intake was significantly ($P < 0.05$) higher at 40% maize replacement. This was not unexpected since birds eat to satisfy their energy requirement. The higher feed intake observed as the KPHM increased was to compensate for decreasing energy density of the diets as seen on Table 2. Feed conversion was significantly ($P < 0.05$) poorer on the 40% maize replacement diet. However, feed conversion on the other KPHM diets was similar to that on the control diet. This gives an indication of equivalent biological efficiency of those diets and the control. There was a significant ($P < 0.05$) reduction in the cost of feed intake with increasing level of KPHM. This reduction lowered the cost of production of broiler meat. Olubamiwa *et. al.* (2000) also observed a combination of similar feed efficiency and lowered feed cost/kg egg when KPHM partially replaced maize up to 60% in laying hen diets.

The use of KPHM in partial replacement of maize therefore could ameliorate the scarcity of conventional energy feeds, especially the grains, which have hindered the growth and development of the Nigerian poultry industry. In addition, the problem of environmental pollution as a result of production of Kola-nut pod husk will also be addressed.

Conclusion

From the results obtained in this study, it could be concluded that finishing broilers could tolerate the use of KPHM upto 30% replacement of maize to reduce the pressure on maize, reduce the cost of production and solve the problem of environmental pollution arising from indiscriminate disposal of kola-pod husk.

Table 1: Gross composition of broiler starter diets

Ingredients	Percentage(%)
Maize	57.00
Soyabeans meal	20.00
Groundnut cake	12.00
Fish meal(72%)	2.50
Wheat offal	4.80
Bone meal	2.00
Limestone	1.00
Lysine	0.10
Methionine	0.10
Salt	0.25
Vit./Mineral Premix	0.25
Total	100.00
Calculated Analysis:	
Crude protein(%)	22.36
Crude fibre(%)	3.47
Metabolizable Energy(Kcal/kg)	2866.64

Table 2: Composition of broiler finisher chickens fed kola-pod husk based diets (%)

Ingredients	T1(0%	T2(10%	T3(20%	T4(30%	T5(40%)
Maize	58.00	52.20	46.40	40.60	34.80
Kola pod husk meal	0.00	5.80	11.60	17.40	23.20
Soyabean Meal	16.00	16.00	16.00	16.00	16.00
Groundnut cake	14.00	14.00	14.00	14.00	14.00
Fish meal(72%)	1.00	1.00	1.00	1.00	1.00
Wheat offal	6.70	6.70	6.70	6.70	6.70
Bone meal	2.00	2.00	2.00	2.00	2.00
Limestone	1.50	1.50	1.50	1.50	1.50
Lysine	0.15	0.15	0.15	0.15	0.15
Methionine	0.15	0.15	0.15	0.15	0.15
Salt	0.25	0.25	0.25	0.25	0.25
Broiler Premix	0.25	0.25	0.25	0.25	0.25
Total	100.00	100.00	100.00	100.00	100.00
Calculated Analysis					
Metabolizable					
Energy(Kcal/kg)	2840.81	2786.46	2732.12	2677.77	2623.43
Crude Protein(%)	20.67	20.84	21.01	21.18	21.35
Crude Fibre(%)	3.48	3.99	4.50	5.01	5.52

Table 3: Proximate composition of experimental diets

Ingredient	KPMH(%)	T1(0%	T2(10%)	T3(20%)	T4(30%)	T5(40%)
Dry Matter	88.15	91.26	90.67	90.77	89.82	90.97
Crude Protein	12.95	21.68	22.23	23.43	23.50	25.38
Crude fibre	12.63	3.30	4.49	3.37	5.33	6.67
Ether Extract	5.00	9.01	10.22	11.14	9.33	9.37
Ash	10.00	8.31	8.69	10.31	12.10	11.00
NFE	47.57	48.96	45.04	42.52	39.56	38.55

Table 4: Performance characteristics and cost- benefit of broilers fed KPHM based diets

Parameters	T1(0%	T2(10%	T3(20%	T4(30%	T5(40%)	SEM
Initial live wt(kg)	0.59	0.59	0.58	0.59	0.58	0.001
Final live wt (kg)	2.00	1.94	1.92	1.91	1.91	0.017
Weight gain (kg)	1.42	1.35	1.33	1.32	1.33	0.017
Total feed intake(kg)	3.99 ^{ab}	3.89 ^b	3.97 ^b	4.12 ^{ab}	4.22 ^a	0.044
Feed conversion Ratio	2.82 ^b	2.89 ^{ab}	2.99 ^{ab}	3.10 ^{ab}	3.17 ^a	0.052
Cost of Feed(N/kg)	63.97	61.38	58.84	56.28	50.49	nd
Total Feed Intake(kg)	3.99 ^{ab}	3.89 ^b	3.97 ^b	4.12 ^{ab}	4.22 ^a	0.044
Cost of Feed Intake	255.24 ^a	238.56 ^b	233.59 ^b	231.88 ^b	213.23 ^c	0.00
Cost of Feed/kg gain	180.47 ^a	177.40 ^{ab}	175.97 ^{ab}	175.84 ^{ab}	160.32 ^b	2.91

ab Means with different superscripts are significantly different (p<0.05).

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Experimental Title: Evaluation of phytochemicals and enzyme activities of fresh kola (*C. nitida* vent)(Ugioro, O.; Oduwale O.; Azeez. O. M; Mokwunye, F. C. and Taiwo, O).

Justification

Kola nuts are extremely popular due to their high caffeine content. Kola nuts have a bitter taste and contain between 1.0-1.5% caffeine by weight (Clayton, 2002). They are also a source of antioxidants and contain small amounts of theobromine, d-catechin, L-epicatechin, kolatin, phlobaphens, antioxidant pigment, betaine and protein. Kola extract is a popular ingredient in fat loss supplements. It suppresses hunger, aids digestion of food and acts as a diuretic.

The high demand for kola nuts in the domestic and international markets for use in the food and pharmaceutical industries necessitates an accurate and efficient chemical and biochemical which can characterize and quantify the native constituents in fresh kola nuts for quality determination.

Consumer consciousness and demand for higher degree of quality and safety in food and health care products have increased over the years. This has called for higher quality standards for product ingredients. The biochemical modifications, especially the changes in polyphenol, phytochemicals and enzymatic activities of fresh kola nuts have not been well studied and exploited in assessing kola quality. The aim of the study was to determine the level of polyphenol, phytochemicals and enzymatic activities on fresh *C. nitida* nuts in assessing kola quality.

Materials and Methods

This research work was carried out at Cocoa Research Institute of Nigeria, Idi -Ayunre, Ibadan, Oyo State.

Polyphenol, phytochemical and enzymes analyses of *C. nitida*: Fresh *C. nitida* nuts with three different sizes and colours purchased from Ogunmakin village market, Ogun State were used for this study. The nuts were classified into sizes as follows: 1-10g, 11-20g and 21-40g

and into colours: red, pink and white. The nuts of the different sizes and colours were crushed separately into smaller particle sizes using perforated grater and stored in a capped container until they were needed for analysis.

Determination of alkaloids and flavonoid: This was done by the alkaline precipitation gravimetric method described by Harborne (1973).

Tannin: Tannin content was determined by the Folis- Dennis colorimetric method described by Kirk and Sawyer (1998).

Saponin: Quantitative determination of saponin was done according to Obadoni and Ochuko (2001).

Enzyme determinations

Cellulase activity: The enzyme extract was prepared by grinding 1g of nut with 1/10M dibasic sodium phosphate (K_2HPO_4) in a mortar maintained at 5°C with crushed ice (Norkrans, 1957). The ensuing suspension centrifuged at 18,000g for 30mins at 2°C using the M.SE ultra-high speed centrifuge. To 1ml of the supernatant was added 1ml of 1% carboxymethyl cellulose in 0.05M phosphate buffer (pH 5.0) and the mixture will be allowed to stand for 1h at 30°C (Singh and Kunene, 1980). The enzyme action was stopped with 3, 5 - dinitrosalicylic acid (DNSA) reagent and the amount of reducing sugar formed was determined by taking the absorbance at 540nm against a blank containing 1ml of boiled enzyme extract which will be similarly treated. (Koelin, 1977).

Total amylase (α and β activity): Enzyme extract was prepared by grinding 1g of nuts with sodium acetate buffer (pH 5.0) in a mortar maintained at 5°C with crushed ice and the extract centrifuge at 18,000g for 30mins at 2°C. 1ml of the supernatant was added 1ml of 1% soluble starch in 1/10M sodium acetate buffer and the mixture was incubated at 27°C for 1h. The enzyme action was stopped with DNSA reagent and the quantity of reducing sugar formed was determined by taking the absorbance at 540nm against a blank containing 1ml of boiled enzyme extract treated similarly (Swain and Dekker, 1966).

Proteinase activity: Enzyme extract was prepared in a manner similar to total amylase activity except that 0.05M sodium phosphate buffer (pH 6.0) was used as the extracting buffer proteinase activity in the enzyme was determined using the LOWRY FOLIN – CIOCALTEU method of MCDONALD et al (1965).

Lipase activity: Enzyme extract was obtained in the same way as for total amylase activity. Lipase activity in the enzyme extract was determined using the method of Young *et al.* (1977).

Ascorbic acid content: The determination of ascorbic acid was carried out using the indophenol method described by (Association Official Analytical Chemists, (1984).

Caffeine determination: Caffeine content was determined according to Irgolic *et al.*, (1982) methods.

Results and Discussion

Quantitative phytochemical screening of the different sizes of fresh *C. nitida* nuts obtained showed a common trend of increasing order from the smallest weight nut to the biggest weight nut in all the parameters tested (Table1). Quantitative phytochemical screening of fresh *Cola nitida* nuts at different colours showed that the pink value had the highest in saponin and alkaloid (Table2). The presence of secondary metabolites in the kola nuts could

be responsible for its antioxidant activity. For example, flavonoid and other phenolic constituents have been shown to play a preventive role in the development of cancer and heart diseases. Potential sources of antioxidant compound have been searched in several types of plant materials such as vegetables, fruits, leaves, oilseeds, cereal crops, bark and roots, spices and herbs and crude plant drugs (Wang *et al.*, 2000; Pourmorad *et al.*, 2006; Kumaran and Karunakaran, 2007). In addition, phenols are widely used in the manufacture of resins, plastics, insecticides, explosives, dyes and detergents as a raw material for the production of medicinal drugs such as aspirin (Michael, 2008). Therefore, *C. nitida* can then be of economic importance in these aforementioned areas.

Table 1: Quantitative phytochemical Screening of fresh *Cola nitida* nuts at different Sizes

Nuts weight (g)	Alkaloids	Tannin	Saponin	Flavonoid	Anthraquinone
21-40	2.02 ^a	4.42 ^a	4.25 ^a	3.03 ^a	6.38 ^a
11-20	1.84 ^b	3.97 ^b	3.68 ^b	2.32 ^b	5.38 ^b
1-10	1.44 ^c	2.75 ^c	2.66 ^c	2.04 ^c	3.51 ^c

Means followed by the same letters are not significantly different at 5% probability level using Duncan Multiple Range Test.

Table 2: Quantitative phytochemical screening of fresh *Cola nitida* nuts at different Colours

Nuts colours	Alkaloid	Saponin	Anthraquinone	Flavonoid	Tannin
pink	1.87 ^a	4.01 ^a	5.67 ^a	2.58 ^b	3.23 ^c
Red	1.68 ^b	3.61 ^b	5.17 ^b	3.01 ^a	4.22 ^a
white	1.79 ^a	2.96 ^c	4.43 ^c	1.79 ^c	3.69 ^b

Means followed by the same letters are not significantly different at 5% probability level using Duncan Multiple Range Test.

The chemical composition of fresh *C. nitida* nuts showed a common trend of increase from the smallest weight nut to the biggest weight nut in all the parameters tested and is highly significant with vitamin C having the highest value (Table 3). The chemical composition of fresh *Cola nitida* nuts at different colours showed that the red nuts had the highest values in all the chemical composition tested with the preponderance of vitamin C (Table 4). These values were higher than the 1.5% obtained by Ogutuga (1975) and Jaiyeola (2001) for *C. nitida*. Caffeine occurs partly free and partly combined in an unstable complex known as kolatin (tannin) and caffeine glycosides in kola. Pure caffeine is colourless and has a distinctively bitter taste at the temperature, pH and salt concentrations normally encountered in food processing (Graham, 1978). It is also known to produce a variety of biological effects. Thus, caffeine is widely used for its stimulant properties in dietary beverages, self medication with over the counter drugs and in a number of prescriptions drugs containing a combination of acetylsalicylic, phenacetin, caffeine and in Darvon (Graham, 1978).

Table 3: Chemical composition of fresh *Cola nitida* nuts at different sizes

Nuts weight (g)	Caffeine	Theobromine	Kolatin	Phenol	Vitamin C
21-40	5.42 ^a	2.28 ^a	4.78 ^a	2.76 ^a	5.75 ^a
11-20	4.50 ^b	1.97 ^b	4.27 ^b	2.28 ^b	4.80 ^b
1-10g	3.32 ^c	1.65 ^c	3.44 ^c	1.57 ^c	4.21 ^c

Means followed by the same supercript are not significantly different at 5% probability level

Table 4: Chemical compositions of fresh *Cola nitida* nuts at different colours

Colours	Caffeine	Theobromine	Kolatin	Poly phenol	Vitamin C
Pink	4.83 ^a	2.13 ^b	4.55 ^b	1.45 ^c	4.84 ^b
Red	4.46 ^b	2.29 ^a	4.69 ^a	3.61 ^a	5.55 ^a
White	3.97 ^c	1.47 ^c	3.25 ^c	1.55 ^b	4.36 ^c

Means of the same supercript are not significant different at 5% probability level

Enzyme activities increased from the smallest weight nut to the biggest weight nut of fresh *C. nitida*. Enzyme activities of different colours of fresh *C. nitida* showed that the red nuts had the highest in all the enzymes analyzed. Purseglove (1991) reported values of polyphenol in the range of 0.8% to 1.3% for garcina kola and 2.5% to 3.0% for the varieties of *Cola nitida*. Work carried out by Ducksworth and Coleman (1970) showed the white cultivars of most crop products such as bitter kola and kola nuts lack carotene, a polyphenol which is responsible for the pigmentation, noticed in *Cola nitida* especially the red cultivar.

The relative considerable values of polyphenol in this study may therefore explain the incidence of enzymatic browning in Nigeria kola nuts. The levels of polyphenol also vary from variety to variety with the highest value occurring in the red cultivar of *Cola nitida* and the least obtained was pink.

Table 5: Enzyme activities of fresh *C. nitida* nuts at different sizes

Nut	Catalase	Polyphenol	Total (α & Proteinase	Glucose-6-	Lipase ml	Cellulase
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sizes (g)	mg glucose/min /g protein	oxidase mg glucose/mi n/g protein	β) amylase mg maltose/min /g protein	mg tyrosine/min /g protein	phoshatase mg glucose/min/g protein	0.02NaO H/min/g protein	mg glucose/ min/g protein
21-40	0.145 ^a	0.140 ^a	0.148 ^a	0.121 ^a	0.123 ^a	0.134 ^a	0.143 ^a
11-20	0.140 ^b	0.132 ^b	0.145 ^b	0.117 ^b	0.119 ^b	0.121 ^b	0.128 ^b
1-10	0.136 ^c	0.130 ^c	0.137 ^c	0.113 ^c	0.118 ^c	0.119 ^c	0.124 ^c

Means followed by the same letters are not significantly different at 5% probability level using Duncan Multiple Range Test

Table 6: Enzyme activities of fresh *C. nitida* nuts at different sizes

Nut colours	Catalase mg glucose/min /g protein	Polyphenol oxidase mg glucose/mi n/g protein	Total (α & β) amylase mg maltose/min /g protein	Proteinase mg tyrosine/min /g protein	Glucose-6- phoshatase mg glucose/min/g protein	Lipase ml 0.02NaO H/min/g protein	Cellulase mg glucose/mi n/g protein
Pink	0.130 ^b	0.126 ^b	0.131 ^b	0.115 ^b	0.116 ^a	0.116 ^b	0.121 ^a
Red	0.146 ^a	0.139 ^a	0.149 ^a	0.118 ^a	0.121 ^a	0.122 ^a	0.147 ^a
White	0.145 ^a	0.139 ^a	0.149 ^a	0.118 ^a	0.137 ^a	0.122 ^a	0.128 ^a

Means followed by the same letters are not significantly different at 5% probability level using Duncan Multiple Range Test

Conclusion

The present study showed that kola nuts contain some active ingredients which can be useful in the Pharmaceutical and Medical science because of the presence of secondary metabolites to. Considerable amounts of alkaloid and flavonoid suggest their antioxidant potentials and justifies their therapeutic actions, which could be used in drug formulation. It can be useful also in various manufacturing industries as raw material. It has also be shown that *C. nitida* contain polyphenol oxidase which help to reduce the level of astringency and bitterness of kola caused by polyphenol.

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Experimental Title: Identification, selection and establishment of high yielding Kola varieties on/farm and on/station (Adenuga, O.O.; Adebisi, S.; Oduwole, O.O.; Adebowale, L. A.; Oduwaye, O. and Ugioro, O.)

Introduction

The Kolanut tree, both *Cola nitida* and *Cola acuminata* remains a source of wealth in West African countries, especially Ghana, Nigeria, Togo and Republic of Benin. The cultivation of kolanut in Nigeria is ecologically limited to the rainforest zones of south as well as some areas of the savannah region. *C. nitida* is internally traded and was observed to be growing abundantly in the bush of Otta by 1854. The cultivation was also noted in Egba Division and Labochi in 1902 after which the cultivation spread to the forest areas such as Ibadan, Osogbo and Otta through the influence of railway line (S, Adebisi et al 2011). Despite all efforts made by peasant farmers to increase kolanut production, there is low productivity per tree/ha due to the problem of incompatibility.

The most commonly used species are *Cola nitida* [(Vent) Schott and Endlicher], *Cola acuminata* [(Pal de. Beauv) Schott and Endl] and *Cola anomala* (Schott and Endlicher). These, in addition to many uncultivated species are of great importance for their economic, pharmaceutical, confectionery, nutritional, socio-cultural and other uses. The average kolanut production per tree of *C. nitida* is 250 nuts per year, in contrast to an annual of 3,000 to 10,000 kolanuts per tree per year recorded in experimental plantings which were hand pollinated (Morakinyo and Olorode, 1984). There is the need to solve the problem of self and cross incompatibilities and inefficient pollination, regarded as responsible for low yield. Solution needs be found to the problem of fruit loss due to pest and disease attack, and untimely harvesting as a result of cryptic green colour of the pod as well as unpleasantly tall height of the trees. There is need to reduce the gestation of the crop. All these will encourage farmers' interest in crop further.

Objectives

The objectives of the study are:

- i. To identify existing kola Germplasm collection within the institute so as to know the better performing trees for further improvement activities;
- ii. To identify and collect good performing kola accessions from farmers' plots across Nigeria;
- iii. To establish new Germplasm plots from the collected accessions at CRIN headquarters and sub-stations so as to expand the genetic base of the institute's kola Germplasm;
- iv. To characterize the Germplasm using molecular markers so as to determine their genetic profile; and
- v. To select superior parents from collections for the development of improved varieties.

Methodology

Purposive random sampling was employed to collect good varieties of Kolanuts from the farmers' farms in western Nigeria, out of the six states in the geopolitical zone, Osun, Ondo and Ogun state were purposively selected for high in kola production. Two local governments were randomly selected for remarkable records in terms of quality and production in each of the state selected.

In each of the two local government areas, 2 kolanut producing communities were randomly selected to give a total of 12 kolanut producing communities for the study. Samples of high yielding Kolanuts with known history both in *cola nitida* and *cola acuminata* were collected from farmers' farms. Also, from each kola tree where nuts were collected bud, wood materials were collected for stem cutting propagation.

The nuts collected were pre-germinated and successfully potted in the nursery while the stem cuttings collected were also set in the propagator rooting.

Sample area

State	LGA	Villages	Varieties	Source	No. Introduced
Osun	- Odo-otin	Oke-otun, okuku,	Olokuku (<i>C. nitida</i>)	Ghana	5
	- Ife-south	idi-obi, Ologiri.		Okuku	1
	- Atakumosa West	Ikoromaja	<i>C. acuminata</i> varieties		3
	- Atakumosa East	Saga and Iyemogun			4
Ondo	- Ile-oluji/oke-Igbo	Bamkemo Dagbaja	Olokuku (<i>C. nitida</i>)	-	9
	- Idanre	Alade-idanre			1
Ogun	Shagamu	Sobulo (Ode Lemo)	<i>C. nitida</i>	-	3

Results and Discussion

Figure 1 shows the total *C. nitida* nuts, indicating the proportions that were good for pre-germination. The germination percentage is also shown in the figure above. DLM 001 had the highest germination percentage (100%), though it ranked among those with the least amount of nuts available for planting. This is followed by BKM 015 (90%), LGR 008 (87.5) and KOGI 1 (77.78%). KOGI 1 also had very little amount of nuts available for planting. Accessions with very poor germination percentage included KGU 007 (7.89%), BKM 004 (9.26%), BKM 001 (10%), BKM 007 (11.76%) and DLM 003 (12.5 %). The poor germination percentage may be due to inherent genetic factors or due to environmental factors.

Figure 2 shows the number of *C. nitida* potted from the pre-germination exercise and the survival percentage. KOGI 1, DLM 003, KGU 007 and KGU 008 all had 100% survival by mid January, 2015 (approximately 10 weeks after potting). Accessions with the poorest survival included DLM 004(20%), KGU 001 (22.22%), KGU 006 (25%) and BKM 001 (30%).

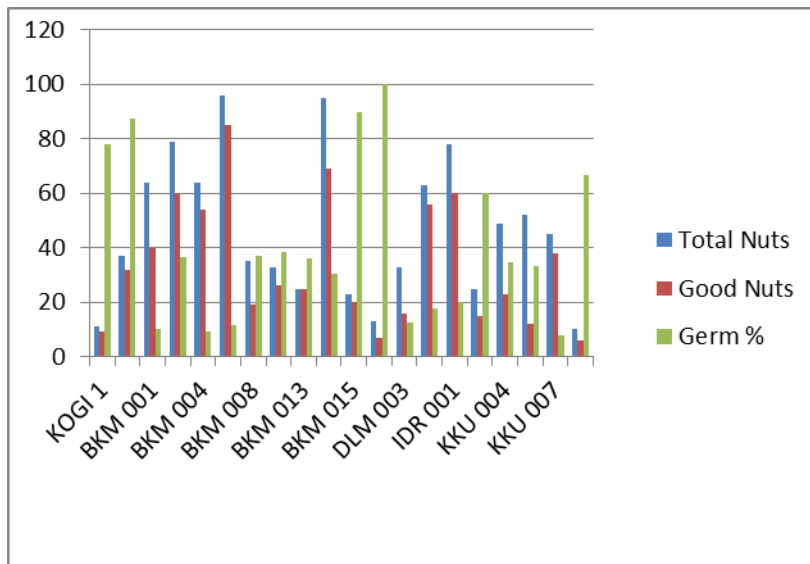


Figure 1: Bar chart showing the proportion of good *C nitida* nuts from the total nuts collected and the germination percentage

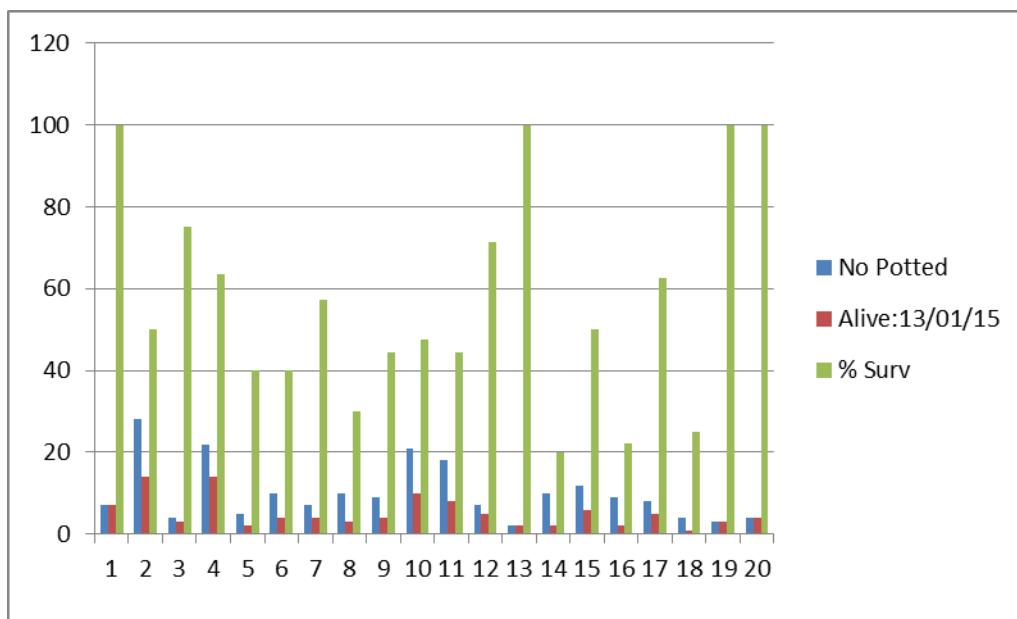


Figure 2: Bar chart showing the survival percentage of *C nitida* seedlings from the total seedlings potted

1= KOGI 1; 2 = LGR 008; 3 = BKM 001; 4 = BKM 003; 5= BKM 004; 6= BKM 007; 7= BKM 008; 8= BKM 009; 9 = BKM 013; 10 = BKM 014; 11 = BKM 015; 12 = DLM 001; 13 = DLM 003; 14 = DLM 004; 15 = IDR 001; 16 = KGU 001; 17 = KGU 004; 18 = KGU 006; 19 = KGU 007; 20 = KGU 008

Figure 3 shows the total *C acuminata* nuts, indicating the proportions that were good for pre-germination. The germination percentage is also shown in the figure. Though SAGA 002 had the least amount of nuts, it however had the highest germination percentage (100%). Accessions with relatively high germination percentage also included IYMG 002 (92.86%), IYMG 001(80.95%) and SAGA 001 (73.08%). Had the least germination percentage (33.96%).

Figure 4 also shows the number of *C. acuminata* potted from the pre-germination exercise and the survival percentage. At approximately 10 weeks after potting, accession IKM 001, though with one of the least germination percentage (36.11%), however had the highest survival percentage (100%). It was closely followed by SAGA 001 (94.74%). Other *C. acuminata* accessions with reasonably high survival percentage included IKM 004 (90.90%) and IYMG 002 (83.33%). Accession IYMG 001 had the least survival percentage (29.41%).

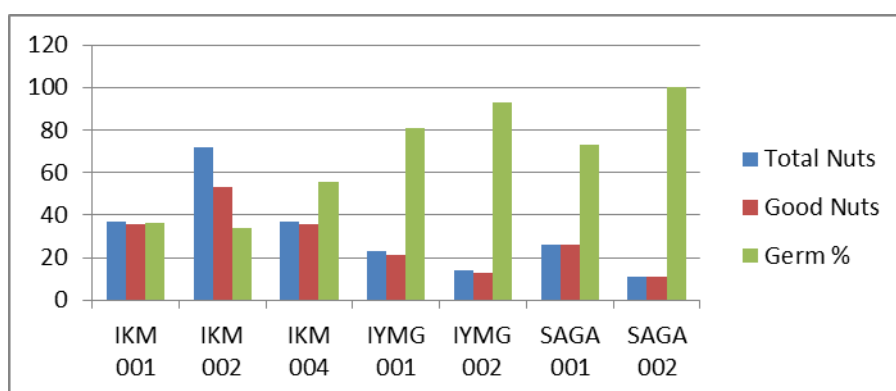


Figure 3: Bar chart showing the proportion of good *C acuminata* nuts from the total nuts collected and the germination percentage

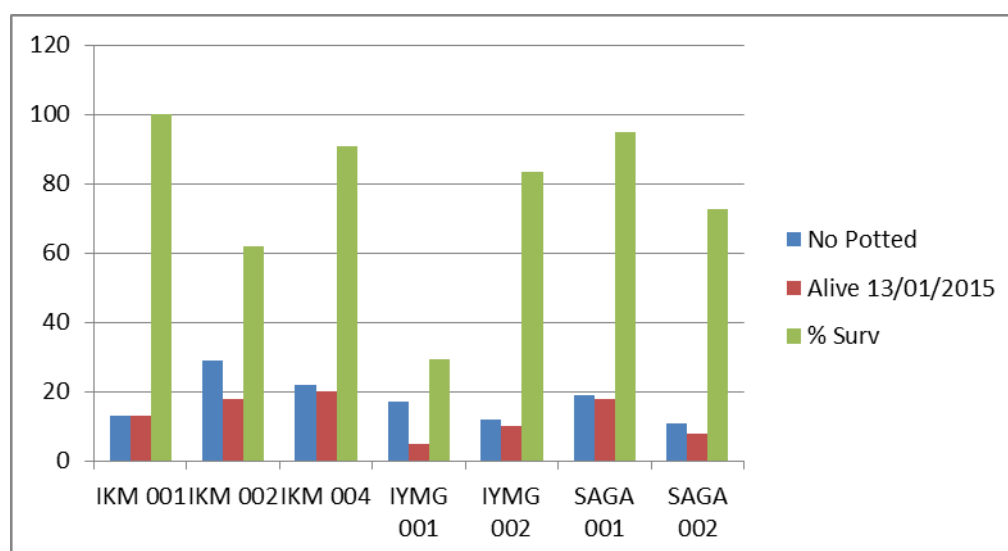


Figure 4: Bar chart showing the survival percentage of *C acuminata* seedlings from the total seedlings potted.

It was generally observed that, though fewer in number, the *C. acuminata* accessions showed higher germination percentages as compared with their *C. nitida* counterparts. The *C. acuminata* accessions also exhibited higher survival percentage at ten weeks after potting the seedlings. This may be adduced to inherent genetic variations between the two species.

Major Obstacles: The major obstacles encountered in the execution of this project include:

- a. Late release of fund: the late release of fund made it impossible to proceed to the fields for Germplasm prospection and collection for *C. acuminata*. The fund was released late June, 2014, a time that fruiting in *C. acuminata* was declining. Presence of fruits on trees is certainly a pre-requisite for the selection of such tree for Germplasm collection; hence Germplasm prospection was cancelled in the collection of the *C. acuminata* accessions. This also accounts for the fewer *C. acuminata* accessions included in the collection.
- b. Insufficient funding: As the fund released was far less than a quarter of the amount submitted in the budget for the first phase of this project, very little could be achieved in terms of locations to cover in Germplasm prospection and collection. The *C. acuminata* collections were made predominantly from self funding in order for the meagre fund released to be concentrated on covering more locations to collect the *C. nitida* accessions. This is another reason for having fewer *C. acuminata* accessions in the collection. The meagre fund made prospection to be given little or no place at all in the execution of the project. The low level of funding also made it impossible to successfully raise cuttings from the accessions collected, as this is more capital intensive.
- c. Unavailability of fund for field establishment: At present, there is no fund made available for the establishment of the seedlings being raised in the nursery from the Germplasm collection exercise. There is the fear of losing all these promising accessions unless something urgent is done to open up the field and ensure their successful establishment in the field during the rainy season of 2015.

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COFFEE PROGRAMME

Experimental Title: Establishment of current status of coffee production in two ecological zones at Kogi and Taraba in Nigeria. (Famaye, A. O.; Famuyiwa B. S.; Oyedokun, A. V.; Oloyede A. A.; Ogunjobi M.A.K.; Okeniyi, M. O.; Daniel, M. A.; Mofolasayo, A. S.; Keji D.; Adepoju, A. F.; Anagbogu C. F.; Taiwo O.; Idirisu, M.; Abdkarim I. F. and Obatolu B. O.)

Introduction

The main purpose of the tour was to establish the current status of coffee production in two ecological zones which comprised Kogi and Taraba States. Specifically to identify the main challenges facing coffee production stakeholders (Farmers, Processors, and Marketers). The trip was also to assist the Team in designing areas of interventions in order to improve the production and coffee farmers' livelihood.

Objective(s)

- Collection of sample materials from farmers
- Assessment of germplasm and seed garden plots in Mambilla

- Examining the incidences of Pest/diseases in the study area
- Administration of Questionnaire to update coffee database
- Evaluating marketing problems
- Investigating coffee processing problems

PROGRESS SUMMARY

a. Describe report period progress.

- *Collection of sample materials from farmers*
At each location, samples of soil, leaves, weeds, coffee beans, insect pests and disease plants were taken
- *Assessment of germplasm and seed garden plots in Mambilla*
The germplasm and seed garden plots in Mambilla were in a devastating situation and need urgent attention
- *Examining the incidences of Pest/diseases in the study area*
Incidences of pest/diseases were identified through physical, Group Discussion and questionnaire administration
- *Administration of Questionnaire to update coffee database*

Three States were visited instead of two initially budgeted for; Ekiti, **Kogi** and **Taraba**.

At Ekiti State – At Ekiti, our contact man (the Chairman Coffee Association) Chief Otelubi received us and took the Team to the then Commissioner of Agriculture where we had a successful discussion with him on the roles of the Government in encouraging coffee farmers in the State. He realized the State Government has not been supporting farmers on issues of coffee and promised that he will make representation on how to enhance coffee farmers' production. We presented 2 bottles of coffee wine on behalf of the Institute to the Commissioner and 2 to the farmers. They were happy to know that some other products can be produced from coffee. Sixty structured copies of questionnaires were administered among coffee farmers in the State.

Kogi – Our contact farmer, Rev. Ibimode had earlier sensitized the coffee farmers in Kogi State of our intention to visit. The coffee farmers gathered at the King's Palace where we had a two – day interaction with seventy eight farmers among which were six female, four processors and three marketers. Sixty structured questionnaires were administered; Focus Group Discussion took place among farmers, processors and Marketers. Samples were taken from three farm locations. The Team on behalf of the Institute presented 22 bottles of coffee wine to the groups which were distributed among the farmers and the King.

Taraba – We paid homage to the King in Mambilla. The Team had interactions with 108 farmers at the Substation in Mambilla. The first activity at Mambilla was the inspection of germplasm plot, where notes and recommendations were made for the improvement. Two processing machines were discovered at the Sub Station by the Engineer and plans were put in place to bring one to the Headquarters for closer look. Three other locations were visited by Team; farmer's farms in Gembu, Maigoga and Ngoroje. Twenty bottles of coffee wine were also distributed to farmers' groups and the Chiefs, while 60 questionnaires were administered and two Focus Group Discussion sessions were held. Detailed report will be made in a Compendium to be submitted.

- *Evaluating marketing problems*
From our interactions with all the farmers in each location, we were able to deduce that market is not actually the problem of coffee rather processing. It was discovered that when the marketers call for coffee, because of improper processing, they meet

something different from what they came for hence they down price and cease to patronize again.

- *Investigating coffee processing problems*

The processing methods were investigated and discovered not appropriate.

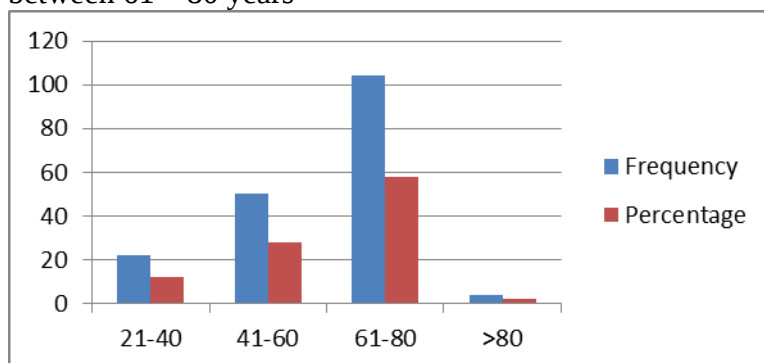
b. Results and Discussion based on discipline

1. Extension and Economics

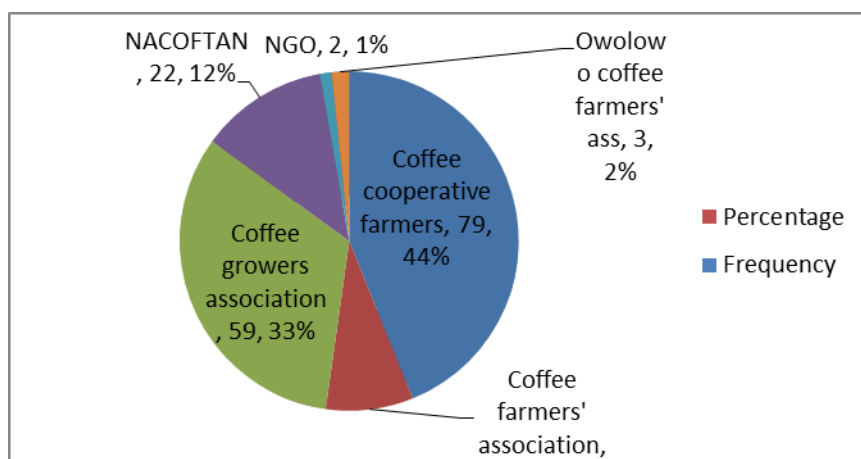
1. Some socioeconomic characteristics from the total 180 questionnaires administered, the following results were extracted to describe the farmers

- Age

The result showed that majority (57.22%) of the farmers were in their old ages between 61 – 80 years



- Membership in coffee groups



It was observed that majority (84.6%) were literate; being able to read and write hence ability to understand instructions was guaranteed. About 16.67% source their inputs from research institute while 32.78% source their information from Extension agent however, 70% had relationship or contact with extension agent.

From the Focus Group Discussion, it was iterated that most of the farmers have abandoned their farm for lack of market. After thorough investigation, we all reached a conclusion that their method of processing contributed highly to marketing as the quality of coffee collected as samples did not meet market standard.

The farmers attitude to farming is high but complained of low market as some farmers still had harvest of three years in stock due to lack of marketing.

2. Pathology and Entomology:

Coffee production can be boosted in Nigeria if some challenges in production line are promptly tackled. One of the major challenges in coffee production is the insect pest species that reduce the quality and quantity of coffee in Nigeria. Myriads of insect pests attack coffee plant (Robusta and Arabica) from seedling to fruiting stages and even during storage. Observations during the research survey of Kogi State (where Robusta coffee is planted) showed that defoliators like *Cephonodes hylas*, *Epicampoptera strandii* and *Zonocerus variegatus*; berry borer- *Hypothenemus hampei* and Termites species (*Macrotermis bellicosus* and *Macrotermis natalensis*) were serious problem of coffee in the areas visited. Also, some ant species (neutral insects) were found to be associated with some coffee stands. Although, the levels of damage were below Economic Injury Level (EIL) may be due to presence of some Braconids species (parasitoids) but precautions have to be taken so as to prevent insect pests' population surge. Some of the precautions include farm sanitation by weeding and pruning of coffee trees as well as the surrounding trees in the plots to increase sunlight intensity. By this, the relative humidity of such plots will be reduced and thereby reduce the population build-up effects of insect pests. Also, alternate and/or alternative hosts of these insect pests should be removed from the plots. Use of non-persistent insecticides can be introduced in case of population surge of the pests. Indiscriminate use of insecticides alters the agro-ecological systems negatively and should be discouraged on coffee plots. On the Mambilla Plateau (where Arabica coffee is planted), three major insect pests observed were *Zonocerus* sp., Mealybugs and Termites. The berry borers were not prevalent on the plateau may be due to climatic variation compared to Kogi State. The three major insect pests found on plateau have better generational success when compared with species like berry borer. Many insecticides are being used to control insects (target and non-target) on the plateau ranging from Organo-phosphates to Carbamates. Some old cans of Organic Chlorine insecticides were also displayed by some farmers. Generally, farmers should be trained on when and when not to apply insecticides, the types and quantity of insecticides to be used if the need arises and the impact of the chemicals on their health and crops produced.

Most of the farms visited were ravaged with pests and diseases. Amongst those seen were coffee leaf rust, Coffee Berry disease, die-back, and leaf blight disease. On the Mambilla Plateau most especially on the estate, the coffee germplasm was severely affected that the coffee stand could not bear.

The soil samples collected during the trip for assay in the laboratory revealed the presence of different genera of plant parasitic nematodes these includes; Nematodes recorded from soil samples were predominantly endoparasitic species, viz. *R. reniformis*, *Meloidogyne* spp., *P. coffeae* and *R. arabocoffeae*. Other endoparasitic nematodes were present at low densities and low frequency levels viz. *P. brachyurus*. Ectoparasitic species identified from soil samples were mainly represented by *Xiphinema diffusum*, *Helicotylenchus dihystera* and *Macroposthonia magnifica*. Other ectoparasites found were *Macroposthonia rustica*, *Diptherophora perplexans*, *Discocriconemella limitanea*, *Helicotylenchus cavenessis*, *H. rotundicauda*, *H. coffeae*, *Hemicriconemoides mangiferae*, *Hoplolaimus champus*, *Longidorus* sp., *Xiphinema brasiliense* and *X. elongatum*.

It was also observed that most of the chemicals used by farmers included CRIN banned pesticides such as gammaline 20 etc

Conclusion

There is urgent need to bring down the threshold of Coffee leaf rust and Coffee berry disease through an appropriate management practices and regular training of farmers on ways of controlling these diseases especially on the Mambilla Plateau.

3. Agronomy and Farming System

Observations by the Agronomists and Farming system Scientists are;

1. Low yield of coffee on plantation as a result of old age and abandonment of plot
2. Spacing on farmers plots were haphazard(about 2m x 1.5m)
3. Some coffee plantations already removed for arable crop cultivation
4. Polyculture practiced at Yamoye with tree crops like kola, oil palm, cocoa and citrus. Also none tree crops like pineapple, banana, cocoyam, ginger with no definite pattern or arrangement
5. Predominant cropping system at Mambilla includes coffee with banana, avocado, mango, kolanut and dacryodis. Also coffee plus maize, cocoyam, sweet potato, melon, bitter leaf and trifoliate yam.
6. The Substation coffee plots (Agronomy and germplasm plots are aged (over 40 years old).
7. Many stands are dead.
8. The remaining stands are intercropped with maize and cocoyam which are heavy feeders on soil nutrients.
9. there is heavy infestation by bryophytes
10. the stands at the new coffee germplasm plot are stunted in growth
11. goat and cattle invasion thereby destroying the stands

Dominant weeds observed in Yamoye and Mambilla

The three dominant weeds are provided below:

S/N	Yamoye	Mambilla
1	<i>Chromolaena odorata</i>	<i>Commelina spp</i>
2	<i>Pouzolzia guineensis</i>	<i>Imperata cylindrical</i>
3	<i>Sida garckeana</i>	<i>Panicum maximum</i>

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- there is heavy infestation by bryophytes
- the stands at the new coffee germplasm plot are stunted in growth
- goat and cattle invasion thereby destroying the stands

Recommendations

1. There is the need to organize a coffee summit to address all identified problems
2. Development of farmer, location based coffee cropping systems
3. Rehabilitation of old abandoned coffee plantations on the Mambilla plateau and Yamoye, Kogi State.
4. Further research work on the above identified weed species in terms of best control measures is urgently needed.
5. Concerning the Mambilla Substation plots:
 - a. There is the need to rehabilitate the surviving stands and establishment of adaptable leguminous crops/shrubs to bring back plots to full productivity.

- b. A stop should be put to annual loading of the plantation with arable crops like maize, cocoyam etc that deplete the soil of essential nutrients
- c. There is the urgent need for resuscitation of coffee germplasm and agronomy plot through vegetative propagation of the existing genotypes.

4. Breeding

Observations:

Iyamoye, Kogi state

First farm: It was observed that only one clone was planted and the yield is poor. Also, the clone was susceptible to disease and pest. Poor farm sanitation was also observed.

Second farm: Disease infestation on this farm was great. The plot was unkept. Though mixed cropping was adopted in haphazard way.

Third farm: From mere physical appearance of coffee trees one could conclude that the clone planted on this farm is different from the first two even though it was claimed to be planted with planting materials from the same source, the same year. Coffee planted looked like quillou. The yield is fairly good. Incidence of disease was not much.

Taraba state

Coffee germplasm at Kusuku Mambilla plateau.

All the clones are old and more than half of it had been lost. Even among the stands that remain, many of them have dried. Poor soil fertility. There is difficulty in establishing of new coffee germplasm.

Observations:

First farm: Scanty stands that are neglected remain. The whole plot filled arable crops and tea occupies a part of the plot.

Second farm: The farm was like an experimental plot. The stand height is not more than 1.5m (standard height). High yielding and well maintained. The clone planted could be said to be good

Recommendations

- Raising of five clones that are cross compatible
- Distribution of clonal materials to farmers in Ekiti and Kogi states
- Exploration to centre of origin and diversity of coffee especially Kenya and Ethiopia for materials for the germplasm and breeding purposes
- Collection of materials from farmers' farms
- Characterization of the materials and quality assessment at molecular level

5. Processing

In **Nigeria**, primary processing is performed manually; the processors and farmers have inadequate skills and use inappropriate processing methods. The coffee

processed under these methods are either graded as of low quality beans or simply failed to sell on the international market. They also have limited access to information on the link between premium price of coffee and high quality coffee beans. Upgrading of skills among farmers and processors is normally done by extension workers, who themselves face similar constraints in terms of limited knowledge and information. **There is need to provide information on the appropriate processing techniques that will produce green coffee of high quality to the coffee farmers and processors in Nigeria.** Hence, an improvement in coffee quality will translate to more income and this has a direct impact on the livelihoods of a large number of resource-poor people in the rural populations.

Though research on coffee has been conducted nationally for more than four decades by Cocoa research Institute of Nigeria (CRIN), the target of the research was to develop high yielding varieties, disease resistant varieties and control of coffee beans pest for major coffee growing areas of the country. There has never been any significant study focus attention on the problem of coffee quality with respect to primary post harvest processing method in Nigeria despite its importance to the coffee Industry. This vital information is needed by the International organization on coffee (ICO) for the proper classification of our green coffee because ability to obtain a good premium on green coffee depends very much on the ability to sell a story on the intrinsic qualities of the coffee.

ISSUE THAT ENSUED

1. Proposal to be written to Ekiti State on establishment of coffee demonstration plot and capacity building for farmers
2. Farmers in Yamoye resolved that they have a piece of land they want to hand over to CRIN to serve as demonstration plot and as a training center for the farmers. Hence, the Team plans to visit the state again and organize **coffee innovation platform**. This we believe will solve the issue of processing and marketing by giving the farmers a voice to make right decision.
3. Critically looking into Processing and marketing of coffee
4. Suggestion to the Management, of a CRIN business venture that will be autonomous.

c. Constraints

1. The major problem that hindered the Team from achieving her optimum objective is fund. We did not have enough funds to allow us some more days to visit other important areas.
2. Farmers' attitude towards Government approach to farmers need was area of challenge.

Attachments

1. Video DVD of the program
2. DVD containing photogram

Photographic and GIS representations



Coffee germplasm – Mambila



Maigoga farm area – One of the farms visited



Some farmers in group photograph in Kogi



Farmers discussion at Mambila



Photograph with Gago in Mambila





Farmers in Group photograph in Mambila

Infested coffee plant



Pathologist and Entomologist collecting samples A Breeder collecting sample

CASHEW PROGRAMME

Experimental Title: Vulnerability of cashew farmers to climate change and their coping strategies in Nigeria (Shittu, T. R.; Lawal, J. O.; Oluyole, K. A. and Taiwo, O.)

Introduction

Cashew (*Anarcadium occidentale* L.), since its introduction into Nigeria by early Portuguese explorer in the 16th century is one of the most important export cash crops in Nigeria and is the major source of cash income to many holder's farmers in the central and northern parts of Nigeria Federation (Aliyu 2007).

Over the years, there has been geometrical increase in the hectares of land, cultivated to the crop from 1990 till date, producing up to 636,000 metric tonnes in 2006 (FAO, 2007). The average yield of cashew trees in Nigeria is as low as 2.0kg per annum as against 20-25kg nuts per tree often obtained in the event of favourable climatic conditions. One of the reasons attributed to this has been the devastating effect of climate change.

Nigeria agriculture is highly climatic dependent thus being at its mercy as well as other climate change-induced danger of desertification, erosion and ecological desertification. Nigeria is therefore vulnerable in the area of food and nutrition, security, poverty and hunger. Small scale farmers like cashew farmers are disproportionately vulnerable to the impacts of climate change as a result of poverty, marginalization and reliance on natural resources.

Climate change is likely to lead to decreasing crop yields negatively impacting agricultural sector and reducing food security in developing countries. In Nigeria climate change will compound the existing vulnerability of small holder farmers, as a result of poverty, sensitivity of their geographical locations, high dependence on natural resources and limited capacity to adopt new strategies (ADB et al 2003).

Climate change may pose problem for cashew cultivation since it is grown in ecologically sensitive areas such as coastal belts, hilly areas and areas with high rainfall and humidity. The flowering, fruiting, insect pest incidence, yield and quality of cashew nuts and kernels are more vulnerable to climate change.

Given the importance of agriculture to the economies of Nigeria, climate change could significantly constrain economic development as it will disrupts farm families, increase migration from agriculture and displacement and produce climate refugee (Adetimirin et al 2012). Vulnerable households are therefore those that have moved or are likely to move into a state of poverty or destination as a result of the cumulative process of risk exposure and response.

Objectives of the study

The broad objective of this study is to examine the extent to which cashew farmers are susceptible to devastating effect of climate change. While specifically, the study looked into:

- i. The perception of changing climate by the cashew farmers in Nigeria.
- ii. Determination of economic impact of climate change on cashew production and
- iii. Assessment of the adaptation strategies employed by the cashew farmers to deal with the change.

Methodology

This study makes use of structured questionnaires to elicit information from respondents randomly selected from two states (Oyo and Kogi) using multi stage random sampling technique. Two Local Government Areas each were randomly selected from the two selected states with selection of two hundred cashew farmers to collect the primary data.

In addition to the primary data, secondary data on weather and yield were sourced for the purpose of explaining the trend of the weather, yield and the relationship between the two variables as well as their effects on the farmers themselves.

Statistical analysis was done using descriptive statistics such as frequency percentages to describe the social and demographic data as well as Parvin model of decomposing yield variation into technology and weather effects (Parvin 1973). The Parvin model shows the overall effect of composites of weather on the cashew yield.

The four functional forms of the equation from which the lead equation was chosen are as stated below:

$$Y_1 = \alpha_1 + \beta_1 W_{tv} + \delta_1 Lo + \theta_1 T + \mu_1 \quad \text{Linear (i)}$$

$$\ln Y_1 = \alpha_1 + \beta_1 W_{tv} + \delta_1 Lo + \theta_1 T + \mu_1 \quad \text{Experimental (ii)}$$

$$Y_1 = \alpha_1 + \beta \ln W_{tv} + \delta \ln Lo + \theta \ln T + \mu_1 \quad \text{Semi log (iii)}$$

$$\ln Y_1 = \alpha_1 + \beta \ln W_{tv} + \delta \ln Lo + \theta \ln T + \mu_1 \quad \text{Double log (iv)}$$

Where $\alpha_1, \beta_1, \delta_1$ and θ_1 = parameter estimates

Y_1 = Cashew

W_{tv} = Weather variables in year t.

R_d = Rainfall (days)

R_n = Rainfall (min)

T_p = Temperature ($^{\circ}C$)

R_h = Relative Humidity (%)

S_h = Sunshine (hours)

Lo = Lagged cashew yield in year t (tons)

T = Trend value (1–30)

μ = Stochastic disturbance term

while the second step involved the estimation of weather induced on cashew yield deviation as follows:

$$Y^* = Y_t Y_p$$

Where Y^* = Yield deviation

Y_t = Observed level of cashew yield in year t

Y_p = Predicted cashew yield

Results and Discussions

The age distributions of Cashew farmers, sex, educational level attained, farming experience, type of farm holding, type of cashew variety planted, were some of the issues treated under socio-economic characteristics of the cashew farmers (table 1). The male gender represented 76.1% while female counterpart constituted 24 % of the respondents.

On age distribution of respondents, cashew farmers of between 41-50 and over 50 years were in high proportion in the study area. They constituted 27.96% and 46.77% of total respondents in cashew farming. This may also have negative impact on their farm size as young me are capable of cultivating more land than older ones which may also have negative implication on the productivity of the cashew farmers. Majority of the cashew farmers were married and occupied 91% of the total respondents thus implying more labour availability for farming households. The single respondents were just about 9 percent. The farmers planted jumbo, medium and small size nuts on their farm and through freehold (88.28 %) inheritance (10.22%) or cooperative 31.50%; many (64%) of who have more than 10 years farming experience. This long experience in farming would be made to bear in dealing with recent change in climate that is likely to affect them. Educationally, 73.65% of the respondents have no formal educations or incomplete primary education while only 2.15% have tertiary or incomplete post-secondary education. Their past experience in the business is what will sustain them as only very few (2.15%) are literate to understand the issue of climate change and its mitigation strategies.

Weather Variables and Cashew Production: The cobb douglas (double log) function gave the best fit with the R^2 of 0.68 which means that 68 percent of the variation in quantity of cashew produced was accounted for by the weather variables and other parameters included in the equation. The F-value ($P < 0.01$), was significant at one percent level meaning that the model was fit. Parameter estimates of five of the endogenous variables (rainfall, temperature, relative humidity, sunshine, farming experience and farm size) included in the regression were statistically significant and could affect the productivity of the farmers in the study area (table 2).

Their coefficients were positive except that of rainfall and relative humidity which implies that cashew production in the study area would increase as the farmers experience more of these. The reverse is the case for rainfall and relative humidity with negative coefficients as too much of them will cause flower abortion in cashew and also increase the pests and diseases incidence thus reducing the yield hence farmers income, health condition and their standard of living.

Climate change perception and effects on the respondents: 87 percent of the respondents (cashew farmers) in the study area have knowledge of change in climate but not all of these set of farmers have fallen victim of climate change in terms of devastating loss. There are two major seasons (wet and dry) and depending on the climate change, wet season lasted eight months while the dry spell period spans over four months. Effects of the climate change on cashew farming households and their farms include: low productivity, low income, starvation, poor health and poor standard of living. When there is prolonged rainy season spraying of pesticide to control pests and diseases incidence that could cause inflorescence die back is affected hence increase in cashew farming expenses while drought affects productivity of food crops and their cashew negatively and as well exposed them to fire incidence directly from their farm or from neighbouring dry bush. This could turn to famine, population displacement, suffering of untold hardship and loss of life. Besides, erratic rainfall pattern was found to distort farmers' ability to plan correctly for their farm operations.

Coping Strategies/Adaptation: To adapt to change in climate, farmers in the study area have been relying on their skills and knowledge to deal with climate variability such as making fire tracing round the farm during the dry season, control burning of dried, dead or pruned branches and leaves. Others include the imposition of total ban on smoking or hunting on any land around their farm areas especially in the dry season to prevent fire outbreak. Based on their knowledge of weather forecasting, they employed timely pruning and spraying of pesticides to control pest and diseases incidence that could cause inflorescence die back as a result of prolonged rainy season (that is practice of good agricultural practices).

Conclusion and Recommendation

Although small holder (cashew) farmers have considerable experience in dealing with climate variability and possess local knowledge to cope during difficult periods, the unprecedented and sustained levels of variability associated with long term climate change are outside the realm of what their traditional coping strategies are able to manage.

The potential yield losses that could occur as a result of climate change could be worsen thereby negatively impacting on agriculture and worsen the prevalence of hunger in the rural areas where this crop is grown and the economy because of its income and foreign exchange generating potential for both the farmers and the country respectively.

For cashew farmers to adapt to climate change, small holder producers will need new improved technologies, skills and knowledge or in many cases to be linked to existing technologies which are currently inaccessible thus the researchers and the policy makers should accord climate change a serious attention as reducing farmers vulnerability to climate

change is closely linked to poverty reduction and economic agenda since poverty is both a condition and determinant of vulnerability.

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Table 1: Socio – Economic Characteristics of Cashew Farmers

Socio – Economic Variable	Frequency	Percentage (%)
Age of the farmers (years)		
21 – 30	29	15.59
31 – 40	18	9.68
41 – 50	52	27.96
>50	87	46.77
Gender		
Male	142	76
Female	44	24
Marital Status		
Married	170	91.40
Single	16	8.60
Tenureship of Farm		
Freehold	127	68.28
Inherited	19	10.22
Cooperative	40	21.50
Farming Experience		
1 – 5	22	11.83
6 – 10	45	24.19
11 – 15	47	25.27
16 – 20	38	20.43
21 – 25	34	18.28
Educational Level		
No formal Education	73	39.24
Incomplete Primary Education	64	34.41
Completed Primary Education	19	10.22
Incomplete Secondary Education	26	13.98
Incomplete Post-Secondary Education	13	1.61
Tertiary	1	0.54

Table 2: Climate change and Cashew Production

Variables	Coefficients	Standard Error	Prob.
Constant	0.709	0.482	0.243
Age	0.492**	0.551	0.034
Rainfall	-0.325**	4.57	0.042
Rel. Humidity	-0.822*	2.71	0.061
Temperature	0.754*	1.18	0.072
Sunshine	1.241***	2.77	0.000
Farming Experience	0.026	0.28	0.142
Education	0.042	0.011	0.184
Gender	-0.545	0.021	0.164
Farm size	0.424**	0.189	0.522
Lagged output	-0.634	0.175	0.154
R ²	0.6821		
Adjusted R ²	0.6511		

Source: Computer printout

*=Significant at 10%; **= Significant at 5%; ***=Significant at 1%

Experimental Title: Sesame and bambara ground nut intercrop: effects on soil properties and crop mixture productivity in a cashew-based inter cropping system (Nduka B.A.; Adewale B.D.; Adeniyi and Akanbi O.S.O)

Introduction

Cashew (*Anacardium occidentale* L.), often referred to as ‘wonder nut’ is a crop with tremendous potential, especially in the dry zone, where no other competing perennial crop can be grown successfully on marginal soils, under conditions of water scarcity. The tree can grow as high as 15 meter or more (Aliyu, 2006). Cashew is modest in its soil requirements and can adopt itself to varying soil conditions without impairing productivity. It can grow on poor or stony soils likely due to its extensive root development. Various studies have demonstrated that the cashew tree responds to the application of mineral nutrients, though the responses are significantly affected by plant age, the genotype utilized, the conditions of cultivation (soil and climate) and of the crop management (Barros et al., 1984; Glosch, 1989; Ximenes, 1995; Bezerra et al., 1999; Crisóstomo et al., 2005). However, research results show that tremendous positive response can be obtained through regular applications of fertilizers, and the recommendations were developed and standardized which could give two to three fold yield increases (Fernandopulle, 2003). From literature, there is a dearth of information on the physiological response of cashew under an intercrop / organo-mineral combination condition. However, research on intercropping has shown that several field crops could be intercropped successfully in cashew plantations during the early stages (4 to 5 years) of establishment, among them, maize, ginger, ground nut, cowpea, black gram, green gram, pigeon pea, and few vegetables have shown promise under Sri Lankan conditions (Abeyasinghe, 2003), while Yadukumaret al, (2003) recommended intercropping cashew with pineapple, turmeric or elephant foot yam under normal density planting system during the first five years.

The present study is therefore proposed to understand the science of adaptability of cashew with some selected arable crops (Bambara and Sesame) for enhanced productivity.

Justification

As remarked by Ekanade (1990), intercropping of trees or mixed planting produces better soil quality. Hence, the wider inter-row space in sole cashew plantation can be used for raising intercrops until cashew canopy covers the inter-row space and additional income would be generated by the cashew farmers. The overall goal of the present study was to identify the feasibility of utilizing sesame/Bambara as an intercrop and mineral / organic fertilizers application to understand responses of cashew to intercropping in a guinea savannas’ agro ecological zone of Nigeria.

Objectives

The specific objectives were to: Quantify growth parameter responses of cashew and associated arable crops in an intercropping system.

Materials and Methods

The study was conducted at an established cashew plot on an Experimental Farm of the Cocoa Research Institute of Nigeria (CRIN) Ochaja Sub-station, Kogi state. Treatments are of RCBD factorial combinations (3X2) with three replicates (Cashew, Sesame and Bambara ground nut) and Fertilizer applications (mineral fertilizer (NPK) and organic fertilizer (Cocoa pod husk)).

Soils between trees were hand weeded and ploughed then the seed bed was prepared. Seeds of both arable-Sesame and Bambara ground nut were sown on ridges and all trees and arable

received the same cultural treatment and fertilizer application at 2.5t ha⁻¹. Observations were made for vegetative growth characters (plant height, girth, leaf area and numbers of leaf) and soil samples before and after sowing were subjected to chemical analysis.

The data obtained were analysis of statistical analyses using Statistically Analysed System (SAS) variance using SAS and the effects were tested according with Duncan Multiple Range Test (DMRT).

Results and Discussion

Table 1:The result of the chemical properties of the soil, fertilizer and cocoa husk

Physical properties	Soil	NPK fertilizer	Cocoa husk
Sand	60.80 g kg ⁻¹	-	-
Silt	9.00 g kg ⁻¹	-	-
Clay	30.20 g kg ⁻¹	-	-
Textural class	Sandy loam	-	-
Chemical properties			
Soil P ^H (H ₂ O)1:1	5.25	-	-
Organic matter	0.70%	-	-
Nitrogen	1.13g	15	0.48%
Available Phosphorus	2.38mg kg ⁻¹	15	0.11%
Exchangeable Bases			
K ⁺	0.46cmol/kg	15	4.08mg kg ⁻¹
Ca ²⁺	1.12 cmol/kg	-	1.20 mg kg ⁻¹
Mg ²⁺	0.78 cmol/kg	-	0.46 mg kg ⁻¹
Na ⁺	0.46 cmol/kg	-	2.40 mg kg ⁻¹
AL	0.59 cmol/kg	-	-
CEC	2.03 cmol/kg	-	-

The results of the physico-chemical properties of the soil and the chemical compositions of cocoa husk (CPH) before the experiment were presented in Table 1. The soil is acidic with pH of 5.25(Table 1) and low in organic matter (0.70%). The available P in this study is adequate for crop production. Table 2 shows the treatment combinations and the various rates of the applied materials used for the experiment.

Table2. Treatment code and combination as applied.

Treatment code	Treatment
T1	Cscn (Control) Cashew/sesame sole
T2	Cscph Cashew + sesame + cocoa husk
T3	Csnpk Cashew + sesame + NPK fertilizer
T4	Csbnpk Cashew + sesame + Bambara + NPK
T5	Csbcph Cashew + sesame + Bambara + cocoa husk
T6	csbcn Cashew + sesame + Bambara

Table 3: Effect of organic and inorganic materials on the growth of Sesame, Bambara intercrop in cashew plot at 4,8 and 12 weeks after sowing

	Leaf count			Stem girth (cm)			Plant height (cm)			Leaf area (cm)		
	4WA S	8WA S	12W AS	4WA S	8WA S	12W AS	4WA S	8WA S	12WA S	4WAS	8WA S	12WA S
T1	8.23 ^a	18.97 ^c	28.63 ^a	0.44 ^a	0.59 ^a	0.6 ^a	14.07 ^e	20.32 ^e	27.93 ^e	17.49 ^c	25.08 ^c	25.77 ^c
T2	8.47 ^a	20.67 ^c	46.93 ^a	0.39 ^a	0.57 ^a	0.66 ^a	20.95 ^c	33.39 ^d	39.53 ^d	20.37 ^b c	37.72 ^b c	38.74 ^b c
T3	8.40 ^a	23.37 ^b c	41.10 ^a	0.46 ^a	0.57 ^a	0.62 ^a	22.76 ^b c	38.19 ^c	47.28 ^c	23.24 ^a bc	45.14 ^b	47.00 ^a
T4	8.40 ^a	25.53 ^a bc	49.73 ^a	0.44 ^a	0.66 ^a	0.69 ^a	27.26 ^a	72.54 ^a	87.28 ^a	32.29 ^a	63.71 ^a	65.81 ^a
T5	9.00 ^a	31.63 ^a	41.05 ^a	0.50 ^a	0.51 ^a	0.69 ^a	24.38 ^b	38.82 ^b c	90.77 ^a	28.60 ^a b	36.56 ^b c	37.36 ^b c
T6	8.93 ^a	28.23 ^a b	31.60 ^a	0.49 ^a	0.60 ^a	0.73 ^a	17.77 ^d	42.73 ^b	62.67 ^b	28.03 ^a b	31.42 ^b c	41.15 ^b c
Mean	8.57	24.73	39.84	0.45	0.58	0.66	21.19	40.99	59.24	25.00	39.94	42.64
(CV)	7.93	15.53	38.86	21.93	13.68	15.81	5.98	5.54	6.61	19.52	18.75	19.17

Note.WAS-Week after Sowing.CV-Coefficient of Variation.Means with the same letters are not significantly different.

There were increases in plant height, stem girth and leaf area of all the seedlings of cashew when given single and combined treatments obtained as the number of weeks after sowing increases (Table3). No significant different was obtained among the treated and control seedlings except for 8WAS for leaf count.The highest value of plant height of 49.73 was obtained at 12 WAS in seedlings treated with cashew + sesame + Bambara nut + NPK (T4). For stem girth, the highest value (0.73) was obtained for cashew +sesame + Bambara nut (T6), no significant difference was obtained. Cashew + sesame + Bambara nut + NPK (T4) had the highest value of 65.8 for leaf area at 12WAS. This was followed by Cashew, Sesame + NPK (T3) (47.00) and the least was observed for control Cashew, Sesame without fertilizer treatments (T1) having a value of 25.77 (Table 3).

The chemical properties in the residual soil after the experiment were presented in table 4. From the result, all the chemical compositions analysed were significantly different from each other except for K and Na. as shown in Table 4.Nitrogen had the highest value in T3 (1.26). For organic carbon, T5 had the highest with value 1.76 and highly significant. Similar result was observed for organic matter (2.71) for T5 (Table 4). T6 had the highest value in calcium and magnesium with values 2.68 and 1.55, followed by T4 with values 1.92 and 1.18 and the least was obtained for T2 with values 0.98 and 0.72 respectively.

Table 4: Chemical composition of residual soil

Treat ment s	PH	OC	OM	N	P	K	Na	Ca	Mg	AL	CECS
T1	7.65 ^b	0.67 ^e	0.84 ^e	1.14 ^b	3.88 ^a	0.46 ^a	0.46 ^a	1.38 ^c	0.92 ^d	0.61 ^a	2.51 ^d
T2	7.65 ^b	1.08 ^c	1.77 ^b	1.00 ^c	3.51 ^b	0.46 ^a	0.46 ^a	0.98 ^d	0.72 ^f	1.01 ^a	1.80 ^e
T3	7.25 ^d	0.88 ^d	1.19 ^d	1.26 ^a	2.04 ^d	0.46 ^a	0.46 ^a	1.72 ^b	1.08 ^c	0.57 ^d	2.85 ^c
T4	7.45 ^c	1.08 ^c	1.53 ^c	1.00 ^c	3.51 ^b	0.46 ^a	0.47 ^a	1.92 ^a	1.18 ^b	0.59 ^c	3.20 ^b
T5	7.85 ^a	1.76 ^a	2.71 ^a	1.14 ^b	3.23 ^c	0.46 ^a	0.46 ^a	1.18 ^d	0.72 ^e	0.61 ^a	3.20 ^b
T6	7.25 ^d	1.12 ^b	1.62 ^{bc}	0.99 ^c	3.48 ^b	0.46 ^a	0.46 ^a	2.65 ^a	1.55 ^a	0.60 ^b	4.42 ^a

Means with the same letter are not significantly different using Duncan multiple range test
Key: OC-Organic carbon; OM-Organic matter.

Discussion

Cashew intercrop (Sesame and Bambara nut) respond well to both organic and NPK fertilizer treatments, indicating higher growth rate in the intercrop during the vegetative growing period. This result was inline with Hammed et al., (2011). The use of coffee husk as an organic amendment has been reported and recommended by Veeken et al. (2005), Janvier et al. (2007), Lazcano et al. (2009) and Yadessa et al. (2010). According to them, amending agricultural soils with coffee husk as compost supplies plant nutrients and helps to improve the physicochemical and biological properties of the soil. Nutrient composition of the soil in this study was significantly enhanced and in line with Moyin Jesu (2007) who remarked that cocoa pod husk increased soil OM, N, P, K, Ca, Mg and pH. However Miller and Miller (2000) reported that the effect may not be apparent, as nutrients are released gradually into the Soil, with its presence positively affecting the immediate soil properties. Ibiremo et al (2012), Opoku-Ameyaw and Appiah (2000) all reported that the responses of cashew trees to minerals fertilizer are dependent on the management practices. The cocoa husk and NPK applied was significant on soil parameters except with K and N.

Conclusion

The scope for improving sesame/bambara growth may not be achieved simply by intercropping without improving the nutrient regimes in the system. This is because the study area had very low level of N suggesting improvement of soil management for optimum growth with the used of both minerals (NPK) and organic fertilizers (CPH).

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Experimental Title: Poverty alleviation and increased food consumption through enhanced cashew processing in Nigeria. (Yahaya, L. E.; Ogunwolu, S.O.; Jayeola C.O. and Shittu, T.R.)

Introduction

Cashew is a tree that belongs to the family of Anacardaceae. It has its origin from Portugal. The fruit of cashew is the edible apple, which is sweaty, pulpy, and juicy. The apple also consists of nut, which embedded the kernel, a very nutritious part of the fruit. Cashew is widely cultivated across the ecological zones of Nigeria. This is because it thrives in most soils of these ecologies.

It has been estimated that an average Nigerian live below the poverty line. In fact, many go to bed hungry each day. There is therefore need for interventions that the average Nigerian will be able to live above the poverty line more than 10 dollars per day. Nigerian is blessed with a crop, cashew whose potential have not been fully tapped over the years. It is against this backdrop that this project is emanating with the intent of solving poverty and increasing food products by harnessing potentials of this crop through processing.

Objective

To reduce poverty among cashew farmers through enhanced cashew processing.

Materials and Methodology: Cashew kernel oil production: Three methods extraction were carried out according to the procedures of AOAC (1990). In a typical experiment, known mass of cashew kernel meal was introduced into a thimble and n-hexane was used as the extracting solvent and this was done for 7-8 hours. At the end of the extraction, the oil was desolventized and the oil yield was determined based on the weight difference of the sample. The resulting oil was characterized using the AOCS methods of analysis. Gross margin (GM) analyses, cost benefit ratio, and internal rate of return of the process were carried out for the study. Cashew butter, cashew jam, and juice were also produced and analyzed according to standard methods of analysis.

Results and Discussion

The Physical and chemical Characteristics of Cashew Kernel Oil is depicted in Table 1. The specific gravity is commonly used in conjunction with other figures in assessing the purity of oil. The specific gravity of cashew kernel oil falls within the narrow range of 0.900 – 0.925 for vegetable oils and is close to those of some well known edible oils like sesame, soya beans and corn oils of 0.916 – 0.921 and cotton seed and sunflower oils of 0.916 – 0.9180 (Joslyn 1979). The value of the free fatty acid is also shown in the table. Although, refined oils are largely devoid of free fatty acids, but considerable amount of this constituent may be present in the crude oil and this in fact is an index of purity of the oil. The value in the table revealed high value for aqueous extracted oil (2.607%).

Table 1: Physical and chemical Characteristics of Cashew Kernel Oil

Parameters	Soxhlet Method	Aqueous Method	Mechanical Method
Colour	Golden yellow	Golden yellow	Dark yellow
Yield (%)	48.81	29.41	33.81
Moisture content (%)	2-2.5	4-6	2-3
Specific gravity (at 20°)	0.903	0.920	0.916
Melting Point (0°C)	16-17	16-17	17-19
Refractive index (at 20°C)	1.466	1.466	1.490
Viscosity Ratio	1.12	1.16	1.18
Acid Value (Mg KOH(g))	4.76	5.049	5.01
Free Fatty acid (% oleic acid)	2.4386	2.607	2.31
Saponification value (Mg KOH/g)	159.9	165.49	178
Peroxide Value (Meq/Kg)	4.087	10128	3.16
Iodine Value (Meq/Kg)	87.63	93.047	85.46

The benefit cost analysis of this method for cashew oil production for a five-year period is shown in table 2. The results indicate a positive NPV at both low and high interest rates of 21 and 32 % respectively. At 21% interest rate, the NPV value is N31, 116.93 while it is N132, 678.4 at 32 %. A benefit cost ratio (BCR) of 0.98, which is less than unity, was obtained. The result therefore shows that cashew oil production from this method is viable since the BCR is near unity and the internal rate of return is positive at 23.03 percent. The results for cashew butter and jam are shown in table 3 and 4 respectively.

Table 2: Investment profile for cashew oil production by Mechanical method

Year	Cost (N)	Revenue	Increm . Benf.	Disc. cost	Disc.be nf.	21 % fact or	32 % fact or	(NPV (21%)	NPV (32%)
0	197,000	-	(197,000)	197,000	(197,000)	1	1	(197,000)	(197,000)
1	2,077,026	2,409,750	332,724	1,715,623.5	1,990,453.5	0.827	0.758	274,830	253,205
2	2,330,423.2	2,536,237.5	199,814.3	1,591,671	1,728,152.2	0.683	0.574	136,473.2	114,693
3	2,614,734.8	2,656,749.4	42,014.6	1,474,710.6	1,498,406.7	0.564	0.435	23,696.23	18,276.4
4	2,933,732.4	2,789,586.9	(144,145.5)	1,370,053	1,302,737.1	0.467	0.329	(67,315.90)	(47,424)
5	3,291,647.7	2,929,066.24	(362,581.6)	1,270,576	1,130,619.6	0.386	0.250	(139,956.5)	(9,072)
TOT	13,477,4	13,315,3		7,619,6	7,453,3			31,116.	132,67
AL	75.14	90.04		34.1	69.1			93	8.4

BCR = 0.98

IRR =23.09

Table 3: Nutritional composition of cashew jam

Parameters	Nutrient value
Moisture content (%)	68.41
TTA	0.12
pH	3.60
Brix (0)	56
Vit. C (mg/100g)	230

Table 4: Composition of cashew nut butter

Elements	Nutritional value
Carbohydrate	27.87 g
Fat	49.81 g
Protein	17.55 g
Dietary fiber	2.12 g
Ash	2.50 g
Calcium	43 mg
Iron	50.2 mg
Magnesium	250 mg
Zinc	5.61 mg
Water	2.90 g

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Experimental Title: Growth of cashew as influenced by leguminous crops (Iloyanomon, C.I. and Adeyemi E.A.),

Introduction

Cashew is an export crop and one of the most important tree nuts in international trade. However, soil nutrient management in cashew is a challenge. Cashew is often grown on poor soils due to it's adaptation to a wide range of soil and climatic conditions. This coupled with nutrient mining due to harvesting of cashew nuts without adequate nutrient replenishment has led to the need for nutrient supplementation. Though nutrients are returned through leaf litter, the amount returned is not sufficient to replace the lost nutrients.

Low external input agriculture without fertilizer is a common place in Sub-Saharan Africa. Many cashew farmers in Nigeria do not use fertilizer. Reason ranges from lack of knowledge of the nutrient status of the soil, to scarcity of the conventional inorganic fertilizer and high cost where available, among other reasons. This has made inorganic fertilizers beyond the reach of small holder resource poor farmers. This coupled, with the detrimental effect of continuous use of inorganic fertilizers has necessitated the search for a sustainable and environmentally friendly alternative.

The use of leguminous cover crops is a viable and sustainable alternative. Leguminous cover crops have been extensively used in the tropics for plantation crops such as rubber and oil palm in countries like Malaysia. Apart from some of these cover crops being sources of food and fodder. Their nitrogen fixing potentials has made them an attractive alternative. Leguminous cover crops such as pigeon pea *Pueraria phaseoloides*, *Mucuna prorren*, *Calopogonium mucunocides*, Fix 46-122kgN/ha (Tian et al. 1995), increased soil available Phosphorous by 3-15% and also increase yield. Cover crops also increases soil organic matter which is also essential in soil fertility management. In addition to improving soil fertility, they smother weeds, reducing the drudgery of hand weeding and the use of expensive herbicides and environmental problems associated with use of these herbicides. Cover crops, also reduces soil degradation due to erosion and conserves soil moisture (Salako and Tian, 2005). Beneficial effects of some cover crops in improving growth and yield of cocoa has also been reported.

Despite the benefit of cover cropping it has not been properly integrated into the farming system on Nigeria. Hence it is not a common practice in Nigeria. There is therefore need to study the impact of cover cropping on cashew with the aim of incorporating these leguminous cover crops in cashew plantations to enhance their benefits.

Objective

1. Determine the effect of leguminous cover crops on early field establishment of cashew.

Methodology

Field experiment was conducted in Ibadan. The treatments consisted of:

- i) Cashew alone
- ii) Cashew+ Pigeon pea
- iii) Cashew+ Soybean
- iv) Cashew+ cowpea

The treatments were arranged in a Randomized complete block design with three replications. Cashew was planted at a spacing of 6m X 6m. The legumes were planted at the rate of two seeds per hole and latter thinned down to one plant per hole. Prior to the establishment of the experiment, composite soil sample will be taken at 0-30cm for laboratory analysis to determine some of the physical and chemical properties of the soil. Growth data was taken on plant height, stem diameter, number of leaves leaf and leaf are from one month after planting and monthly afterward until termination of experiment. Data collected will be subjected to statistical analysis and significant means separated using Least significant difference at 5% level of probability.

Results and Discussion

The effect of leguminous intercrops on no of leaves of cashew was significant ($P < 0.005$) (Figure 1).

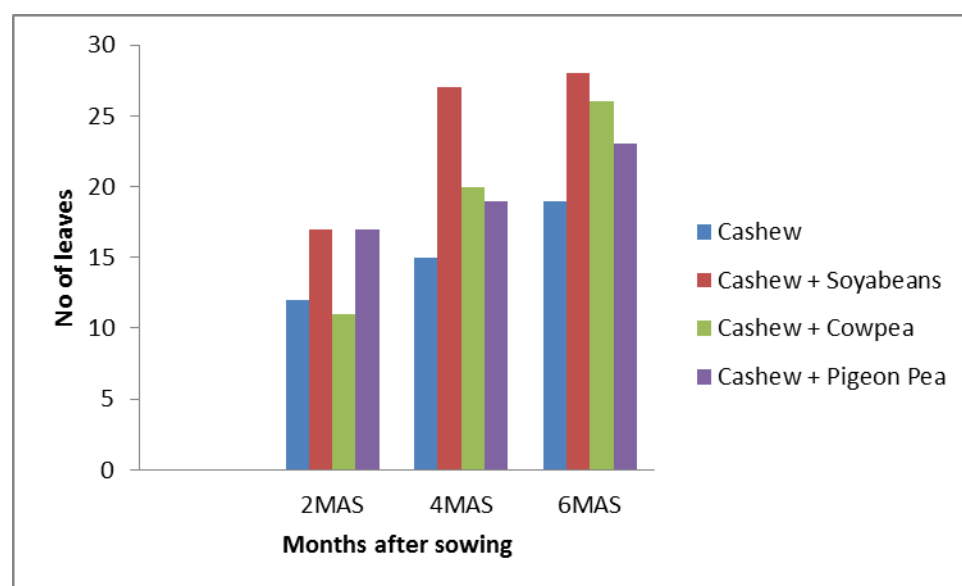


Figure 1: No of leaves of cashew seedlings as influenced by leguminous crop intercrop

At 2 months after sowing (MAS) of cashew, the number of leaves of cashew intercropped with legumes was higher than sole cashew, however the increase was not significant. At 4MAS only cashew in cashew + soyabeans intercrop had significantly higher number of leaves when compared with sole cashew with increases of 80 %. However, at 6MAS both cashew in cashew + soyabeans and cashew + cowpea intercrop had higher number of leaves when compared with sole cashew with increases of 47 % and 37 % respectively. The better performance in no of leaves of cashew in cashew + soyabeans and cashew + soyabeans intercrop over sole cashew could be attributed to increased nitrogen availability due to nitrogen fixation.

Cashew plant height was not significantly ($P < 0.005$) enhanced by the presence of legumes at all the sampling periods (Figure 2).

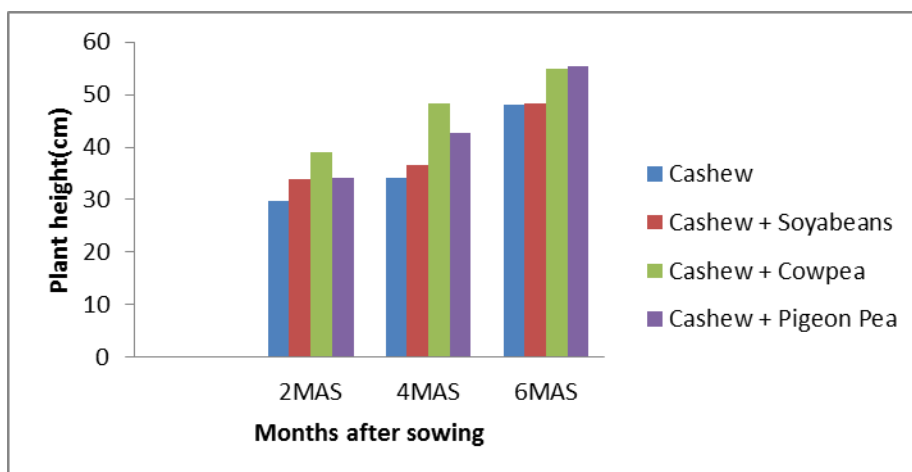


Figure 2: Plant height (cm) of cashew seedlings as influenced by leguminous intercrop. Though cashew intercropped with legumes had taller plants when compared with sole cashew, the increase was not significant. Similar trend was observed for stem diameter (Figure 3)

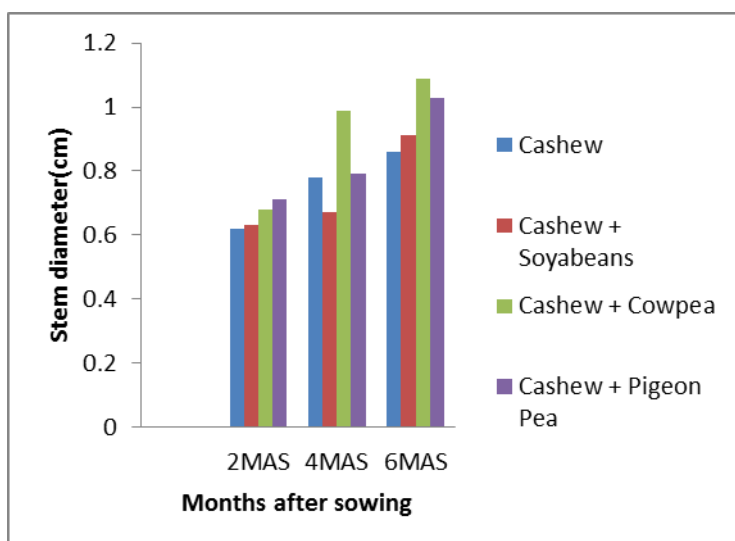


Figure 3: Stem diameter (cm) of cashew seedlings as influenced by leguminous intercrop and number of branches (Table 4).

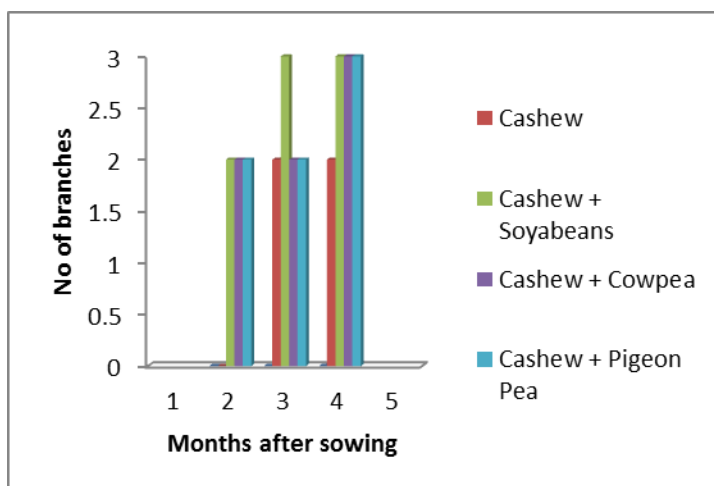


Figure 4: No of branches of cashew seedlings as influenced by leguminous intercrop

The presence of leguminous intercrops except pigeon pea decreased soil temperature significantly when compared with sole cashew at 2MAS with decreases of 8.95-17.8% (Figure 5).

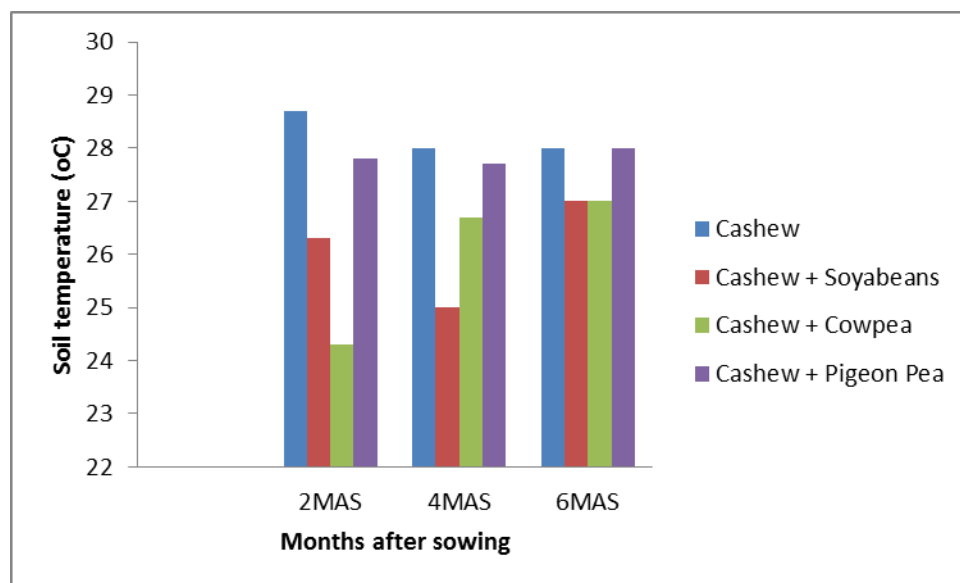


Figure 5: Soil temperature(°C) as influenced by leguminous intercrop

Though pigeon pea lowered soil temperature the decrease was not significant. Cowpea also decreased soil temperature by 15% when compared with pigeon pea. This trend was maintained at 4MAS with soyabean and cowpea decreasing soil temperature significantly by 12% and 4.95% respectively when compared with sole cashew. At 6MAS all legumes decreased soil temperature but the decrease was not significant. The decrease of soil temperature by cowpea and soyabean at 2 and 4MAS could be attributed to the fact that these legumes covered the soil so shielded the soil from direct sunlight. This effect was not observed at 6MAS because cowpea and soyabean had been harvested.

Summary and Conclusion

Intercropping cashew with legume is beneficial as it enhances the growth of cashew.

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Experimental Title: Assessment of the effect of postharvest handlings on cashew nut and kernel quality (Adeniyi, D. O. and Adedeji, A. R.)

Introduction

Excellence and thoroughness of postharvest handlings affect the quality of the cashew nut, which in turn affects the reputation of the export country. Cashew nut quality influences the price and safe consumption of the product. Nigeria receives the lowest international prices in Africa for its raw nuts due to concerns over production, processing, post-harvest handling.

This study is to ascertain the quality of the cashew nut and kernel by evaluation of the microbial status and potential mycotoxins contamination of the produce relating to the postharvest handling techniques employed by farmers.

Objectives

Evaluate farmers' postharvest handling practices and determine their effect on microbial status and mycotoxins infestation potential of the nut and kernel quality.

Methodology

The nut samples from study locations were subjected to physical observation to assess the disease expression on the nut, the apples remains in some cases were neatly detached, nut defects/abnormalities prior to opening of kernel for further cotyledon assessment and microbial assay. The nut counts of the samples were recorded and the moisture content also determined as follows:

$$\text{Moisture Content} = \frac{\text{Initial weight} - \text{Oven dry weight}}{\text{Oven dry weight}} \times 100$$

The kernels were cut into two equal halves using a sterile cutting device and the cotyledons were assessed by visual observations for colour, deformity and infection status of the nuts. The nut samples were separated into the kernel, testa and cotyledon and were assayed separately for associated mycoflora by pour plate method with colony count taken at 10^{-5} dilution factor.

Results and Discussion

Kogi I: Cashew nut samples were dried under direct sun for several days, packed, bagged and kept in water proof sacks in store and the nut is a year in storage at the time of collection.

Kogi II: The nut samples were dried for several weeks and packed as a heap on water proof sacks in an enclosed environment for storage in a farmer's store. The nuts have also been stored for a year at the time of sampling.

Oyo I: The nut samples were picked and subjected to different drying techniques (direct sun drying and shade drying). The nuts were dried on the concrete platform for three days prior to storage and stored in jute bag.

Kwara I: The cashew apples were allowed to rotten and the nuts picked or the apples harvested for consumption. The nuts collected was dried by heaping them in one part of the farm till a buyer is gotten for the produce or heap under a shed in cases of no buyer on time.

Oyo II: The cashew apples were allowed to drop, rotten and the nuts picked. Nuts dried briefly and packed in water proof bag in storage.

Differences were observed in the methods and techniques employed by farmers in the handling of cashew nut especially in the harvesting, drying and storage. Most farmers allow the apple to rotten on the ground and pick the nuts thereafter while some other harvest the nut on observation of its ripeness but some however observe routine and regular picking of apples prior to rotten. More farmers package their nut in water proof bags in store on bare floor, some heap on the farm and some other ones dry briefly on bare floor and put in storage. Some farmers still heap the nut on concrete floor in their warehouse. The cotyledons are commonly creamy-white in cases they are intact but some rotten ones were observed in nut samples from Kabba and Ilorin. The nut count of cashew nuts from Ibadan, Kabba and Ocha range from 112 to 258 nuts, the moisture content of the nut samples from 2.67 to 7.55% and the colony count at 10^{-5} dilution factor is had the least recorded at Ibadan.. The highest nut count of 258 was recorded in Ocha, followed by 230 in Ilorin and the least nut

count of 112 in Kabba. The moisture content of the nut samples was highest (12.61%) in Ilorin while the lowest of 2.67% was recorded in Kabba, and the colony count also range from 1.0 to 52.0 x 10⁵ with the highest colony count found in Ochaja nut.

Table 1: Characteristics of nut samples from study locations

*Sample source	Initial weight (g)	Final weight (g)	Moisture content (%)	Nut count//100g	Colony count (cfu/ml@10 ⁻⁵)
Ibs	61.65	57.32	7.55	171	3.0
Iba	58.14	54.12	7.43	170	1.0
Kab	95.47	92.99	2.67	112	7.0
Och	41.58	39.50	5.27	258	52.0
Ilr	43.5	38.63	12.61	230	17.0
Ogb	45.0	40.76	10.40	220	4.0

*Ibs-Ibadan (sun-dry); Iba-Ibadan (air-dry); Kab-Kabba; Och-Ochaja; Ogb-Ogbomoso; Ilr-Ilorin

Eleven identified mycoflora were isolated from the samples, identity of some others could not be established while some others still require further identification to specie level has variations were observed in their morphological features of the isolates. Most of the isolated mycoflora are toxigenic species belonging to the genera *Aspergillus*, *Penicillium*, *Lasiodiplodia* and *Fusarium* across the five study locations indicating the potential mycotoxin contaminations in the nut samples.

Table 2: Occurrence of mycoflora associated with cashew nut

Sample source	<i>Aspergillus</i> spp.	<i>A. niger</i>	<i>Penicillium</i> spp. 1	<i>Lasiodiplodia</i> spp.1	<i>A. fumigatus</i>	<i>A. flavus</i>	<i>A. parasiticus</i>	<i>A. repens</i>	<i>Penicillium</i> spp. 1	<i>Lasiodiplodia</i> spp.2	<i>Fusarium</i> spp.	*U I
Ochaja	+	+	+	+	+	+	+	+	-	-	-	+
Kabba	+	+	-	-	-	-	+	-	-	+	-	+
Ibadan (air-dry)	+	-	-	-	+	+	+	-	-	-	-	-
Ibadan (sun-dry)	+	-	-	-	+	-	-	+	+	-	-	+
Ilorin	+	-	+	+	-	+	-	-	-	-	+	+
Ogbomoso	-	-	+	-	+	+	-	-	-	-	+	+

Present (+); Absent (-); *Unidentified organism

Conclusion and Recommendation

Toxigenic potential of the mycoflora observed in the cashew nut samples shows that postharvest handling techniques adopted by various farmers is not appropriate and mycotoxins contamination potentials in the nut pose a serious health risk to consumers. However developed technologies on best practices in cashew production need be made available and farmers be trained on its application.

Experimental Title: Field establishment of cashew as influenced by shade plant, phosphate fertilizer and *Arbuscular mycorrhizal* inoculation in a changing climate (Ibiremo, O. S. and Adeyemi, E. A.)

Introduction

Cashew as a result of its wide adaptation is often grown in very poor soils and this has affected its survival and establishment (Topper, *et al.* 2001). Tree crops generally require shade particularly cocoa and coffee for good establishment. However, this is not true with cashew as shade is hardly used. Shade is necessary for good establishment of tree crops; specifically the use of shade plants for cashew establishment is rarely done. Plantain has been used as shade/nurse plant in cocoa and coffee establishment. Recent observations indicated that plantain could not perform this function especially in the dry season when the shade requirement is most critical. The need to search for alternate shade crop that will provide adequate shade during the stress period (dry season) becomes imperative. In addition, cashew cultivation is variously limited by both biotic and abiotic agents particularly in poor soils. Phosphorus is of most critical nutrient elements required for root and flower development which are fundamental to productivity. In particular P is limited due to fixation, crop removal and leaching. The objective of this study was to enhance cashew establishment through use of natural rock phosphate (Sokoto RP) and pigeon pea as a shade crop.

Materials and Methods:

The project was sub-divided into two components namely: (1) Influence of phosphate fertilizer and pigeon pea (*Cajanus cajan*) on the field establishment of cashew (Ochaja) and (2) Field establishment of cashew as influenced by pigeon pea (*Cajanus cajan*), phosphate fertilizer and Arbuscular mycorrhizal inoculation (Ibadan). The two sites were slashed and the tree felled. The debris was packed and layout of the experiments in the two locations was done. The cashew and pigeon pea were planted directly on the field at the same time. The initial soil samples of the sites were taken and processed for physical and chemical analyses. The project was established at CRIN Ibadan along second gate (Zone 3/4) and CRIN Ochaja substation. The cashew seedlings and accompanying shade crop, pigeon pea (*Cajanus cajan*) were established in 2014. Data collection on at both locations commenced on cashew height, stem diameter, number of leaves, leaf area and number of branches. The experimental design was a randomized complete block (RCBD) with three replications. The soil samples were analyzed for both physical and chemical properties according to procedures as outlined by IITA (1982). Data was analyzed using ANOVA and means separated by LSD at 5% level of probability.

Results and Discussion

The results reported here contained mostly the data obtained from Ochaja substation while the Ibadan data is under processing. The soil of Ibadan contained 718, 129, 149gkg⁻¹ soil sand, silt and clay respectively while Ochaja had 858, 20 and 124 gkg⁻¹ for sand, silt and clay fractions respectively (Table1). This implies that the higher sand fraction in Ochaja soil would not allow water to be retained during the dry season which has serious implications on the survival of young cashew seedlings in the field. Conversely, the silt fraction in Ibadan soil

was 85% higher than the value obtained for Ochaja soil. However, the soils in both locations contained enough clay that would be sufficient for the survival of cashew. The average organic carbon of Ibadan soil at 0-30cm was 10gkg^{-1} soil while Ochaja soil had 6gkg^{-1} soil. It is known that organic carbon plays a pivotal role in the fertility of tropical soils, hence Ibadan soil is more suitable than that of Ochaja soil. The pH of Ibadan soil was 7.6 while that of Ochaja was 5.9. This indicates that Ochaja soil was more acidic compared to Ibadan. In Ibadan soil, the total N at 0-15cm was 0.15gkg^{-1} while that of Ochaja was 0.08gkg^{-1} at the same depth. However, the total N at 0-15cm in Ibadan soil decreased sharply by 53% at 15-30cm while that of Ochaja decreased by only 25%. The exchangeable bases (K, Ca and Mg) were higher in Ibadan soil than Ochaja soil (Table 1). This shows that the matrix of Ibadan soil is better supplied with bases than Ochaja which is an indication of fertility. The height of cashew seedling was not significantly affected by shade plant and SRP at 1 MAP. However, at 3MAP SRP application without pigeon pea (shade crop) significantly ($P<0.05$) enhanced the height of cashew seedling in the field. At 3 and 4 MAP, SRP application and shade plant did not show significant effect on the height of cashew seedlings in the field. Conversely, the height of cashew at 5, 6 and 7 MAP was significantly ($P<0.05$) promoted by SRP application without shade crop in the field. In Table 3, phosphate fertilizer and shade crop did not significantly affect the stem diameter of cashew in the field at 1 to 4MAP. At 4MAP, stem diameter ranged from 1.18 to 1.43cm under the control and phosphate fertilizer application with shade crop respectively. However, phosphate fertilizer application and shade crop significantly ($P<0.05$) enhanced the stem diameter of cashew seedlings in the field. The effect of SRP and shade crop followed similar trend of what obtained between 1- 4MAP. The number of leaves of cashew was not significantly affected by phosphate fertilizer application and shade crop at 1 to 7MAP in the field (Table 4). The number of leaves ranged from 29 to 56 per plant at 7MAP. SRP and plant did not affect the leaf area of cashew at 1 MAP. However, at 2 and 3 MAP phosphate fertilizer applied with shade crop significantly ($P<0.05$) enhanced the leaf area of cashew (Table 5). Conversely, SRP and shade crop did not affect the leaf area of cashew at 4, 5, 6 and 7 MAP. At 7 MAP, cashew leaf area ranged from 63 to 76cm^2 per plant in the control and SRP with shade crop respectively. Phosphate fertilizer and shade crop did not significantly affect the number of branches per stand of cashew in the field at 1 to 3MAP (Table 6). However at 4 MAP, cashew under shade crop produced more branches than those without shade crop. In addition, cashew branched more under shade and phosphate fertilizer application. However, at 5, 6 and 7 MAP, the effect of shade crop and phosphate fertilizer application was not significant on the number of branches of cashew in the field. The number of branches per plant ranged from 5 to 7 in the control and phosphate fertilizer application and shade crop respectively. The interim inference is that phosphate fertilizer and shade crop enhanced the growth and field establishment of cashew.

Table 1: Pre- cropping physical and chemical characteristics of the soils of Ibadan and Ochaja

Soil Parameters	Unit	Ibadan		Mean
		Soil Depth		
		0-15 cm	15- 30 cm	
Sand	gkg ⁻¹	728.00	708.00	718.00
Silt	gkg ⁻¹	126.00	132.80	129.40
Clay	gkg ⁻¹	149.60	149.20	149.40
pH		7.65	7.65	7.65
Organic C.	gkg ⁻¹	1.28	0.73	1.01
Total N	gkg ⁻¹	0.15	0.08	0.12
Avail.P	mgkg ⁻¹	17.09	9.81	13.45
Exch. K	cmolkg ⁻¹	0.33	0.19	0.26
Exch. Ca	cmolkg ⁻¹	13.70	8.61	11.15
Exch. Mg	cmolkg ⁻¹	2.53	1.52	2.02
Fe	mgkg ⁻¹	7.75	11.30	9.52
Zn	mgkg ⁻¹	0.83	4.32	2.57
Cu	mgkg ⁻¹	0.57	0.52	0.54
Mn	mgkg ⁻¹	78.15	97.37	87.76
		Ochaja		
Sand	gkg ⁻¹	848.00	868.00	858.00
Silt	gkg ⁻¹	22.80	17.80	20.30
Clay	gkg ⁻¹	129.20	119.20	124.20
pH		6.15	5.70	5.92
Organic C.	gkg ⁻¹	0.73	0.54	0.63
Total N	gkg ⁻¹	0.08	0.06	0.07
Avail.P	mgkg ⁻¹	9.82	9.36	9.59
Exch. K	cmolkg ⁻¹	0.06	0.05	0.05
Exch. Ca	cmolkg ⁻¹	6.76	5.85	6.30
Exch. Mg	cmolkg ⁻¹	0.71	0.50	0.60
Fe	mgkg ⁻¹	16.12	9.93	13.02
Zn	mgkg ⁻¹	2.45	0.78	1.61
Cu	mgkg ⁻¹	0.37	0.26	0.31
Mn	mgkg ⁻¹	56.97	26.65	41.81

Table 2: Cashew height as influenced by shade crop (*Cajanus cajan*) and phosphate fertilizer in the field (Ochaja)

Treatment	Months after Planting						
	1	2	3	4	5	6	7
P ₀ S ₀	21.08	29.2ab	38.20	40.40	42.67b	47.80b	50.00b
P ₀ S ₁	20.58	28.50b	35.10	47.7	39.20b	43.70b	45.60b
P ₁ S ₀	25.58	37.10	49.10a	54.90	61.37a	67.90a	71.80a
P ₁ S ₁	23.75	32.90ab	46.09	51.83	49.03ab	45.70ab	58.00
SE (0.05)	5.44	12.30	13.60	27.70	9.34	7.79	6.80

CV (%)	12	7.85	16.20	28.50	15.76	18.60	14.80
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P0S0 = no P fertilizer and plant shade, *P0S1* = no P fertilizer with shade plant,
P1S0 = P fertilizer with no shade plant and *P1 S1* = P fertilizer with shade plant

Table 3: Effect of shade crop (*Cajanus cajan*) and phosphate Fertilizer on stem diameter of cashew in the field (Ochaja)

Treatment	Months after Planting						
	1	2	3	4	5	6	7
P ₀ S ₀	0.75	0.83	1.11	1.18	1.34b	1.40	1.47
P ₀ S ₁	1.02	1.11	1.37	1.43	1.38b	1.44	1.57
P ₁ S ₀	0.83	1.00	1.34	1.42	1.60ab	1.83	1.90
P ₁ S ₁	0.80	0.96	1.19	1.43	1.69	1.56	1.75
SE (0.05)	0.20	0.12	0.17	0.16	0.16	0.19	0.19
CV (%)	29.10	15.50	17.40	14.40	14.40	15.2	13.70

P0S0 = no P fertilizer and plant shade, *P0S1* = no P fertilizer with shade plant,
P1S0 = P fertilizer with no shade plant and *P1 S1* = P fertilizer with shade plant

Table 4: Effect of shade plants and phosphate fertilizer on number of leaves of cashew in the field (Ochaja)

Treatment	Months after Planting						
	1	2	3	4	5	6	7
P ₀ S ₀	17.40	23.60	32.50	27.30	24.70	30.40	29.30
P ₀ S ₁	15.60	30.20	34.50	31.00	26.30	31.30	32.80
P ₁ S ₀	18.50	31.90	39.80	32.00	43.70	47.20	56.00
P ₁ S ₁	17.30	28.10	37.80	37.30	30.90	34.20	33.70
SE (0.05)	3.48	5.30	5.57	5.88	9.15	8.18	14.05
CV (%)	24.80	22.80	18.90		35.70	35.70	45.30

P0S0 = no P fertilizer and plant shade, *P0S1* = no P fertilizer with shade plant, *P1S0* = P fertilizer with no shade plant and *P1 S1* = P fertilizer with shade plant

Table 5: Effect of shade crop and phosphate fertilizer on the leaf area (cm²) of cashew in the field (Ochaja)

Treatment	Months after Planting						
	1	2	3	4	5	6	7
P ₀ S ₀	37.20	42.20b	46.60b	63.70	059.6	58.80	62.90
P ₀ S ₁	36.17	44.80b	55.00b	61.80	50.60	64.80	64.70
P ₁ S ₀	32.09	64.20a	77.20a	70.30	65.20	77.40	75.80
P ₁ S ₁	38.42	56.00ab	69.70a	108.20	77.30	68.40	69.80
SE (0.05)	5.03	6.88	3.67	18.24	15.22	7.47	10.09
CV (%)	17.10	16.30	7.20	29.40	29.50	13.60	18.10

P0S0 = no P fertilizer and plant shade, P0S1= no P fertilizer with shade plant, P1S0= P fertilizer with no shade plant and P1 S1= P fertilizer with shade plant

Table 6: Effect of shade crop and phosphate fertilizer on the number of branches of cashew in the field (Ochaja)

Treatment	Months after Planting						
	1	2	3	4	5	6	7
P ₀ S ₀	2.83	3.50	4.67	3.00b	5.67		5.50
P ₀ S ₁	3.75	4.33	4.00	5.00a	5.00		5.67
P ₁ S ₀	2.58	4.00	4.33	3.67ab	5.67		7.00
P ₁ S ₁	3.18	3.25	3.33	4.33ab	6.33		6.67
SE (0.05)	0.60	0.80	0.73	0.61	1.19		1.17
CV (%)	38.00	26.00	22.00	18.60	25.80		33.90

P0S0 = no P fertilizer and plant shade, P0S1= no P fertilizer with shade plant, P1S0= P fertilizer with no shade plant and P1 S1= P fertilizer with shade plant

References:

International Institute of Tropical Agriculture Ibadan (1982) *Laboratory Manual* 1982 edition Pp.70.
 Topper, C.P.; Caligari, P.D.S.; Camara, M.; Diaora, S.; Dyaha, A.; Coulibay, F.; Asante, A.K.; Boamab Ayodele, E.A. and Adebola, P.O. 2001. West African Regional Cashew Survey Report (Guinea, Guinea Bissau; Cote d'Ivoire; Ghana and Nigeria. *Sustainable Tree Crops Programme*. STCP and Biohybrids Agrisystem Ltd., UK, 1, 110.

LEVEL OF COMPLETION: 70%

LOCATIONS OF THE EXPERIMENT: CRIN Ibadan and CRIN Ochaja substation

TEA PROGRAMME

Experimental Title: Tea production and processing status in Nigeria (Adedeji A.R.; Olaniyi O.O.; Ipinmoroti R.R.; Aroyeun S.O.; Oloyede A.A.; Adebowale B.A.; Oluyole K.A.; Ndagi I.; Akanbi O.S.O.; Adeosun S.A.; Aderolu I.A. and Yahaya A.T.)

Introduction

Tea was introduced into the country by de Bouley from West Cameroon in 1952 (Adedeji, 2006, Kassbol-Smith, 1965). The first commercial clones were imported into the country (specifically, Mambilla plateau) in 1975 (Hainsworth, 1981). Nigeria began tea production on a commercial scale in 1982 on the Mambilla Plateau of Taraba State. Hence, the production of this valuable crop in Taraba State is concentrated on Mambilla plateau. Apart from the production, value is being added to the crop in terms of processing. In view of this, different tea processing companies have sprung up to add value to the crop to the consumption stage. However, it is quite germane to identify some of these processing companies as well as the farmers, to know their problems and find ways of proffering solutions to the problems scientifically. It is therefore the objective of this study to survey tea production and processing in Nigeria.

Materials and Methods

The study was carried out in Taraba as well as Lagos States. In Taraba State, the study was carried out on Mambilla plateau in Sadauna Local Government Area and the communities that were selected for the study are Kusuku, Mayo-Kusuku, Kakara and Nyiwa. From the study area, random sampling technique was used to select 86 tea producers on Mambilla plateau while purposive sampling technique was used to select two processors, one from Mambilla plateau-Mambilla Tea Company and the other one from Lagos- Emiva Investment Company. Two sets of questionnaire were used to elicit information from the respondents, one for tea farmers and the other one for tea processors. The data retrieved from the information collected were analyzed using descriptive statistics such as frequencies and percentages.

Results and Discussion

Table 1 shows the socio-economic characteristics of the farmers. The table shows that 87.2% of the farmers are male while 12.8% are female. This is quite obvious in as much that males are more involved in farming while females are more engaged in the sales of proceeds from the farm as well as general trading. Majority (90.7%) of the respondents are married. This has a great implication on the family labour supply as the spouse and children would be assisting on farm work and hence reduces the problem of labour unavailability. Table 1 also shows that 82.6% of the farmers are members of association while only 17.4% did not join any association. However, of the members that joined association, 60.5% are members of Mambilla Real Tea Association. The remaining 22.3% belonged to any of the following associations: Cooperative societies (1.2%), CRIN Tea Association (4.7%), Mayo-Kusuku Tea Farmers Association (3.5%), Nacoftan (1.3%), O.G.S. (1.3%) and Small Scale Farmers Association (10.5%). Regarding the educational status, 17.4% of the total respondents have no formal education while 22.1% had a maximum of primary education. However, 38.4% of the total respondents had secondary school education and above. The result shows that majority of the respondents (61.6%) might not be able to read and write very well. This was

however reflected during the administration of questionnaire to the respondents as majority of them claimed that they could neither read nor write. The development is not good for an efficient production of tea as most farmers would not be able to read or interpret the result findings. Concerning the farming experience, 63% of the total farmers had more than 15 years of farming experience while 3% had less than 16 years of farming experience. Meanwhile, 20% of the total respondents had no response. The result shows that most of the farmers are highly experienced in tea farming. This is a positive pointer towards an increased tea production as farmers with high experience would be able to apply their huge experience to improve their production. As regards the age of the farmers, 55.7% of the respondents are below 40 years of age and below while 38.37% of the total farmers are within the age bracket 41-60 years. Only 5.93% of the respondents are above 60 years of age. The result however shows that 94.07% of the total respondents are still in their active age (≤ 60 years). This is a positive indicator towards increased tea production. The result on the nature of ownership of farm shows that 62.8% of the farms are self-established while 17.4% are inherited and just 2.3% are purchased. This is a quite deviation from the other tree crops in which the substantial proportion of the respondents inherited their farms. Table 1 also shows the age of the farm. The Table shows that some farms (27.9%) are aged between 11 and 20 years while just 5.8% of the farms are of age 10 years and below. It could be observed most farms are not young. In fact, 66.3% of the farms are above 20 years. Hence, most farms are old. Majority of the respondents in the study area are small scale farmers. This is because 70.9% of the farmers are having 5 hectares of farm and below while just 2.3% are having above 10 hectares of farm. This shows that the farmers are not working in line with the principle of economies of scale and this will have a negative impact on the income derivable from tea production. As regards the sources of fund, majority of the farmers (69.6%) utilizes only their personal money as the source of funding their farming business. Some (10.5%) of the farmers source their funds from friends and family while only 3.5% source their fund from bank. However, none of the farmers source their funds from either government or non-governmental organization. A high proportion of the farmers (54.7%) sell their produce at N22.00 per kilogramme while 33.7% sells at N24.00 per kilogramme. Only 7.0% of the farmers sell above N24.00 while 3.6% of the respondents sell below N22.00. The result of the analysis shows that most farmers (56.9%) sell their produce to local processors while 34.9% sells their produce to Mambilla Beverages Nigeria Limited. Hence, most farmers prefer to sell their produce to local than to Mambilla Beverages Nigeria Limited. This might be due to the fact that local processors offer a higher price than Mambilla Beverages Nigeria Limited.

Table 1. Socio-economic characteristics of the farmers

Variable	Frequency	Percentage
Gender		
Male	75	87.2
Female	11	12.8
Marital status		
Married	78	90.7
Single	8	9.3
Association membership		
Mambilla Real Tea Association	52	60.5
Co-operative	1	1.2
CRIN Tea Association	4	4.7

Mayo Kusuku Tea Farmer	3	3.5
Nacofflan	1	1.3
O. G.S.	1	1.3
Small Scale Farmers Association	9	10.5
Educational Status		
No response	19	22.1
No formal education	15	17.4
Primary education	19	22.1
Secondary education	21	24.4
Tertiary education	12	14.0
Farming experience (years)		
0-15	3	3.4
16-30	55	63.9
31-40	4	4.7
> 40	4	4.7
No response	20	23.3
Age of farmer		
≤ 20	4	4.6
21-40	44	51.1
41-60	33	38.37
> 60	5	5.93
Nature of ownership of farm		
No response	15	17.4
Inherited	15	17.4
Purchased	2	2.3
Self established	54	62.8
Sources of fund		
No response	11	12.8
Bank	3	3.5
Friends and family	9	10.5
Cooperative	4	4.7
Personal money	58	69.6
Government	0	0.0
Non-Governmental Organisations	0	0.0
Price at which tea leaf is sold N/Kg		
10	2	2.4
20	1	1.2
22	47	54.7
23	1	1.2
24	29	33.7
25	5	5.8
No response	1	1.2
Tea leaf buyer		
Mambilla Beverages Nigeria Ltd	30	34.9

Local processor	49	56.9
Real Tea factory	4	4.7
No response	3	3.5
Type of labour used		
Hired labour	41	47.7
Family labour	10	11.6
Communal labour	2	2.3
No response	33	34.8
Farm size (Ha)		
1-5	61	70.9
6-10	15	17.4
> 10	2	2.3
No response	8	9.4
Age of the farm (Years)		
≤ 10	5	5.8
11-20	24	27.9
21-30	37	43.0
> 30	20	23.3

Table 2. Analytical result on the survey of tea processors in Nigeria

Variables	Mambilla Tea Company	Emira Investment Company
Nature of ownership	Government	Private
Year of establishment	1982	2000
Products manufactured	Black and green tea	Black tea
Estimated annual capacity	1.6 million Kg	2000 Kg
Selling price (Black tea)	N70/package	N105/package
Source of raw materials	Local	Local
Where the material is got from?	Farmers and the factory's farm	Mambilla plateau
Quantity of tea leaf required per annum	1.6 million metric ton	2 tons
Do you always get this quantity?	No	Yes
Do you source your raw materials from farmers?	Yes	No
At what price do you buy from farmers?	N24	-
Other source of raw materials apart from farmers	CRIN	-
Do you have tea plantation?	Yes	No
If yes, what is the size of the plantation in hectares?	603	-
What percentage of your total leaf requirement is being supplied by your tea plantation?	64%	-
Constraints/problems and insect infestation	Finance, obsolete machine govt policy on small	Finance, marketing,

Conclusion

Presently, tea faces some challenges which require the efforts of all research disciplines to tackle. Meanwhile, through the research activities, the problem of tea marketability was alleviated through the encouragement of the farmers to be involved in small scale tea processing. It could also be concluded that the volume of tea leaf produced is below its demand especially by the processing companies. This therefore calls for the encouragement of tea farmers to increase their production. Also, there's a need to extend the growing of tea to lowland.

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- Kaasboll-Smith, S.A. 1965. Notes on cultivation of Arabica coffee on mambilla District. Ministry of Agriculture, Northern States, Nigeria, 21pp.

Experimental Title: Development of drought tolerant tea (*Camelia sinensis*) for Nigerian marginal ecology. (Olaniyi O.O.; Adenuga O.O.; Muiyiwa A.A and Oloyede A.A)

Objectives

To screen the available germplasm materials with a view to

- (i) Identify clones in the germplasm that can survive moisture stress

Introduction

There are two methods to improve crop productivity in marginal environment. These are either to improve the physical environment where crops grown or to improve the genetic potential of the crop. The physical environments are either increasing the total water supply or by reduction of the evaporative demand through the adoption of practices that minimize wastage of available water resources. Genetic improvement involves increase yield within the limits of the available water supply by increasing water use efficiency (WUE).

Materials and Methods

8 lowland tea genotypes were used in this experiment. The genotypes were raised in the nursery for 8 months. 40 cuttings were raised per genotype and replicated 3 times.

2 water regimes were employed for 3 months.

- (ii) No water

- (iii) Watered

200cm³ of water was applied every 2 days interval in a plastic pot filled with homogenous forest soil until the treatment with no water got to permanent wilting point.

Five cuttings of each genotype will be planted into the soil-filled poly pots. The planted pots were arranged in a CRD with three replications in a screen house. This was done in order to prevent external water supply into the experiment.

Data collection

Quantitative data were collected on the following traits

No of leaf
 Leaf length
 Leaf breadth
 Canopy area
 Number of nodes
 Internodes length
 Plant height
 Stem circumference

Results

NGC 19 recorded 6 branches which was the highest and significantly different from NGC 11 with 1 branch. There was no significant difference for internodes length, leaf bud, leaf length and leaf breadth for all the genotypes. NGC 19 had the highest stem diameter (8mm a) followed by NGC 10 (6.5mm ab) which were not significantly different from each other. NGC 19 dropped more leaves (14.8 a) which was not significantly different from NGC 28 and NGC 31 with average values of (6.9 ab) and (7.1 ab) respectively. The genotype with highest plant height was NGC 10 (48.5cm a) followed by NGC 7 (46.6 ab) and the leaf was recorded for NGC 11(26.63 d).

Table 1: Mean separation of 8 agronomic characters among 8 NGC genotypes

Genotypes	NB	SD (mm)	IL (cm)	NLD	LB	PH	LL (cm)	LB (cm)
NGC 19	5.8a	8.0a	3.37a	14.5a	0.00a	45.66ab	7.14a	4.09a
NGC 10	4.6ab	6.5abc	3.17a	2.7b	0.66a	48.85a	7.45a	2.6a
NGC 7	3.0bc	6.4abc	2.2a	6.1b	0.33a	46.69ab	7.39a	3.20a
NGC 28	3.0bc	4.5bc	1.7a	6.9ab	0.66a	29.00cd	6.68a	2.4a
NGC 31	2.9bc	5.9bc	2.61a	7.1ab	0.33a	41.82ab	8.2a	2.85a
NGC 35	2.5bc	6.0bc	2.5a	1.75b	0.33a	42.46ab	7.8a	2.4a
NGC 30	2.3bc	5.7bc	2.81a	2.9b	0.16a	36.94bc	7.22a	2.79a
NGC 11	1.0c	4.6bc	2.3a	1.7b	0.5a	26.63d	6.8a	2.0a

Note: Number of branches (NB), Stem Diameter (SD), Internodes length (IL), Number of leaf dropped (NLD), Number of leaf bud (LB), Plant Height (PL), Leaf Length (LL), and Leaf Breadth (LB)

The average number of leaf recorded for the set of experiment watered was (30.15a) while the average recorded for unwatered was (25.5b) and statistically different from each other table 2.

There was no significant different from watered and unwatered for all the traits measured except for plant height with (41a) and (37b) and number of leaf (30.15a) and (25.58b) respectively.

Table 2: Mean separation of 9 agronomic characters between watered and unwatered

	Numbe r of leaf	No of Branch es	Stem Diamet er	Internod es length	Dropp ed leaf	Leaf bud	Plant heig ht	Leaf lengt h	Leaf breadt h
Watered	30.15a	3.47a	6.2a	2.5a	7.79a	0.3a	41a	7.48a	3.0a
Unwatered	25.58b	3.04a	5.87a	2.6a	3.20a	0.4a	37b	7.43a	2.6a

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Discussion

Accession 10, 19, and 7 showed significant drought tolerance. Numbers of leaf and plant height among other characters evaluated were directly influenced by water loss in the plants. This is as a result of the ability of the genotypes to adjust to shortage of water by stopping new leaf production and shoot development. The three genotypes are further recommended for screening of prolin, carbohydrate, polyamine, glycine, betanine and trehalose which are associated with drought resistance.

PLANNING & TRAINING DEPARTMENT (Dongo, L. N.)

Introduction

The Planning and Training department is one of the five technical departments of the Cocoa Research Institute of Nigeria that is responsible for developing research and training policies of the institute for efficient management of resources. The department liaises with Human Resources Department to ensure compliance of the policies.

The department is responsible for collating capacity building activities and recommending staff to participate in relevant field of training and learning that may enhance their productivity. This is achieved through collation of the work plans of the institute, define their fiscal implication and mainstream them into available funds. The department coordinates knowledge sharing from trained personnel through seminars and also organises workshops for different stakeholders of the institute's mandate crops. It liaises with other technical departments to develop training modules for use in such workshops.

Part of the roles of the department is to plan and implement institutes activities such as the production of hybrid pods for free distribution to farmers under CocTA and the 50th anniversary celebration of the institute.

It is involved in the coordination and monitoring of both externally and internally funded research projects including the screening of agrochemicals for recommendation to cocoa farmers. The department anchors the placement of students from various tertiary institutions on industrial attachment to the institute.

Also, the planning and monitoring of major events in the institute is an important responsibility of the department. The department's activities for 2014 are highlighted below.

Industrial Attachments: The institute hosted several tertiary institutions for the industrial attachment of their students. A total of 199 students from twenty one institutions of higher learning did their industrial attachment. The table below gives an analysis of this.

Table 1: LIST OF STUDENTS ON INDUSTRIAL TRAINING 2014

S/N	INSTITUTIONS	NO OF STUDENTS
1	Federal School Of Statistics	1
2	University Of Ibadan, Ibadan	91
3	The Polytechnic, Ibadan	5
4	College Of Agriculture, Iguoiakhi, Edo State	1
5	Bowen University, Iwo	41
6	Lead City University, Ibadan	2
7	Ekiti State University, Ado Ekiti	4
8	Moshood Abiola Polytechnic, Abeokuta	16
9	Federal Polytechnic, Offa	1
10	Federal Polytechnic, Ede, Osun State	1
11	Les Cours Sonou University, Cotonou	1

12	Federal College Of Agriculture, Moor Plantation, Ibadan	4
13	Adekunle Ajasin Univeristy, Akungba-Akoko	15
14	Ladoke Akintola Univeristy Of Technology, Ogbomosho	3
15	Federal College Of Forestry, Jericho, Ibadan	4
16	Federal College Of Education (Special) , Oyo	2
17	Federal University, Oye-Ekiti	1
18	Kogi State Polytechnic	1
19	Federal University Of Agric, Abeokuta	1
20	Federal Polytechnic, Offa, Kwara State	1
21	Abraham Adesanya Polytechnic	3
	Total	199

Training Workshops: A total of 44 staff attended trainings within and outside Nigeria as shown in table 2. The local workshops were organised by different institutions of learning notably: Administrative College of Nigeria (ASCON), Public Administration and Management Development Institute (PAMDI), Agricultural and Rural Management Training Institute (ARMTI) and Centre for Administrative and Secretariat Management (CASEM).

Table 2: Training workshops attended by staff

S/N	Names	Topic	Venue	Date	Mode of Sponsorship
1	Dr. Aroyeun, S.O.	Wasd Conf	Montreal Canada	12-16 Aug	Self Sponsored
2	Mr Musa Samuel Ojo	Conversion Training Of Chief Driver	Mechanical/ Electrical Engineering Development Centre	July-Dec 2014	CRIN Sponsored
3	Mr Ajiroba Adeniyi	Conversion Training Of Chief Driver	Mechanical/ Electrical Engineering Development Centre	July-Dec 2014	CRIN Sponsored
4	Mr Ogundeji, B.A.	Training On Lab Procedures And Analysis Of Soil, Crop & Agric Products	NISLT, Samonda, Ibadan	03-09 August, 2014	Self Sponsored
6	Prof. M. Akoroda	Public Policy Anaylsis & Mgmt Wkshop (Pasd)	ASCON, Badagry Lagos	4-8 Aug 2014	CRIN Sponsored
7	Dr Dongo, L.N.	Public Policy Anaylsis & Mgmt Wkshop (Pasd)	ASCON Badagry Lagos	4-8 Aug 2014	CRIN Sponsored
8	Mrs P.A. Ubebe	Public Policy Anaylsis & Mgmt Wkshop (Pasd)	ASCON, Badagry Lagos	4-8 Aug 2014	CRIN Sponsored

9	Mr K.W. Fabawole	Public Policy Analysis & Mgmt Wkshop (Pasd	ASCON, Badagry Lagos	4-8 Aug 2014	CRIN Sponsored
10	Mr O.O. Onifade	Public Policy Analysis & Mgmt Wkshop (Pasd	ASCON, Badagry Lagos	4-8 Aug 2014	CRIN Sponsored
11	Ayoade Oluwole	Computer Application For Project Management (Arm 251)	ARMTI, Ilorin	7-11 July 2014	CRIN Sponsored
12	Dr C.O. Jayeola	Team Building & Leadership Skills	ASCON, Badagry, Lagos	11-15 Aug 2014	CRIN Sponsored
14	Dr Orisajo	Team Building & Leadership Skills	ASCON, Badagry, Lagos	11-15 Aug 2014	CRIN Sponsored
15	Dr Agbeniyi, O.	Team Building & Leadership Skills	ASCON, Badagry, Lagos	11-15 Aug 2014	CRIN Sponsored
16	Mrs O.A. Adepoju	Managing The Boss & Organising The Office For Corporate Efficiency	Centre For Admin & Sec. Management (CASEM)	1-4 July 2014	CRIN Sponsored
17	Mrs T. Adeagbo	Managing The Boss & Organising The Office For Corporate Efficiency	Centre For Admin & Sec. Management (CASEM)	1-4 July 2014	CRIN Sponsored
18	Dr Famaye	Team Building & Leadership Skills	ASCON, Badagry, Lagos	11-15 Aug 2014	CRIN Sponsored
19	Mr Fagbami, O.O.	Team Building & Leadership Skills	ASCON, Badagry, Lagos	11-15 Aug 2014	CRIN Sponsored
20	Mr Akhidime.S.	Advance Mgmt Course (Msd 700)	ASCON, Badagry Lagos	7-19 Sept	CRIN Sponsored
21	Mrs Oluwadare, S.	Advance Mgmt Course (Msd 700)	ASCON, Badagry Lagos	7-19 Sept	CRIN Sponsored
22	Mrs A.O. Olayinka	Managing The Boss, Official Schedule And Office/Document	Centre For Admin & Sec. Management (CASEM)	16-19 Sept 2014	CRIN Sponsored
23	Mrs Olayinka Sanni	Managing The Boss, Official Schedule And Office/Document	Centre For Admin & Sec. Management (CASEM)	16-19 Sept 2014	CRIN Sponsored
24	Mrs Oladimeji, L.T.N.	Managing The Boss, Official Schedule And Office/Document	Centre For Admin & Sec. Management (CASEM)	16-19 Sept 2014	CRIN Sponsored
25	Mr. Ibe Osita	Facilities Maintenance	Public Admin & Mgt Dev Inst (PAMDI)	5-8 Aug 2014	CRIN Sponsored
26	Agbebaku Endurance	Community	ARMTI, Ilorin	22-26, 2014	Self Sponsored

27	Bello Babajide	Driven Dev Approach In Agric & Rural Dev Application Of Statistical Tools For Research In Agric & Rural Dev	Ibadan	01-05 Sept, 2014	CRIN Sponsored
28		Application Of Statistical Tools For Research In Agric & Rural Dev			
29		Application Of Statistical Tools For Research In Agric & Rural Dev			
30		Application Of Statistical Tools For Research In Agric & Rural Dev			
31	Mrs Olumini	Strategies For Revenue Generation	Badagry	6-10 Oct, 2014	CRIN Sponsored
32	Mr Kuforiji	Strategies For Revenue Generation	Badagry	6-10 Oct, 2014	CRIN Sponsored
33	Mr Shittu Abu	Strategies For Revenue Generation	Badagry	6-10 Oct, 2014	CRIN Sponsored
34	Mr Ogunkua	Strategies For Revenue Generation	Badagry	6-10 Oct, 2014	CRIN Sponsored
35	Mr Okasabor, J.	Participalory Management of Community Development Groups Based Organisation	Ilorin	13-17 Oct 2014	CRIN Sponsored
36	Mr Enagu, Victor	Participalory Management Of Community Devlop Groups Based Organisation	Ilorin	13-17 Oct 2014	CRIN Sponsored
37	Engr. Bakare, A.T.	Leadership & Management Skills Development for Engineers & Technical Officers	Enugu	8-11 July 2014	CRIN Sponsored
38	Mr. Ebulu Sunday	Maintenance of Visual Aids Equipment for	PAMDI, Lagos	7-10 Oct, 2014	CRIN Sponsored

		optimum performance			
39	Mr Patrick Farinola				
40	Mrs Loveth Ikokoh				
41	Olasupo F.O	Cocoa Borlang Fellowship Programme/Award	Miami, Florida, USA	Oct-Dec 2014	Fellowship
42	Babafemi, I B	Information and Communication Technology (ICT) Professional Certificate Programmes	Dubai, United Arab Emirate (UAE)	Oct 2014- August 2015	Self Sponsorship
43	Mr Kolawole, O.O				
44	Mrs Idongesit Mokwunye				

Excursions: The institute played host to 12 institutions of higher learning on excursion to encourage the students study agriculture and especially develop interest as agripreneurs. The table below shows the details.

Table 5. List of Institutions that came for excursion at CRIN

S/N	Name of Institution	No of Students
1	Federal College of Forestry, Ibadan	145
2	Oluyole Private School, Ibadan	45
3	Emmanuel Alayande College of Education, Oyo	85
4	Federal College of Agriculture, Akure	40
5	Straight gate College, Ishara-Remo, Ogun State	9
6	Tai Solarin College of Education. Omu Ijebu-Ode	69
7	Lagos State Polytechnic, Ikorodu	112
8	FUNNAB, Abeokuta	900
9	Kogi State University	184
10	UNIBEN, Benin Edo State	58
11	Osun State College of Education, Ilesa	08
12	Department Of Forestry, University Of Uyo	26
	Total	1680

Seminar Coordination: Twelve in-house seminars were held this year. The presenters were drawn from technical and non technical departments of the institute covering research and non research topics. This is with the view of disseminating relevant information to all CRIN staff. Table 6 shows the details of the activity.

Table 6. Details of seminars held in year 2014

S/N	Date	Topic	Presenter
1	09 June, 2014	Breeding value of cocoa (<i>Theobroma cacao</i> L.) for pod and bean traits: a consequential advance in Nigerian cocoa breeding programme	Dr Adewale, B.D.
2	23 June, 2014	Effect of National Reforms in Financial and Economic sectors on research	Mr Onifade, A.O.
3	21 July, 2014	Cultural elements and women subservient roles among cocoa farm families in South West Nigeria: Implication for HIV prevention strategies	Mrs Williams, O.A.
4	04 August, 2014	Consumers' perception of Cocoa Research Institute of Nigeria Cocoa Bread	Mr. Agbongiaruoyi, A. E.
5	11 August, 2014	Role Play in Team Work: You style with others	Mr. Adeniyi, D.O.
6	25 August, 2014	Electronic Media Resources and Effective Publication output of Researches in Agricultural Institutes in Southwest, Nigeria	Mrs. Ogunjobi, T.E. Ag. H. (Lib. Division)
7	08 September, 2014	Evaluation of Hypoglycemic Properties of Ethanolic extract of green Tea (<i>Camelia sinensis</i> L.Kuntze).	Dr Aroyeun, S.O.
8	22 September, 2014	The Public Service Rule and Divided Loyalty.	Mrs. Ubebe, P.A. (Head of Admin & Supplies)
9	13 October, 2014	Energy and Transport at CRIN: Past, Present and Future	Engr. Bakare A.T.
10	27 October, 2014	The Assessment of host Plants Resistance for the control of Cephonodehylas (<i>Lepidoptera sphingidae</i>) on <i>Coffeacaneophora</i>	Mr. Adeniyi, D.O.
11	10 November, 2014	Internal Audit Division: It's Roles and Limitations	Mr K.M. Fabowale
12	24 November, 2014	Analysis of Input Use Efficiency among Cocoa Farmers in South-West Nigeria	Mr. Olayinka Taiwo

Dr. Adewale opined that understanding the value of generated hybrids gives a measure of probable advances in a breeding programme. In his work, four cocoa genotypes (Testers)

were crossed with two distinct Lines (T65/7 and T86/2). The parents and the hybrids were separately established in randomized complete block design with six replications. The fourteen genotypes were evaluated for pod length (PL), pod weight (PW), Number of beans/pod (NoB) bean length (BL), bean weight (BWi) and bean thickness (BT). Result showed that the treatment, parent, crosses and Lines x Tester sources of variation were significant. Contribution to the total variance of PL, PW and BWi were in the order of Tester > Line x Tester > Lines. He finally declared that increased productivity in cocoa can be achieved through hybrid breeding programme.

The four areas of reforms as considered by The second presenter, Mr. Onifade, A. were: the Macroeconomic Environment, Structural Reforms, Public Expenditure Management and Institutional and Governance Reforms. He stated that the reforms of Financial/Economic sector affect all government units drawing allocation from Federal Government which include Ministries, Extra-ministerial Agencies, Departments and other government offices. All research Institutes fall within one government department or the other. These effects were viewed in three ways; Function of Research Institutes, Personnel and Structure.

Function: The performance of Research Institutes is a function of fund release and time of release. It is a known fact that Nigeria Budgets are always considered behind schedule and thus result in low budget performance. With the reform, time lag between budget approval and execution has been removed as the period of cash backing is a thing of the past. Research Institutes can access fund to the limit of each Institute allocation. The performance and productivity of each Institute will increase due to timely availability of funds.

Personnel: The payment of staff salary is now timely and efficient. Payment to ghost workers in Federal Institute has become a thing of the past. Savings from payments to ghost workers have increased available funds for developmental projects. The relevant staff in the operation of the system needs to obtain relevant knowledge and skill to be able to maintain the system.

Structure: The payment system has changed from manual to I.T. system base. The payment cycle has reduced and thereby makes the system more efficient. All reforms are structured in line with the provision of Laws and financial regulations.

The work of Mrs. Williams, O. A. showed low scores in the practice of HIV prevention strategies inspite of the high knowledge of the respondents.

Mr. Agbongiaruoyi, A. E. investigated the perception of consumers of cocoa bread, produced by CRIN to promote value addition, in terms of taste, colour, aroma, texture and packaging. The result showed that consumers liked eating cocoa bread because of its colour and taste. He therefore recommended that the present level of the colour and taste be maintained and the product repackaged in an attractive manner.

The special seminar by Mr. Adeniyi, D. O. focused on behavioral style which refers simply to how someone acts at any one time. By understanding your style and that of others, you can establish rapport, become more persuasive and avoid miscommunication. He posited that there are no good or bad styles; rather there are only differences among people. Success or failure is unrelated to any style, all styles when used effectively are good. The four behavioral styles of primary interest in his presentation were the Designer/Developer, Motivator/Influential, Team Player and Implementer styles.

Mrs. Ogunjobi, T. E. showed that 93.1% of 334 respondents use electronic media resources (EMR) for research work while 81.1% use the resources for writing papers and proposals and

68% use them for seminar presentation. She revealed that 53.5% use EMR at the comfort of their homes, 51.5% in libraries and 51.2% at cybercafés. She reported a positive relationship between EMR utilization and publication output of researchers, identifying poor funding, irregular electricity, among other things, as constraints to electronic media usage in Southwest Nigeria. In conclusion, utilization of E-Media Resources determine the effectiveness of researchers' publication output.

According to Dr. Aroyeun, the ethanolic extract of green tea (*Camellia sinensis*) possess hypoglycemic activity in alloxan induced diabetic mice. He reported a significant decrease in blood glucose in diabetic mice treated with ethanolic extract of green tea when compared with the untreated group and diabetic mice became hypoglycemic at the 14th day of treatment.

Mrs Ubebe, P.A. in her special seminar defined the public service as the machinery through which government articulates and implements its policies and programmes noting that the public service rule is aimed at entrenching the issue of transparency, accountability, justice, equity, due process and the rule of law. She further said that public servants who perform their duties contrary to rules and regulations governing Government business are said to have divided loyalty and that divided loyalty in public service can crumble an institution of government.

Among the seven host plants screened for the developmental stages of *Cephonodes hylas* on coffee; *Gardinia ellis* was determined to be the true alternate host plants as reported by Dr. Azeez, O. M. He concluded that Vitamin A, C and K were significantly higher in *G. ellis* which might be linked to its susceptibility compared with other host plants; Oxalate was positively correlated with number of eggs laid and negatively with developmental stages of the moth, showing oxalate is involved with host plant resistance to *C. hylas*.

Mr. K. M. Fabowale defined Internal Auditing as an element of the Internal Control System set up by the management of an organization to examine, evaluate and report on accounting and other controls in operation. According to him, internal audit unit is established to provide complete and continuous audit of the accounts and records of revenue and expenditure. The internal auditor is directly responsible to the chief accounting officer for a comprehensive audit of all the operations and activities of the ministry/extra-ministerial department. He finally observed that the internal audit role is limited to observations, documentations and reporting of findings to the Executive Director.

The last seminar of the year was by Mr. Taiwo Olayinka. He defined efficiency in agriculture as the possibility of farm production to attain optimum level of output from a given bundle of input at least cost. He opined that research on input efficiency is firstly a success indicator and performance measure. Secondly, sources of inefficiency should lead to effective policy formulation for performance of farmers. His research results revealed an inefficient use of inputs by cocoa farmers in SW, Nigeria. He advised farmers to source their planting materials from CRIN so as to reduce production cost. Adequate training on optimal input use would also be necessary to avoid waste of resources. Incentives such as subsidy or credit facilities should be given to farmers to improve input efficiency.

Screening of chemicals: Eleven agrochemicals are undergoing screening at different stages as shown in table 7.

Table 7. Pesticides Undergoing Screening at CRIN

S/N	Pesticides	Company	Status of Screening
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<i>Fungicides</i>			
1	Machechnie Gold	SARO	Field trials completed awaiting residue analysis
2	Proxanil	INSIS	2nd year screening completed
3	Thiram	INSIS	2nd year screening completed
4	Pergado cocoa	Syngenta	First year trial ongoing
5	Cabrio Duo	BASF	Laboratory Screening commenced
<i>Insecticides</i>			
1	Termicid 200	The Candel	Field & Lab. trials completed awaiting residue analysis
2	Zap	The Candel	Field & Lab. trials completed awaiting residue analysis
3	Capsida	The Candel	Field & Lab. trials completed awaiting residue analysis
<i>Herbicides</i>			
1	Delsate 360SL	The Candel Company Limited	Field trials completed
<i>Growth Hormones</i>			
1	Bounty 1	West Africa Cotton Limited	Field trials completed
2	Bounty 2	West Africa Cotton Limited	Field trials completed

COCTA activities: The table below shows the distribution of pods from the headquarters and the substations from October - December, 2014

Table 8. Pods distributed by CRIN from October - December, 2014

Location	Hybrid pods	F3 Amazon	WACRI	TOTAL
Headquarters	38834	5708	5979	50521
Owena	1000	2654	450	4104
Ajassor	12568	13384	2070	28022
Ibeku	800	3234	1140	5174

Total	53202	24980	9639	87821
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Partnerships : *Establishment of Clonal Seed Garden by CRIN for Multi- Trex farm at Afonja village, Ibadan.*

This project on establishing 10000 clonal materials for Multi-Trex Integrated Foods Ltd commenced February 2013. The project is jointly handled by CRIN and Multi-Trex staff. The clonal seed garden is located at Afonja village, Oyo state. The following activities were executed this year.

- Application of insecticides to control the high incidence of pests on the seedlings
- Application of foliar fertiliser to boost the growth of the seedlings
- Planting of 1820 clonal materials
- Re-budding of 8000 seedlings to make up for the losses.
- Routine inspection of budded materials.

World Cocoa Foundation-Africa Cocoa Initiative (WCF-ACI) project on Fingerprinting of cocoa germplasm and establishment of 11ha Seed garden and 8ha bud wood garden for Improved Cocoa Productivity through Better Planting Materials.

This project is financed by the World Cocoa Foundation-Africa Cocoa Initiative (WCF-ACI) and is being executed by CRIN in collaboration with IITA.

The whole aim of the project is to improve cocoa productivity through better planting materials identified by fingerprinting analysis. One thousand leaf samples were collected from breeders plot at CRIN headquarters in Ibadan and another 1000 leaf samples from the cocoa seed gardens situated at Ondo and Cross River States. In all, 2000 leaf samples were collected and submitted to IITA for DNA extraction and subsequent fingerprinting analysis at K-Biosciences, UK to determine the true to type of the genotypes.

The result of the SNP analysis is out and the selection of promising genotypes which will be used to establish seed and bud wood gardens in some cocoa producing states of Nigeria have been sorted out. The sites for the seed and budwood gardens have been prepared and plantains as shade plants have been established. On-going is the generation of 40,000 Clonal materials to be established next year. A total of 20,000 have been generated so far. The location and size of the gardens are stated herein.

Table 8. Location and size of the seed and budwood gardens

S/N	Location	State	Seed garden	Budwood garden
1	Headquarter	Oyo	2	2
2	Owena	Ondo	1	1
3	Uhonmora	Edo	2	1
4	Ibeku	Abia	2	1
5	Ajassor	Cross River	3	2
6	Mayo Selbe	Taraba	1	1
	Total		11	8

Integrated Management of Cocoa Pests and Pathogens in Africa: Controlling Indigenous Pests and Diseases and Preventing the Introduction of Exogenous Ones (CFC/ICCO/43)

The table 9 below shows the summary of activities carried out so far.

Planned Activities	Targets Set	Present Status
Activity 1.2.1. Upscale farmers' awareness on the disease and its control.	200 farmers trained on the identification and control of endogenous cocoa pests and diseases	245 farmers have been trained in 4 States (Oyo, Osun, Ondo and Edo).
Activity 1.2.2. Train farmers in the safe and efficient application of fungicides	200 farmers trained on the safe and efficient application of fungicides	245 farmers trained on the safe and efficient application of fungicides
Activity 1.3.1 Carry out survey on pathogen distribution	Three farms in each of 12 Local Government Areas in Four cocoa producing States of Nigeria surveyed	36 farms in 12 LGAs of Four cocoa producing States surveyed
Activity 1.4.1 Production and distribution of training materials to farmers	250 training manuals and 1000 posters produced and distributed.	245 training manuals and 600 posters distributed
Activity 1.4.2 Use media to compliment information on training manuals	10 slots each to be broadcast on 2 local FM radios in 4 States.	Planning stage.
Activity 1.5.1 Select, formulate and participatory testing of bio-fungicides	30 farmers in each of the 2 States to be trained in testing bio-fungicides through participatory approach	Two bio-fungicides have been selected.
Activity 1.7.1 Upscale of farmer awareness CSSVD and its control	200 farmers trained on the identification and control of CSSVD	245 farmers have been trained in 4 States (Oyo, Osun, Ondo and Edo).
Activity 1.7.3 Upscale use of existing "Cocoa Link" platform to reach more farmers in other communities.	200 farmers equipped with phones and call credits to enhance feedback from farmers	245 farmers in 4 States (Oyo, Osun, Ondo and Edo) equipped with Phones and call credits.
Activity 1.10.1: Carry out participatory calibration of spraying machines for optimum sizes for control of mirids using insecticides	200 farmers trained on the safe and efficient application of insecticides.	245 farmers have been trained in 4 States (Oyo, Osun, Ondo and Edo).
Activity 1.10.3: Training of farmers on safe application of insecticides including disposal of pesticide containers.	200 farmers trained on the safe and efficient disposal of insecticides.	245 farmers have been trained in 4 States (Oyo, Osun, Ondo and Edo).
Activity 1.11.2: Train farmers on mirids identification and their damage on cocoa	200 farmers trained on mirid identification.	245 farmers have been trained in 4 States (Oyo, Osun, Ondo and Edo).

Activity 1.11.4: Establish and use threshold levels to control mirids. Educate farmers on how to use this to control mirids.	200 farmers trained on mirid threshold level establishment.	245 farmers have been trained in 4 States (Oyo, Osun, Ondo and Edo).
Activity 1.15.2: Train farmers on stink bugs (<i>Bathycoelia thalassina</i>) identification and damage.	200 farmers trained on stink bug identification.	245 farmers have been trained in 4 States (Oyo, Osun, Ondo and Edo).
Activity 1.17.1 Determination of geographical distribution and incidence of parasitic plants and epiphytes on cocoa.	Three farms in each of 12 Local Government Areas in Four cocoa producing States of Nigeria surveyed	36 farms in 12 LGAs of Four cocoa producing States surveyed

CRIN 50th Anniversary: The institute celebrated its 50th anniversary from 01-07 December, 2014. Several activities were carried out during this period which included exhibition of products and by-products by CRIN, Ile Oluji Cocoa LTD and Multi-Trex Integrated Foods PLC. Other input providers such as West African Company LTD (WACOT) and Harvest Field Industries were part of the exhibition.

There was a health walk from Molete, Ibadan to cocoa house followed by free health test by WHO and CRIN Medical Centre personnel. On Wednesday 03 December, 2014, CRIN played Novelty match with Tai Solarin University and other institutions of higher learning.

The anniversary ceremony proper which took place on 04 December, 2014 witnessed a lot of fun fair with different cultural displays from South South, South West and Esan Dance Troupe. The event included the launching of the 50th anniversary book that featured significant events and research developments of CRIN in the past 50 years.

FARMING SYSTEMS RESEARCH AND EXTENSION DEPARTMENT

(Orisajo S. B.)

1.0 Mandate: Farming System Research and Extension (FSR&E) Department makes use of an interdisciplinary, integrative, problem-oriented and farmer-centered approach in the conduct of our research. Our main function borders on generation of appropriate technologies for studying existing farming systems and involving the technology users - usually the small farmers in the planning and evaluation process. To improve a farm system, it must be studied and understood. FSR&E uses an interactive stepwise process that has three actors - the researchers, extension agents and farmers - in the conduct of the four basic functions:

1.1 Characterization: which involves an understanding of the structural and functional relationships of current farming systems in specific geographical areas and an identification of the endogenous and exogenous constraints to achieving farmers' goals;

1.2 Design: of technological alternatives which involves an x-ante evaluation and selection of strategic interventions, components, inputs and/or practices that results in a well-defined and effective agenda for follow-up research with respect to farm monitoring, component experimentation and/or technology testing;

1.3 Testing: which involves evaluation, on farmers' fields and under partial or exclusive farmer management, of the assumptions, decisions and expected performance of the technological alternatives as designed in the previous phase;

1.4 Diffusion: which usually refers to the dissemination of tested innovations to credit and extension personnel or to small groups of farmers, usually through intensive assistance.

2.0 Staff Strength: The department is made up of a total of 43 staff from Extension and Economics Division, Farming Systems Research Division and Marketing Unit.

2.1 Personnel Structure

Table 1. Personnel structure of Farming Systems Research and Extension Department

OFFICE OF THE DIRECTOR (FSR&E) / HEAD OF THE DEPARTMENT					
S/N	NAME	DESIGNATION	PF. NO	Date of Birth	Date of 1st Appt.
1.	Dr. S. B. Orisajo	Head (FSR&E)	291	15/01/72	24/12/02
2.	Olugbesan, A. R.	SCS	355	08/02/79	05/02/09
3.	Oyebanjo, T. O.	CO	1752	22/05/82	20/01/11
OFFICE OF ASSISTANT DIRECTOR (FARMING SYSTEMS RESEARCH & EXTENSION)					
1.	Dr. Oduwole, O.	AD	108	01/07/57	25/05/87
2.	Babatunde, M, O,	SA	1760	27/11/70	03/03/11
3.	Ajiboye, Adebola	CO	1898	05/02/76	06/12/11
FARMING SYSTEMS RESEARCH DIVISION/SECTION					
1.	Adeyemi, E. A.	PRO	205	25/02/66	07/06/99
2.	Oloyede, A. A.	PRO	235	28/05/66	25/12/99

3.	Iyadunni, K. A.	HAS	400	31/03/73	02/09/10
4.	Adeyemo, A.	CO	1364	03/03/62	18/12/00
EXTENSION SECTION					
1	Uwagboe, E. O.	PRO	251	25/12/65	11/12/01
2.	Agbongiarhuoyi, A.	PRO	258	10/04/70	02/01/02
3.	Adebiyi, S.	SRO	255	02/11/68	02/01/02
4.	Ndagi, I.	SRO	269	01/02/67	02/04/02
5.	Famuyiwa, B. S.	SRO	392	29/11/63	01/07/10
6.	Williams, O. A.	ROI	445	10/08/77	06/12/10
7.	Abdulkarim, I, F,	ROI	450	17/03/71	07/03/11
8.	Ajirotutu, S. M.	SA	1749	12/07/81	20/01/11
9.	Owolabi, J. M.	SCO	1568	13/05/82	02/01/09
ECONOMICS SECTION					
1.	Shittu, T. R.	PRO	217	07/06/69	14/06/99
2	Oluyole, K. A.	PRO	253	07/05/62	02/01/02
3.	Lawal, J. O.	PRO	263	24/09/76	08/02/02
4.	Obatolu, B. O.	PRO	260	13/08/71	05/02/02
5.	Taiwo, O. A.	SRO	399	25/02/70	02/09/10
6.	Yahaya, A. T.	ROI	418	01/08/80	04/10/10
7.	Babatunde, A. S.	ACEO	231	26/04/73	20/09/09
STATISTICS SECTION					
1.	Ogunbosoye, B. B.	Stat. I	413	13/09/78	29/09/10
2.	Abulele, L.	Stat. II	408	18/02/81	14/09/10
3.	Bello, B. O.	Stat. II	453	26/08/81	15/03/11
4.	Ayere, Cletus	Stat. II	454	02/12/86	15/03/11
5.	Busari, L.A.	ACSO	129	04/04/60	03/11/90
6.	Pelemo, A. A.	PSO I	296	01/07/75	10/02/03
7.	Otunoye, T. C.	PSO II	1330	21/10/73	19/11/99
8.	Suleman, A.S.	HEO	348	24/02/74	02/02/09
9.	Adebiyi, O. S		1591	10/01/82	02/01/09
10.	Olaleye, Dele	SCO	1395	19/01/75	18/06/01
11.	Onifade, Wasiu	AFA III	1834	14/09/88	01/12/11
MARKETING					
1.	Olumini, O.M.	ACEO	211	27/07/70	07/06/99
2.	Olayinka, S. O.	PEO I	280	12/06/72	16/08/02
3.	Imasogie, M. O.	SEO	398	23/09/79	02/09/10
4	Ezebuiro, P.	HEO	452	02/07/78	09/03/11
5.	Otitoloju Omosalewa	SSA I	1453	01/08/77	02/06/03
6.	Olutade, B.O.	CO	1577	05/10/82	02/01/09

2.2 Retirement and Redeployment: Dr. E.O. Aigbekaen (Director) retired on 27 March, 2014, Mr. Leo. A Emaku, (Assistant Chief Statistician) retired July, 2014. while Akhidime, M.O. (Higher Executive Officer, Marketing Section), Mr Asein Frederick (Clerical Officer, Marketing Section), Ogunleye, B.O. (Senior Clerical Officer, Extension Section), Mrs Olutade, A. O. (Chief Clerical Officer) and Mr Onigbinde Adeniyi John (Clerical Officer, Economics Section) were redeployed to other units/sections of the institute.

3.0 Achievement/Progress

3.1 Students' Visit to CRIN in 2014: A peaceful situation in CRIN has encouraged visitations by students of several institutions in 2014 (see table below). During 15-26 Sept. 2014, I.T. students of Dept of Agric. Extension & Economics, University of Ibadan were in CRIN. CRIN's Extension Section coordinated their 2-week stay **and were accommodated free of charge**. They were exposed to the theory and practice of CRIN's mandate crops covering: History and mandate of CRIN; Extension dissemination methodologies; Research proposal writing; Formation of farmers' Cooperative Societies; Statistical analysis, data management, data collection and project analysis; Cocoa Transformation Agenda (COCTA) and CRIN cocoa hybrid for farmers; Career opportunities in Agriculture; and Demonstration of Cocoa

SN	Date	Name of School	Number of Students
1.	23/01/14	O & A Academy, Ikenne	Not specified
2.	20/02/14	Saint Anne's Comprehensive College, Ibadan	Not specified
3.	21/02/14	GraceLand International College, Ibadan	Not specified
4.	05/03/14	AL/Barka Kiddies College, Ibadan	Not specified
5.	10/03/14	Federal College of Agriculture, Moore Plantation, Ibadan	Not specified
6.	19/03/14	Heritage International college, Modakeke, Osun state	Not specified
7.	30/04/14	Osun State College Of Education, Ila Orogun, Monatan Study Centre, Ibadan.	Not specified
8.	14/05/14	Wesley University of Science and Technology, Ondo	Not specified
9.	22/05/14	Kwara State Polytechnic, Ilorin, Kwara state	Not specified
10.	23/05/14	TOBSEY Nursery and Primary School, Ikorodu, Lagos	Not specified
11.	01/07/14	University of Nigeria, Nsukka	65
12.	14/07/14	Federal College of Forestry, Ibadan	60
13.	15/07/14	Federal College of Forestry, Ibadan	48
14.	18/07/14	Federal College of Forestry, Ibadan. Department of Crop Production Technology	27
15.	22/07/14	Oluyole Private School, Ibadan	45
16.	22/07/14	University of Nigeria, Nsukka	84
17.	05/08/14	Emmanuel Alayande College of Education, Department of Agriculture Education, Oyo	75
18.	11/08/14	Federal University of Technology, Akure, Ondo State	40
19.	12/08/14	Straitgate College, Ishara-Remo, Ogun State	9
20.	28/08/14	Lagos State Polytechnic, Ikorodu	70
21.	25/09/14	TASCE, Omu, Ijebu-Ode, Ogun state	69
22.	25/09/14	LASPOTECH, Ikorodu, Lagos State	42
23.	13/10/14	FUNAAB, Abeokuta, Ogun State	300
24.	14/10/14	FUNAAB, Abeokuta, Ogun State	300
25.	15/10/14	Kogi State University, Kogi State	184
26.	15/10/14	FUNAAB, Abeokuta, Ogun State	300
27.	16/10/14	FUNAAB, Abeokuta, Ogun State	300
28.	29/10/14	UNIBEN, Benin, Edo State	58
29.	30/10/14	Osun State College of Education, Ilesa	8
30.	09/12/14	University of Uyo, Department of Forestry	26
31.	11/12/14	Young Farmers Club, Evangelism College, Ibadan	65
32.	11/12/14	Olabisi Onabanjo University, Ago-Iwoye, Ogun State	20

Rehabilitation techniques. They followed nursery operations of cocoa, cashew, kola, coffee and tea and technologies for adoption. The students were satisfied and commended CRIN's products: cocoa bread, cocoa powder, wine, cashew nuts and soap and wished they were on sale in open markets. CRIN is now a choice place for excursion. Numerous students on excursion made us happy that great awareness on our mandate crops is being developed and we all at CRIN are assisting to assure a future supply of workers.

Table 2. Students' visit to CRIN in 2014



Mr Samson Odedele is demonstrating skills of how to graft and bud mandate crops of CRIN to many students on excursions to CRIN from tertiary institutions of Nigeria.



Students of FUNAAB and Kogi State University on excursion to CRIN

3.2 CRIN Technology Transfer: As part of efforts in extending CRIN-developed technologies, the Extension Team freely disseminated some developed technologies to cocoa farmers in Ilare and bread bakers in Ijebu-Ijesa, Osun State in October, 2014. HRH Oba Emmanuel Adejoro Otedolaku (JP), Ogidan III, commended CRIN for this project and pledged his support to building more capacity. He promised CRIN free plot of land for a cocoa project in Ilare. The next in rank to the Oba, High Chief Akanbi Awomiwe Fabumi thanked CRIN for adding value to cocoa—a right step in the right direction.



Group photograph of CRIN Team with HRH Oba of Ilare

3.3 Good Agricultural Practices (GAP) on Cashew: 21 lead farmers and 11 Extension Agents were trained on nursery and field establishment, management of soil, pest and diseases, processing and marketing of cashew in November, 2014. The training was to improve quality and quantity of the cashew nut production in five Ogbomoso LGAs of Oyo State. The building of trust for participatory rural approach among cashew farmers in Ogbomoso was the aim. Farmers were advised to form cooperatives to improve produce marketing. Also, cooperatives will avail them the opportunity to assess credit facilities from banks.



Cashew women farmers and their facilitators at the event

3.4 National Agricultural Show 2014



CRIN's Stand at the Exhibition of 12-16 Oct. 2014 National Agric. Show at Tundun Wada, Karu LGA, Nasarawa State near Abuja was well visited by many who bought most of our displayed items.

3.5 Akonko Community Agricultural Outreach: The outreach was attended by 220 farmers from 12 villages besides 32 officials (staff of Federal Ministry of Agriculture and Rural Development (FMARD), CRIN, NIHORT, Department of Cooperative, Abuja, Odeda LGA, Ogun State, Ogun State Ministry of Rural Development, Cocoa Association of Nigeria (CAN) and journalist from Agricultural Magazine on 12 December, 2014.



CRIN Team trained the participants on *Farmers' behavioral change for increased cocoa production*; farmers should take cocoa farming as a business; *cocoa rehabilitation by side grafting*; *Good Agricultural Practices (GAP) for Sustainable Cocoa Production*: application of available knowledge to the use of the natural resource base in a sustainable way for the production of safe & healthy cocoa so as to achieve economic viability and social stability. CRIN donated 600 hybrid pods to registered farmers who agreed to establish a joint nursery to be sited in Akonko. If nurtured, they would have over 18,000 cocoa seedlings to plant by May-June 2015.

3.6 Participation at FADU-CONTINAF Kokodola Project Stakeholder Forum



The 2014 Annual Stakeholders Meeting of the FADU-Continaf Kokodola Project was held on Thursday, 11th December, 2014 at the Ibadan Business School, Old Bodija Estate, Ibadan, Nigeria. Participants were drawn from the entire spectrum of the Nigeria cocoa value chain - research, farming, trading, and processing. CRIN was represented at the event by the Head (FSR&E Dept), Dr Samuel Orisajo.

3.7 New Acquisitions



Newly Acquired WAAPP Toyota Hilux Vehicle by CRIN in January, 2014



Newly Constructed Automatic Weather Station

4.0 Internally Generated Revenue (IGR) in 2014 from Marketing Unit of the FSRE

Department: The sum of Five million, seven hundred and ninety-eight thousand, five hundred and eighty Naira (₦5,798,580) was generated as internally in the year 2014 as supplied by the Marketing Unit of the Department. The details are given in the table below:

Table 3. Internally Generated Revenue in 2014.

S/N	Product/Produce	Amount (₦)
1	Cocoa Powder	350,090
2	Cocoa Bread	312,330
3	CRIN Liquid Soap	17,600
4	Palm Oil	380,320
5	Chocolates	10,700
6	Green Tea	161,500
7	Cocoa Beans	2,242,400
8	Cocoa Pods	54,240
9	Cocoa Seedlings	980,000
10	Kolanut	5,850
11	Plantain	106,800
12	Cashew Seedlings	209,300
13	Plantain Suckers	10,000

14	Firewood	9,000
15	Banana	15,100
16	Water	3,600
17	Star Apple	26,000
18	PKO	6,250
19	Metrological Data	6,400
20	Vegetable	15,550
21	Plantain (Flour)	4,200
22	Cashew Nut	10,200
23	Kola Seedlings	496,850
24	Cassava	3,000
25	Coffee Berries	7,700
26	Black Soap	27,400
27	Wine	170,400
28	Palm Kernel Shaft	11,450
29	Coffee Seedlings	700
30	Cream	1,400
31	Cocoa Bud wood	35,000
32	Banana Sucker	2,000
33	Iyere Leaves	600
34	Cashew nut Processed	44,450
35	Cashew Juice	15,100
36	Maize	20,100
37	Plantain chips	25,000
	Total	5,798,580

Table 4. Internally Generated Revenue January to December in 2014

Month	Total Sales (₦)
January	665,370
February	562,520
March	310,490
April	154,860
May	1,609,350
June	136,410
July	678,380

August	107,900
September	529,900
October	177,400
November	157,990
December	708,010
TOTAL	5,798,580

SUBSTATIONS

Mambilla Substation Kusuku (Chila, F.N.)

1. **Plantation Management:** Field maintenance of the Substation's mandate crops of Cocoa, Coffee Arabica, and Tea plots were effectively carried out during the year, as there were chemicals (herbicides) available for plantation use.
 - i. **Tea:** A total of 818.1kg of tea leaves were harvested from the tea plots and sold to Mayo-Kusuku tea factory in the month of December 2014, during the year.
 - ii. **Coffee Arabica:** During the year a total of 250 kg of coffee Arabica berries were harvested during the period under review.
 - iii. **Cocoa:** A total of 300 cocoa seedlings were gapped up on the field at Mayo-selbe Experimental station.
 - iv. **Banana:** a Total number of 4 bunches were harvested and sold to staff.
2. **Pest/Diseases:** The incidence of coffee berry Diseases (CBD) has been a threat on Mambilla Plateau year in year out. During the year the effect was still high due to lack of fungicides for its control.
3. **World Cocoa Foundation/Africa Cocoa Initiatives/Crin (Cocoa Seed Garden) Mayo-Selbe:** Two (2) ha of cocoa seed garden were newly established during the year and planted with shade crops (plantain suckers) and the plots are presently under going maintenance. Irrigation of the shade crops, which would have started in October 2014 could not due to lack of fund and some crops are wilting
4. **Nursery**
 - i. **Tea:** During the period of the year, 4,530 tea cuttings were selected from the elite varieties and raised in the nursery to increase the tea holdings and gapping up in the field.
 - ii. **NGC (Nigeria/China) Tea:** 109 seedlings were raised in the nursery during the year.
 - iii. **Coffee Arabica:** During the year a total of 3134 coffee seedlings were raised in the nursery for rejuvenation of the coffee plot.
 - iv. **Cocoa:** During the period under review, a total of 1,000 cocoa seedlings were raised at Mayo-selbe nursery for continuity.
5. **Research Activities:** The substation maintained seventeen (17) research experiments during the year. Data collection, organization and maintenance of research plots were improved as a result of available chemicals (herbicides) supplied to the substation by the CRIN-Headquarters Ibadan.

The list of ongoing Research activities are shown in appendix 1 below:-

S/N	TITLE OF EXPERIMENT	SIZE	YEAR ESTB.	RESEARCHER	REMARK
1	The effect of spreading, fixing, rolling times and drying methods on the quality of infused green tea.	-	2012	Dr.S.O.Aroyeun	In progress
2	Hybridization study on tea	0.01	2006	Dr.S.S.Omolaja	In progress
3	Quality assessment of black tea processed using farmers local methods	-	2011	Dr.S.O.Aroyeun	In progress
4	Assessment of the chemical and sensory qualities of natural tea hybrids from the Mambilla highland.	-	2011	Dr.S.O.Aroyeun	In progress
5	Effect of environment on quality of green tea processed from	-	2011	Dr.S.O.Aroyeun	In progress

6	Chinese clones in Nigeria Screening of 24 clones of tea on quality potentials of green and black tea.	-	2009	Dr.S.O.Aroyeun	In progress
7	Effect of tea/eucalyptus intercrop on antioxidant and phenolic components of green and black tea.	-	2009	Dr.S.O.Aroyeun	In progress
8	Tea/Maize intercrop on processing potentials of black and green tea	-	2009	Dr. S.O.Aroyeun	In progress
9	Screening between high and lowland tea varieties on quality components of infused green and black tea.	-	2009	Dr.S.O.Aroyeun	In progress
10	The effect of organo-minerals fertilizers on tea/maize intercrop	0.5	2009	Dr. Ipinmoroti	In progress
11	The effect of varying levels of organic and inorganic fertilizers on growth of coffee arabica seedlings	0.5	2009	Mr. M A Daniel	In progress
12	Evaluation of nutrients supplement on tea production	0.5	2009	Mr. M A Daniel	In progress
13	Effect of fermentation time on quality parameter of black tea	-	2011	Dr .S.O. Aroyeun	In progress
14	Setting of 75 Nigeria China (NGC 1-5) tea clone, (15-cuttings each)	-	2012	Mr. Olaniyi	In progress
15	Evaluation of China, natural and artificial hybrids of tea clones	0.02	2012	Dr.S.S.Omolaja	In progress
16	China Tea Adaptation in Nigeria effect on quality of processed Black and Green Tea	-	2012	Dr .S.O. Aroyeun	In progress
17	Simultaneous selection and genotype x environment interaction of tea in Nigeria	0.048	2014	Mr. Olaniyi O.O.	In progress

6. **Green Tea:** The green tea activities started in April 2010 and is still ongoing to boost the internal generated revenue of the Institute and the Substation. A total of 1,041.6 kg of green tea leaves were harvested and processed for the year. Green tea sales is shown in appendix II below:-

7. **Revenue:** The total amount generated for the year 2014 is N237, 480 and the revenue generated on quarterly basis are stated on appendix III below:-

1. **Personal:** The substation maintained 30 staff during the period of the year. Mr. M. A. Daniel HOS CRIN-Mambilla substation was called back to CRIN-Headquarters Ibadan and Mr. F. N. Chila was appointed to head the substation in the capacity of Acting HOS.
2. **Dispensary:** Timely supply of drugs to the substation was maintained during the year. Patients were treated from various common ailments that are found on the Mambilla Plateau. This was quite satisfactory (Appendix IV).

3. **Laboratory:** The laboratory of the substation was regularly maintained by sweeping/mopping. Though, its condition was not bettered up since relevant equipments are not available for conducting meaningful research experiments. The walls and the roof/ceilings are bad and need total renovation to improve the outlook.
4. **Library:** The substation library was functional during the year. There is need to improve the library by equipping it with scientific literature and text books from different fields.
5. **Office & Residential Quarters:** General maintenance work which involved weeding, sweeping and shaping of the ornamental plants (flower) around the office premises were carried out during the year. The roofs and the walls of the residential buildings (quarters) need complete renovation to give it a very good outlook.
6. **Mobility:** The Toyota Hilux Reg. NO. FG 10 V03 for the substation had engine problem and a new Toyota Hilux was attached to Mambilla Substation with Reg. NO. 03M09FG during the year.
7. **Security:** The Substation maintained 7 securities during the year. Though inadequate to complete 3 shifts, there is high need to increase the number of securities in order to improve surveillance at the substation's premises.
8. **Weather Records:** The total rainfall for the year 2014 was 2276.4 and the quarterly breakdown is shown in appendix (V) below:-
9. **Visitors To Crin Mambilla Substation 2014:**
The following visitors were received on the Substation during the year as stated in Appendix VI below:-

Date	Name	Address	Purpose
9/1/2014	Adeyemi A.R.E.	CRIN-Headquarters Ibadan	Physical stocking for 2013
“ “ “	Akinwande O.O.	” “ “ “	” “ “ “
“ “ “	Oguntona Y. O.	” “ “ “	” “ “ “
22/1/2014	Mr. Ayedepo H.O.	” “ “ “	” “ “ “
“ “ “	Mr. Fabuwale K.M	” “ “ “	External Audit Exercise
“ “ “	Mr. Femi Adedeji	” “ “ “	” “ “ “
“ “ “	Mr. Ajiroba	” “ “ “	” “ “ “
12/2/2014	Hon. Yau S. Danfulani	Supervisory councilor for Education Gembu	Official
25/2/2014	Mr. Ibrahim Wasiu	CRIN-Headquarters Ibadan	IPPIS Registration
26/2/2014	Mr. Ogundipe Dare	OAGF Abuja	IPPIS Registration
9/5/2014	Mr. Kenneth A. G.	IPPIS Staff	O. AGF Abuja
22/5/2014	Hon. Rashida Abubakar	Visit (official)	Member Nguroje constituency)
11/6/2014	Agwimah J. A.	CRIN Headquarters Ibadan	Pension Parade
19/6/2014	Dr. Famaye A. O.	CRIN Headquarters Ibadan	Official (coffee Tea Research)

“ “ “	Okeniyi Michael	“ “ “ “	“ “ “
“ “ “	Ogunjobi M. A. K.	“ “ “ “	“ “ “
“ “ “	Oloyede A. A.	“ “ “ “	“ “ “
“ “ “	Anagbogu C. F.	“ “ “ “	“ “ “
“ “ “	Taiwo Olayinke	“ “ “ “	“ “ “
“ “ “	Dr. OyedoKun A. V.	“ “ “ “	“ “ “
“ “ “	Eng. A. S. MofoLasayo	“ “ “ “	“ “ “
“ “ “	Abdulkarim I. F.	“ “ “ “	“ “ “
“ “ “	Dr. FamuyiwaB. S.	“ “ “ “	“ “ “
“ “ “	Idrisu Mohammed	“ “ “ “	“ “ “
20/6/2014	Yahaya A. I.	CRIN Headquarters Ibadan	Official (Tea Team Research)
20/6/2014	Dr. Adedeji	CRIN Headquarters Ibadan	Official (Tea Programme)
20/6/2014	Dr. RR Ipinmoroti	CRIN Headquarters Ibadan	Official (Tea Programme)
20/6/2014	Mr. K. A. Oluyole	CRIN Headquarters Ibadan	Official (Tea Programme)
20/6/2014	Mr. Ndagi I.	CRIN Headquarters Ibadan	Official (Tea Programme)
20/6/2014	Adebowale B. A.	“ “ “	“ “ “ “
20/6/2014	Dr. Aderolu I.A	CRIN Headquarters Ibadan	Research (Tea)
20/6/2014	Akanbi O.S.O.	CRIN Headquarters Ibadan	Research (Tea Programme)
20/6/2014	Adeosun S.A.	CRIN Headquarters Ibadan	Research (Tea Programme)
20/6/2014	Anthony I. E.	CRIN Headquarters Ibadan	Tea group
20/6/2014	Oloyede A. A.	CRIN Headquarters Ibadan	Tea group
1/7/2014	Stephen I. Ukan	Gembu	Private
7/7/2014	Yahya A. T.	CRIN,Ibadan	Official
7/7/2014	Ajiroba A. T.	CRIN, Ibadan	Official
1/8/2014	Maxwell O. Kanu	Taraba State University	SIWES
22/8/2014	Fabowale K. M.	CRIN, Ibadan	Auditing
22/8/2014	Abel J. Njebu	Board of Internal Revenue Gembu	Tax collection
15/9/2014	Hassan Usman	Kakara Village	Private
15/9/2014	Idi Gaji	Kakara Village	Private
15/9/2014	James S. Manasis	Kusuku	Private

15/9/2014	Ahmadu Kawa	Kakara Village	Private
15/9/2014	Hon. Yau S. Danfulani	Gembu Town	Private
17/9/2014	Dr. Anne Muiwa	CRIN, Ibadan	Official
17/9/2014	Dr. Ogunlade M.O.	CRIN, Ibadan	Official
17/9/2014	Mr. Olasupo F. O	CRIN, Ibadan	Official
25/9/2014	Takyi Sraha	WCF?ACI	Official
25/9/2014	Dr. Lelia Dongo	CRIN, Ibadan	Official
25/9/2014	Dr. Anne Muiwa	WCF/CRIN,Ibadan	Official
13/10/2014	Isaiah Joshua Kasari	Part Harcut	Visitor
“ “ “	Monday Philip	Kusuku	” “
18/10/2014	Adeosun S. A.	CRIN-Headquarters Ibadan	Official
23/10/2014	Adamu A. Uba	” “ “ “	Official
27/11/2014	Wilfred Jimon	MDG’S Presidency	Visitor
12/12/2014	A.S.Mofotasayo	CRIN-Headquarters Ibadan	Visitor
19/12/2014	DR. S.O. Aroyeun	CRIN-Headquarters Ibadan	” “ “ “
12/2/2014	Hon. Yau S. Danfulani	Supervisory councilor for Education Gembu	Official
25/2/2014	Mr. Ibrahim Wasiu	CRIN-Headquarters Ibadan	Official
30/12/2014	Oliver James	Imman	Visitor

10 SUBSTATION NEEDS:

1. 2 Computers for Account/HOS Offices
2. 2 Printers for HOS/Account offices
3. 2 Motorcycles needed for effective field supervision for Agric. Superintendents.
4. There is need for monthly overhead fund for running the substation.
5. The conditions of the substation’s residential quarters and Laboratory block are still bad and hence there is high need for renovation.
6. There is need to construct a new processing room for the 2 newly installed depulping machines in the substation.
7. Most of the office furniture are bad and need replacement.
8. Green Tea processing machines is highly needed to faster green tea processing.
9. Complete renovation of the station’s store roof

CONCLUSION

On the behalf of the staff of the substation, we thank you for tireless efforts for making the substation grow and develop the more wishing you a happy new year 2015.

OCHAJA SUBSTATION

Staff Strenght: The Substation's staff strength stands at 30 with the following breakdown;

Agric Superintendents	
Senior Executive Officer (Accts)	3 (including the Ag. HOS)
Foreman	1
Assistant Executive Officer (Accts) -	1
Secretarial Assistant	1
Agric Field Overseer	1
Agric Field Attendant	2
Health Attendant	12
Watchman	1
Driver/Mechanic	
Field	

The Substation has an existing plantation coverage of 45 hectares, consisting of both commercial and research plots, the routine maintenance of the plots and data collection are carried out as at when due.

The details of the Substation's 45 hectares existing cashew plantation and their coverage, purpose of establishment, planting distance, plot title and year of establishment are as follows:

- 1. DEMONSTRATION PLOT**
SPACING: 9M X 9M
ORO SELECTION CASHEW
YEAR ESTABLISHED: 1997
PURPOSE: COMMERCIAL
HECTARAGE: 3.0
- 2. DEMONSTRATION PLOT**
CROP: COCOA
HECTARAGE: 0.45
SPACING: 3.1M X 3.1M
YEAR ESTABLISHED: 2011/2012
- 3. PLOT NE2INW2**
EXPT: COCOA/OIL PALM PLANTING GEOMETRY
SPACING: 3.1M X 3.1M
OIL PALM: 9M X 9M
YEAR ESTABLISHED: 2009
HECTAGE: 2.0
- 4. PLOT SE 5**
TITLE: CASHEW NUT SIZE TRIAL
VARIETY: ORO COLLECTION
SPACING: 9M X 9M
PLANT POPULATION: 840
YEAR ESTABLISHED: 1999
HECTAGAGE: 7
- 5. PLOT SW 1**
PURPOSE: COMMERCIAL
SPACING: 6.2M X 6.2M
YEAR ESTABLISHED:
HECTARAGE: 3.2
- 6. PLOT NW 1**
PURPOSE: COMMERCIAL
SPACING: 6.2M X 6.2M
YEAR ESTABLISHED: 1976
HECTARAGE: 3.2
- 7. PLOT SW/7**
TITLE: GERMPLOSM COLLECTION

SPACING: 6.2M X 6.2M
YEAR ESTABLISHED 1977
HECTARAGE: 2.2

1. PLOT SW /2E

EXPT. FERTILIZER TRIAL
SPACING: 6.2M X 6.2M
YEAR ESTABLISHED: 1977

9. PLOT NW/9

TITLE: INTER CROPPING EXPT.
SPACING: 3.2M X 3.2M
YEAR ESTABLISHED: 1988
HECTARAGE: 0.45

10. MILLENIUM PLOT

EXPT: SYSTEMATIC SPACING EXPT.
SPACING: 9M X 9M, 8M X 8M, 6M X 6M
HECTARAGE: 4.0

11. PLOT SW/3

TITLE: PRUNNING EXPT.
SPACING: 6.2M X 6.2M
YEAR ESTABLISHED: 1976/1977
HECTARAGE: 6.4

12. EXPERIMENTAL PLOT SW /4

SPACING: 9.1M X 9.1M
YEAR ESTABLISHED: 1982
EXPERIMENTS:

1. THE EFFECT OF FERTILIZER APPLICATION ON THE INCIDENCE OF INFLORESCENCE BLIGHT DISEASE AND YIELD OF CASHEW
2. EVALUATION OF CULTURAL PRACTICES ON MANAGEMENT OF CASHEW PLANTATION
3. EVALUATION OF SPRAY CHEMICAL APPLICATION ON CONTROL OF INFLORESCENCE BLIGHT DISEASE OF CASHEW
4. FURTHER WORK ON PATTERN OF FLOWERING OF CASHEW IN PLOT SW4.

HECTARAGE: 2.0

13. PLOT SW/5

TITLE: GERMPLASM
SPACING: 6.2M X 6.2M
YEAR ESTABLISHED: 1976/77
HECTARAGE: 4.1

14. PLOT NW/4

TITLE:
SPACING: 6M X 6M
YEAR ESTABLISHED 2011
HECTARAGE: 2.0

15. PLOT: HIGHER DENSITY

YEAR ESTABLISHED: 2001

SPACING: 9M X 9M, 8M X 8M, 6M X 6M

HECT ARAGE: 5ha

16. PLOT: GERMPLASM (ORO COLLECTION)

YEAR ESTABLISHED: 2009

SPACING: 6M X 6M

HECT ARAGE: 5 ha

YEAR ESTABLISHED: 2000

17. PLOT NW/3

TITLE: EFFECT OF NUT SIZE AND PLANTING DISTANCE

SPACING: 4M X 4M

YEAR ESTABLISHED: 2001

HECT ARAGE: 1.5ha

18. CRIN PLOT AT ACHARU

TITLE: DEMONSTRATION

CROP: KOLA SPACING: 9M X

9M HECT ARAGE: 2.5

POPULATION: 308

YEAR ESTABLISHED: 20112012

Records were dully collected on all the on-going research experiment in the station within the quarter under review.

The entire scientist concerned shall be informed to furnish the Executive Director with up to date report on all the on-going experiment for this quarter.

ACTIVITIES ON THE FIELD FOR 2014

- I Field activities started with preparatory, slashing of the plots for cashew picking, throughout January 2014 to early February.
- ii Middle February 2014 cashew picking commenced and continue through March 2014 to early May.
- iii. After cashew picking cultural maintenance of all the existing plots commenced. These includes slashing sanitizing of the plots by gathering and burning dead wood earlier pruned branches and other damaged branches by analeptic, elimination of built up colonies and application of insecticide, picking and strangulating analeptic.
- IV. The activities of the year closed up with cutting of fire traces all round the entire plantation and thereafter routine burning to prevent fire outbreak in the plantation,

RESEARCH

The list of the on-going experiment, Titles and Names of the Scientist in the station are as follows;

- 2. Physical effect of inter-cropping of cashew with some arable crops - Mrs N duka

B. A.

3. Growth and yield of cashew as influenced by leguminous cover crops - Mrs Iloyanomom C.I.
4. Preliminary studies on yield differential and soil nutrient status of cashew plantations of different nut sizes in Ochaja Substation, Kogi State - Mrs Iloyanomom C. I.
5. Leaf litter fall and soil nutrient dynamics of cashew plantations of different ages in Ochaja Substation, Kogi State - Mrs Iloyanomom c.1.

GROUND MAINTENANCE

The office complex and the residential quarters were well maintained and fire tracing of the office and residential quarters was also done to avoid fire entering into them.

6. Field establishment of cashew as influenced by shade plants

CASHEW NUT PROCESSING FACTORY

Due to lack of work force in the station much could not be done in the factory in the year under review.

and phosphate

Fertilizer - Dr. Ibirimo O. S.

The processed cashew nut were packed and sent to the marketing unit of CRIN Headquarters for sales.

7. Effect of coppicing period and height on cashew rehabilitation - Mrs Adeyemi

The details of sent packets are as follows;

- | | | |
|-----------------|------------|---|
| 1. Honey coated | 87 packets | 8. Cashew Clonal Multiplication through Air-layering - Mrs Adaigbe .O.O |
| 2. White | 80 Packets | |
| | 167 | |
| | Packets | |

CASHEW JUICE FACTORY

The cashew juice Factory is functional and produced some juice in the year under review.

The above is the total numbers of days put into cashew juice factory in 2014 production

The details records of cashew juice production are; year, numbers of workers and total

number of bottles produced

DATE	NO. OF BOTTLE PRODUCE	PROJECTS EXECUTED/ACHIEVEMENT WITHIN 2014
4/03/2014	27	
6/03/2014	25	
7/03/2014	25	
11/03/2014	30	
12/03/2014	39	i. RENOVATION OF THE STATION REST HOUSE
13/03/2014	27	
17/03/2014	34	
18/03/2014	33	
20/03/2014	37	
TOTAL	277	

The rest house since inception has not been touched in tense of maintenance and renovation making it inhabitable but in 2014, money was approved by the Executive Director for renovation. In that light some renovation was carried out in the station rest house, making it habitable and comfortable to stay in now.

ii. Total Overhauling Of The Station 50 KVA Generating Plant

The 50KV A electricity Generating Plant of the station was given total overhauling in the year under review, the entire Substation now enjoy electricity supply.

iii. Electricity

A Joint letter has been written to the Executive Governor of Kogi State notifying him of the faulty and packed up transformer that supply electricity to Ochaja community, Ochaja Boys Secondary School, Ochaja Girl's Secondary School and CRIN Substation Ochaja by Ochaja Stake Holders forum, CRIN Substation Ochaja is among the Stake Holders. The letter is receiving positive response; the Governor has sent team of engineers for survey and promise to replace the break down transformer.

iv. MOTORCYCLE

A new motorcycle has been approved and purchased for the station to easy field work for the Agric Superintendent and other official work. The grounded Suzuki motorcycle also repaired.

v. REBUILDING OF COLLAPSE BRDGE

The only bridge which links the office and residential quarters with the Substation's field collapsed late last year. Approval was given for rebuilding of it, within the quarter and has been rebuilt.

vi. REPAIRS OF OFFICE COMPUTER

The two computers in the offices of the Secretary and the Accountant crashed last year December, the computers have been repaired and all the accessories put in order.

vii. REPAIRS OF THREE CHAIN SAW

The spoiled chain saws that was laying far row in the store has been refurbished to standard to meet its demands on field for activities such as pruning, cutting down of dealt stands and cross cutting of wood in the plots of proper sanitation.

viii. PURCHASE OF GENRA TOR FOR OFFICE USE

A new sumac 3800 generator has been purchased for the office to cope with the supply of electricity to the office complex and replace the old one which is problematic.

NO. OF WORKER USED

ITEM AND EQUIPMENT RECIEVESD FROM HEADQUARTER

Items and equipment received from headquarters in 2014 to enhance efficiency and productivity in Substation includes.

1. BAZUKI Tricycle
2. Hand Driven Mower
3. Hand cutting machine
4. Watering Can
5. Wheel barrow

5
4
4
4
3
4
4
3
4
35

6. CP18 CZARD Sprayer
7. Small Hoes
8. Chemicals (insecticide)
9. Toyota Hilux Pick up.

CASH RECEIVED AND SPENT

Within the year, the station received a cash total of N857,000 and spent base on approval granted by the Executive Director as follows:

1.	Plot maintenance	N206,400.00
2.	Agricultural input	N205,260.00
3.	Stationeries	N93,750.00
4.	Imprest/petty cash	N50,000.00
5.	Rest House Renovation-	NI40,000.00
6.	Repair/servicing 50KVA gen.	N171,000.00

EVENTS/NISITORS OF THE STATION IN 2014

Some of the event that took place in the station and some important visitors received are as follows:

I.BOT MEETING

CRIN Pension Board of trustee was held in the station in the 3rd July 2014, with the Executive Director of CRIN in attendance and other stake holders.

2. STUDENT VISITED THE STATION ON FIELD TRIP

Student s from Kogi State University Anyigba and college of Education Ankpa respectively visited the station on Field Trip to learn more about CRIN and its Mandate crops.

3.PERSONNEL FROM THE HEADQUARTERS VISITED THE SUBSTATION FOR RESEARCH WORK AND OTHER OFFICIAL ACTIVITIES

The includes;

1. Mrs Nduka B.A	Scientist
2. Mrs Iloyanomom C.I -	Scientist
3. Dr. Ogunwolu S. O	"
4. Dr. Yahaya L. E	"
5. Mrs. Adaigbe	"
6. Mrs Adeyemi E. A	"
7. Dr. Iberimo O. S	"
8. Mr. Odedele	Agric
9.Mr. Onigbide O.O	Supt.
10. Mr. Asin Uwaifo	Auditor

INTERNALLY GENERATED REVENUE

The revenue generated in the Substation in 2014 on quarterly bases is shown below.
The
breakdown of the IGR can be found in the Substation's 2014 accounting.

IGR2014

JAN	MARCH 2014-	N51,500
APRIL -	JUNE 2014 -	N30,000
JULY -	SEPT	N13,000
OCT -	DEC	N101,350

CHALLENGES

The challenges of the Substation are numerous but to mention few;

- (i) Lack of work force both in the office and the field.
- (ii) Delay in the release of over head/money for capital project.
- (iii) Inadequate working materials both on the field and in the office.

**FUTURE PLAN OF THE
SUBSTATION
INFRASTRUCTURES**

- (i) Grading of the road that lead to the Station, the residential quarters and field.
- (ii) Gradual renovation of the dilapidated residential quarters.
- (iii) Replacement of the remaining wooden electric poles with concrete poles to avoid termites attack.
- (iv) Fencing of quarters and rest house with wire mesh for safety.
- (v) Gradual planting of oil palm at the boundaries of the station's land to avoid encroachment.
- (vi) Changing of office furniture due to their obsolete nature.

RESEARCH

1. Renovation of the laboratory space within the office complex and acquisition of small laboratory equipment that could be powered by small generator where some experiment can be done.

2. Stocking of the station's Library for the extension of CRIN finding to student and other stakeholders.

Revenue Generation

- (i) Standardization and NAFDAC registration of the cashew juice processing factory and cashew nut processing to enable public sales.
- (ii) Refurbishment of the old water tanker for sales of the spring water in the station to the communities. As the business is lucrative in the locality.
- (iii) Arable crops farming; this is dependent on labor force.

Personel Management

- (i) Training of all categories of staff is required.
- (ii) Staff requirement for the station are:
 - a. More field Attendants
 - b. Clerical Assistants
 - c. Guest house Attendant and
 - d. Resuscitation of casual labor.

Objectives/Mandates of the Substation

The Substation is established with the responsibility to carry out CRIN objective effectively in the geo - political zone of the part of the country in which it's located.

The mandate of the Substation is to reach as much farmers as possible with CRIN breakthrough in research and innovations that will benefit the farmers in the five mandate crops of CRIN.

LIMIT OF EXPECTATION AND WORK DONE

The expectation of the Substation is to carry out adequate research work in area of farmer's challenges and disseminate within the geo-political zone and make the institute CRI a household name to all and sundry, but the limitation to stated expectation is poor funding, lack of infrastructures improper dissemination of research results and inadequate work force.

Base on the above expectations, the management built a cashew nut processing factory in the Substation, which has created awareness on nuts end uses among farmers within the locality.

Cashew juice processing factory is also not left out of this and farmers have been trained on cashew juice processing to add values to cashew farming.

CONCLUSION

We in Ochaja Substation through this medium wishes to express our gratitude and profound appreciation to the Executive Director for the allocation of brand new Hilux Pick-up and other equipment to the station and other support given so far.

UHONMORA SUBSTATION_(Igbinalolor R. O.)

Introduction

CRIN Uhonmora is one of the six substations of CRIN that was established in 1967 on a land area of 268 ha. It was established to serve as an outreach of the Institute to cater for the cultivation of Cocoa, Robusta coffee, Cashew and Kola. Presently, CRIN Uhonmora substation accommodates the growth of the entire five mandate crops by CRIN. The station has large portion of land under reserve.

Staff Strength

For the period under consideration, the Station has a total number of 28 Staff strength comprising of one Research Scientist (HOS), two Agric Superintendents, one Accountant, one Store keeper elevated to Executive officer cadre (Account), three Agric Field Overseers, two drivers, two Clerical officers with one elevated to the position of Executive officer cadre (Account) having acquired an additional certificate of National Diploma in Accountancy, one Health attendant, one clerical Assistance, five security guards, and Nine field attendants.

S/N	Staff	Number
1	HOS	1
2	Accountant	1
3	Higher Agric Supt.	2
4	HEO (Account)	2
5	Clerical Officer	1
6	Field Overseer	3
7	Health Assist.	1
8	Driver	2
9	Agric Field Attendant	9
10	Security	5
11	Secretary (Typist)	- (Transferred)
Total		28

1. **Task Force Workers:** At the commencement of the fiscal year 2014, the station employed the services of about five to six casual workers from time to time throughout the year to complement the few numbers of field workers in the field.
2. **Promotion:** Eight of the station staffers were due for promotion in the fiscal year 2014, Six of them were promoted while two junior staff couldn't scale through. The Staff promoted includes four senior staff and two junior staff respectively.
3. **Inter cadre transfer:** The clerical officer in the Account section was elevated from the post of Chief Clerical Officer to the post of Assistant Executive Officer as a result

of her performance in the interview and an acquisition of additional certificate of National Diploma in Accountancy.

4. **Resignation:** One of the Agric Field Attendant Mr. Tope Fatuase voluntarily resigned his appointment from the service of the Institute towards the end of the year 2014.
5. **Drugs** was supplied to the Station dispensary in the fiscal year 2014 from the Institute Health Centre store at Ibadan. The drugs were used for the treatment of Station's staff and their children.
6. **Staff Relationship:** Inter-personal relationship amongst staffers was very cordial throughout the fiscal year 2014. Regular meetings were held with staff on ways to move the Station forward.
7. **Sanitation:** Regular monthly environmental sanitation was observed by all staffers of the Station. This was to keep the streets, building and Quarters at the Station clean and neat all the time for healthy living. The flowers were well trimmed to maintain the aesthetic beauty of the station.
8. **New Hilux vehicle:** Towards the middle of the year, the station received a new Hilux vehicle from the headquarters for use at the station while the old one was returned back to the headquarters.
9. **Tax Matters:** Edo State Board of Internal Revenue in Benin City instituted a court case against the Station on 2012 tax matters in 2014. This was an inherited tax case which happened before my tenure as HOS. However, the matter has been closed from the court with the station paying the penalty fee to the Edo State Tax authority and then filling the necessary tax returns for the year 2012 under dispute.

Cash Received: No over head cash was released to the Station throughout the year, however, the Station received Eight hundred and fifty seven thousand naira (~~N~~857,000.00) as capital in the year 2014 and part of this fund was used to pay the inherited Tax penalty for year 2012 as instructed by the management to the Edo State Board of Internal revenue thereby leaving the Station with very little amount to execute other projects.

Physical Development:

New electric poles were bought by the station and installed to replace the bad/falling ones. This was to ensure the steady supply of electricity to the station. All the Security light bulbs were bought and installed at the gate and office complex to ensure security of lives and properties. New Bush cutter machine was also procured for use at the station. Field tools like cutlasses and iron-files were always purchased on regular basis and distributed to field workers to ensure smooth field operations.

Installation of Weather Station: The Station was favoured by the management of CRIN, Ibadan headquarters with the installation of new modern digital and computerised weather equipment at the station towards the end of the year for comprehensive weather data recording to enhance research purposes.

Tricycle: The Station also got one (1) Tricycle (Basuki) supplied from the headquarters, Ibadan towards the end of the year. This has greatly enhanced the station mobility and field activities.

In addition, the Station also received four (4) Bush Cutter machines and two spraying pump from the headquarters for use at the Station.

WCF/ACI/CRIN Project at Uhonmora Station

The Station in collaboration with World cocoa foundation, Africa Cocoa Initiative and CRIN, Ibadan initiated the establishment of three hectares of cocoa plots at the station towards the end of year 2014 with two (2) hectares of the plots designated for Cocoa Seed garden and one (1) hectare for cocoa Bud wood cocoa garden. This project was kick started with the selection of suitable site and conducting all soil test analysis. The WCF coordinator in company of some CRIN staff at the headquarters paid a visit to the Station to assess the level of progress of the project. The plots have been cleared and well planted with plantain suckers and presently being maintained in readiness for transplanting of cocoa in 2015.

Station Land Documents: As directed by the management to secure and transfer all land documents to the Headquarters, series of travelling were made to different bodies' in-charge of land matters including the Edo State Ministry of Land and Survey to search for the station land document. The outcome of this search has been documented and communicated to CRIN headquarters Ibadan with all the available documents at our disposal at the station.

Revenue:

The total revenue generated for the year 2014 has been remitted. The detail is shown below in Table 1.

Table 1: Revenue Generation Analysis for Year 2014

Items	Jan. – March 1 st Qtrs	April – June 2 nd Qtrs	July – Sept. 3 rd Qtrs	Oct. – Dec 4 th Qtrs	Total(₦)
Cocoa seedlings	-	7,500.00	33,500.00	-	41,000.00
Palm fruit		33,200.00	7,000.00		40,200.00
Timber			30,000.00		30,000.00
Coconut				100.00	100.00
Access fee & Reg.			5,000.00		5,000.00
TOTAL					116,300.00

Field and Research Activities:**(A). Field Activities:**

1. The old and new cocoa plantations were regularly weeded, pruned, sprayed and gapped up.
2. The oil palms in the oil plantation were pruned to provide good aeration for the palm trees for better fruit bunch bearing.
3. Nursery development was successfully carried out
4. New cocoa hybrid seedlings were raised and used to established 2 hectare plot of the new improved variety, thus increasing the number of viable cocoa plots at the station.
5. Two ha of cashew plot abandoned over the years was opened up, weeded and maintained
6. Hand pollination was also carried out to increase pod production by staff

(B) Research Activities:

1. Weeding and regular data collection was continued on the various experimental plots.
2. Data were regularly collected for all the experiments.

Rainfall Data:

January – December 2014 rainfall data showed a total of 2151.4mm in 90 days compared to 2121.3 mm in 82 days recorded in year 2013. The distribution is given below (Table 2). The rainfall pattern was well distributed compared to the two previous years.

Table 2: Rainfall data at CRIN Uhonmora Station from January to December 2014

Month	Rainfall (mm)	Number of days
January	11.5	1
February	30.5	2
March	180.4	5
April	214.7	5
May	313.4	12
June	239.2	12
July	255.8	12
August	322.7	19
September	331.8	10
October	176	9
November	75.4	3
December	Nil	Nil
Total	2,151.4	90

Pension BOT Meeting:

The Pension Board of Trustee meeting was held at the Station in May 2014 and the team was led to the Station by the Executive Director, in company of the Acting Head of Admin and Supply, also in attendance were Mrs. Oluwadare, S. (Desk officer for Pension matters), the Acting Head of Account, the Head of Internal Audit and other pension members for the pension BOT meeting for 2014 fiscal year.

Visitors

Lots of visitors came to the Station and were kept abreast of the activities of the station. Most of the visitors express their delight with the progress that have been achieved at the station for the year especially in the plantations maintenance and the aesthetic beauty of the Estate. Observations were also made by the visitors amongst which is the dilapidated staff quarters, farm store, Rest House, cracked wall of the HOS building, the need for perimeter concretion of the new dispensary building, Insufficient labour for field and security sections. Need for

perimeter fencing of the station's boundary, having a befitting gate, amongst others. Visitors and their purpose of visit are indicated in the table below.

Table 3: Visitors to CRIN Uhonmora Station from January to December 2013

Date	Names	Address	Purpose	Remark
06/1/14	Mr Ayo Odusote	CRIN Ibadan	Official	Satisfactory
18/1/14	Mr. Aigbedion	Uhonmora	Official	Satisfactory
7/1/14	Engr. Odigie Ejeze	Abuja	Official	Enquiry
27/2/14	Pst. Ose Aletor	Benin City	Official	Enquiry
14/3/14	Dr. Akaraime	Sabo-Oraa	Official	More seedlings required for cocoa farm establishment. The compound was very neat and there were indication that the entire workforce maintain good interpersonal relationship
27/5/14	Prof. Malachy Akoroda	CRIN Ibadan	BOT Pension meeting	Successful
27/5/14	Mrs. Ubebe, P.A	CRIN Ibadan	BOT Pension meeting	Successful
27/5/14	Mr. Onifade, A.O	CRIN Ibadan	BOT Pension meeting	Successful
27/5/14	Dr. A.S Abubakar	ARCN, Abuja	BOT Pension meeting	Successful
27/5/14	Chief J.O Ogunbayo	CRIN Ibadan	BOT Pension meeting	Successful
27/5/14	Ogunsuyi, O.J	FMA&RD	BOT Pension meeting	Successful
27/5/14	Festus Ogbeide	UB Benin	Official	Successful
4/8/14	Hon Foly Okhamede	Amozire Qtr Ikhirin	Demand for seedlings	Successful.
12/8/14	Mr. Airende, F.J	Tax office Sabogida.Ora	Staff verification	Satisfactory
25/8/14	Mr. Kuforiji, E.O	CRIN Ibadan	2013 Internal	Successful

				audit	
25/8/14	Mr. Odusote	CRIN Ibadan	2013 Internal audit	Successful	
15/12/14	Fr. Churchill Odekhiran	Uromi	Enquiry	Successful	
17/12/14	Sheriff	Mooky Ltd, Ilorin	Ent Installation of Met. station	Satisfactory	

MAJOR CONSTRAINTS

1. Lack of fund is a major problem
2. Inadequate Labour force (due to mass retirement of Field staff)
3. Lack of adequate security staff
4. Encroachment into CRIN Land by neighbouring community (Uhonmora specifically)
5. Dilapidated structures (Rest House, HOS Building and other residential buildings).
6. Lack of conference Hall
7. Lack of Good access road from gate to the Office complex and Plantations.

2015 RESEARCH PROPOSAL AND WORK PROGRAMME

The following research activities and data collection would be carried out in the fiscal year 2015

1. Securing the Station land by planting oil palm fruit along the boarder areas
2. Planting 3 ha plot of WCF/ACI/CRIN project with hybrid cocoa and proper maintenance
3. Maintenance of established Research plots and data collection.
4. Regular maintenace of the station compound and buildings
5. Enlightenment and reaching out to cocoa farmers in the area with a view of encouraging more cocoa farmers.

IBEKU SUBSTATION . (Nmeregini U.N.)

The following activities were carried out in the CRIN Ibeku substation during the year 2014, ended on the 31st Dec., 2014.

(01) **FIELD ACTIVITIES:** Activities such as

- (i) General maintenance of both the Research and commercial plots – slashing, pruning, removal of mistletoes.
- (ii) Chemical spraying of pesticides and herbicides.
- (iii) Hand pollination of NCSG clones
- (iv) Field maintenance of cashew plantation Ugbenu
- (v) Fire trace cutting of roads and avenues boundaries of the plots in both Ibeku and Ugbenu Outstation.
- (vi) The ground maintenance of both the new and old office blocks at Ibeku and Ugbenu were taking care of regularly.

(02) **INFRASTRUCTURAL DEVELOPMENT;** In the year under review no much development structures than the construction of cocoa fermentry box with cement slab and zinc roof.

(03) **RESEARCH ACTIVITIES:** Research activities have been at a low tempo over the years. However, the year under review, Mrs. Adepoju (Plant Breeder) from the Headquarters has been working with the coffee plot in CRIN Ibeku. Hand pollination of NCSG clones was on for good four months (July-Oct., 2014). Establishment of 2 ha. NCSG and a hectare of Budwood under the guide of Dr. (Mrs.) Muiyiwa.

(04) **POLLINATION RECORD:** In the year 2014, hand pollination carried out in the station was successful, in that we have pods from the clones to give out in the COCTA distribution. The total of (94) ninety four pods was distributed in the first batch. Seasons farms (Abia) 20 pods and Mr. Obed Abel (Rivers State) Ministry of Agric. 74 pods.

(05) **COCTA PODS DISTRIBUTION 2014/15:** In the year 2014, the number of (61,635) pods, i.e 33,759 (1st quarter), 18,925 (Second quarter), 20 pods (hand pollinated), and 8,931 (4th quarter) was distributed under COCTA pods given to individual cocoa farmers and State Ministries of Agriculture in the our catchment.

(06) **NATIONAL COCOA SEED GARDEN/BUDWOOD:** The 2hectare NCSG and 1hectare Budwood started in the station since August, 2014. The field operations and planting of the shade crop (plantain suckers). The plantain

suckers we record up to 90% survival rate though the plantain is competing seriously with weeds and needed water for survival this dry season.

(07) IGR (INTERNALLY GENERATED REVENUE) : We explored all the available resource in the station. The total sum of Three hundred and sixty-five thousand five hundred and fifty naira(N365,550.00) only was realized and paid to the Headquarters Account. The table below shows the analysis:

COCOA RESEARCH INSTITUTE OF NIGERIA

IBEKU SUBSTATION, UMUAHIA

IGR SUMMARY FOR (JAN - DEC, 2014)

[illegible]

(8) STAFF DISPOSITION: The staff strength as at 31st Dec., 2014, stood at (19) Nineteen. Seven senior staff,

and twelve junior staff in both Ibeku and Ugbenu Outstation. Management should recall that since 2012 the only dispenser of the station died and no replacement has being effected and this is a problem in a station located at the Out-sketch of the town, Umuahia.

(09) UGBENU EXPERIMENTAL PLOT: The outstation is having only one staff since 2012, that Mr. Chiara Innocent retired from CRIN Service. The only watchman and an indigene Mr. Nwakaeze Linus, resigned since July 2013 on health grounds. However, Management instructed the CRIN Ibeku OIC to deploy an Adhoc watchmen (Casual) which I did and Mr. Johnmoor was deployed from Ugbenu up till now that deployment has not be cash backed. Very soon cashew season shall set in, Management should please help us to make good use of the season by increasing the labour in the station and making the place good attractive – one tree can never make a forest.

(10) TRANSPORTATION: In the year 2014, CRIN Ibeku receive a brand new corolla Hilux. The first of its kind in the History of CRIN Ibeku. We appreciated the Management and plead that overhead should be considered for us to carry the fuelling and maintenance of the vehicles considering the distance we cover every weekdays. The motorcycle in Ugbenu did not breakdown at all this year under review, fuelling remains the only challenge. CRIN Ibeku got the tricycle with other implements hand mower bought by the Management. We do promise to handle them with utmost care and hope that it will enhance our productivity.

(11) PENSION MATTERS: In the year 2014, CRIN BOT was hosted once in the station Ibeku. The ED/CEO and other key officers from CRIN Headquarters with Government and pension bodies fully represented. CRIN BOT Pensioners Ibeku pay point attended. All Pensions payment for the year under review was paid. 33% increment arrears was paid to respective pensioners expect the two dead pensioners, late Kalu John and late Ukwu Charles whose next of kins are to apply for their respective payments.

(12) INTERVIEW/PROMOTION: Promotion interview (written) was conducted for both Senior and Junior staffers of CRIN Ibeku in the year under review. Their respective promotion letters received for the successful staffers while letters of notification of failure received by the two junior staffers at could not perform. However, Management remember that their DTA's and transport allowances have not been paid to them both the Senior and junior alike.

(13) REPORT ON DEATH OF STAFF AND PENSIONERS: In the year under review, CRIN Ibeku lost two staffers, late Mr. Okoro Emmanuel and late Mr. Uwakwe Young (AFA 11) and two BOT Pensioners late Mr. Kalu John and late Mr. Ukwu Charles, they have since being buried in their respective homes. Management should consider the families of the dead staffers, in the payment of their burial entitlements as they keep on coming to the OIC, to demand for such payments.

(14) ACHIEVEMENT IN 2014 IN BRIEF:

- I. Harvesting and distribution of (61,635) pods to farmers under COCTA programme.
- II. CRIN Ibeku has achieved clearing, felling of trees stumping, lining, pegging and planting of plantain suckers of the 2 hectares NCSG and 1 hectare bud wood plots of WCF/ACI/CRIN collaboration.
- III. Successful hosting of the BOT members and pensioners in the station .
- IV. Construction of one big farmentry box with cement slab and zinc roof.
- V. Cooperate gift of ₦20,000.00 naira only to the family of late Chief Obede Nwachukwu (Community Chairman) Avonkwu Village, in the bid to strengthen friendly existence with our host community.
- VI. Collection of the Court CTC (Certified True Copy) of the Court order of the last court case between CRIN Ibeku and WAmens.
- VII. Received a brand new vehicle, 1 tricycle with implements.
- VIII. Celebrated with the ED/CEO, the 50th anniversary of CRIN on the 4th of Dec., 2014 To God be the glory.
- IX. Regular maintenance of plots and office premises as at when do
- X. Pollination of NCSG clones and others in the station.
- XI. Above all peace was achieved in the substation all through the year by the grace of God.

(15) PROBLEMS:

- 1) No much fund in the year under review
- 2) Inadequate work force.
- 3) No labour, no office in Ugbenu.
- 4) Hausa herdsmen with their cattles destroying cocoa plants and pods in the NCSG because of incomplete premaster fencing.
- 5) No. Of watchmen station is grossly inadequate.

(16) VISITORS: The year in review witnessed the presence of the following visitors.

Mr. Ettima Udoh from Akwa Ibom, Mr. Dairo Opiyemi IPPIS Abuja, Akinrinola Akeem CRIN Headquarters, Obinna Onwuegbu- Isingwu, Dr. Anna Muiyiwa- CRIN Headquarters, E.D. Aro – CRIN Headquarters, Emaku L.A. – Asst. Chief Statisticians, Agwumah A (Mrs.) CRIN Headquarters, Adepoju A.F (Mrs.) CRIN Headquarters, Aguiyi D.D. – Farm Manager, Dr. Mike Nwachukwu – Consultant, Mrs. Akinsola A.O. –(Broker), Prof. Malachy Akoroda ED/CEO with his BOT members, Mr. Olasupo Festus (RO 1 WCF project, Dr. Ogunlade M.O. (CRO WCF/ACI/CRIN project, Takyi Sraha – (Technical Adviser WCF/ACI, Mba Kalu – (BIR), Onyekachi Hycienth – (HOS NCRI) and Obed Arbel – (Ministry of Agric. Rivers State.

OWENA SUBSTATION (Yahaya L. E.)

Staff Disposition: The staff list at the substation during the year was as shown below

S/N	NAMES	OWENA	ALADE IDANRE	IBULE	ONISERE	TOTAL
1	Chief Research Officer	1				1
2	Principal Agric. Supt. 1	2				2
3	Principal Agric. Supt.	1				1
4	Senior Executive Officer	1				1
5	Chief Clerical Officer	1				1
6	Head Security Guard	1				1
7	Senior Motor Driver Mech.	1				1
8	Senior Health Assistant	1				1
9	Assistant Agric. Field Overseer	1				1
10	Senior Agric. Field Overseer	1				1
11	Clerical Officer 1	2				2
12	Motor Driver	1				1
13	Field Attendant 11	5			1	6
14	Field Attendant 1	1	1			2
15	Security Guard 11	1				1
16	Senior Watchman	2				2
	TOTAL	23	1		1	25

The HOS, Ogunlade M.O was transferred back to the head quarters while Yahaya was transferred from the head quarters to the station as the new HOS.

Revenue: A total sum of seven hundred and forty five thousand, one hundred and twenty naira only (**₦745,120**) was realized from sales of farm produce and other services. The breakdown is as shown in the table below:

ITEMS	IST QUARTER	2ND QUARTER	3RD QUARTER	4TH QUARTER	TOTAL ₦
Cocoa Beans	-	318,390	218,480	-	536,870
Agbalumo	1,000	-	-	-	1,000
Illegal tree felling (fine)	-	-	-	10,000	10,000
Rent: Payroll	27,000	18,000	-	-	45,000
Rent: Tenant	27,250	40,750	53,750	15,500	137,250
Rest House	500	5,000	8,500	1,000	15,000
Total	55,750	382,140	280,730	26,500	745,120

Distribution of Cocoa Pods to Farmers

Distribution of cocoa pods to farmers for year 2014 was into two sections the first one commenced on 10 January to March 2014. Eight thousand nine hundred and forty five (8,945) pods were distributed the second section commence on the 7th of October to December, 2014. Four thousand five hundred and eleven (4,511) cocoa pods were distributed, therefore the total sum of thirteen thousand four hundred and fifty six **(13,456)** pods have been distributed to cocoa farmers in Ondo and Ekiti states up till the end of December 2014.

Plantation Maintenance and other Operations

The cocoa plantations, demonstration plot and cocoa seed garden were maintained with the few field staff and the special task force engaged for the CocTA activities during the year.

Research Activities

Some of the scientists sited their field experiments at the Substation. Some of these field experiments under Substation supervision are:

1. Fungicides and insecticides screening
2. Growth and Early field establishment of cocoa as influenced by organic, inorganic and organo-mineral fertilizer
3. Effects of organic wastes on nutrient uptake, microbial population and growth performance of cocoa (*Theobroma cocoa*. L.) in South Western Nigeria.
4. Breeding for Enhanced Early Maturing or Precocious Cocoa Hybrids
5. Life mulch weed control system on the development and growth of seedlings of coca
6. Establishment of some cocoa clonal materials recovered from Ibule/Ipinsa

Achievement during the year

1. Distribution of cocoa pods to farmers in Ondo and Ekiti States for planting. Thirteen thousand four hundred and fifty six **(13,456)** cocoa pods were distributed to farmers between 10th of January to March 2014 and 7th of October to December 2014. The breakdown of the cocoa pods distributed to farmers are shown below:

F3 Open pollinated pods	9,019
WACRI PODS	2,437
HYBRID PODS	2,000
TOTAL	13,456

These pods were distributed to 978 cocoa farmers in Ondo and Ekiti States.

2. Establishment of 2ha WCF/ CRIN project plot. A 2ha demonstration plot under the auspices of CRIN and World cocoa foundation was established. This land area has been planted with plantain suckers awaiting the plating of hybrid cocoa the following year.

Visitors: Prominent among the visitors to the station during the year 2013, were:

- | | |
|-----------------------|-----------------------------------|
| 1. Prof. M. O Akoroda | Executive Director, CRIN, Ibadan. |
| 2. Mrs. Ubebe P.A | Head (Admin and Supply) |
| 3. Onifade A.O | Acct |

4. Mrs. Kuforiji A.O	PEO 11
5. Mr. Odusote	ACEO
6. Mrs. Oyeboode	EO
7. Mr. Oyedepo H.O	External Audit
8. Mr. Fabowale K	Internal Audit
9. Mr. Adedeji Femi	External Audit
10. Mr. Ajiroba	Driver
11. Mrs. Oluwadare S.E	PAO
12. Mr. Adebowale K.M	

Work shop

The cocoa association of Nigeria brought their student (farmer group) for training during the year 2014.

Challenges

1. Illegal tree felling

This trend has been worrisome to the station. Several reports have been made to various quarters (Police, forest ministry and Commissioner of Agriculture, Ondo state), but it has persisted. We plead to the Institute's management to wave into the matter to have a permanent and lasting solution to the matter.

2. Boundary issue

The station has also been experiencing boundary problems with FRIN for some years now. Steps by the HOS to secure the land through acquisition of title documents from the state land records bureau are ongoing.

3. Paucity of fund. This affects the station negatively. Station's overhead, which cares for the expenses of the day-to-day running of the station, is no longer forthcoming. The last of it was prior to my assumption of office as the HOS. This situation makes the running of the station sometimes difficult, such that personal emolument are used when it becomes very necessary. The management should revive this overhead so that the station can care for some day to day expenses of the station.

At present, the station has been disconnected from electricity power source due to sudden increase in the bill. We plead to the management to come to our assistance in upsetting the bill. Now, we have a bill of approximately N370, 000.00 settle.

4. Considering the enormity of the work in our plantation, the present field staff is inadequate hence the need for casual labour force to compliment the number.

5. Security staff of the station is grossly inadequate.

6. The engine of the existing station vehicle is worn out and cost for servicing and maintaining it is enormous and uneconomical, hence needs replacement.

AJASSOR SUBSTATION (Ayegboyin, K.O.)

Staff Disposition

The staff strength across all sections and units of the substation as at 31 December, 2014 was 40. This comprised of One Research Officer (the Head of Station), Two Agricultural Superintendents, Three staff in Administration and Supply Section, Two in the Finance and Account Section, Three Drivers, One Foreman, One Craftsman, Five Watchmen in the Security Section, Twenty field workers in Plantation and Estate Management (PEM) Section while Two officers and One casual worker(Mr Oparaku Ekok Ogar) were in the Health Section. The details of the staffs and their designations are in Table 1.

Table 1: List of staff members with their designations, CONRAISS and Date of Last Promotion as at 31 December 2014 in Ajassor Substation

S/N	Name	Designation	CONRAISS	Date of last promotion
1.	Dr Kayode Ayegboyin	Principal Res Officer (Head of Station)	11/02	01/10/2013
2.	Mr Maroof A. Olayiwola	Principal Agric. Superintendent 1.	11/03	01/10/2012
3.	Mr Mohammed BabaNitsa	Principal Agric. Superintendent. 2	09/01	01/10/2014
4.	Mr Johnson Gidiga	Accountant 1	08/02	01/10/2014
5.	Mrs Joy Takim Awunghe	Senior Nursing Superintendent	08/02	01/10/2013
6.	Mrs Eunice Ojua	Executive Officer (Acct)	06/01	01/10/2014
7.	Mr Moses Bassey	Chief Driver/Mechanic	06/07	01/10/2002
8.	Mrs Ekama B. Isong	Chief Clerical Officer (Admin)	06/06	01/10/2009
9.	Mrs Rosemary O. Akpan	Chief Agric. Field Overseer	06/05	01/10/2010
10.	Ms Esther Echi	Principal Health Assistant	06/04	01/10/2011
11.	Mr Effiong N. Udoh	Senior Foreman	06/01	01/10/2014
12.	Mr Ezekiel Effiong	Assistant Chief Field Overseer	05/02	01/10/2013
13.	Mr Edet R. Akpan	Asst. Chief field Overseer	05/05	01/10/2012
14.	Ms Pauline U. Ugi	Secretary Assistant 1	05/01	01/10/2012
15.	Mr James Okoi	Senior Craft man	05/07	01/10/2012
16.	Mr Edit O. Okpokam	Assistant Chief Store Keeper	05/02	01/10/2012
17.	Mr Innocent Ugbashi	Assistant Chief Field Overseer	04/11	01/10/2013
18.	Mr Godwin Ogbaji	Head watchman	03/12	01/10/2004
19.	Mr Emeng Iloko	Head watchman	03/12	01/10/2004
20.	Mr John Eno Emeng	Motor Driver/Mechanic	03/12	01/10/2003
21.	Mr John E. Asuquo	Senior Motor Driver/Mechanic	04/07	01/10/2012
22.	Mr Ignatius Ajito	Head Watchman	03/11	01/10/2008
23.	Mr Augustine Uzichu	Head Watchman	03/06	01/10/2013
24.	Mr Samuel Udoh James	Agric. Field Attendant I	03/06	01/10/2013
25.	Mr Ime Asua Sunday	Agric. Field Attendant II	01/05	01/10/2014
26.	Mr Azogor Echeng Isong	Agric. Field Attendant I	03/06	01/10/2013
27.	Mr Bassey Igbang	Agric. Field Attendant I	03/06	01/10/2013
28.	Mr Iwara Eteng	Agric. Field Attendant I	03/06	01/10/2013

29.	Mr Augustine Ubi	Agric. Field Attendant I	03/06	01/10/2013
30.	Mr Abraham Samuel	Agric. Field Attendant I	03/06	01/10/2013
31.	Mr Godwin Idagu	Agric. Field Attendant I	03/06	01/10/2013
32.	Mr Peter Ogar	Agric. Field Attendant I	03/06	01/10/2014
33.	Mr Ele Eleng Emeng	Head watchman	03/06	01/10/2014
34.	Mr Patrick Iyaji	Agric. Field Attendant I	03/06	01/10/2013
35.	Mr EkereObong Sunday	Head Watchman	03/06	01/10/2013
36.	Ms Mercy Umontia	Agric Field Attendant II	02/04	01/10/2013
37.	Mr Godwin Peter	Agric Field Attendant III	01/04	NIL
38.	Mr Anthony David	Agric Field Attendant II	02/04	01/10/2013
39.	Mr Idorenyin Okpo	Agric Field attendant II	02/04	01/10/2014
40.	Mr Udoh Johnny	Agric Field Attendant II	02/04	01/10/2014
41.	Ekok Oparaku Ogar***	Health Assistant	Not Applicable	Not Applicable

*Legends: *** Was employed as a full-time staff but now a casual staff due to inability of IPPIS to register him even after his employment had been documented by CRIN*

Retirees on the payroll of CRIN Ajassor Substation

The list of the 21 members of all-male retirees on the payroll of CRIN Ajassoras at 31 December 2014 is in Table 2.

Table 2: List of Retirees on the CRIN payroll at Ajassor Substation as at 31 December 2014

S/N	Names
1.	James C. Dibang
2.	Peter Ezoke Egbe
3.	Peter Eni Echeng
4.	Attah Bassey Edem
5.	E.E.Eworo
6.	I.S. Odey
7.	U.U.Innah
8.	B. Iwara
9.	M. Ogar
10.	Umontia Okpo
11.	Mboto Odum
12.	Mbum R.
13.	Beka Sabath
14.	Udoh Monday Frank
15.	Ojor I.U. Abam
16.	Owor O. Agbor
17.	Ononiwu Aloysius
18.	Onyukwu Kyrian
19.	Imoke James
20.	Ayambim Charles
21.	M.T. Ekput
22.	Victor Echeng *

*Legend: *Retired from CRIN Service in June 2014 but is not on CRIN Pension List because he is under the current Monetization/Contributory Pension Scheme of the Federal Government*

Plantation Management

Nearly all cocoa plots (both CRIN and Cross River State Cocoa Seed Garden Plots) kola, coffee and tea plots are well maintained as at the time of this report. However, CRIN Ajassor seriously needs more hands to keep these plots well maintained during the raining seasons. The detail of the all the plantations and research plot with their sizes and status of maintenance at CRIN Ajassor Substation is in Table 3.

Table 3: Plantations/ Research Plots with their sizes and status in Ajassor as at 31 December 2014

Cocoa Research Plot	Hectare	Status
Cocoa plots		
1967 Trinidad	2.9	Maintained
1975 F ₃ Amazon	1.6	Maintained
CRIN/NIFOR 1	6.0	Maintained
CRIN Elite Seed Multiplication	2.2	Maintained
T38 Kalime	2.8	Maintained
Commercial	2.0	Maintained
Cocoa Cuttings	1.0	Maintained
15 Acres Extension	2.0	Weedy
Amelonado	2.0	Maintained
1973 F ₃ Amazon	2.0	Maintained
Seed Garden Multiplication	2.2	Maintained
Okondi	10.69	Maintained
Planting at stake	1.6	Weedy
Farming System Experiment	2.0	Maintained
Adaptability/Tolerant Trial	2.1	Maintained
65 Lines Experiments	1.0	Weedy
CRIN Elite Seed Multiplication	2.2	Maintained
Kola Research Plots		
Kola Progeny	1.6	Moribund
Kola Cuttings	0.65	Maintained
Kola Germplasm	2.92	Maintained
Kola Fertilizer Trials	2.0	Maintained
Coffee Research Plots		
Okondi	1.46	Moribund
1989 Ajassor	1.57	Maintained
Tea Research Plots		
Tea Ajassor	0.28	Maintained
New Establishments		
Cocoa Research Plot	1.32	Maintained
Ornamental Cocoa Plot	0.5	Maintained
Okondi (Cocoa) Plot	0.4	Maintained

Cocoa Transformation Agenda (CocTA) Pod Distribution

About 60,000 high yielding and disease resistant cocoa pods were distributed freely under the 2013/2014 Federal Government Cocoa Transformation Agenda (CocTA) that ended in February 2014. The pods distribution was carried out in collaboration with our two catchment States (Cross River and Akwa Ibom States) through their Ministries of Agriculture and other stakeholder. Cocoa pods distributed were mainly F₃ Amazon, T1 – T6 Seed Garden and WACRI varieties.

By 31 December 2014, a total of 22,954 cocoa pods of high yielding varieties had been distributed to farmers in different locations of Cross River, Akwa Ibom and River States in the on-going 2014/2015 CocTA programme. More farmers will still benefit from this free cocoa pods distribution before the end of February 2015 when the current CocTA 2014/2015 pods distribution period will come to a close.

Research Experiments

A number of research experiments are on-going at CRIN Ajassor Substation. While most research plots had been established before now, few new research trials on herbicide screening, organic cocoa trial, fungicide screening, fungicide spraying and cocoa rehabilitation, by many Research Officers in different fields, are on-going at Ajassor.

WCF/CRIN Cocoa Project: The clearing of site, tree felling and cross cutting as well as the establishment of plantain in preparation for the transplanting of cocoa on the 5Ha World Cocoa Foundation project plot was completed in the year under review. The maintenance of the plot has since started.

Vehicles/Motorcycles/Generators at Ajassor

The list of the vehicles/motorcycles/generators and their conditions are as below:

- i. Toyota Hilux Van FG 09 Vo3 (functional)
- ii. Peugeot 404 Pick – up FG 2326 B034 (not functional; recommended for boarding)
- iii. Mercedes 911 Water Tanker FG237 B02 (functional but needs total overhauling)
- iv. The Eicher Truck (not functional; recommended for boarding)
- v. Mitsubishi L200 Van FG 741 B03 (not in good condition; needs total overhauling)
- vi. Bedford FG 238 B03 (not functional; recommended for boarding)
- vii. Tractor – FG 239 B03 MF 265 (functional but need serious overhauling)
- viii. Motor-cycles: The two Motor Cycles Suzuki 185-FG 335 B03 and FG 335 B03 need total overhauling or otherwise should be boarded off as soon as possible
- ix. 50 KVA Generator plant is now in good working order. It packed up due to lack of maintenance for years and old age but was repaired and totally serviced during the under review.
- x. Unserviceable Tractor is recommended for boarding.

We appeal to the Management to clear off all the unserviceable items from CRIN Ajassor premises. These materials are eye sores as they continue to rust, constituting nuisance and pose danger to our environment.

Infrastructure

a. CRIN/FGN sponsored Capital Projects

As at 31 December 2014, all renovation works which started in December 2013 on the 2 office buildings, the HOS residential apartment, Substation's Health Centre and Digital Meteorological Station were completed and handed over to CRIN. However, the electrification contract to link up the substation to the National Grid has not fully completed and could not be handed over to CRIN. The delay is due to the additional Gang Isolator demanded by the Electricity Distribution Company covering Ikom area. We therefore appeal to the Management to expedite action on this project so that CRIN Ajassor could start enjoying light soonest.

We also thank the Executive Director, Professor Malachy Akoroda, for the on-going upgrading of access road that links up CRIN Ajassor with Ikom-Ajassor Border Road. This project started in December 2014 and is due to complete in the 1st Quarter of 2015. We also appreciate the supply of 1 Basuki tricycle, 2 hand-movers, 1 motor-driven mover and other agricultural inputs given to the station in the year under review. We pray for more blessing, guide and protection for all the members of CRIN Management.

Other Capital Projects

CRIN Ajassor can now boast of adequate portable water supply. The drilling and construction of Solar-powered Borehole at CRIN Ajassor Substation was completed and had since been handed over for the use of all CRIN Ajassor residents. The project tagged 'European Union Micro Project Programme on Nine Niger Delta States of Nigeria (MPP9)' was a Nigerian-European Union Cooperation Initiative and was sponsored by the European Development Fund.

Also, CRIN Ajassor can now boast of solar-powered street Light. Although, this is a single pole with one point of light donated by one of the politicians in the Ikom LGA of Cross River State, we had also received promises of more of such light in future. We have the confidence that with time, as we get more attention, the whole CRIN Ajassor Office and Residential Quarters will be adequately lighted by enough solar –powered electricity.

Cocoa Fermentary/Drying slab/Shade nets

The fermentary at the station needs new roofing and other renovation works on its building. The drying slab is obsolete and needs a replacement with modern and recommended raised platform type. Meanwhile, only one of the 3 shade nets for nursery work at CRIN Ajassor is in good condition. The remaining two are already torn and dilapidated. However, they could be brought back to use with some repairs.

Cocoa Drying Oven

Work on the re-construction of the burnt, out-of-use Cocoa Drying Oven at the station is almost completed, and will be ready for use by May 2015. With the innovation we brought into play, when completed, the Drying Oven will dry about 100kg of cocoa beans at a time. This will ensure that cocoa beans are dried to between 8-10% recommended moisture content before being sold at all time and thereby prevent molding of beans as a result of inadequate sun rays during the raining seasons. The Drying Oven will also be a model to other CRIN Substations as well as the Production Unit of CRIN Headquarters.

Environment Sanitation

The monthly Environmental Sanitation Exercise on every last Saturday of the month was observed throughout the 12 months under review. We have designed an innovative measure of creating awareness and mobilizing both staff and tenants of the station for the programme. The last Environmental Sanitation in December 2014 witnessed 100% attendance and everyone was happy.

Appeal for Public Toilets on the Estate

The residents of CRIN Ajassor Substation are still suffering from lack of adequate toilet facilities. All the WC facilities in the Junior Residential Quarters are very bad and unusable. Although, one can say that the monetization programme of the Federal Government had taken care of the accommodation of all staff, we live in a 'Farm House' which cannot be totally ignored because of its proximity to our office complex. Therefore, on behalf of all the staff and tenants of CRIN Ajassor Substation, I wish to implore our amiable Executive Director to please provide public toilets in all residential quarters of CRIN Ajassor Substation.

CRIN Image and Visitors to the Substation

Ajassor Substation is still sustaining the cordial relationship between the CRIN, State Government and the communities around us. The residents are going about testifying to the sudden but unquantifiable level of peace between them and the indigenes. Sir, this is the Lord doing.

Also, many important dignitaries visited CRIN Ajassor Substation in the year under review. We also appreciate the visit of our Executive Director, Professor Malachy Akoroda to the station in November 2014.

Encroachment of CRIN land by indigenes: Our success story

The age-long problem of encroachment of CRIN Ajassor lands by the indigenes was amicably solved soon after my arrival as the Head of Station of CRIN Ajassor Substation in December 2013. Consequently, on behalf of the Management and Staff of CRIN Ajassor, I specially thank the Clan Head of Ajassor land, Etta Anthony Ntui, for his royal support as well as the Management and Board of Governor of CRIN, Ibadan for acknowledging the effort of the Clan Head in the achieved success by CRIN Ajassor. However, as a matter of urgency, I advise that CRIN seizes the opportunity of this new-found peace to do the survey and get all relevant documents on these parcels of lands as soon as possible.

Challenges at CRIN Ajassor

As usual, CRIN Ajassor Substation's challenges revolve around:

1. **Inadequate workforce:** We are the largest substation in CRIN but with just a few staff. Our Field Attendants are just 16 in number but our land size is close to 800Ha and effective productive plot size of about 56Ha. We need more staff to adequately maintain and secure all our productive plots. The substation has the capacity for explosive expansion and increased productivity if more staff is engaged. Inadequate workforce has resulted into the abandonment of many productive plantations and of course, given room for pilfering of our farm produce, encroachment and lower productivity, among others. We urgently need to salvage the situation and produce at our optimal level. To this end, CRIN Ajassor requires nothing less than 60 field staff to cope with the weeding, spraying, pruning, harvesting and other cultural practices in our productive 56.86Ha of cocoa, kola, coffee and tea plots. To this end, additional 42 Field Attendants are urgently needed to complement the existing staff strength. Also, in order to effectively secure lives, properties and forestall against theft of our farm produce, *additional 20 Watchmen are needed to complement our 5 current Watchmen* at the moment. A cleaner will also be needed to maintain the 9 toilets in the newly renovated office complexes while one young driver is needed to augment the 3 old drivers at the substation.
2. **Lack of modern tools and equipment:** Our newly renovated library and science laboratory need to be equipped with recent books and modern science tools, respectively.
3. **Funds:** While thanking our Executive Director for the ₦857,000 capital funds sent to the substation in September 2014, we appeal for Overheads and more Capital Votes to CRIN Ajassor Station in 2015. It is extremely difficult to run a Substation with 40 Staff without overheads. We need to fuel our tractor, tanker, Hilux, Tricycle, motor and hand-driven towers, bikes and generators especially in the mobilization field men to our 3 outposts at Okondi, Kalime, NIFOR etc.
4. **Other pressing needs of CRIN Ajassor Substation:**
 1. **Vehicles:** The substation need one more pick-up Hilux van and an 18-seater staff bus for easy movement of staff from Office to our plots at Okondi, Kalime, NIFOR, Commercial 1 and Commercial 2, and other plots located at far distances.
 2. **Motorbikes:** Based on the volume of the field work and the need for constant patrol of our plots by the security, there is a need to have 5 additional motorbikes at CRIN Ajassor substation.
 3. **Surveying and fencing of the station:** Surveying of our lands is the only way CRIN can permanently secure these lands and stop encroachment being faced by the most substations. Wire or perimeter fencing with oil palm will also be an added advantage.
 4. **Construction of concrete and metallic sign posts** in all plots for easy identification of name and variety of trees, year of establishment, size, location and general history of all our plots and plants.
 5. **An internet connection:** This could be a broadband internet facility that will facilitate speedy surfing of the web and transfer of research related information to the headquarters. This will help the station to key into the present policy of internet administration strategy in CRIN.

6. Renovation of residential quarters: The buildings at CRIN Ajassor are all dilapidated while toilet facilities are becoming a mirage. Although, government quarters had been
7. monetized, an urgent rescue mission on these residential buildings is germane. Once collapsed, the tenants and staff will move out of the quarters and that will spell doom for the main office and jeopardize the safety of all farm produce at the station.
8. Construction of farm houses in the zones for the field workers to serve as coverage during rainy season.
9. Renovation of the fermentary house and construction of raised platform for sun-drying cocoa beans.
10. Renovation of 2 seedling shade nets.
11. Installation of inverter at the station to bring down the running cost on gasoline and diesel operated generators.

Internally Generated Revenue

A total amount of One Million, Two hundred and Seventy one thousand, Six hundred and five naira (**₦1,271,605**) only was generated as the IGR from various sources in 2014.

The breakdown of the revenue generated is in Table 4

Table 4: Internally Generated Revenue (January – December, 2014) for CRIN Ajassor Substation

ITEMS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
FARM PRODUCE													
Cocoa pods	-	-	-	9,000	-	4,000	-	-	7,200	33,780	-	-	53,980
Cocoa beans	-	-	24,000	27,000	-	-	135,000	-	220,000	-	-	-	406,000
Cocoa seedlings	-	10,000	-	-	84,700	-	16,275	14,000	27,500	6,200	2,000	-	160,675
Kola nuts	12,000	-	-	-	-	-	-	-	-	-	700	16,100	28,800
Palm fruits	-	-	-	30,000	-	-	-	-	-	-	-	-	30,000
Maize (dry cobs)	-	-	30,000	-	-	-	-	-	-	-	-	-	30,000
Oranges	-	-	-	-	-	-	-	-	-	-	-	850	850
Wood (WCF project)	-	-	-	-	-	-	-	-	-	-	-	50,000	
SERVICES	-	-	-	-	-	-	-	-	-	-	-	-	
Rent: Staff	19,250	19,250	19,250	19,250	-	-	-	59,500	46,000	27,000	26,000	35,000	270,500
Rent: Tenants	23,000	12,000	46,500	19,250	4,500	4,500	25,750	16,250	12,500	12,500	9,000	25,250	211,000
Water supplied	-	-	-	-	-	-	-	-	10,000	-	-	17,400	27,400
Sales of bad batteries	-	-	-	-	-	-	-	-	-	2,4000	-	-	2,400
TOTAL	54,250	41,250	119,750	104,500	89,200	8,500	177,025	89,750	323,200	81,880	37,700	144,600	1,271,605

Library Information and Documentation Department (O.O.Fagbami)

Library Division (Ogunjobi T.E. – Acting Head, Library Division)

From January 2014 to December 2014, a total number of 2740 users were recorded. These comprised of staff, IT students, Corp members and visitors. Summary of resources consulted in the library are stated below:

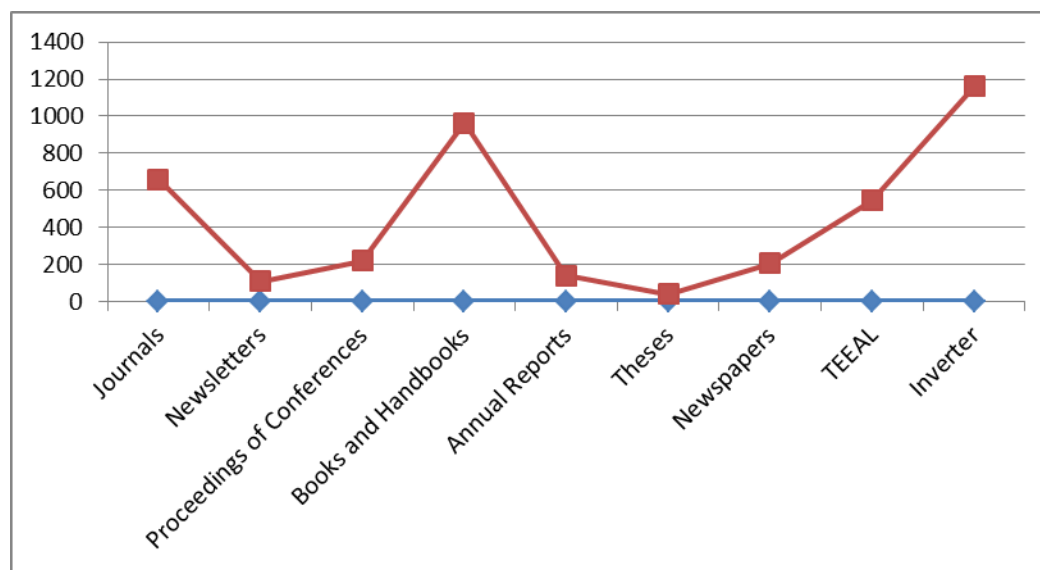


Figure 1: Library Resources Usage in 2014

There was less consultation of prescribed library materials. This could be attributed to inability to subscribe to recent journals. In order to meet up with request of scientists, electronic journals were provided in form of TEEAL covering 1993 - 2012 on various aspect of Agriculture. Furthermore, routine activities of library officers were carried out regularly which include shelving of consulted books and journals, shelf reading, charging and discharging of library materials, retrieval of overdue books and journals from users.

In addition, cataloguing and classification of books (including gift materials) were undertaken and completed. Also, relevant information on CRIN mandate crops and agricultural related issues were cut from newspapers and kept for scientist's consultation. Accessioning, stamping and displaying of new information resources were done. Compilation of CRIDAN on CRIN mandate crops are in progress. Inverter and solar panel were purchased and installed in the library to boost the use of electronic resources. This has led to increase in number of library users compared with previous years and also made internet accessibility easier in the library.

Publication Division (Fagbami, O.O.)

Annual Reports for 2006 was printed on contract (1000copies), while 2007-2009 reports processing were ongoing. Notices were sent for submission of 2010 – 2012 reports and these are available in softcopies. Collated reports for the year 2013 was handed over to the division for processing. A publication tagged “*CRIN at 50*” was produced to commemorate the 50th Anniversary of the Institute. Weekly CRIN bulletin was produced from the Executive Director’s office. Documentary of activities for CRIN 50th Anniversary was produced in the year. No identity card accessories to produced staff Idcard internally.

80 published articles in reflected journals and proceedings were listed in 2006 reports.

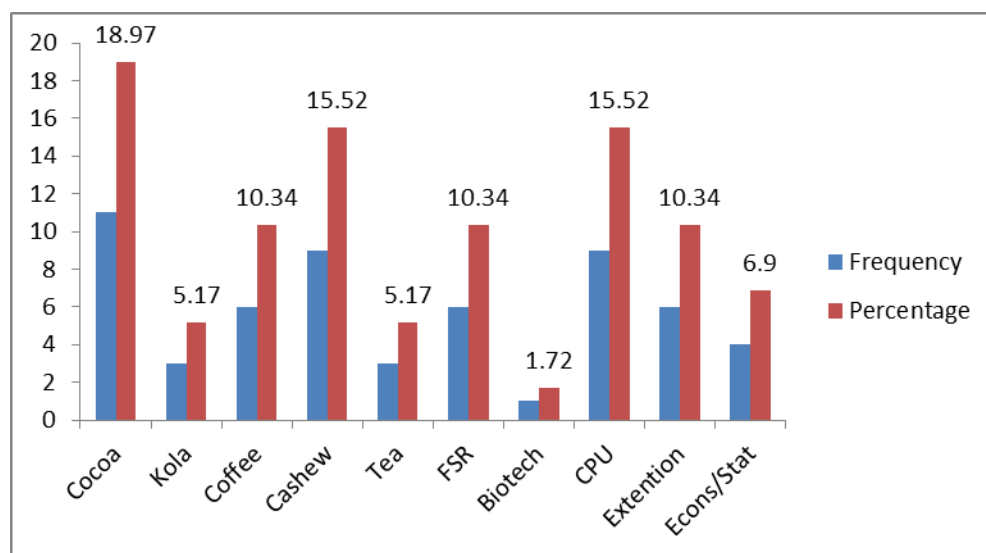


Figure 2: Distribution of Research Programmes reports in 2006

The graph shows that cocoa has 18.97% reports, 15.52% for cashew and CPU respectively. While Coffee ,FSR and Extension has 10.34% each with Econs & Statistics having 6.9%. Kola and Tea has 5.17% each. Also, Biotechnology has 1.72% of the published reports.

ICT Division (Ibe Osita – Acting Head, ICT Division)

In 2014, the division carried out these activities: from Internet services Website management/update and In-house training.

Hotspot on the Internet was activated to restrict Internet access to only staff and other authorized users. Placement of users on the hotspot platform has been on-going. Un-interrupted Internet to all staff till close of the day’s work. Installation of sectoral antenna to service the LID Department and interfaced it with the inverter in the Internet server room. The ICT equipment at the library was equally connected to library inverter. Occasional cable cuts were rectified in-house in collaboration with some LID staff. ICT training was conducted in-house for two LID staff viz: Mr. Gbenga Oyedotun and Tony Ikpefua; this was equipped them with the requisite skills to attend to internet related requests from staff. The division also played a key role in assisting staff during the IPPIS exercise by creating email addresses and attending to other requests. The division made contact with the Internet Service Provider (ISP) to ensure un-interrupted Internet presence in the Institute.

The website of the Institute was kept up to date with research activities and other breaking news of public interest. The website played host to thousands of visitors in 2014 and constituted one stop shop for information on our mandate crops. Contacts were made with staff by outsider from profile showcased on the website. Institutional email address was also created for staff right from the website.

INTERNAL AUDIT (FABOWALE K.M.)

Introduction

The Internal Audit is a managerial control which functions by measuring and evaluating the effectiveness of Internal Control System of Cocoa Research Institute of Nigeria both the Headquarters and its six Substations located at Owena in Ondo state, Udonmora in Edo state, Ochaia in Kogi state, Ibeku in Abia state, Ajassor in Cross Rivers state and Kusuku in Taraba state.

Objectives

The Audit programme for 2004 was designed to provide a complete and continuous audit of the accounts and records of revenue and expenditure, assets, allocated and unallocated stores of the Institute.

Observations/Result

The Audit carried out the audit of all the Institute's financial transactions and assets during the year.

Periodic stock takings were jointly carried out by Audit, Account and Stores in the first week of the year at the headquarters and the six substations.

Payments were properly authorized and posted to various cash books and ledgers. All financial transactions for the period complied with Federal government due process.

The Audit was able to save cost where necessary and leakages were blocked.

Procurements

All procurements of assets and services during the year followed the prescribed laid down procurement rules where pre-funding was observed it was mentioned and corrected.

Stores

All materials were checked and observed properly stocked with their ledgers well maintained.

Substations Audit

2013 audit of the six substations was carried out while 2014 audit exercise could not be carried out due to paucity of fund.

Capital Projects

The Institute embarks on many projects spanning from Infrastructure (buildings and roads) to purchase of equipment and experimental field maintenance. All the projects were verified by the Institute's verification committee of which the Head of Internal Audit is a member and recommendations made before payment were made.

External Audit

The firm of Adeniji & Co Chartered Accountants was engaged and had completed the audit work on year 2013 Institute's Accounts.

ENGINEERING WORKS AND SERVICES DIVISION (Ikpefan P. A)

PREAMBLE

The Engineering works and services Division is a Division under the office of the Executive Directors as shown in the Institute organogram.

This Division is organized into three (3) Technical Sections and thirteen operational Units. This became imperative in order to effectively utilize the available Man Power and to deliver maximally in all fronts of the official responsibility.

The sections/Unit in the Division are as follows:

SECTIONS

1. Mechanical Engineering
2. Electrical Engineering
3. Civil Engineering

UNIT/SECTIONS

1. Carpentry-Civil
2. Masonry & Bricklaying - Civil
3. Road- Civil
4. Motor Vehicles – Mechanical
5. Machine workshop -Mechanical
6. Fabrication & Welding-Mechanical
7. Agricultural Equipment-Mechanical
8. Generators, Refrigerator and Air-condition-Mechanical
9. Water Supply-Mechanical
10. Plumbing-Mechanical
11. Generation & Protection-Electrical
12. Networks Installation/ Maintenance -Electrical
13. Transport

ACTIVITIES OF THE DIVISION

The activities and achievement of the Division Vis-à-Vis the strengths weaknesses opportunities and threat offered/dictated by the operating environment however, the sole function of the Division is as follows:

- Carrying out preliminary studies and investigations on all projects.

- Supervision of work being done by contracts and/or internal labour.
- Maintenance of infrastructures.
- Deployments of Drivers for vehicle movement.

S/NO	JOB DESCRIPTION	LOCATION	AMOUNT	REMARKS
1	Installation of cabinet air conditioner	Event Centre	16,750	Completed
2	Changing of one wing of statistics Division from conduit to surface Installation	ERLS	183,950	Completed
3	Rehabilitation/upgrade of /Electrical Switch room and control switches at laboratory complex	Laboratory Complex	318,940	Completed
4	Repairs & replacement of bad Security light	Main Lab,	119,700	Completed
5	Electrical repairs and replacement of lightings and fans	ERLS,PM&		
6	Installation of 2 Air conditioners	Engineering	90,950	Completed
7	Replacement of damaged Electric- pole along Ladoor-Igbaro transmission line			Completed
8	Installation of Air -condition & procurement of giant Fan	Lawrence Opeke Hall	28,000	Completed
9	Replacement of lighting bulbs	New Library		Completed
10	Installation of halogen lamp to 400watt	Igbaro Transmission line	46,000	Completed
11	Olympic	E.D's office & Opeke Hall	42,000	Completed
12	Installation of Generator		8,800	Completed
13	Replacement of electrical fittings	Admin. Block	54,000	Completed
14	Replacement & Substations)' office & ICT.	Engineering	27,000	Completed
15	Wire fencing of Palm Milling Unit	Workshop	15,070	Completed
16	Construction of Car Park at Engineering Division.	FSR & E	14,400	Completed
17	Repairs of J.S Entrance Gate and Construction of Alata gate	Carpentry	343,000	Completed
18	Construction and Erection of Crossbar at J.S Entrance Gate	Director (P & S) and ICT Centre		
19	Changing of taps & replacement of overhead Storex tank accessories	PEM	99,500	Completed
20	Changing of overhead Storex tank accessories & laying of underground water pipes	Engineering Section	38,700	Completed
21	Replacement of sink waste and pipes	Junior Staff Quarters	21,100	Completed
22	Replacement of wash hand basin waste & its fittings	Junior Staff Quarters	6,600	Completed
23	Changing of plumbing materials	Research Store	2,950	Completed
		Director of Research's Office	4,550	Completed
			44,220	

	Replacement of discharge water lose and its accessories	Finance & Account Department Main Laboratory Complex/ERLS	22,600	
24	Construction of 10 Car slots.	Engineering Division		Completed
25	Construction of water drainage & Palm kernel shaft at Palm oil Section	PEM		Completed
26	Erection of Poles for fencing wire at Palm Oil Section	PEM		Completed
27	Construction of water tank Platform at Main-Laboratory quadrangle	Lab Quandrangle	17,900	Completed
28	Concreting the surrounding of J.S.A well (Beside CRIN- Staff School)	J.S.A Quarters		Completed
29	Painting of office of Director (Production & Substations) window	Laboratory		Completed
30	Erection of Poles for cross bar at the J.S Main entrance.	Junior Staff Quarters		Completed
31	Painting of the NSCDC Office	Management / Carpentry Section	80,000	Completed
32	Painting of Dr. R.Adedeji Office	Laboratory		

33	Ceiling, doors, locks and roof repairs at		45,300	Completed
34	stationary/Technical store			
35	Replacement of door/lock at room 46		1,200	Completed
36	Admin office		No cash	Completed
37	Roof repairs at Carpentry Unit		involve	Completed
38	Repairs/Renovation of NSBC office (CRIN		6,700	
39	Beat)		309,200	Completed
40	Construction of car park at engineering		23,200	Completed
41	workshop		10,500	Completed
42	Construction of security shed/bench at the		11,900	
43	Security Gate		19,150	
44	Repairs of Fermentary roof		23,450	Completed
45	Repairs of Podium at Conference Hall		28,600	Completed
46	Replacements of ceiling Asbestors at		11,400	Completed
47	ED/Admin. Sec's office	Room 46	No cash	
48	Repair of damaged roof at SPN	Admin office	involve	
49	Roof repairs at Plumbing/Mechanical	FSR&E office		
50	workshop		5,500	11,200
51	Replacement of window lock at the Security		1,200	
52	Section			16,800
53	Replacement of louvers' at marketing office	So- Cool		95,000
54	Replacement of door	Toyota Hilux	Servicing	22,000
55	Replacement of window frame		General	31,100
56	Replacement of door lock at Audit Section	Toyota Hilux	Tyres, Brake	10,400
57	FG298 VO3	Toyota Haize	System	
58	FG 630 V03	Bus		83,600
59	FG 258 A03	T. Coaster Bus	Brake System	4,200
60	FG 45 B 03 FG	Toyota Hilux	General	
61	FG 310 VO3		Servicing	4,200
62	FG 075 V03	Toyota	Shaft bearing	4,200
63	FG 624 V03	Avensis	Recovery of	
64	FG 309 VO3	Toyota Hilux	Accident	14,200
	FG 308 V03		vehicle	
		Toyota Hilux	Gran shafts	34,500
			pulley oil	12,600
		Toyota Hilux	seals	
			replacement	
		Toyota Hilux	Servicing &	
			oil Seal	
			Fuel pump,	

S/NO	REG. NO	TYPE OF VEHICLE	REPAIRS	AMOU
	FG 604 V03		wind screen	NTS
60	FG 308 V03	Toyota Hilux	Services and Oil Seal	14,200
61	FG 604 V03	Toyota Hilux Toyota	Fuel pump, wind screen	34,500
62	FG 309 FG	Hilux	General services	12,600
63	FG 297 V03	Toyota Hilux	Towing of vehicle from Okene	65,000
64	FG45 – 03 FG	Toyota Coaster Bus	General Servicing	31,900
65	FG 308 V03	Toyota Hilux	Wind screen fron and fixing &	37,000
66	FG 103 V03	Menz. Benz (711)	Rear and fixing	30,800
67	FG 298 V03	So –cool	Servicing and Brake system	10,600
68	FG 482 V03	Toyota Ambulance	Services & Brake	15,700
69	FG 258 V03	T. Haize Bus	General services	17,800
70	FG 625 V03	T. Coaster Bus	General repair& services	29,800
71	FG 626 V03	KIA Sportage Jeep	General services & repair	69,500
72	FG 630 V03	Toyota Hilux	Top cylinders services	10,000
73	FG V03	Peogeout 406	Suspension	39,000

74	FG 297 V03	Toyota Hilux	Wind screen & Cloth disc and	31,000
75	FG626 V03	KIA Sportage Jeep	Plate	102,700
76	FG 075 B03	Toyota Avensis	Tyres and fixing	24,500
77	FG 307 V03	Toyota Hilux	Absorbers e.t.c	149,200
78	FG 957 S03	Toyota Hilux	Tyres services oil seal	15,170
79	FG 296 VO3	Land Wind Jeep	Complete steening rack & wind	15,600
80	FG 299 V03	Land Wind Jeep	screen	10,500
81	FG 16 S03	Motorcycles (Admin.)	Top cylinder gasket and services	44,000
82	FG 516 B03 AND FG 15 S0B	Motorcycles	Full light, repair	16,800
83	FG 604 S03	(Security)	Repairs, & services tyres	103,000
84	FG 626 V03	Toyota Hilux	General repairs Services	63,300
85	FG 260 A03	KIA Sportage Jeep	Absorbers	102,600
86	FG 260 A03	Toyota Avensis	To wing from Sapade, Ogun	
	FG 604 S03	Toyota Avensis	State	
		Toyota Hilux	Absorbers front & rear, linkages,	
			Pads, Master brakes e.t.c	
			Tyres, Batterys	
			Tyres, Brake disc & Drum	

87	Ruman 3.8 KVA generator servicing	Director Research office	2,800	Complete
88	Installation of New Battery to 250 KVA Generator	Main Power House	26,000	Complete
89	Servicing of 250 KVA generator	Main Power House	34,000	Complete
90	Radiator Replace/Plas===== of 250 KVA Generator	Main Power House	14,500	Complete
91	Servicing of 12.5 KVA Diesel Generator	SPN Old Garage	17,200	Complete
92	Repair of Alternator of 250 KVA	Lab	4,500	Complete
93	Repair=====r of 250 KVA Generator small & Big	Lab	29,000	Complete
94	Radiator	Lab	74,000	Complete
95	Servicing of 250 KVA Generator	Main Power House	90,000	Complete
96	Replacement of infector pressure regulator and	Director Office	1,500	Complete
97	sensor	Admin.	5,500	Complete
98	Replacement of starter on 3.8 KVA Generator	Lab & Main Power	NIL	Complete
99	Servicing of 3.8 Generator	House		
100	Routine maintenance of 250 KVA Generator	Civil Deference Office		
101	Installation & Purchase of window unit Air	CPU HOD Office		
102	condition	Audit Office		
103	Installation of split unit Air condition	HOD Account office		
104	Repair of split unit Air condition unit	Director P &T Office		
105	Repair of two split unit Air condition and repair of	Library		
106	refrigerator & Stabilizer	Engineering Office		
107	Installation of Air condition	HOD Audit		
108	Installation of two split unit Air condition	Board Room		
109	Repair of Air condition/Installation	ERLS Office		
110	Repair of standing parkage Air condition	Opeke Hall		
111	Repair of window unit Air condition	Tissue Culture		
112	Repair of Split unit Air condition	Lab.		
113	Repair of Air condition	Entomology Registry		
114	Repair of two window unit Air condition	Finane & Account Room		
115	Replacement of new split Air condition	3		
116	Repair of Air condition			
117	Window Air condition replacement and Stabilizer			
118	All repair and installation of new stabilizer			
	Repair of Air condition Room C 33			
	Repair of Air condition			
	Installation of window Air condition			
	Repair of Air condition			

PLANTATION AND ESTATE MANAGEMENT (Akande M.A.)

A INTRODUCTION

There are four major sections in the Plantation and Estate Management Division namely.

UNIT 1: This consists of eight zones and BCOO plots where plantations of CRIN schedule crops are situated. The total hectrage crops in each zones and staff strength are stated in Table (1)

UNIT 11: This unit consists of the Ground Maintenance which involved in:

- (a) The General maintenance of Institute's internal and external environment.
- (b) Maintenance of horticultural/ornamental and hedges plant.

UNIT 111: This deals with the raising of all CRIN schedule crops for commercial and research purposes.

UNIT IV: The fermentary unit collects cocoa pods and processes all harvested cocoa pods and air drying of cashew nuts and sun drying of plantain chips.

B STAFF STRENGTH:

At the onset of the year 2014, staff strength stood at thirty-six (36) senior staff and one hundred and seventy-one (171) junior staff on the field and one (1) senior staff and two (2) junior staff in the PEM's office.

At the end of the year 2014, the permanent number of staff stood at 204 staff (41 senior staff and 163 junior staff) and 64 casual workers from the various plots. It is also responsible for fermenting, drying and begging of cocoa be. Periodical recruitment of 102 casual workers was carried out at various time of the year to supplement the effort of the permanent staff in general maintenance operation. Out of this total, 42 casual workers were recruited basically to replace those staff deployed as pollination gang to hybrid propagation unit. Apart from the recruitment drive, redeployment of some field staff to Agric. business venture plc was carried out while Mr Etta N. Mbak and Mrs F. O Emmanuel were deployed to Zone 6 and 2 respectively. In addition, Nine (9) security officers were transferred to Plantation and Estate Management as field staff. The attendance of male casual workers dwindled when they were most needed because of low wages and enjoyment of higher earnings from local farms while female casual workers were more consistent in attendance. The division witnessed the sudden death of a junior staff Messer Oloyede kazzem after a brief sickness. The table 1(a) and (b) shows staff strength/ disposition.

TABLE 1(a) STAFF STRENGTH /DISPOSITION

S/No	UNIT	EFFECTIVE HECTARE	NO OF SENIOR STAFF	NO OF JUNIOR STAFF
1	PEM'S OFFICE	-	1	2
2	ZONE 1	36.08	2	16
3	ZONE 2	14.15	2	9
4	ZONE 3-4	11.70	2	7
5	ZONE 5	26.73	4	13
6	ZONE 6	26.00	3	9
7	ZONE 7	35.71	3	10
8	ZONE 8	35.75	3	13
9	ZONE 9	20.00	2	8
10	BCOO	6.00	-	2
11	GM	-	10	23
12	FERMENTARY	-	3	7
13	NDM	-	2	6
14	HPU	-	1	15
15	VPU	-	1	15
16	AGRIC BUSINESS	-	2	3
17	SOAP	-	-	2
18	BAKERY	-	-	3

C. ACHIEVEMENT

1. Plantation Activities: Routine and required cultural operations were adequately and effectively carried out in the existing plots in all the zones, units and BCOO plot in Moor Plantation. Such activities carried out involved:

- (a) Slashing, under brushing and weeding
- (b) Spraying of herbicide, insecticide, fungicide and termicide
- (c) Supplying of missing stands.
- (d) Removal of parasitic plants and mistletoes.
- (e) Removal of moribund plants and diseased plants/pods
- (f) Pruning of canopies and branches.
- (g) Watering of young cocoa and kola plants.
- (h) Cutting of fire traces round the plantations
- (i) Sanitation of the plots by packing out dead and dried wood.
- (j) Harvesting, evacuation, breaking and processing of cocoa pods.
- (k) Harvesting and processing of kola nuts
- (l) Picking of cashew nuts.
- (m) Harvesting of coffee berries
- (n) Harvesting of farm produce like cassava, plantain, maize etc.

The Zonal leader's reports are forwarded along with this report.

2. Estate Management: This is aspect of activity demanded a lot in order to maintain constant cleanliness and sanitation. Routine operations of the unit which include manual slashing, mechanical slashing (tractor and mower) and application of herbicide round the office complex, trimming and pruning of flowers were carried out as expected.

4. Central Nursery: CRIN mandate crops were raised through beans, nuts and vegetative as the need arise such as budding, grafting , layering etc, for commercial and research purposes. Pollination exercises were also carried out. During the period under review, 32,525 of cocoa seedlings were produced while Vegetative Propagation Unit (VPU) raised a total of 15,000 rootstocks. 4,112 kola seedlings of both cola acuminata and cola nitida were produced while 2,614 jumbo cashew seedlings were also produced.

Sales

The total number of 37,616 hybrid pods were distributed to farmer while 16,665 cocoa seedlings were sold and 9380 cocoa seedlings were released to Vegetative propagation Unit (VPU) remaining a balance of 6480 cocoa seedlings in the nursery waiting for maturity.

1,064 kola seedlings were sold while remaining 3,048 kola seedlings in the nursery.

All 2,614 jumbo cashews seedling raised were sold. Out of 2,440 plantain suckers uprooted, 2,240 were released for the newly established parental stock garden and WCF project while 200 volunteer suckers were sold.

5 Support for Research project: Research officers who had their experiments in the different zones and units were assisted with labour to maintain and carry out other related field activities such as collection of data whenever the need arose.

6. Rehabilitation: Zone 6 was able to rehabilitate 2 hectares old cocoa plot by planting young cocoa seedlings.

7. Establishment of MD-2 pineapple orchard: Pineapple orchard of an area of 1654m² was established in the month of July, 2014 with a spacing of 45cm by 45cm by 1m giving 43 ½ block of four (4) rows per block as part of internally generated revenue drive for the Institute. Lots of challenges were faced as a result of die-back experience which connected with time interval between the periods that suckers were picked from the plantation and when they were finally planted which resulted to building up of fungus and nematode infection. Presently, we can only boast of one thousand, eight hundred and sixteen stands (1816) out of five thousand pineapple suckers planted. For efficient and maintenance, the 43 ½ blocks were shared among the various zones.

8. Horticultural and Arable crops: As part of Plantation and Estate Management effort to increase the internally generated revenue (IGR), Ground maintenance section embarked on planting of maize and vegetable at ERLS and besides CRIN co-operative building. Vegetables were sold to the staff and public at competitive price of N50.00 each. The total sum of fifteen thousand six hundred and fifty naira only (N15, 650.00) and ten thousand naira only (N10, 000.00) was remitted to the marketing section on sale of vegetable and maize respectively.

9. Establishment of Hybrid cocoa of Tc1-Tc8: The preparation of one hectare with plantation suckers against the establishment of hybrid cocoa of Tc1-Tc8 toward 2015 planting in various zones was done.

10. Fermentary Unit: Under the period in review,

- 7 tonnes and 226.4kg of dried cocoa beans were processed, dried and bagged.
- 6 tonnes and 10kg was sold, 3.5kg was released for CPU department while some are still undergoing drying on the raised platform.
- 423kg of cashew nuts were air-dried.
- 23kg of cashew nuts were sold and 400kg is still in the store.
- 310kg of dried coffee berries were brought forward from the year 2013 into the year 2014. Out of which 76kg of coffee berries were sold in the year 2014 and still remain 230kg in the store.
- 35.3kg of plantain chips produced while 31.5kg was sold and still remain 3.8kg in the store.

11. Rotational general work: With the recruitment of casual workers in the year 2014, rotational general work was carried out from zone to zone which has gone a long way to help the division in its field cultural activities.

12. Establishment of Cocoa and Kola nursery: In order to avoid transportation problem at the time of planting season, Cocoa and Kola nurseries were sited and established in various Cocoa and Kola zones. Cocoa pods planting materials were sourced from West 5, West 6, West 18, and 2008, 2009, 2010 plots.

13. Farm Produce Harvesting: Harvesting of cocoa pods was done weekly, transported to the breaking point, weighed, fermented and dried at the fermentary unit. All the processed and farm produce were sent to the marketing section for sales. Various farm produce harvested for internally generated revenue are analysed below.

FARM PRODUCE HARVESTED

1. COCOA PODS. TABLE 11

ZONE	JAN	FEB	MAR	APR IL	MAY	JUN E	JUL Y	AU G.	SEP.	OCT.	NO V	DE C	TOTAL
1	2,131	2231	2,226	4569	5768	1051	2590	843	742	4086	7845	131 1	35393
2	305	745	348	1700	1520	875	343	147	185	588	1464	760	8980
3-4	2282	302	-	2030	2017	1147	37	373	1241	1663	1079	256 7	14738
5	2935	1005	3807	5871	11673	1073	47	733	2557	1451	2551	498 6	38689
6	3841	935	6877	7330	9010	2097	-	120 6	1946	1691	3716	347 0	42119
8	3253	4418	856	3585	3077	1027	2095	109 3	2102	7257	8911	871 4	46388
9	2435	1706	822	2305	385	795	890	103 0	2172	3291	2875	459 0	23296
BCO	-	-	1085	1186	461	-	-	-	-	1050	1205	132	6312

O												5	
Demon.	175	53	-	-	-	-	-	-	-	-	-	111	339
HPU	250	-	-	1293	5502	9599	491	-	-	-	-	-	17135
VPU	562	-	-	-	-	-	-	-	-	-	-	-	562
TOTAL	18169	11395	16021	29869	39413	17664	6493	5425	10945	21077	29646	27834	233951
Oil palm	150	59	166	80	51	124	92	92	93	63	44	76	1090
Kola Pod	57	595	195	463	159	-	-	-	-	-	118	300	1728

- Note: 64 kegs of palm oil were produced and 2 kegs of palm oil remain in the store while N454, 540 was realized on palm oil distributed to the marketing and N11,450.00 on kernel shafts.
- Cocoa supplied to COCTA and others from harvested pods are;

Zone 3-4 1316 pods

Zone 8 24517 pods

Total 25,833 pods

(11) Sold Zone 1 100 Pods

“8 50 pods

150 pods

(111) Supplied to zone 2 from zone 3-4 60 pods

Supplied to Nursery from zone 8 487 pods

Supplied to zone 6 from zone 8 80 pods

627 pods

Grand total = 25833 + 150 + 627 = 26,610 pods

ZONES	Kola nut	Cashew nut	Coffee	Plantain	Banana	Maize	Cassava	Iyereleaf
1	-	-	-	96 bunches	155	N3,800	-	N250
2	72 pods	14.6kg	-	8 bunches merged to 4	-	N1,400	-	-
3-4	-	95.6kg	-	38 bunches merged to 15	-	N3,600	-	-
5	-	-	20.5kg	40 bunches merged to 20	-	-	-	-
6	-	78.0kg	-	37 bunches	-	-	-	-
7	-	-	-	6 bunches	-	-	-	-
8	-	-	-	20 bunches merged to 15	36	N2,500	N3,000	-
9	-	-	-	66 merged to 16	-	-	-	-
G/m	-	139.8kg	-	-	-	N10,000	-	-
Nursery	--	-	-	118	-	-	-	-
Total	-	320.0kg	20.5Kkg	429	191	N21,300	N3,000	N250

TABLE 111

14. Farm tools, chemical and soil organic fertilizer: Lots of farm tools, chemical and soil organic fertilizers were given to all various zones and units in the year under review to facilitate the division activities in its various cultural and routine operations to boost production. In order to cater for the protection and welfare of all field staff, every individual field staff was given field coats, rain boots and cutlasses to work with on the farm. The table IV show the distribution of supplied farm tools, chemical and organic fertilizer.

There are still some agricultural equipments and chemical in the store which include:

- (a) 30 spraying pump
- (b) 20 lawn mower
- (c) 30 master cut
- (d) 4 bazuki
- (e) Chemical: Ultimax 10 cartoons
 Glyphosate 15cartoons
 Paraquat 5 cartoons
 Actara 10 cartoons
 Nose mask 3 dozens
- (f) Polyethene bags

15. Erection of metallic signpost: Fourteen (14) metallic artistic signposts that were constructed for various zones and other units with filled information written on them about each specific unit were erected to their permanent position and place.

16. Payment of casual wages: Under the period in review, the casual wages were paid promptly as at when due to increase their job performance, morale and commitment. Thanks to the CRIN Governing Board and Internal Management Committee for this great achievement.

17. Training: Training was conducted for field staff and casual workers on hand pollination while IT students, students on excursion and visitors were also conducted round.

D.IMMEDIATE AND LONG FUTURE TERM PLAN OF THE DIVISION

- (1) Expansion of our effective hectarage of Cocoa, Kola, Cashew by gapping up vacancies within the plots.
- (2) Establishment of hybrid parental plots.
- (3) Establishment of more new cocoa plot.
- (4) Establishment of new cashew and kola plots
- (5) Establishment of horticultural and arable crops.

E. CHALLENGES

- (1) **POROSITY OF ZONES/UNITS AXIS:** The porosity of the zones /units allows for encroachment and stealing by unwanted visitors especially during the season which has affected our output.

- (2) **INADEQUATE SUPPLY OF MANPOWER:** This is a major constraint of production Insufficient of labour to do the regular maintenance of the plots is adversely affecting the progress of job and thereby retarding production.
- (3) **Sporting Activities:** Weeks of sporting activities within the month of the year under review greatly affected the input of the field staff as most field work comes up between 8-12noon of effective working hours.

F: RUNNING IMPREST/EXPENDITURE IN YEAR 2014

Imprest	May	N70, 000.00
	JUNE	N70, 000.00
	AUGUST	N70, 000.00
	NOVEMBER	N70, 000.00
Direct purchased of farm input for the month of April		N312, 690.00
Direct purchased of farm input for the month of May		N324, 150.00
Purchase of pineapple (5000 suckers)		N299, 057.00
Establishment of pineapple		N34, 760.00
Maintenance of pineapple orchard		N14, 810.00
Fuelling of Coastal bus (14/4/14 -21/7/14)		N44, 000.00
Fuelling of coastal bus (28/7/14 -27/10/14		N42, 000.00
Bulk items received on farm tools		N9, 417, 600.00
10 lawn mower		N 1,792,750.00
Bulk items received on agricultural equipment		N7, 922, 14.50
Project money received		N2, 242,000.00
Recruitment of labour		N5, 280,000.00
Recruitment of labour		N 2,000,000.00
Direct purchase on kola nursery		N65, 950.00
Repair of bazuki		N15, 000.00

G: Appreciation:The Plantation and Estate Management team will not cease to appreciate and show our gratitude to the leadership of Executive Director, Professor Malachy Akoroda and Management for their continuous support in items of total cash received last year, bulk items purchased on our behalf, project money received, direct purchased and casual worker provision. We hope to continue in 2015 by God's grace with great commitment and looking for more gesture from the Management.

HUMAN RESOURCES MANAGEMENT DEPARTMENT

The Human Resources Management Department of the Institute applied itself meritoriously to its primary responsibilities of supporting and assisting the Executive Director in the day-to-day administration of the Institute in conformity with the Institute's Mandate and Mission Statements.

STRUCTURE OF THE HUMAN RESOURCES MANAGEMENT DEPARTMENT

To facilitate the activities of the Department, the Department is structured into three (3) Divisions, six (6) Sections and six (6) unit viz: Personnel Management Division, Corporate Matters Division, Health Services Division, Appointments, Promotions & Discipline Section, Training and Development Section, Pension Section, Staff Welfare and Industrial Relations Section, Maternity Section, Dispensary Section, Personnel Records Unit, Discipline Rules and Regulations Unit, Pension Records Unit, Catering Service Unit, Insurance Matters Unit and Cleaning and Maintenance Unit.

STAFF STRENGTH

- The Human Resources Management Department total staff strength as at 31 December, 2014 is seventy five (76). They are summarized as follows:

9 Administrative Officers, 18 Executive Officers, 17 Clerical Officers, 1 Confidential Secretary, 9 Secretarial Assistants, 2 Agric. Field Attendants, 1 Chief Data Processing Assistant, 2 Catering Officers, 4 Catering Assistants, 9 Nurses, 2 Health Assistants and 2 Health Attendants.

- The aforementioned staff are at various Divisions/Sections/Units of the Department as at 31 December, 2014 as follows:

HRM Office	-	6
Personnel Management	-	29
Corporate Matters	-	14
Health Centre	-	15
Pension	-	4
Catering Services	-	6
Cleaning Unit	-	<u>2</u>
Field staff		
Total	-	<u>76</u>

A. INSTITUTE'S STAFF STRENGTH AS AT 31 DECEMBER 2014

The Institute staff strength is 808. This is analysed below:

(i)	Senior Staff	-	358
(ii)	Junior Staff	-	450
	Total	-	808

B. SUBSTATIONS - 174

C. HEADQUARTERS - 634

FUNCTIONS/ACTIVITIES OF THE DEPARTMENT

The Functions of the Department are as follows:

- (i) Cost-effective management of all the Sections' activities of the Institute, including all elements of Personnel functions, corporate matters and Public Relations.
- (ii) Planning, organizing, coordinating and control of all activities including, personnel, materials, and funds.
- (iii) Identifying, articulating, formulating and reviewing from time to time the administrative activities of the Institute in compliance with the statutory mandate of the Institute, as well as all rules and regulations for the management of Government Institutions as they affect the Institute, promotion of staff welfare and public image of the Institute.
- (iv) Human Resources Management, including appointments, promotions, discipline, disengagement and post-disengagement, staff training and development.
- (v) Promotion and sustenance of national and international inter-institutional cooperation.
- (vi) Staff salaries and wages administration, other elements of staff welfare, including office and residential accommodation, health care delivery, staff recreation, staff union-management relations, staff children school, wedding, births, funerals, housewarming, housing loans, motor vehicle and car refurbishing loans, etc.
- (vii) Security, including insurance of all lives and properties, within the Institute premises, and the security of Institute personnel and properties outside the Institute premises.
- (viii) Institute Gratuities and Pensions Board of Trustees.
- (ix) Corporate matters including Institute's mandate, agreements and enforcement of all the rules and regulations for the administration and management of Government organizations, Public Service Rules, Financial Regulations, other relevant Federal Government Circulars, the Constitution of the Federal Republic of Nigeria and all the laws of the Federal Republic of Nigeria, including the Anti-Corruption Act 2000.
- (x) Institute's Environmental Sanitation Service.
- (xi) Institute's Rest House Management, Corporate Entertainment, Hospitality, Ceremonial and Protocol Matters.
- (xii) Organization and Management of the Institute's Internal Management Committee meetings.
- (xiii) Facilitation and organization of the Institute's Governing Board meetings; and
- (xiv) Any other duty that the Executive Director may assign from time to time in pursuit of the accomplishment of the Institute's Mandate and Mission Statement.

ACHIEVEMENTS OF THE DEPARTMENT

PROMOTION

Year 2013 Senior and Junior Staff Promotions: In February 2014 and May 2014, the promotion exercises for 2013 were successfully conducted and letters of promotions were issued to all successful candidates to fill available vacancies. The analysis is as follows:-

2013 Senior Staff Promotions and Intercadre Transfers/Advancement

Total number of staff presented	- 89
Staff Promoted	- 66
Staff given Inter-Cadre Transfers	- 3
Staff not promoted	- 20

Junior Staff Promotions for 2013

Total number of staff presented	- 229
Staff Promoted	- 201
Staff given Inter-Cadre Transfer	- 1
Staff not promoted	- 27

The year 2014 Senior and Junior Staff Promotions were successfully conducted and facilitated by Human Resources Management Department within the year under reference. Please see the analysis below:

2014 SENIOR STAFF PROMOTIONS

• Total number of staff presented	-	118
• Staff promoted	-	94
• Staff given inter-cadre transfer	-	4
• Staff not promoted	-	20

2014 JUNIOR STAFF PROMOTIONS

• Total number of staff presented for promotion and intercadre transfers/Advancement		
-	104	
• Staff promoted	-	74
• Staff given inter-cadre transfers	-	5
• Staff not promoted	-	25

The comprehensive list of staff promoted in year 2013 and year 2014 is attached as Annexure I and II respectively.

CONFIRMATION OF APPOINTMENT

2 Senior staff and 43 Junior staff were confirmed during the period under reference. Please see the list at Annexure III

STAFF ON TRAINING

As at 31 December, 2014 thirty three (33) Research Scientists were on training while eighty (80) Non-Research Staff were also on training on part time and self sponsorship basis. A comprehensive list of these staff on training are at Annexure IV and V.

IN-SERVICE TRAINING

In 2014 a total of 49 staff in different Departments/Divisions/Sections/Units went for in-service training.

The names of these staff, courses attended with dates are attached as Annexure VI.

LEFT THE SERVICE

A total of 126 staff left service in 2014. This is analysed below:

Retirement

Age/Length of Service	-	13
Resignation	-	3
Death	-	4
Withdrawal	-	1
Transfer	-	2
Disciplinary Action	-	2
Termination	-	<u>91</u>
Total	-	<u>116</u>

The comprehensive list of staff that left service in year 2014 is attached as Annexure VII.

CORPORATE VISIT

- (i) Officials from the office of the Accountant General of the Federation, Abuja visited the Institute for the registration of staff into the Integrated Payroll and Personnel Information System (IPPIS) Scheme on 22nd – 24th January, 2014.
- (ii) Adepta France delegates visited the Institute on 29 October, 2014.

MEETINGS HELD IN YEAR 2014

The Department facilitated Management meetings as follows:

INTERNAL MANAGEMENT COMMITTEE (IMC)/PROCUREMENT PLANNING COMMITTEE (PPC) MEETINGS

- | | | | |
|-----|--------------------------------|---|----------------------------|
| 1. | IMC and PPC meeting | – | Friday 17 January 2014 |
| 2. | IMC & PPC meeting | – | Thursday 13 February, 2014 |
| 3. | IMC & PPC meeting | – | Friday 07 March, 2014 |
| 4. | Top Management Meeting | – | 11 March, 2014 |
| 5. | IMC & PPC meeting | – | Thursday 24 April, 2014 |
| 6. | IMC & PPC meeting | – | Tuesday 03 June, 2014 |
| 7. | IMC & PPC meeting | – | 27 June, 2014 |
| 8. | Emergency meeting of IMC & PPC | – | 07 July, 2014 |
| 9. | IMC & PPC meeting | – | 01 August, 2014 |
| 10. | IMC & PPC meeting | – | 29 August, 2014 |
| 11. | IMC & PPC meeting | – | 25 September, 2014 |
| 12. | IMC meeting | – | 23 October, 2014 |
| 13. | IMC meeting | – | Thursday 11 December, 2014 |

GOVERNING BOARD MEETINGS

The Department facilitated Governing Board Meetings which were held as follows:

Governing Board Committee on Establishment Meetings:

- (i) Staff Audit – 16 – 20 January 2014
- (ii) Year 2013 Senior Staff Promotions – May 2014
- (iii) Year 2014 Senior Staff Promotions – November 2014

Governing Board Meetings:

- (i) 5 – 7 May, 2014 – 5th Business Meeting
- (ii) 13 – 14 October, 2014 – 6th Business Meeting
- (iii) 11 – 12 December, 2014 – 7th Business Meeting

INSTITUTE’S CORPORATE SOCIAL RESPONSIBILITY

- (i) The Institute donated the sum of N50,000.00 (fifty thousand naira) only to CRIN Staff School on the occasion of its inter-house sports competition held on 20 March, 2014
- (ii) Also the sum of ₦200,000 (two hundred thousand naira) was given as corporate gift to assist Odo Ona Nla community in year 2014.

PENSION MATTERS

- (i) **Number of pensioners on CRIN Staff Pension Scheme’s Payroll as at 31 December, 2014**

As at 31 December, 2014, the Scheme has a total number of 318 pensioners on its nominal roll.

(ii) **Payment of Pension**

Payment of pension to all retirees under CRIN Staff Pension Scheme Board of Trustee was done up to 31 December, 2014.

(ii) **Death**

The Pension Secretariat received the report of the death of nine (9) pensioners in the year 2014.

The list of dead pensioners is attached as Annexure VIII.

(iv) **Quarterly Business Meeting of BOT**

The Business Meetings of CRIN Staff Pension Schemes Board of Trustees were held as follows:

	Date	Venue	State
1.	05/3/2014	Owena Substation	Ondo State
2.	27/5/2014	Uhonmora Substation	Edo State
3.	03/7/2014	Ochaja Substation	Kogi State
4.	21/8/2014	Ibeku Substation	Abia State
5.	19/11/2014	Ajassor Substation	Cross Rivers State.
6.	15/12/2014	Ilorin,	Kwara State

(v) **Office Equipment**

Within the first quarter of 2014, the sum of ₦260,000.00 (two hundred and sixty thousand naira) only, was approved for the Pension Section to purchase office equipment/furniture, which had been purchased.

(vii) **National Pension Commission (PenCom) Pre-Retirement Workshop**

National Pension Commission (PenCom) organized a nationwide pre-retirement workshop for potential retirees in year 2014. The Institute's prospective retirees attended the said workshop at the University of Lagos on 26 March, 2014, on CRIN sponsorship.

(viii) **Submission of the list of year 2015 prospective retirees to PenCom & Bureau of Public Service Reforms (BPSR)**

The names of eight Institute's staff, scheduled to retire from the Institute's Service, in year 2015, were submitted to PenCom office and Bureau of Public Service Reforms (BPSR), as directed by PenCom & BPSR. Also BPSR directed that the names of Institute's retirees between 2013 - 2015 should be submitted to its office and this was done.

CRIN REST HOUSE

The Institute Rest House attended to and provided accommodation to guest as at when necessary in the year under reference. Refreshment was also provided for Government Board members during its Business meetings in 2014.

For better services, the following was put in place by the Executive Director.

- (i) Renovation of the Rest House.
- (ii) Provision of modern fabric, bedding materials and cooking utensils.
- (iii) Sinking of high volume water bore hole
- (iv) Fencing of the Rest House for security purpose.

HEALTH SERVICES

Dispensary: In the year under reference, a total of 8,944 cases were seen in the Dispensary Section.

Maternity: A total of 719 cases were seen amongst whom were pregnant women and children under 1 year.

Delivery: 20 babies were delivered normally by spontaneous vaginal delivery without any complication.

Family planning: 53 clients attended the family planning clinic.

Death: No death was recorded

Sick off/Referrals: Sick off were given to staff and Casual workers depending on the medical condition on presentation at the Health centre.

Few cases of patients of both staff and non-staff were equally referred to the hospital for expert management.

Immunization

Staff and children benefited from the exercise this year. The menafriavac campaign against meningitis in Oyo State took place from 21st – Oct. – 2nd Nov. 2014. Staff and their children including the entire community benefited from the exercise.

Deworming

Deworming Exercise/Blood Pressure Check of staff took place in June/July, 2014, about 400 staff benefited from the exercise.

Fumigation

The exercise was carried out in January and June 2014 to control termite infestation.

Uniform Allowance

The Nurses received N20,000.00 each to procure uniform. N200,000.00 was received for ten (10) Nurses at Headquarters and substation in year 2014

Babies' Party

The sum of one hundred and seventy-thousand naira (N170,000.00) was received for the babies party held on 23rd December, 2014. This is an annual event usually done to create awareness on some health issues that can help improve the general health status of the community and to encourage mothers to patronize the clinic.

Income Generated

Total income generated from both the Dispensary and Maternity was one hundred and one thousand, two hundred Naira only (N101,200.000).

Dispensary – 25,000.00

Maternity – 76,200.00

Total **101,200.00**

Cash Advance for Drug Purchase

The drug purchase in December, 2013 was used for 2014.

Achievements in Human Resources Management

1. Provision of complete sets of Desk Top computer and Accessories for the 3 registries and Health Centre.
2. Successful conduct of year 2013 and 2014 Senior and Junior Staff Promotions.
3. Successful facilitation of Management meetings and Governing Board meetings.
4. Renovation of CRIN Rest House to modern standard.
5. Accreditation of Health Centre as NHIS Primary Health Care Provider.
6. Deworming of CRIN Staff at the Headquarters in June and July 2014 and checking's of blood pressure.
7. Vaccination of staff, families and community at large against meningitis in October 2014.

MAJOR OBSTACLES IN HRM DEPARTMENT

- (1) Shortage of Health Attendant at CRIN Health Centre and Steward at the Rest House.
- (2) Delay in the release of imprest and purchase of stationeries.
- (3) Epileptic Power Supply from the national grid, inadequate water supply from Health Centre well.
- (4) Inadequate office accommodations for Principal Officers in core HRM.
- (5) Inadequate office furniture for staff
- (6) Inadequate office equipment (laptops, refrigerators, and Air conditioners)

THE FUTURE EXPECTATIONS OF THE DEPARTMENT

- (i) Computerization of the Department.
- (ii) Installation of inverter for the Department.
- (iii) Training and re-training of staff.
- (iv) Provision of tally for vehicles and stickers for staff vehicles.
- (v) Provision of an office for the Head of CRIN Rest House at the Administrative Block to accommodate the materials needed for serving at Management meetings, Governing Board meetings and Committee meetings.

RUNNING IMPREST IN YEAR 2014

Imprest Collected

		N
(i)	Imprest for Health Services Division	120,000.00
(ii)	Imprest for HRM	20,000.00
(iii)	Imprest for running mails	50,000.00
		<u>190,000.00</u>

OTHERS

Breakdown of Expenditure

		N
Office Stationery & Computer Consumable October 2014	-	464,225.00
Office Equipment December, 2014	-	832,910.00
Sanitary materials purchased for Cleaning Unit	-	93,000.00
Total	-	<u>1,390,135.00</u>

ANNEXURE I
LIST OF SENIOR STAFF PROMOTIONED IN YEAR 2013

S/N	NAME	PRESENT POST AND SALARY GRADE	DATE OF PRESENT APPT.	POST TO WHICH PROMOTABLE	SALARY ON PROMOTION CONRAISS/STEP	EFFECTIVE DATE	STATE OF ORIGIN	REMARKS
1	Dr. S.O. Aroyeun	Chief Res. Officer CONRAISS 13	01/10/09	Asst. Director	14/1	01/10/13	Ogun	Recommended for promotion
2	Dr. (Mrs) C.O. Jaiyeola	Prin. Res. Officer CONRAISS 11	01/10/05	Chief Res. Officer	13/7	01/10/13	Ekiti	Recommended for promotion
3	Dr. Ayegboyin Kayode	Snr. Res. Officer CONRAISS 09	01/10/08	Prin. Res. Officer	11/1	01/10/13	Oyo	Recommended for promotion
4	Mr. A. H. Otunoye	Snr. Res. Officer CONRAISS 09	01/10/08	Prin. Res. Officer	11/1	01/10/13	Abia	Recommended for promotion
5	Dr. R.O. Igbinadolor	Snr. Res. Officer CONRAISS 09	01/10/08	Prin. Res. Officer	11/1	01/10/13	Edo	Recommended for promotion
6	Mr. Adebisi Solomon	Snr. Res. Officer CONRAISS 09	01/10/08	Prin. Res. Officer	11/1	01/10/13	Osun	Recommended for promotion
7	Mr. P.E. Aikpokpodion	Snr. Res. Officer CONRAISS 09	01/10/08	Prin. Res. Officer	11/1	01/10/13	Edo	Recommended for promotion

S/N	NAME	PRESENT POST AND SALARY GRADE	DATE OF PRESENT APPT.	POST TO WHICH PROMOTABLE	SALARY ON PROMOTION CONRAISS/ STEP	EFFECTIVE DATE	STATE OF ORIGIN	REMARKS
8	Mr. Taiwo O. Akanni	Res. Officer I CONRAISS 08	02/09/10	Snr. Res. Officer	9/1	01/10/13	Osun	Recommended for promotion
9	Mrs. Taiwo Nnena	Res. Officer I CONRAISS 08	30/09/10	Snr. Res. Officer	9/1	01/10/13	Anambra	Recommended for promotion
10	Mr. L.A. Adebowale	Res. Officer I CONRAISS 08	01/10/07	Snr. Res. Officer	9/5	01/10/13	Ogun	Recommended for promotion
11	Mrs. Onyemachi O. Fidelia	HSLT CONRAISS 07	26/08/10	Snr. Science Lab. Tech	8/1	01/10/13	Abia	Recommended for promotion
12	Mrs. Adeji Alaba Olaitan	HSLT CONRAISS 07	02/09/10	Snr. Science Lab. Tech	8/1	01/10/13	Oyo	Recommended for promotion
13	Mr. Omoregie O. Martins	HSLT CONRAISS 07	02/09/10	Snr. Science Lab. Tech	8/1	01/10/13	Edo	Recommended for promotion
14	Mr. Iyoha Sunshine O.	HSLT CONRAISS 07	03/09/10	Snr. Science Lab. Tech	8/1	01/10/13	Edo	Recommended for promotion
15	Miss Ezeorah Loveth U.	HSLT CONRAISS 07	03/09/10	Snr. Science Lab. Tech	8/1	01/10/13	Enugu	Recommended for promotion
16	Mr. Bolarinde O. Joel	HSLT CONRAISS 07	29/09/10	Snr. Science Lab. Tech	8/1	01/10/13	Ekiti	Recommended for promotion
17	Mr. Adeduntan Dotun Gbenga	HSLT CONRAISS 07	30/09/10	Snr. Science Lab. Tech	8/1	01/10/13	Oyo	Recommended for promotion
18	Mr. Iyadunni	Higher Agric.	02/09/10	Snr. Agric.	8/1	01/10/13	Oyo	Recommended for promotion

S/N	NAME	PRESENT POST AND SALARY GRADE	DATE OF PRESENT APPT.	POST TO WHICH PROMOTABLE	SALARY ON PROMOTION CONRAISS/ STEP	EFFECTIVE DATE	STATE OF ORIGIN	REMARKS
	Kolawole	Sup CONRAISS 07		Supt.		3		nded for promotion
19	Mr. Atanda Tairu Akinseyi	ACAFO CONRAISS 05	01/10/10	Chief Agric. Field Overseer	6/1	01/10/13	Oyo	Recommended for promotion
20	Mr. Okere Monday John	ACAFO CONRAISS 05	01/10/10	Chief Agric. Field Overseer	6/1	01/10/13	Oyo	Recommended for promotion
21	Mr. Oguche Nathaniel	ACAFO CONRAISS 05	01/10/10	Chief Agric. Field Overseer	6/1	01/10/13	Kogi	Recommended for promotion
22	Mr. Emaku Leo Akpor	Prin. Statistician CONRAISS 11	01/10/10	Asst. Chief Statistician	12/4	01/10/13	Delta	Recommended for promotion
23	Mrs. Ogunbosoye Bolanle Bukola	Statistician II CONRAISS 07	29/09/10	Statistician I	8/1	01/10/13	Ondo	Recommended for promotion
24	Mr. Babafemi Ibitope	Prog. Analyst I CONRAISS 08	19/08/10	Snr. Prog. Analyst	9/1	01/10/13	Ekiti	Recommended for promotion
25	Mr. Fagbami Oyebanji	Asst. Director, LID CONRAISS 14	01/10/09	Director (LID)	15/3	01/10/13	Oyo	Recommended for promotion
26	Mrs. Folarin Victoria	Higher Lib. Officer CONRAISS 07	01/10/10	Snr. Lib. Officer	8/1	01/10/13	Ogun	Recommended for promotion
27	Mr. Olukotun Olubunmi	Prin. Admin. Offr.	01/10/10	Asst. Chief Admin. Offr.	12/3	01/10/13	Kogi	Recommended for

S/N	NAME	PRESENT POST AND SALARY GRADE	DATE OF PRESENT APPT.	POST TO WHICH PROMOTABLE	SALARY ON PROMOTION CONRAISS/ STEP	EFFECTIVE DATE	STATE OF ORIGIN	REMARKS
	Simeon	CONRAISS 11						promotion
28	Mr. Onifade Ayuba Olatunde	Prin. Accountant CONRAISS 11	01/10/10	Asst. Chief Accountant	12/2	01/10/13	Oyo	Recommended for promotion
29	Mr. Onigbinde Oluwole Olarenwaju	Prin. Accountant CONRAISS 11	01/10/10	Asst. Chief Accountant	12/2	01/10/13	Osun	Recommended for promotion
30	Mrs. Agwimah Justina Adesua	Snr. Accountant CONRAISS 09	01/10/10	Prin. Accountant	11/1	01/10/13	Edo	Recommended for promotion
31	Mr. Abodunrin Peterkin Y.	Accountant II CONRAISS	24/06/10	Accountant I	8/1	01/10/13	Oyo	Recommended for promotion
32	Mr. Osawaye James	Accountant II CONRAISS	02/09/10	Accountant I	8/1	01/10/13	Edo	Recommended for promotion
33	Mr. Gimba David Augustine	Accountant II CONRAISS	02/09/10	Accountant I	8/1	01/10/13	Nasarawa	Recommended for promotion
34	Mr. Asein Uwaifo	Accountant II CONRAISS	07/09/10	Accountant I	8/1	01/10/13	Edo	Recommended for promotion
35	Ogunkua Olumide O.	Prin. Exec. Offr. I	01/10/09	ACEO	12/1	01/10/13	Ondo	Recommended for promotion
36	Mrs. Ailemen E. Josephine	Snr. Exec. Officer CONRAISS 08	01/04/10	Prin. Exec. Officer II	9/3	01/10/13	Edo	Recommended for promotion
37	Mr. Imasogie Michael	Higher Exec. Offr CONRAISS	02/09/10	Snr. Exec. Officer	8/1	01/10/13	Edo	Recommended for promotion

S/N	NAME	PRESENT POST AND SALARY GRADE	DATE OF PRESENT APPT.	POST TO WHICH PROMOTABLE	SALARY ON PROMOTION CONRAISS/STEP	EFFECTIVE DATE	STATE OF ORIGIN	REMARKS
		07						
38	Mr. Oboh Roland S.	Higher Exec. Offr CONRAISS 07	03/09/10	Snr. Exec. Officer	8/1	01/10/13	Edo	Recommended for promotion
39	Mrs Oyebolde Felicai	Exec. Offr CONRAISS 06	01/10/10	Higher Exec. Officer	7/1	01/10/13	Osun	Recommended for promotion
40	Mr. Ojelabi Azeez Abiodun	Asst. Exec. Offr. CONRAISS 05	30/08/10	Executive Officer	6/1	01/10/13	Osun	Recommended for promotion
41	Mrs. Adedire Roseline Adekemi	Asst. Exec. Offr. CONRAISS 05	30/08/10	Executive Officer	6/1	01/10/13	Ogun	Recommended for promotion
42	Mr. Akinrinola Olawale	Asst. Exec. Offr. CONRAISS 05	01/10/10	Executive Officer	6/8	01/10/13	Ogun	Recommended for promotion
43	Mrs. Emaku Eunice	Asst. Exec. Offr. CONRAISS 05	01/10/10	Executive Officer	6/1	01/10/13	Delta	Recommended for promotion
44	Mr. Abass Saheed	Asst. Exec. Offr. CONRAISS 05	01/10/10	Executive Officer	6/1	01/10/13	Oyo	Recommended for promotion
45	Mr. Ali Saidi Olawale	Asst. Exec. Offr. CONRAISS 05	01/10/10	Executive Officer	6/1	01/10/13	Oyo	Recommended for promotion
46	Mrs. Oghenegueke	Asst. Exec. Offr.	01/10/10	Executive Officer	6/1	01/10/13	Delta	Recommended for

S/N	NAME	PRESENT POST AND SALARY GRADE	DATE OF PRESENT APPT.	POST TO WHICH PROMOTABLE	SALARY ON PROMOTION CONRAISS/STEP	EFFECTIVE DATE	STATE OF ORIGIN	REMARKS
	Rebecca	CONRAISS 05						promotion
47	Mr. Asein Oyekhire	Asst. Exec. Offr. CONRAISS 05	01/10/10	Executive Officer	6/8	01/10/13	Edo	Recommended for promotion
48	Mr. Magaji Jonathan D.	Asst. Exec. Offr. CONRAISS 05	01/10/10	Executive Officer	6/12	01/10/13	Taraba	Recommended for promotion
49	Mr. Adeyaju Segun O.	Asst. Exec. Offr. CONRAISS 05	01/10/10	Executive Officer	6/1	01/10/13	Oyo	Recommended for promotion
50	Miss Obi Esther Ogom	Snr. Clerical Offr. CONRAISS 05	01/10/10	Chief Clerical Officer	6/1	01/10/13	Delta	Recommended for promotion
51	Mr. Ihejirika Ginnika Emmanuel	Snr. Clerical Offr. CONRAISS 05	01/10/10	Chief Clerical Officer	6/1	01/10/13	Imo	Recommended for promotion
52	Mrs. Olutade Ann O.	Snr. Clerical Offr. CONRAISS 05	01/10/10	Chief Clerical Officer	6/1	01/10/13	Osun	Recommended for promotion
53	Mrs. Oyelami Roseline	Snr. Sec. Asst. I CONRAISS 07	01/10/09	Chief Sec. Asst.	8/1	01/10/13	Oyo	Recommended for promotion
54	Mrs. Oladimeji L.T.N.	Snr. Sec. Asst. II CONRAISS 06	01/10/10	Snr. Sec. Asst. I	7/1	01/10/13	Osun	Recommended for promotion

S/N	NAME	PRESENT POST AND SALARY GRADE	DATE OF PRESENT APPT.	POST TO WHICH PROMOTABLE	SALARY ON PROMOTION CONRAISS/STEP	EFFECTIVE DATE	STATE OF ORIGIN	REMARKS
55	Mrs. Akinyode Olubisi Emily	Snr. Sec. Asst. II CONRAISS 06	01/10/10	Snr. Sec. Asst. I	7/1	01/10/13	Oyo	Recommended for promotion
56	Mrs. Ejenebor Francisca Bolanle	Snr. Sec. Asst. II CONRAISS 06	01/10/10	Snr. Sec. Asst. I	7/1	01/10/13	Ondo	Recommended for promotion
57	Mrs. Ojo Olubunmi	Sec. Asst. I CONRAISS 05	01/10/10	Snr. Sec. Asst. II	6/1	01/10/13	Oyo	Recommended for promotion
58	Mrs. Awunghe Joy T.	NS/Nur. Supt. CONRAISS 07	01/04/10	SNS/Snr. Nursing Supt.	8/2	01/10/13	C/River	Recommended for promotion
59	Mrs. Nwajei Maureen	Snr. Health Asst. CONRAISS 05	01/10/10	Prin. Health Asst.	6/1	01/10/13	Edo	Recommended for promotion
60	Mr. Bakare A. Taiwo	Prin. Mtce. Eng. CONRAISS 11	01/10/10	Asst. Chief Mtce. Engineer	12/3	01/10/13	Ogun	Recommended for promotion
61	Mr. Agwimah Emmanuel Odion	PTO II CONRAISS 09	01/10/10	PTO I	11/1	01/10/13	Edo	Recommended for promotion
62	Mrs. Amusan Latifat Adebola	Works Supt. CONRAISS 06	01/10/10	Higher Works Supt.	7/1	01/10/13	Oyo	Recommended for promotion
63	Mr. Ogbechie Michael	ATO CONRAISS 05	01/10/10	Tech. Officer	6/1	01/10/13	Delta	Recommended for promotion
64	Mr. Oyawale	ATO	01/10/10	Tech. Officer	6/1	01/10/13	Osun	Recommended for

S/N	NAME	PRESENT POST AND SALARY GRADE	DATE OF PRESENT APPT.	POST TO WHICH PROMOTABLE	SALARY ON PROMOTION CONRAISS/STEP	EFFECTIVE DATE	STATE OF ORIGIN	REMARKS
	Muniru	CONRAISS 05				3		promotion
65	Mr. Eno Innocent Eno	Asst. Chief Store Keeper CONRAISS 05	01/10/10	Chief Store Keeper	6/1	01/10/13	C/River	Recommended for promotion
66	Mr. Kpeleye Friday	SMD/Mech	01/10/10	CME/Mech.	6/1	01/10/13	Delta	Recommended for promotion

LIST OF SENIOR STAFF GIVEN INTER-CADRE TRANSFERS/ADVANCEMENT

S/N	NAME	PRESENT POST AND SALARY GRADE	DATE OF PRESENT APPT.	POST TO WHICH PROMOTABLE	SALARY ON PROMOTION CONRAISS/STEP	EFFECTIVE DATE	STATE OF ORIGIN
1	Mr. Asowata Frank E.	Higher Science Lab. Tech. CONRAISS 07	03/09/10	Res. Officer I	8/1	01/10/13	Delta
2	Mr. Adeleke Sunday A.	Prin. Tech. Officer II CONRAISS 09	01/10/09	Res. Officer I	8/10	01/10/13	Oyo
3	Mr. Oladipupo Kayode	Chief Motor Driver/Mech. CONRAISS 06	01/10/09	Works Supt.	6/5	01/10/13	Oyo

LIST OF JUNIOR STAFF PROMOTIONED IN YEAR 2013

S/N	Name	Designation	CONRAISS/ Step	Date of Present Appt.	Post to which Promotable	Salary on Promotion	Recommended Effective Date
1	Idowu Babatunde	Senior Agric. Field Overseer	4/10	1/10/2011	Asst. Chief Agric. Field Overseer	5/5	1/10/2013
2	Gbadamosi Mufutau	Senior Agric. Field Overseer	4/6	1/10/2011	Asst. Chief Agric. Field Overseer	5/2	1/10/2013
3	Effiong Ezekiel Effiong	Senior Agric. Field Overseer	4/10	1/10/2011	Asst. Chief Agric. Field Overseer	5/5	1/10/2013
4	Ugbashi Innocent	Agric. Field Attendant I	3/15	1/10/2003	Senior Agric. Field Overseer	4/11	1/10/2013
5	Akinola Abiola	Agric. Field Attendant I	3/9	1/10/2008	Senior Agric. Field Overseer	4/6	1/10/2013
6	Jayeade Abass	Agric. Field Attendant I	3/9	1/10/2008	Senior Agric. Field Overseer	4/6	1/10/2013
7	Olawore Bose	Agric. Field Attendant I	3/9	1/10/2008	Senior Agric. Field Overseer	4/6	1/10/2013
8	Idris Fatima	Asst. Agric. Field Overseer	2/3	29/12/10	Agric. Field Overseer	3/3	1/10/2013
9	Mustapha Abibat Iyabo	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
10	Ogunlusi Olayemi (Mrs.)	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
11	Tijani Akeem	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
12	Idowu Ojo	Agric. Field	2/5	1/10/2011	Agric. Field	3/5	1/10/2013

S/N	Name	Designation	CONRAISS/ Step	Date of Present Appt.	Post to which Promotable	Salary on Promotion	Recommended Effective Date
	Olufunke	Attendant II			Attendant I		
13	Akintoroye Oladunni	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
14	Apanisile Sola Alaba	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
15	Owoyele Yinka	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
16	Obiazi Mabel (Mrs.)	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
17	Olagunju Rasaki	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
18	Ajayi Joseph O.	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
19	Oludayo Gbolagade	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
20	Babalola Remi	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
21	Adegoke Funke	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
22	Aladegbonmire Isaac	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
23	Azeez Kafayat (Mrs.)	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
24	Popoola Olalekan	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
25	Adeogun Gbenga	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
26	Adekanbi Bolajoko (Mrs.)	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
27	Fakeye Joke (Miss)	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
28	Emiola Angela	Agric. Field	2/5	1/10/2011	Agric. Field	3/5	1/10/2013

S/N	Name	Designation	CONRAISS/ Step	Date of Present Appt.	Post to which Promotable	Salary on Promotion	Recommended Effective Date
	(Mrs.)	Attendant II			Attendant I		
29	Okonji Micheal	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
30	Okorie Chimerue Joy (Mrs.)	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
31	Ajani Patience (Mrs.)	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
32	Ibiyomi Peter	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
33	Lasisi Yinka	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
34	Adio Adebukola (Mrs.)	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
35	Ojo Agboola	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
36	Odukoya Olatunde	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
37	Akangbe Folorunso	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
38	Oguntoye Akeem	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
39	Akande Kunle	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
40	Samule Olusola	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
41	Olalekan Olugbade	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
42	David Omoha	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
43	Ologunwa Tope	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013

S/N	Name	Designation	CONRAISS/ Step	Date of Present Appt.	Post to which Promotable	Salary on Promotion	Recommended Effective Date
44	Ganiyu Abu	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
45	Adeyemo Sola	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
46	Akinade Kazeem	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
47	Oyepeju Tunde	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
48	Patrick Caroline	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
49	Clement Igwe	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
50	Agomu Ogenyi	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
51	Oyeneye Julius	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
52	Amosu Sunday	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
53	Raheem Waheed	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
54	Johnson Iyabo	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
55	Adeoye Stella (Mrs.)	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
56	Adesoji Ronke	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
57	Azzan Olawale	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
58	Adedeji John	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
59	Adeoye Hazzan	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013

S/N	Name	Designation	CONRAISS/ Step	Date of Present Appt.	Post to which Promotable	Salary on Promotion	Recommended Effective Date
60	Ayinde Jelili	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
61	Bolarinwa Felix	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
62	Anijese Funmilayo (Mrs.)	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
63	Isokpehi Daniel	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
64	Chibuo Oluchi	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
65	Eze Joseph N.	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
66	Ihueze Chinedu	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
67	Okoro Emmanuel	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
68	Animba Michael	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
69	Nifu Yahaya	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
70	Okpanchi Nda	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
71	Isaiah Regina J. (Mrs.)	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
72	Clement Ephesians	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
73	Moses Philippians	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
74	Ubi Augustine	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
75	Samuel	Agric. Field	2/5	1/10/2011	Agric. Field	3/5	1/10/2013

S/N	Name	Designation	CONRAISS/ Step	Date of Present Appt.	Post to which Promotable	Salary on Promotion	Recommended Effective Date
	Abraham	Attendant II			Attendant I		
76	Udoh James	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
77	Echa Godwin Idagu	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
78	Ogar Peter Onah	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
79	Iyaji Patrick Adariku	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
80	Azogor Echang Isong	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
81	Igbang Bassey	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
82	Okoi Eteng Iwara	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
83	Abiade Sulaiman	Agric. Field Attendant II	2/5	1/10/2011	Agric. Field Attendant I	3/5	1/10/2013
84	Okorue Fredrick Friday	Agric. Field Attendant II	2/4	1/10/2011	Agric. Field Attendant I	3/4	1/10/2013
85	Philip Emmanuel Ovie	Agric. Field Attendant II	2/4	1/10/2011	Agric. Field Attendant I	3/4	1/10/2013
86	Adisa Sikiru	Agric. Field Attendant II	2/4	1/10/2011	Agric. Field Attendant I	3/4	1/10/2013
87	Ibidapo Samuel	Agric. Field Attendant III	1/2	29/4/11	Agric. Field Attendant II	2/3	1/10/2013
88	Salako Gbenga	Agric. Field Attendant III	1/2	29/4/11	Agric. Field Attendant II	2/3	1/10/2013
89	Ojo Tosin	Agric. Field Attendant III	1/2	29/4/11	Agric. Field Attendant II	2/3	1/10/2013
90	Ojo John	Agric. Field Attendant III	1/2	29/4/11	Agric. Field Attendant II	2/3	1/10/2013
91	Adio Sunday	Agric. Field	1/2	29/4/11	Agric. Field	2/3	1/10/2013

S/N	Name	Designation	CONRAISS/ Step	Date of Present Appt.	Post to which Promotable	Salary on Promotion	Recommended Effective Date
		Attendant III			Attendant II		
92	Azeez Olawale	Agric. Field Attendant III	1/2	29/4/11	Agric. Field Attendant II	2/3	1/10/2013
93	Olaleye Folasade	Agric. Field Attendant III	1/2	29/4/11	Agric. Field Attendant II	2/3	1/10/2013
94	Ndah Alfa	Agric. Field Attendant III	1/2	29/4/11	Agric. Field Attendant II	2/3	1/10/2013
95	Egwimah Luggard	Agric. Field Attendant III	1/2	29/4/11	Agric. Field Attendant II	2/3	1/10/2013
96	Daniel Rebecca	Agric. Field Attendant III	1/2	29/4/11	Agric. Field Attendant II	2/3	1/10/2013
97	Lawal Taofeek	Agric. Field Attendant III	1/2	29/4/11	Agric. Field Attendant II	2/3	1/10/2013
98	Adio Stephen	Agric. Field Attendant III	1/2	29/4/11	Agric. Field Attendant II	2/3	1/10/2013
99	James N. Musa	Agric. Field Attendant III	1/2	29/4/11	Agric. Field Attendant II	2/3	1/10/2013
100	Joshua N. Paul	Agric. Field Attendant III	1/2	29/4/11	Agric. Field Attendant II	2/3	1/10/2013
101	Salami Oyenike	Agric. Field Attendant III	1/2	29/4/11	Agric. Field Attendant II	2/3	1/10/2013
102	Egbe Moses	Agric. Field Attendant III	1/2	29/4/11	Agric. Field Attendant II	2/3	1/10/2013
103	Adeyanju Kehinde Hussain	Agric. Field Attendant III	1/2	29/4/11	Agric. Field Attendant II	2/3	1/10/2013
104	Olubisaye Dare	Agric. Field Attendant III	1/2	29/4/11	Agric. Field Attendant II	2/3	1/10/2013
105	Ojimah Dennis	Agric. Field Attendant III	1/2	29/4/11	Agric. Field Attendant II	2/3	1/10/2013
106	Ajibola Dare	Agric. Field Attendant III	1/2	29/4/11	Agric. Field Attendant II	2/3	1/10/2013

S/N	Name	Designation	CONRAISS/ Step	Date of Present Appt.	Post to which Promotable	Salary on Promotion	Recommended Effective Date
107	Raji Ibrahim	Agric. Field Attendant III	1/2	29/4/11	Agric. Field Attendant II	2/3	1/10/2013
108	Omitade Oluwatoyin	Agric. Field Attendant III	1/2	29/4/11	Agric. Field Attendant II	2/3	1/10/2013
109	Oni Nike (Mrs.)	Agric. Field Attendant III	1/2	29/4/11	Agric. Field Attendant II	2/3	1/10/2013
110	Kokori Paul	Agric. Field Attendant III	1/2	29/4/11	Agric. Field Attendant II	2/3	1/10/2013
111	Amedu Achonu	Agric. Field Attendant III	1/2	29/4/11	Agric. Field Attendant II	2/3	1/10/2013
112	Ebiale Benjamin	Agric. Field Attendant III	1/2	29/4/11	Agric. Field Attendant II	2/3	1/10/2013
113	Edeh Tochukwu Simeon	Agric. Field Attendant III	1/2	29/4/11	Agric. Field Attendant II	2/3	1/10/2013
114	Imumolen Jeffrey	Agric. Field Attendant III	1/2	29/4/11	Agric. Field Attendant II	2/3	1/10/2013
115	Nwagale Charles	Agric. Field Attendant III	1/2	29/4/11	Agric. Field Attendant II	2/3	1/10/2013
116	Eubodaghe Monday	Agric. Field Attendant III	1/2	29/4/11	Agric. Field Attendant II	2/3	1/10/2013
117	Amaize Augustine	Agric. Field Attendant III	1/2	29/4/11	Agric. Field Attendant II	2/3	1/10/2013
118	Okokuwa Idowu	Agric. Field Attendant III	1/2	29/4/11	Agric. Field Attendant II	2/3	1/10/2013
119	John Mary	Agric. Field Attendant III	1/2	29/4/11	Agric. Field Attendant II	2/3	1/10/2013
120	Umontia Mercy	Agric. Field Attendant III	1/2	29/4/11	Agric. Field Attendant II	2/3	1/10/2013
121	Anthony David	Agric. Field Attendant III	1/2	29/4/11	Agric. Field Attendant II	2/3	1/10/2013
122	Efunniyi Muyiwa	Senior Photographic	4/5	1/10/2011	Senior Photographic	5/1	1/10/2013

S/N	Name	Designation	CONRAISS/ Step	Date of Present Appt.	Post to which Promotable	Salary on Promotion	Recommended Effective Date
		Asst. II			Asst.		
123	Onyebuchi Cletus	Clerical Officer I	4/11	1/10/2011	Clerical Officer	5/6	1/10/2013
124	Osinowo Bukola F.	Clerical Officer II	3/3	20/1/11	Clerical Officer I	4/1	1/10/2013
125	Oyebanjo Temitope	Clerical Officer II	3/3	20/1/11	Clerical Officer I	4/1	1/10/2013
126	Etuke Charles E.	Clerical Officer II	3/3	20/1/11	Clerical Officer I	4/1	1/10/2013
127	Magaji Precious	Clerical Officer II	3/2	6/7/2011	Clerical Officer I	4/1	1/10/2013
128	Owolabi Iyabo	Clerical Assistant	2/5	1/10/2011	Clerical Officer II	3/5	1/10/2013
129	Ojo Oluwatoyin	Clerical Assistant	2/5	1/10/2011	Clerical Officer II	3/5	1/10/2013
130	Olutade Bamidele	Clerical Assistant	2/5	1/10/2011	Clerical Officer II	3/5	1/10/2013
131	Lawal D Onyinyechi	Clerical Assistant	2/5	1/10/2011	Clerical Officer II	3/5	1/10/2013
132	Ibine Benjamin	Clerical Assistant	2/5	1/10/2011	Clerical Officer II	3/5	1/10/2013
133	Akano Joseph	Clerical Assistant	2/5	1/10/2011	Clerical Officer II	3/5	1/10/2013
134	Obi Samuel	Clerical Assistant	2/5	1/10/2011	Clerical Officer II	3/5	1/10/2013
135	Oladepo Kemi	Clerical Assistant	2/5	1/10/2011	Clerical Officer II	3/5	1/10/2013
136	Onipe Joseph S.	Clerical Assistant	2/5	1/10/2011	Clerical Officer II	3/5	1/10/2013
137	Salawudeen, Adedayo	Clerical Assistant	2/5	1/10/2011	Clerical Officer II	3/5	1/10/2013
138	Mrs. Ogunde	Secretarial	4/3	3/3/2011	Secretarial	5/1	1/10/2013

S/N	Name	Designation	CONRAISS/ Step	Date of Present Appt.	Post to which Promotable	Salary on Promotion	Recommended Effective Date
	Oluwatosin Ajoke	Assistant II			Assistant I		
139	Babatunde Maria Olayinka	Secretarial Assistant II	4/3	3/3/2011	Secretarial Assistant I	5/1	1/10/2013
140	Sanni Olayinka	Secretarial Assistant II	4/3	3/3/2011	Secretarial Assistant I	5/1	1/10/2013
141	Alaba Olubukola	Secretarial Assistant II	4/3	14/3/11	Secretarial Assistant I	5/1	1/10/2013
142	Ajirotutu Sunday	Secretarial Assistant III	3/3	20/1/11	Secretarial Assistant II	4/1	1/10/2013
143	Ekundayo J.B.	Secretarial Assistant III	3/3	25/1/11	Secretarial Assistant II	4/1	1/10/2013
144	Adesakin Alice Olubunmi (Mrs.)	Secretarial Assistant III	3/3	26/1/11	Secretarial Assistant II	4/1	1/10/2013
145	Osho Victoria Olajumoke (Mrs.)	Secretarial Assistant III	3/3	4/3/2011	Secretarial Assistant II	4/1	1/10/2013
146	Igbinadolor Joy	Secretarial Assistant III	3-Mar	4/3/2011	Secretarial Assistant II	4/1	1/10/2013
147	Modebei-Timothy Damilola	Secretarial Assistant III	3/3	6/7/2011	Secretarial Assistant II	4/1	1/10/2013
148	Ifidon Ikhuosho	Head Health Attendant	3/3	1/10/2011	Higher Health Asst. Gd. II	4/1	1/10/2013
149	Adedeji Kehinde	Senior Health Attendant	2/5	1/10/2011	Head Health Asst. Gd. II	3/5	1/10/2013
150	Abah Janet	Senior Health Attendant	2/5	1/10/2011	Head Health Asst. Gd. II	3/5	1/10/2013
151	Olawore Olutunde Sola	Head Steward	2/5	1/10/2011	Catering Assistant	3/5	1/10/2013
152	Makinde Felicia	Head Steward	2/5	1/10/2011	Catering	3/5	1/10/2013

S/N	Name	Designation	CONRAISS/ Step	Date of Present Appt.	Post to which Promotable	Salary on Promotion	Recommended Effective Date
	A. (Mrs.)				Assistant		
153	Okonche John	Senior Security Guard	4/7	1/10/2011	Head Security Guard	5/3	1/10/2013
154	Utoho Michael	Senior Security Guard	4/7	1/10/2011	Head Security Guard	5/3	1/10/2013
155	Benedict Boi	Senior Security Guard	4/7	1/10/2011	Head Security Guard	5/3	1/10/2013
156	Oderinde Sunday	Security Guard II	2/5	1/10/2011	Security Guard I	3/5	1/10/2013
157	Oyewale Samson	Security Guard II	2/5	1/10/2011	Security Guard I	3/5	1/10/2013
158	Akintoroye Johnson	Security Guard II	2/5	1/10/2011	Security Guard I	3/5	1/10/2013
159	Adebiyi Oluwabukayomi	Security Guard II	2/5	1/10/2011	Security Guard I	3/5	1/10/2013
160	Ijadunola Noah	Security Guard II	2/5	1/10/2011	Security Guard I	3/5	1/10/2013
161	Oladipupo Samuel	Security Guard II	2/5	1/10/2011	Security Guard I	3/5	1/10/2013
162	Oselaye Joseph	Security Guard II	2/5	1/10/2011	Security Guard I	3/5	1/10/2013
163	Ajayeoba Olanipekun	Security Guard II	2/5	1/10/2011	Security Guard I	3/5	1/10/2013
164	Adekanbi Segun	Security Guard II	2/5	1/10/2011	Security Guard I	3/5	1/10/2013
165	Salami Kamoru	Security Guard II	2/5	1/10/2011	Security Guard I	3/5	1/10/2013
166	Owoyemi Julius	Security Guard II	2/5	1/10/2011	Security Guard I	3/5	1/10/2013

S/N	Name	Designation	CONRAISS/ Step	Date of Present Appt.	Post to which Promotable	Salary on Promotion	Recommended Effective Date
167	Olubajo Bowale	Security Guard II	2/5	1/10/2011	Security Guard I	3/5	1/10/2013
168	Emmanuel Yakubu	Security Guard II	2/5	1/10/2011	Security Guard I	3/5	1/10/2013
169	Joshua Guma	Security Guard II	2/5	1/10/2011	Security Guard I	3/5	1/10/2013
170	Oghenegueke John	Security Guard II	2/5	1/10/2011	Security Guard I	3/5	1/10/2013
171	Mallam Dada Bashiru	Security Guard II	2/5	1/10/2011	Security Guard I	3/5	1/10/2013
172	Okeh John	Senior Watchman	2/5	1/10/2011	Head Watchman	3/5	1/10/2013
173	Ezeh Nicholas	Senior Watchman	2/5	1/10/2011	Head Watchman	3/5	1/10/2013
174	Ibrahim Tajudeen O.	Senior Watchman	2/5	1/10/2011	Head Watchman	3/5	1/10/2013
175	Ulikhifo Michael	Senior Watchman	2/5	1/10/2011	Head Watchman	3/5	1/10/2013
176	Nwachukwu Benedict A.	Senior Watchman	2/5	1/10/2011	Head Watchman	3/5	1/10/2013
177	Atawodi Jubril	Senior Watchman	2/5	1/10/2011	Head Watchman	3/5	1/10/2013
178	Otanwa John	Senior Watchman	2/5	1/10/2011	Head Watchman	3/5	1/10/2013
179	Dogo Genesis	Senior Watchman	2/5	1/10/2011	Head Watchman	3/5	1/10/2013
180	Uzichu Augustine	Senior Watchman	2/5	1/10/2011	Head Watchman	3/5	1/10/2013
181	Ekereobong Sunday	Senior Watchman	2/5	1/10/2011	Head Watchman	3/5	1/10/2013
182	Nwonu Nwefunu	Watchman	1/2	29/4/11	Senior Watchman	2/3	1/10/2013

S/N	Name	Designation	CONRAISS/ Step	Date of Present Appt.	Post to which Promotable	Salary on Promotion	Recommended Effective Date
183	Okesola Amos	Watchman	1/2	29/4/11	Senior Watchman	2/3	1/10/2013
184	Emaku Jacob	Watchman	1/2	29/4/11	Senior Watchman	2/3	1/10/2013
185	Fasina Babatunde	Watchman	1/2	29/4/11	Senior Watchman	2/3	1/10/2013
186	Numfat Zephaniah	Watchman	1/2	29/4/11	Senior Watchman	2/3	1/10/2013
187	Okoi James	Senior Craftsman	4/11	1/10/2008	Foreman	5/6	1/10/2013
188	Adio Dare Timothy	Asst. Craftsman	2/5	1/10/2011	Craftsman	3/5	1/10/2013
189	Gboyega Alade Samson	Asst. Craftsman	2/5	1/10/2011	Craftsman	3/5	1/10/2013
190	Oladimeji Taofeek	Asst. Craftsman	2/5	1/10/2011	Craftsman	3/5	1/10/2013
191	Faniyi Jimoh Abiola	Asst. Craftsman	2/5	1/10/2011	Craftsman	3/5	1/10/2013
192	Boluwade Sunday	Asst. Craftsman	2/5	1/10/2011	Craftsman	3/5	1/10/2013
193	Origbemide Omolara Caroline	Store Assistant	2/3	20/1/11	Store Keeper	3/3	1/10/2013
194	Ogundeji Adekunle Kayode	Store Assistant	2/3	24/1/11	Store Keeper	3/3	1/10/2013
195	Onwubiko Michael	Senior Motor Driver/Mech. II	4/6	1/10/2011	Senior Motor Driver/Mech. I	5/2	1/10/2013
196	Arowobusoye Julius	Motor Driver/Mechanic	3/4	10/6/2008	Senior Motor Driver/Mech. II	4/2	1/10/2013
197	Onoja Joseph	Motor	3/3	1/10/2011	Senior Motor Driver/Mech.	4/1	1/10/2013

S/N	Name	Designation	CONRAISS/ Step	Date of Present Appt.	Post to which Promotable	Salary on Promotion	Recommended Effective Date
		Driver/Mechanic			II		
198	Oluwole Segun	Motor Driver/Mechanic	3/3	1/10/2011	Senior Motor Driver/Mech. II	4/1	1/10/2013
199	Adebusuyi Adesuyi	Motor Driver/Mechanic	3/3	1/10/2011	Senior Motor Driver/Mech. II	4/1	1/10/2013
200	Bolaji Oyedele	Motor Driver/Mechanic	3/3	1/10/2011	Senior Motor Driver/Mech. II	4/1	1/10/2013
201	Iyeh Moses	Motor Driver	2/3	9/2/2011	Motor Driver Mechanic	3/3	1/10/2013

CANDIDATE WHO WAS GIVEN INTER-CADRE TRANSFER

S/N	Name	Designation	CONRAISS/ Step	Date of Present Appt.	Post to which Promotable	Salary on Promotion	Recommended Effective Date
1.	Mr. Ojo Moses Sunday	Senior Chief Agric. Field O/S	4/6	1/10/2011	Foreman	5/2	1/10/2013

ANNEXURE II

S/N	Name	Present Post and salary grade	Post to which promoted	Salary on CONRAISS/Step	Effective Date
1	Ajayi Abiodun Adeleke	Senior Agric Field Overseer, CONRAISS 4	Asst. Chief Agric. Field Overseer	05/2	1/10/2014
2	Afolabi Gbeminiyi	Senior Agric Field Overseer, CONRAISS 4	Asst. Chief Agric. Field Overseer	5/6	1/10/2014

3	Eze Cordelia	Agric Field Attd. II, CONRAISS 2	Agric Field Attd. I	03/5	1/10/2014
4	Oyewole Olaoluwa	Agric Field Attd. II, CONRAISS 2	Agric Field Attd. I	03/5	1/10/2014
5	Abiodun Ezekiel	Agric Field Attd. II, CONRAISS 2	Agric Field Attd. I	03/5	1/10/2014
6	Allih Mohammed	Agric Field Attd. II, CONRAISS 2	Agric Field Attd. I	03/5	1/10/2014
7	Asua Ime Sunday	Agric Field Attd. II, CONRAISS 2	Agric Field Attd. I	03/5	1/10/2014
8	Ajayi Aremu John	Agric Field Attd. III, CONRAISS 01	Agric Field Attd. II	02/4	1/10/2014
9	Salami Fatai	Agric Field Attd. III, CONRAISS 01	Agric Field Attd. II	02/4	1/10/2014
10	Bilaminu Agbeniga	Agric Field Attd. III, CONRAISS 01	Agric Field Attd. II	02/4	1/10/2014
11	Ahmed Sajoh Buba	Agric Field Attd. III, CONRAISS 01	Agric Field Attd. II	02/4	1/10/2014
12	Ehidiamen Joseph	Agric Field Attd. III, CONRAISS 01	Agric Field Attd. II	02/4	1/10/2014
13	Jamgbadi Imodu	Agric Field Attd. III, CONRAISS 01	Agric Field Attd. II	02/4	1/10/2014
14	Onifade Wasiu	Agric Field Attd. III, CONRAISS 01	Agric Field Attd. II	02/4	1/10/2014
15	Durodoye Dauda	Agric Field Attd. III, CONRAISS 01	Agric Field Attd. II	02/4	1/10/2014
16	Akinbola Temilorun	Agric Field Attd. III, CONRAISS 01	Agric Field Attd. II	02/4	1/10/2014
17	Oke Safuratu (Mrs.)	Agric Field Attd. III, CONRAISS 01	Agric Field Attd. II	02/4	1/10/2014
18	Nwaolise Felicial (Mrs.)	Agric Field Attd. III, CONRAISS 01	Agric Field Attd. II	02/4	1/10/2014
19	Ajayi Abidemi	Agric Field Attd. III, CONRAISS 01	Agric Field Attd. II	02/4	1/10/2014
20	Oyedotun Toyin	Agric Field Attd. III,	Agric Field Attd.	02/4	1/10/2014

	(Mrs.)	CONRAISS 01	II		
21	Mathew Olayemi (Mrs.)	Agric Field Attd. III, CONRAISS 01	Agric Field Attd. II	02/4	1/10/2014
22	Okoh Mercy (Mrs.)	Agric Field Attd. III, CONRAISS 01	Agric Field Attd. II	02/4	1/10/2014
23	Agaji Bernard	Agric Field Attd. III, CONRAISS 01	Agric Field Attd. II	02/4	1/10/2014
24	Paul Chukwu	Agric Field Attd. III, CONRAISS 01	Agric Field Attd. II	02/4	1/10/2014
25	Nwachukwu Anthony	Agric Field Attd. III, CONRAISS 01	Agric Field Attd. II	02/4	1/10/2014
26	Yahaya Husein	Agric Field Attd. III, CONRAISS 01	Agric Field Attd. II	02/4	1/10/2014
27	Oghenegueke Victor	Agric Field Attd. III, CONRAISS 01	Agric Field Attd. II	02/4	1/10/2014
28	Oyinlade Ayodele	Agric Field Attd. III, CONRAISS 01	Agric Field Attd. II	02/4	1/10/2014
29	Sanni Ibrahim	Agric Field Attd. III, CONRAISS 01	Agric Field Attd. II	02/4	1/10/2014
30	Oghenegueke Gift	Agric Field Attd. III, CONRAISS 01	Agric Field Attd. II	02/4	1/10/2014
31	Adesina Motunrayo	Agric Field Attd. III, CONRAISS 01	Agric Field Attd. II	02/4	1/10/2014
32	Idoreyin Okpo	Agric Field Attd. III, CONRAISS 01	Agric Field Attd. II	02/4	1/10/2014
33	Udo Johnny	Agric Field Attd. III, CONRAISS 01	Agric Field Attd. II	02/4	1/10/2014
34	Adedara Cornelius	Agric Field Attd. III, CONRAISS 01	Agric Field Attd. II	02/4	1/10/2014
35	Idowu Omoleke	Agric Field Attd. III, CONRAISS 01	Agric Field Attd. II	02/4	1/10/2014
36	Lawal Oluwafemi Esther (Miss)	Clerical Officer I, CONRAISS 04	Senior Clerical Officer	05/1	1/10/2014
37	Fawusi Oluwatobi Amoo	Clerical Officer I, CONRAISS 04	Senior Clerical Officer	05/1	1/10/2014
38	Akosile Isaac Gbenga	Clerical Officer I, CONRAISS 04	Senior Clerical Officer	05/1	1/10/2014

39	Onigbinde Adeniyi John	Clerical Officer I, CONRAISS 04	Senior Clerical Officer	05/1	1/10/2014
40	Abiade Bilikis Olabisi (Miss)	Clerical Officer I, CONRAISS 04	Senior Clerical Officer	05/1	1/10/2014
41	Oyebanjo Omogbehin Ayeyemi	Clerical Officer I, CONRAISS 04	Senior Clerical Officer	05/2	1/10/2014
42	Aboderin Ayokunu Kayode	Clerical Officer II, CONRAISS 03	Clerical Officer I	04/1	1/10/2014
43	Awoyemi Taiwo (Miss)	Clerical Officer II, CONRAISS 03	Clerical Officer I	04/1	1/10/2014
44	Asein Aimoje Fredrick	Clerical Officer II, CONRAISS 03	Clerical Officer I	04/1	1/10/2014
45	Eze Ugochukwu (Mrs.)	Clerical Officer II, CONRAISS 03	Clerical Officer I	04/1	1/10/2014
46	Ajiboye Adebola Stephanie (Mrs.)	Clerical Officer II, CONRAISS 03	Clerical Officer I	04/1	1/10/2014
47	Iyamu Anthony	Clerical Officer II, CONRAISS 03	Clerical Officer I	04/1	1/10/2014
48	Esan Babatunde Emmanuel	Clerical Officer II, CONRAISS 03	Clerical Officer I	04/1	1/10/2014
49	Bakare Bose (Mrs.)	Clerical Officer II, CONRAISS 03	Clerical Officer I	04/1	1/10/2014
50	Arobike Sunday Bamidele	Clerical Officer II, CONRAISS 03	Clerical Officer I	04/1	1/10/2014
51	Ajinisi Mary Oluwaponmile (Mrs.)	Clerical Officer II, CONRAISS 03	Clerical Officer I	04/1	1/10/2014
52	Alawode Sulaiman Adewale	Clerical Officer II, CONRAISS 03	Clerical Officer I	04/1	1/10/2014
53	Agbeniyi Funke (Miss)	Clerical Assistant, CONRAISS 02	Clerical Officer II	03/2	1/10/2014
54	Ugi Pauline (Mrs.)	Secretarial Asst. II, CONRAISS 04	Secretarial Assistant I	05/2	1/10/2014
55	Ajekigbe Femi (MrS)	Sec. Asst. Gd III, CONRAISS 03	Secretarial Assistant II	04/ 1	1/10/2014
56	Ogunsanya Florence (Mrs.)	Sec. Asst. Gd III, CONRAISS 03	Secretarial Assistant II	04/ 1	1/10/2014
57	Irumekhai Florence (Mrs.)	Sec. Asst. Gd III, CONRAISS 03	Secretarial Assistant II	04/ 1	1/10/2014

58	Muhammed Shaibu K.	Senior Watchman, CONRAISS 02	Head Watchman	3/6	1/10/2014
59	Musa Paul T.	Senior Watchman, CONRAISS 02	Head Watchman	3/6	1/10/2014
60	Eleng E. Emeng	Senior Watchman, CONRAISS 02	Head Watchman	3/6	1/10/2014
61	Osun Michael	Asst. Craftsman, CONRAISS 02	Craftsman	3/6	1/10/2014
62	Ibrahim Noah	Snr. Motor Driver/Mech. II, CONRAISS 04	Snr. Motor Driver/Mech. I	05/1	1/10/2014
63	Muraina Lukman	Snr. Motor Driver/Mech. II, CONRAISS 04	Snr. Motor Driver/Mech. I	05/1	1/10/2014
64	Arumeni I. Christian	Snr. Motor Driver/Mech. II, CONRAISS 04	Snr. Motor Driver/Mech. I	05/1	1/10/2014
65	Ogunkunle Gbadebo	Snr. Motor Driver/Mech. II, CONRAISS 04	Snr. Motor Driver/Mech. I	05/1	1/10/2014
66	Nome Peter	Snr. Motor Driver/Mech. II, CONRAISS 04	Snr. Motor Driver/Mech. I	05/1	1/10/2014
67	Ismaila Tajudeen	Motor Driver/Mech. Security , CONRAISS 03	Snr. Motor Driver/Mech. II	4/3	1/10/2014
68	Osungbade Ayoade Abolade	Motor Driver/Mech., CONRAISS 03	Snr. Motor Driver/Mech. II	4/3	1/10/2014
69	Rabiu Akeem	Motor Driver/Mech.,CONRAISS 03	Snr. Motor Driver/Mech. II	4/1	1/10/2014
70	Ajewole Bamidele	Motor Driver/Mech.,CONRAISS 03	Snr. Motor Driver/Mech. II	4/1	1/10/2014
71	Onyemuwa John	Motor Driver/Mech.,CONRAISS 03	Snr. Motor Driver/Mech. II	4/3	1/10/2014
72	Zubairu Ahmed	Motor Driver/Mech.,CONRAISS 03	Snr. Motor Driver/Mech. II	4/2	1/10/2014
73	Dahiru Adamu Tanko	Motor Driver/Mech.,CONRAISS 03	Snr. Motor Driver/Mech. II	4/2	1/10/2014
74	Oyekunle Emmanuel O.	Motor Driver,CONRIASS 02	Motor Driver/Mechanic	3/3	1/10/2014

LIST OF JUNIOR STAFF PROMOTED ON 01 OCTOBER, 2014

LIST OF CANDIDATES GIVEN INTRE-CADRE TRANSFER/ADVANCEMENT

S/N	Name	Present Post		CONRAISS on Promotion	Date of Present Appt.
1	Awofeko Beauty (Mrs.)	Agric Field Attd. III, CONRAISS 01	Senior Health Attendant	2/4	1/10/2014
2	Mr. Opalua Pius	Agric Field Attd. II, CONRAISS 03	Senior Agric. Field Overseer	4/9	1/10/2014
3	Ajayi Yemisi	Asst. Chief Agric. Field Overseer, CONRAISS 05	Assistant Agric. Supt.	05/3	1/10/2014
4	Oaikhena L. Itoya (Mrs.)	Chief Clerical Officer, CONRAISS 06	Assistant Executive Officer	05/15	1/10/2014
5	Togun Bolatito O. (Mrs.)	Senior Foreman, CONRAISS 06	Assistant Technical Officer	05/1	1/10/2014

LIST OF SENIOR STAFF PROMOTED IN 2014

S/ N	NAME	PRESENT POST AND SALARY GRADE	POST TO WHICH PROMOTABLE	SALARY ON PROMOTION CONRAISS/ STEP	EFFECTIVE DATE
1	Dr. Sunday O. Agbeniyi	Asst. Director CONRAISS 14	Director	15/1	01/10/14
2	Dr. A.O. Famaye	Asst. Director CONRAISS 14	Director	15/1	01/10/14
3	Dr. Semiu O. Ogunwolu	Chief Res. Officer CONRAISS 13	Asst. Director	14/1	01/10/14
4	Mr. Michael O. Okeniyi	Snr. Res. Officer CONRAISS 09	Prin. Res. Officer	11/1	01/10/14
5	Mr. Francis C. Mokwunye	Snr. Res. Officer CONRAISS 09	Prin. Res. Officer	11/1	01/10/14
6	Mr. Idris Ndagi	Snr. Res. Officer	Prin. Res. Officer	11/1	01/10/14

S/ N	NAME	PRESENT POST AND SALARY GRADE	POST TO WHICH PROMOTABLE	SALARY ON PROMOTION CONRAISS/ STEP	EFFECTIVE DATE
		CONRAISS 09			
7	Mr. Mohammed Idrisu	Research Officer I CONRAISS 08	Snr. Res. Officer	9/1	01/10/14
8	Mr. Olorunfemi S. Akanbi	Research Officer I, CONRAISS 08	Snr. Res. Officer	9/1	01/10/14
9	Mrs. Olusola F. Oduwaye	Research Officer I CONRAISS 08	Snr. Res. Officer	9/1	01/10/14
10	Mr. Olayinka O. Olaniyi	Research Officer I CONRAISS 08	Snr. Res. Officer	9/1	01/10/14
11	Mrs. Aderonke T. Yahaya	Research Officer I CONRAISS 08	Snr. Res. Officer	9/1	01/10/14
12	Mrs. Funlayo A. Adepoju	Research Officer I CONRAISS 08	Snr. Res. Officer	9/1	01/10/14
13	Mr. Seun A. Adeosun	Research Officer I CONRAISS 08	Snr. Res. Officer	9/1	01/10/14
14	Mrs. Elizabeth F. Mapayi	Research Officer I CONRAISS 08	Snr. Res. Officer	9/1	01/10/14
15	Miss Chinyere F. Anagbogu	Research Officer I CONRAISS 08	Snr. Res. Officer	9/1	01/10/14
16	Mr. Osasogie Ugioro	Research Officer I CONRAISS 08	Snr. Res. Officer	9/1	01/10/14
17	Mrs. Beatrice A. Nduka	Research Officer I CONRAISS 08	Snr. Res. Officer	9/1	01/10/14
18	Mr. Ibrahim F. Abdulkarim	Research Officer I CONRAISS 08	Snr. Res. Officer	9/1	01/10/14
19	Ogunjobi Taiwo E.	Senior Librarian CONRAISS 09	Principal Librarian	11/1	01/10/14
20	Alufa Funmilayo O.	Higher Science Lab. Tech. CONRAISS 07	Snr. Science Lab. Tech.	8/2	01/10/14
21	Ene A. Perpetua	Higher Science Lab. Tech. CONRAISS 07	Snr. Science Lab. Tech	8/1	01/10/14
22	Oguigo Philip	Snr. Agric. Supt. CONRAISS 08	Prin. Agric. Supt. II	9/1	01/10/14
23	Mrs. Olorunmota R. T.	Snr. Agric. Supt. CONRAISS 08	Prin. Agric. Supt. II	9/1	01/10/14
24	Odedele Samson O.	Snr. Agric. Supt. CONRAISS 08	Prin. Agric. Supt. II	9/1	01/10/14
25	Oladunmoye A. Adeola	Snr. Agric. Supt.CONRAISS 08	Prin. Agric. Supt. II	9/1	01/10/14
26	Babalola Eunice A.	Snr. Agric. Supt.CONRAISS 08	Prin. Agric. Supt. II	9/1	01/10/14
27	Abioye A. Emmanuel	Snr. Agric. Supt.CONRAISS 08	Prin. Agric. Supt. II	9/1	01/10/14
28	Babantisa Mohammed	Snr. Agric. Supt.CONRAISS 08	Prin. Agric. Supt. II	9/1	01/10/14

S/ N	NAME	PRESENT POST AND SALARY GRADE	POST TO WHICH PROMOTABLE	SALARY ON PROMOTION CONRAISS/ STEP	EFFECTIVE DATE
29	Okunade O. Olusegun	Snr. Agric. Supt. CONRAISS 08	Prin. Agric. Supt. II	9/1	01/10/14
30	Imade O. Charles	Snr. Agric. Supt. CONRAISS 08	Prin. Agric. Supt. II	9/1	01/10/14
31	Sobowale O. Mayowa	Snr. Agric. Supt. CONRAISS 08	Prin. Agric. Supt. II	9/1	01/10/14
32	Edibo Gabriel	Snr. Agric. Supt. CONRAISS 08	Prin. Agric. Supt. II	9/1	01/10/14
33	Wada Sunday	Snr. Agric. Supt. CONRAISS 08	Prin. Agric. Supt. II	9/1	01/10/14
34	Mrs. Adegboye Jibola	Snr. Agric. Supt. CONRAISS 08	Prin. Agric. Supt. II	9/1	01/10/14
35	Ojedeji A. Olusegun	Snr. Agric. Supt. CONRAISS 08	Prin. Agric. Supt. II	9/1	01/10/14
36	Adeniyi Y. Abiodun	Snr. Agric. Supt. CONRAISS 08	Prin. Agric. Supt. II	9/1	01/10/14
37	Mrs. Oladejo Gbemisola	Snr. Agric. Supt. CONRAISS 08	Prin. Agric. Supt. II	9/1	01/10/14
38	Awodunmila David J.	Snr. Agric. Supt. CONRAISS 08	Prin. Agric. Supt. II	9/1	01/10/14
39	Ademola Sunday	Snr. Agric. Supt. CONRAISS 08	Prin. Agric. Supt. II	9/1	01/10/14
40	Oseghale E. Godday	Snr. Agric. Supt. CONRAISS 08	Prin. Agric. Supt. II	9/1	01/10/14
41	Elugbe O. Monday	Snr. Agric. Supt. CONRAISS 08	Prin. Agric. Supt. II	9/1	01/10/14
42	Adebayo J. Adekunle	Higher Agric. Supt. CONRAISS 07	Snr. Agric. Supt.	8/2	01/10/14
43	Mrs. Falusi Loveth	Higher Agric. Supt. CONRAISS 07	Snr. Agric. Supt.	8/2	01/10/14
44	Adebisi Temitope I.	Higher Agric. Supt. CONRAISS 07	Snr. Agric. Supt.	8/2	01/10/14
45	Agbor Charles E.	Higher Agric. Supt. CONRAISS 07	Snr. Agric. Supt.	8/2	01/10/14
46	Adebayo Kayode A.	Higher Agric. Supt. CONRAISS 07	Snr. Agric. Supt.	8/2	01/10/14
47	Adeleke Olaoye A.	ACAFO CONRAISS 05	CAFO	6/1	01/10/14
48	Mrs. Onwudi Maria	ACAFO CONRAISS 05	CAFO	6/1	01/10/14
49	Omogbehin Ayo K. (Mrs.)	ACAFO CONRAISS 05	CAFO	6/1	01/10/14
50	Abulele E. Isibhakhomen	Statistician II CONRAISS 07	Statistician I	8/2	01/10/14
51	Bello Babajide	Statistician II CONRAISS 07	Statistician I	8/2	01/10/14
52	Busari Lolade A. (Mrs.)	Asst. Chief Statistical Officer CONRAISS 12	Chief Statistical Officer	13/1	01/10/14

S/ N	NAME	PRESENT POST AND SALARY GRADE	POST TO WHICH PROMOTABLE	SALARY ON PROMOTION CONRAISS/ STEP	EFFECTI VE DATE
53	Adewumi E. O. (Mrs.)	Higher Library Officer CONRAISS 07	Snr. Library Officer	8/1	01/10/14
54	Ikpefua Anthony E.	Asst. Data Proc. Officer CONRAISS 05	Data Proc. Officer	6/1	01/10/14
55	Onatunde Onanuga J. O.	Asst. Chief Admin Officer CONRAISS 12	Chief Admin. Officer	13/1	01/10/14
56	Oguntona Kunle W.	Asst. Chief Admin Officer CONRAISS 12	Chief Admin. Officer	13/1	01/10/14
57	Adejoro Maltida O.	Principal Admin Officer CONRAISS 11	Asst. Chief Admin Officer	12/2	01/10/14
58	Kuforiji Emmanuel O.	Snr. Accountant CONRAISS 09	Principal Accountant	11/1	01/10/14
59	Otasowie Osamuyimen S.	Accountant II CONRAISS 07	Accountant I	8/2	01/10/14
60	Eguavoen Lucky	Accountant II CONRAISS 07	Accountant I	8/2	01/10/14
61	Kuforiji Ayobami O. (Mrs.)	Prin. Ex. Offr. II CONRAISS 07	Prin. Ex. Offr. I	11/1	01/10/14
62	Modebei Timothy S.	Prin. Ex. Offr. II CONRAISS 07	Prin. Ex. Offr. I	11/1	01/10/14
63	Magaji Odilia O. (Mrs.)	Higher Ex. Officer CONRAISS 07	Snr. Ex. Officer	8/1	01/10/14
64	Olojede J. I. (Mrs.)	Higher Ex. Officer CONRAISS 07	Snr. Ex. Officer	8/1	01/10/14
65	Christopher Mimiola O.	Higher Ex. Officer CONRAISS 07	Snr. Ex. Officer	8/2	01/10/14
66	Oguntona Victor O.	Higher Ex. Officer CONRAISS 07	Snr. Ex. Officer	8/2	01/10/14
67	Kareem Suraju	Higher Ex. Officer CONRAISS 07	Snr. Ex. Officer	8/1	01/10/14
68	Ezebuiro Promise	Higher Ex. Officer CONRAISS 07	Snr. Ex. Officer	8/2	01/10/14
69	Opara Toyosi N. (Mrs.)	Higher Ex. Officer CONRAISS 07	Snr. Ex. Officer	8/1	01/10/14
70	Ojua Eunice (Mrs.)	Asst. Ex. Officer CONRAISS 05	Executive Officer	6/1	01/10/14
71	Akinrinola Akeem K.	Asst. Ex. Officer CONRAISS 05	Executive Officer	6/1	01/10/14
72	Adewale Temilade O.	Asst. Ex. Officer CONRAISS 05	Executive Officer	6/1	01/10/14
73	Atanda Christiana O.	Snr. Clerical Officer CONRAISS 05	Chief Clerical Officer	6/1	01/10/14
74	Mrs Olaosebikan	Snr. Sec. Asst.	Chief Sec. Asst.	8/1	01/10/14

S/ N	NAME	PRESENT POST AND SALARY GRADE	POST TO WHICH PROMOTABLE	SALARY ON PROMOTION CONRAISS/ STEP	EFFECTIVE DATE
	A. O.	CONRAISS 07			
75	Peter Numfor	Snr. Sec. Asst. CONRAISS 07	Chief Sec. Asst.	8/1	01/10/14
76	Mrs. Alade Bolajoko F.	Snr. Sec. Asst. II CONRAISS 06	Snr. Sec. Asst. I	7/1	01/10/14
77	Mrs. Famaye Bosede A.	Asst. Chief Matron CONRAISS 12	Chief Matron/CNS	13/1	01/10/14
78	Mrs. Onifade Elizabeth H. O.	Prin. Nur. Sister II CONRAISS 09	Matron/PNS I	11/1	01/10/14
79	Mrs. Ola Olanike	Nursing Sister/NS CONRAISS 07	Snr. Nur. Sister/SNS	8/1	01/10/14
80	Huseini Usman	Prin. Health Asst. CONRAISS 06	Chief Health Asst.	7/1	01/10/14
81	Fowowe Charles O.	Snr. Catering Offr. CONRAISS 08	Prin. Catering Offr.	9/1	01/10/14
82	Titiloye Isaac	Mech. Engr. II CONRAISS 07	Mech. Engr. I	8/2	01/10/14
83	Adebayo Babajide J	Asst. Chief Tech. Officer CONRAISS 12	Chief Tech. Officer	13/1	01/10/14
84	Basiru Wasilat	Snr. Tech. Officer CONRAISS 08	Prin. Tech. Officer	9/1	01/10/14
85	Ogunsuyi Busuyi A.	Higher Tech. Offr. CONRAISS 07	Snr. Tech. Officer	8/2	01/10/14
86	Gold Ahmad O.	Higher Tech. Offr. CONRAISS 07	Snr. Tech. Officer	8/2	01/10/14
87	Awe Jacob A.	Higher Tech. Offr. CONRAISS 07	Snr. Tech. Officer	8/1	01/10/14
88	Oduntan Samson	Higher Tech. Offr. CONRAISS 07	Snr. Tech. Officer	8/1	
89	Akintoroye A. K.	Works Supt. Mech CONRAISS 06	Higher Works Supt.	7/1	01/10/14
90	Matthew Dare Feyisara	Works Supt. Mech CONRAISS 06	Higher Works Supt.	7/1	01/10/14
91	Udoh Effiong N.	Foreman CONRAISS 05	Senior Foreman	6/1	01/10/14
92	Oyefi Jolade	Higher Store Offr. CONRAISS 07	Snr. Store Officer	8/1	01/10/14
93	Odeku Olufemi	SMD/Mech I CONRAISS	CMD/Mech	6/1	01/10/14
94	Salami Mufutau	ACAFO CONRAISS 05	CAFO	6/1	01/10/14

SENIOR STAFF CONSIDERED FOR INTER-CADRE TRANSFERS

S/ N	NAME	PRESENT POST AND SALARY GRADE	POST TO WHICH PROMOTABLE	SALARY ON PROMOTION CONRAISS/ STEP	EFFECTIVE DATE
1	Orisasona T. Matthew	Snr. Agric. Supt. CONRAISS 08	Res. Officer I	9/1	01/10/14
2	Agbebaku Endurance	Snr. Agric. Supt. CONRAISS 08	Res. Officer I	9/1	01/10/14
3	Adeyemo Adewale A.	Higher Executive Officer CONRAISS 07	Accountant I	8/2	01/10/14
4	Gidiga Johnson O.	Higher Executive Officer CONRAISS 07	Accountant I	8/2	01/10/14

S/ N	NAME	DESIGNAT ION	CONRA ISS	DATE OF 1 ST APPT.	DATE OF PRESE NT APPT.	DATE DUE FOR CONFI RMATI ON	DEP LOY MEN T	PER				REMAR KS
								1	2	3	4	
1.	Olulowo Oluwatoyi n	Staff Nurse	07	21/3/201 2	21/3/201 2	21/3/14	Healt h Centr e	B	B	B	B	
2.	Oyeledun Ibukun	Staff Nurse	07	2/4/2012	2/4/2012	2/4/14	Healt h Centr e	B	B	B	B	
3.	Olayemi Oladele	Asst. Agric. Supt.	05	1/12/201 1	1/12/201 1	1/12/13	PEM	B	B	B	B	
4.	Ogunwum i Festus	Asst. Technical Officer	05	28/12/20 11	28/12/20 11	28/12/13	Engin eering	B	B	B	B	
5.	Ajayeoba Oludare	Asst. Technical Officer	05	1/12/201 1	1/12/201 1	1/12/13	Engin eering	B	B	B	B	
6.	Asein Aimoje Fredrick	Clerical Officer II	03	1/12/201 1	1/12/201 1	1/12/13	Admi n	B	B	B	B	
7.	Eze Ogochukw u (Miss)	Clerical Officer II	03	5/12/201 1	5/12/201 1	5/12/13	Audit	B	B	B	B	
8.	Ajiboye Adebola	Clerical Officer II	03	6/12/201 1	6/12/201 1	6/12/13	PEM	B	B	B	B	
9.	Iyamu Anthony	Clerical Officer II	03	15/12/20 11	15/12/20 11	15/12/13	Admi n	B	B	A	B	
10.	Bakare Bose (Mrs.)	Clerical Officer II	03	29/12/20 11	29/12/20 11	29/12/13	Healt h Centr e	B	B	B	B	
11.	Esan Babatunde	Clerical Officer II	03	29/12/20 11	29/12/20 11	29/12/13	Admi n	B	B	B	B	

12.	Awoyemi Taiwo (Miss.)	Clerical Officer II	03	1/12/2011	1/12/2011	1/12/13	Admin	B	B	B	B	
13.	Magaji Precious (Miss)	Clerical Officer II	03	6/7/2011	6/12/2011	6/7/13	Mambilla	B	B	B	B	
14.	Modebei T. Damilola (Mrs.)	Secretarial Asst. III	03	6/7/2011	6/12/2011	6/7/13	Uhonmora	A	A	A	A	
15.	Oyekunle Emmanuel	Motor Driver	02	9/12/2011	9/12/2011	9/12/13	Owena	B	B	B	B	
16.	Agbeniyi Funke	Clerical Officer II	02	12/12/2011	12/12/2011	12/12/13	Admin	B	B	A	B	
17.	Onifade Wasiu	Agric. Field Attd. III	01	1/12/2011	1/12/2011	1/12/13	Statistics	B	A	A	B	
18.	Durodoye Dauda	Agric. Field Attd. III	01	1/12/2011	1/12/2011	1/12/13	PEM	B	B	B	B	
19.	Akinbola Temilorun	Agric. Field Attd. III	01	1/12/2011	1/12/2011	1/12/13	PEM	A	A	A	A	
20.	Awofeko Beauty (Mrs.)	Agric. Field Attd. III	01	1/12/2011	1/12/2011	1/12/13	Health Centre	B	B	B	B	
21.	Oke Safurat (Mrs.)	Agric. Field Attd. III	01	1/12/2011	1/12/2011	1/12/13	PEM	A	A	A	A	
22.	Nwaolise Felicia (Mrs.)	Agric. Field Attd. III	01	1/12/2011	1/12/2011	1/12/13	PEM	A	A	A	A	
23.	Ajayi Abidemi	Agric. Field Attd. III	01	1/12/2011	1/12/2011	1/12/13	PEM	B	B	B	B	
24.	Oyedotun Toyin (Mrs.)	Agric. Field Attd. III	01	1/12/2011	1/12/2011	1/12/13	PEM	B	B	B	B	
25.	Matthew Olayemi	Agric. Field Attd. III	01	1/12/2011	1/12/2011	1/12/13	PEM	B	B	B	B	

	(Mrs.)											
26.	Idowu Omoleke	Agric. Field Attd. III	01	1/12/2011	1/12/2011	1/12/13	PEM	B	B	B	B	
27.	Okoh Mercy (Mrs.)	Agric. Field Attd. III	01	1/12/2011	1/12/2011	1/12/13	PEM	B	B	B	B	
28.	Oghenegu eke Victor	Agric. Field Attd. III	01	19/12/2011	19/12/2011	19/12/13	PEM	B	B	B	B	
29.	Agaji Benard	Agric. Field Attd. III	01	1/12/2011	1/12/2011	1/12/13	Owen a	B	B	B	B	
30.	Paul Chukwu Nweke	Agric. Field Attd. III	01	1/12/2011	1/12/2011	1/12/13	Owen a	B	B	B	B	
31.	Fatuase Tope	Agric. Field Attd. III	01	1/12/2011	1/12/2011	1/12/13	Uhon mora	B	A	A	A	
32.	Nwachukwu Anthony	Agric. Field Attd. III	01	1/12/2011	1/12/2011	1/12/13	Ibeku	B	B	B	B	
33.	Uwakwe Young	Agric. Field Attd. III	01	1/12/2011	1/12/2011	1/12/13	Ibeku	B	B	B	B	
34.	Uwakwe Innocent	Agric. Field Attd. III	01	1/12/2011	1/12/2011	1/12/13	Ibeku	B	B	B	B	
35.	Hussein Yahaya	Agric. Field Attd. III	01	1/12/2011	1/12/2011	1/12/13	Ochaj a	B	B	B	B	
36.	Abubakar Yahaya	Agric. Field Attd. III	01	1/12/2011	1/12/2011	1/12/13	Ochaj a	B	B	B	B	
37.	Sanni Ibrahim	Agric. Field Attd. III	01	26/1/2012	26/1/2012	26/1/14	Owen a	B	B	B	B	
38.	Oghenegu eke Gift	Agric. Field Attd. III	01	2/5/2012	2/5/2012	2/5/14	PEM	B	B	B	B	
39.	Ibhazukor Gabriel	Agric. Field Attd. III	01	2/5/2012	2/5/2012	2/5/14	PEM	B	B	B	B	
40.	Adesina Motunrayo	Agric. Field Attd. III	01	2/5/2012	2/5/2012	2/5/14	PEM	B	B	B	B	

42.	Bakare Adeyemi R.	Asst. Exec. Officer	05	9/12/11	9/12/11	9/12/13	Audit	B	B	B	B	
43.	Idorenyin Okpo	Agric. Field Attd. II	01	2/05/12	2/9/12	2/5/14	Ajassor	B	B	B	B	
43.	Udo Johnny	Agric. Field Attd. III	01	2/5/12	2/5/12	2/5/14	Ajassor	B	B	B	B	
44.	Obileye Florence, O.	Sec. Asst. III	03	18/7/12	18/7/12	18/7/14	Legal	B	A	B	B	
45.	Irumekhai Florence, A.	Sec. Asst. III	03	26/7/12	26/7/12	26/7/14	Admin.	B	B	B	B	

LIST OF STAFF CONFIRMED AS AT MAY, 2014

RESEARCH SCIENTISTS CURRENTLY ON TRAINING

S/ N	NAME	DESIGNATION	CONRA ISS	PROPOSED COURSE OF STUDY	NAME OF INSTITUTION	DATE OF COMMENT	REMARKS
1	Mr. Shittu, T. R.	<i>Prin. Research Officer</i>	11	PhD in Agric. Econs.	University of Ibadan	2003/2004	
2	Oloyede Amos A.	<i>Prin. Research Officer</i>	11	PhD in Forest Resources Mgt.	University of Ibadan	2002/2003	
3	Mr. Oluyole K. A.	<i>Prin. Research Officer</i>	11	PhD in Agric. Econs	University of Ibadan.	2012	
4	Iloyanomon Cecilia I.	<i>Prin. Research Officer</i>	11	M.Phil./PhD in Agronomy	University of Ibadan	2004	
5	Ogunjobi Moruf Ayinla K.	<i>Prin. Research Officer</i>	11	PhD in Food Processing & Storage Technology	Fed. University of Agric. Abeokuta (FUNAB)	24/5/2004	
6	Uwagboe Eghosa	<i>Prin. Research Officer</i>	11	PhD in Agric. Extension & Rural Development	University of Ibadan	20/2/2013	
7	Adebowale B. A.	<i>Prin. Research Officer</i>	11	Ph.D in Fisheries Management	University of Ibadan	2005	
8.	Agbongiarhuoyi E. Anthony	<i>Prin. Research Officer</i>	11	M.Phil in (Agric. Extension & Rural Development)	University of Ibadan	2005/2006	
9	Mrs. Mokuwunye I. U.	<i>Prin. Research Officer</i>	11	Ph.D in Entomology	University of Ibadan	7/3/2007	
10	Otunonye A. H.	<i>Prin. Research Officer</i>	11	PhD in Plant Pathology (Crop Protection)	Fed. University of Agriculture Abeokuta	29/10/2009	
11	Engr. Mofolasayo Adewale S.	<i>Prin. Research Officer</i>	11	PhD in Crop Processing and Storage / Food Engineering	Ded. University of Agriculture Abeokuta (FUNAB)	11/5/2009	
12	Idris Ndagi	<i>Prin. Research Officer</i>	11	PhD in Agric. Econs. & Extension	Fed. University of Tech. Akure	2011/2012	
13	Adejobi Babatunde K.	<i>Senior. Research Officer</i>	09	Ph.D in Crop, Soil & Pest Mgt.	Fed. University of Tech. Akure	2010/2011	

14	Adeniyi Omoyele Dele	<i>Senior. Research Officer</i>	09	PhD in Crop, Soil and Pest	Fed. University of Tech. Akure	2010/2011	
15	Adeigbe O. Oluwatosin (<i>Research Officer I</i>)	<i>Senior. Research Officer</i>	9	PhD in Genetics & Plant Breeding (Environmental Biology)	University of Ibadan	2005	
16	Adenuga O. O.	<i>Senior. Research Officer</i>	09	Ph.D in Plant Breeding	Federal University of Agric. Abeokuta (FUNAB)	2008	
17	Keji Dada, E.	<i>Research Officer I</i>	08	Master Degree in Plant Biology	University of Ilorin	2004/2005	
18	Idris Mohammed (<i>Research Officer I</i>)	<i>Senior Research Officer</i>	09	PhD in Crop, Soil and Pest Mgt.	Fed. University of Tech. Akure	2012/2013	
19	Akanbi O. S. O.	<i>Senior Research Officer</i>	09	. Ph.D in Crop, Soil & Pest Mgt	Fed. University of Tech., Akure	2007 – 2008	
20	Mr. Olaniyi Olayinka O.	<i>.Senior Research Officer I</i>	09	PhD in Plant Breeding	Federal University of Agriculture, Abeokuta	5/11/12	
21	Mr. Kolawole O. O.	<i>Research Officer I</i>	08	PhD in Micro-biology	University of Ibadan.	2008/09	
22	Taiwo Nnenna	<i>Senior Research Officer I</i>	09	PhD in Agronomy	University of Ibadan	2008/2009	
23	Mrs. Adepoju Abigail . F.	<i>Senor Research Officer I</i>	09	Ph.D in Plant Breeding	University of Agricultural Abeokuta	05/11/2012	
24	Adeosun A. Seun	<i>Senior Research Officer I</i>	09	PhD in Crop Protection& Environmental Biology	University of Ibadan.	20/2/13	
25	Mr. Olasupo Festus .O.	<i>Research Officer I</i>	08	PhD in Crop Protection and Environmental Biology	University of Ibadan.	2008/2009	
26	Mrs. Mapayi E. F.	<i>Senor Research Officer I</i>	09	PhD in Plant Breeding	Federal University of Agriculture, Abeokuta	5/11/2012	
27	Miss Anagbogu Chinyere F.	<i>Senior Research Officer I</i>	09	M.Phil/PhD in Plant Breeding & Genetics	University of Ibadan	2009/2010	
28	Mr. Ugioro Osasogie	<i>Senior Research Officer I</i>	09	PhD in Plant Physiology	Federal University of Agric.	10/5/2010	

					Abeokuta(F UNAB)		
29	Mrs. Nduka Beatrice A.	<i>Senior Research Officer I</i>	09	PhD in Crop Soils & Pest Mgt.	Fed. University of Tech. Akure, Ondo	2012 / 2013	
30	William Olaide Abisola	<i>Research Officer I</i>	08	PhD in Agricultural Extension & Rural Development	Fed. University of Agric. Abeokuta	2007 /2008	
31	Okeniyi M.O.	<i>Prin. Research Officer</i>	11	PhD in Nematology	Fed. University of Tech. Abeokuta, (FUTA)	10/5/2002	
32	Taiwo Olayinka A.	<i>Senior. Research Officer</i>	09	PhD in Agric. Econs	University of Ibadan	2012/2013	
33	Yahaya A.T.	<i>Senior. Research Officer</i>	09	M.Phil in Economics	University of Ibadan	2010	

LIST OF RESEARCH OFFICERS ON TRAINING AS AT 31 DECEMBER, 2014.

The table below shows the list of Non-Research Staff on part time/weekend training as at 31 December, 2014.

S/ N	NAME	DESIGNATION	CONRA ISS	PROPOSED COURSE OF STUDY	NAME OF INSTITUTION	DATE OF COMMENCEMENT	REMARKS
1.	Mr. Idris Garba	Asst. Chief. Agric. Field Overseer	05	ND in Agricultural Technology	Federal College of Agric, Moor plantation, Ibadan	10/12/2010	
2.	Mr. Mohammed Idi	Prin. Agric Supt. I	11	M.Sc in Crop, Soil and Pest Management	Federal University of Technology, Akure	2012/2013	
3.	Mr. Ojo Oluseye Abioye	Asst. Agric. Supt.	05	HND in Crop Production Technology (Option)	Federal College of Agric, Moor plantation, Ibadan	20/1/2012	
4.	Mr. Ogiugo Philip	Snr. Agric. Supt.	08	HND in Crop Science	College of Agric., Agenebode Campus, Edo-State	24/10/2010	
5.	Mr. Alli S.O.	Asst. Executive Officer	06	B.Sc in Economics	University of Ibadan, Ibadan.	2010/2011	
6.	Baba Nista Mohammed	Snr. Agric. Supt.	08	M.Sc in Crop Soil & Pest Mgt.	Federal University of Technology, Akure	2010/2011	
7.	Mr. Adewoye G. Adebawale	Snr. Sci. Lab. Technologist II	08	M.Sc in Environmental Science with option in Environmental Toxicology	Olabisi Onabanjo University, Ago-Iwoye, Ogun State	2011/2012	
8.	Mrs. Titiloye O.E.M.N.	Admin. Officer I	08	MMP in Managerial Psychology	University of Ibadan, Ibadan.	2011/2012	
9.	Abiade Bilikisu O.	Clerical Officer I	05	ND in Accountancy	Osun State College of Technology, Esa-Oke	2011/2012	
10.	Mr. Ibine I.B.	Clerical	03	ND in Public	The Polytechnic,	6/12/2010	

		Officer II		Admin.	Ibadan		
11	Fawusi Oluwatobi	Clerical Officer I	05	ND in Business Admin.	The Polytechnic, Ibadan	11/01/2010	
12	Obi Esther	Senior Clerical Officer	06	Business Admin.	The Polytechnic, Ibadan	2009/2010	
13	Ejenebor F. Bolanle	Senior Secretarial Asst. I	07	ND in Office Technology & Mgt.	The Polytechnic, Ibadan	11/1/2010	
14	Akinrinola, O.A.	Asst. Executive Officer	06	HND in Accountancy	Fed. Polytechnic Idah	2009/2010	
15	Oghenegueke Gift	Agric. Field Atted. III	01	ND in Agric. Technology	Fed. College of Agric. Moor Plantation, Ibadan.	12/12/2011	
16	Oladepo Kemi	Clerical Officer II	03	ND in Accountancy	The Polytechnic, Ibadan	6/12/2010	
17	Suraju Kareem	Higher Executive Officer	08	Accountancy	University of Ado-Ekiti	26/8/2010	
18	Ibrahim Wasiu Adewale	Executive Officer	06	B.Sc in Accountancy	LAUTECH Ogbomosho	18/3/2013	
19	Mrs. Ogunjobi T.E.	Snr. Librarian	09	M.Phil/P.hD in Library Studies	University of Ibadan, Ibadan	2008/2009	
20	Mr. Osita Ibe	Snr. Prog. Analyst	09	M.Phil/Ph.D in (Lower Atmospheric Physis)	University of Ibadan, Ibadan	2011/2012	
21	Miss. Lawal Esther	Clerical Officer I	05	ND in Accounting	Osun State College of Technology, Esa-Oke	2009/2010	
22	Mr. Kolawole K. David	Asst. Agric. Supt.	05	Crop Production Tech. Option	Fed. College of Agric., Moor Plantation, Ib.	10/12/2010	
23	Mr. Adigun A.B.	Principal Agric. Supt. I	11	M.Sc in Crop, Soil and Pest Mgt.	Federal University of Technology, Akure	2009/2010	
24	Mrs. Adepoju O.A.	Snr.Conf. Secretary	08	PGD in Public Admin.	National Open University, Ib.	2011/2012	

25	Haruna John	Chief Store Keeper	06	Agricultural Technical Field	Agricultural Training Centre, Ochaja	2011/2012	
26	Adio Oludare T.	Asst. Craftman.	03	ND in Electrical engineering	The Polytechnic, Ibadan.	15/10/12	
27	Mrs. J.O. Ojo	Clerical Officer II	03	HND in Accountancy	The Polytechnic, Ibadan.	11/1/2010	
28	Olutade Bamidele O.	Clerical Officer II	03	Economics	Olabisi Onabanjo University, Ago-Iwoye , Ogun State.	2006-2007	
29	Mr. Akano Joseph	Clerical Officer II	03	ND in Business Administration	The Polytechnic, Ibadan.	24/10/2011	
30	Miss. Adesina Motunrayo C.	Agric. Field Attd. III	01	Accountancy	The Polytechnic, Ibadan	06/12/2010	
31	Baoku F.A. (Mrs.)	Matron I	11	B.Sc in Nursing	Ladoke Akintola University of Technology, Ogbomosho	2012/2013	
32	Iyamu I. Anthony	Clerical Officer II	03	B.Sc in Political Science	National Open University of Nigeria	2013/2014	
33	Mr. D.B. Durodoye	Agric. Field Attd. III	02	ND in Agric. Technology	Federal College of Agric. Moor Plantation, Ibadan	2011/2012	
34	Ogundeji Babatunde A.	Snr. Sci.Lab. Technologist	08	Crop soil & Pest Mgt.	Federal University of Technology, Akure	2011/2012	
35	Akinyode Olabisi	Snr. Secretarial Asst. II	07	Office Technology	The Polytechnic, Ibadan	11/1/2010	
36	Ogunde Oluwatosin Ajoke	Secretarial Asst. I	04	B.Sc in Psycology	University of Ibadan	2008/2009	
37	Mrs. Alaba Olubukola O.	Secretarial Asst. II	04	HND in Office Technology Mgt.	The Polytechnic, Ibadan	6/12/2010	
38	Obi Samuel I.	Clerical Officer II	03	HND in Business Admin.	The Polytechnic, Ibadan	24/10/2011	
39	Morakinyo R.A.	Chief Sec. Asst	08	HND in Office	The Polytechnic, Ibadan	2010/2011	

	.			Technology & Mgt.			
40	Osinowo Bukola	Clerical Officer I	04	B.Sc in Mass Communication	Olabisi Onabanjo University, Ago-Iwoye, Ogun-State	2006/2007	
41	Sekoni O.E.	Asst. Executive Officer	05	HND in Business Admin.	Akwa-Ibom State Polytechnic, Ikot-Osurua	2009/2010	
42	Ojo Oluwabunmi (Mrs.)	Secretarial Asst. I	05	ND in Office Technology & Mgt	The Polytechnic, Ibadan	6/12/2010	
43	Ikpefua Anthony E	Data Officer	06	B.Sc in Political Science	University of Ibadan.	2008/2009	
44	Onifade Wasiu	Clerical Officer II	03	B.Sc in Accounting	National Open University of Nigeria	2012/2013	
45	Akosile Gbenga	Clerical Officer	04	ND in Bus. Admin	Osun state Polytechnic Iree	2013/2014	
46	Asein Fredrick	Clerical Officer I	04	ND in Bus. Admin	Osun state Polytechnic Iree	2013/2014	
47	Alade B.F. (Mrs.)	Snr.Secretarial Asst. II	06	ND in Office Technology & Mgt.	The Polytechnic, Ibadan	2010/2011	
48	Oyefi J.A. (Mrs.)	Higher. Store Officer	07	HND in Purchasing & Supply	The Polytechnic, Ibadan	2008/2009	
49	Ogunsola G.B.	Chief Secretarial Asst.	08	HND in Office Technology & Mgt.	The Polytechnic, Ibadan	2010/2011	
50	Olaosebikan O.A.	Chief Secretarial Asst. I	07	HND in Office Technology & Mgt.	The Polytechnic, Ibadan	2010	
51	Enagu V.O.	Prin. Agric. Supt. I	11	M.Sc in Crop Soil & Mgt.	Federal University of Technology, Akure	2012	
52	Etuke Charles	Clerical Officer II	03	B.Sc in Political Science	National Open University of Nig., Sango, Ib.	2012/2013	
53	Oketokun Grace Olusola	Asst. Agric. Supt.	05	HND in Crop Production Technology Option	Federal College of Agric. Moor Plantation, Ib.	2012/2013	
54	Ajulo Felix	Head Security Guard	05	ND in Business Administration	The Polytechnic, Ibadan	6/12/10	

55	Mrs. Oduola A.O.	Matron I	11	M.Sc in Social work (Health option)	University of Ibadan	2012/2013	
56	Mrs. H.C. Agbebaku	Accountant I	08		ICAN	2001	
57	Mr. Adebisi Oluwabukayo mi S.	Security Guard Gd II	04	B.Sc in Mathematics	Open University of Nigerian(NOUN)	2013/2014	
58	Miss. Idris Fatima	Agric. Field Overseer	03	ND in Agric General Tech.	Akperin Orshi College of Agriculture, Yandeu, Gboko, Benue State	2013/2014	
59	Adegboye Jibola (Mrs.)	Snr. Agric. Supt.	08	Crop Management	Federal University of Technology, Akure	2013	
60	Olagunju Rasaki	Agric. Field Overseer	03	ND in Agric. Tech.	Federal College of Agric., Moor Plantation, Ibadan	2013	
61	Mrs. Ogundare O.A.	Asst. Chief Agric. Field Overseer	05	Agric. Tech. ND	Federal College of Agric., Moor Plantation, Ibadan	2009/2010	
62	Balogun S.T.	Snr. Sci. Lab. Technologist	08	Environmental Biology	Ladoke Akintola University of Technology, Ogbomoso	2008/2009	
63	Mrs. Igbinadolor A.J.	Secretarial Asst. II	03	ND in Office Technology Mgt.	The Polytechnic, Ibadan	2013/2014	
64	Fagbemi D.O.	Chief Sec. Asst.	08	HND in Office Technology Mgt.	The Polytechnic, Ibadan	2013/2014	
65	Mrs. Ogunbosoye	Statistician I	08	Mathematical science/statistics	Federal University of Technology, Akure	2012/2013	
66	Obi Esther	Chief Clerical Officer	06	ND in Business Admin	The Polytechnic, Ibadan	2011	
67	Abulele I.E.	Statistician I	08	M.Sc in Statistics	Olabisi Onabanjo University, Ago Iwoye	2013/2014	
68	Mrs. J.N. Ijoma	Prin. Science Lab. Technologist I	11	Food /Industrial Bio-Chemistry	Olabisi Onabanjo University, Ago Iwoye	2006	
69	Obatoye A.O.	Prin. Science Lab. Technologist I	11		Olabisi Onabanjo University Ago Iwoye	2007/2008	

70	Mr. Olayiwola A.M.	Prin. Agricultural Supt. I	09	Crop, Soil & Pest Mgt.	Federal University of Technology, Akure	2008/2009	
71	Babafemi I.B	SPO	09	Profetional Certificate	Zebeel International Institute of Mgt. and Technology, Dubai, United Arab Emirates (UAE)	Sep, 2014	
72	Babalola E.A (Miss)	PAS	09	PGD in Agronomy	Lautech	2012/2013	
73	Uguoke Joseph C	AAS	05	HND in Agriculture (Crop Product. Tech. Option)	Federal College of Agric. Moor Plantation	2013/2014	
74	Ekundayo Benson J.B.	Secretarial Asst.	04	NCE in English Social Studies	Federal College of Education (special) Oyo	13/3/2008	
75	Mr. Fajutu Kayode S.	Head Security Guard 03	05	ND in Bus. Admin	Ogun State Institute of Tech. Igbesa	2012/2013	
76	Oghenegueke John	Security Guard	03	ND in Bus. Admin	Ogun State Institute of Tech. Igbesa	2012/2013	
77	Okere Monday J.	CAFO	06	HND in Crop Production Technology	Federal College of Agric. Moor Plantation, Ibadan	20/1/2012	
78	Ahmed Yahaya Saiduna	CCO	06	HND in Accountancy	Federal Polytechnic, Damaturu, Yobe State	2012/2013	
79.	Mogaji Mohammed	SAS	08	Ph.D in Agric Engineering	The Federal University of Technology, Akure.	20/4/2015	
80.	Mr. Oguenegueke Victor	AFA III	02	Civil Engineering	Osun State College of Tech. Esa-Oke	20/10/2011	

NON-RESEARCH STAFF CURRENTLY ON TRAINING AS AT 31 DECEMBER, 2014

ANNEXURE VI

LIST OF STAFF THAT ATTENDED IN-SERVICE TRAINING WORKSHOP/SEMINAR/CONFERENCE IN YEAR 2014

S/N	NAME/DESIGNATION	EVENTS/COURSE OF STUDY	DURATION	SPONSORING BODY	HOST ORGANISATION ORGANIZATION EVENTS
1	Mrs. Mokwunye I. U Prin. Research Officer	Award Womens leadership and Mgt. course	6 -12 April, 2014	Fellowship	Nairobi, Kenya
2	Mr. Olasupo F. O Research Officer I	Bio-safety Training Workshop 2014 Cocoa Borlaug Fellowship Programme/Award	1 -3 April, 2014 Oct – December, 2014	Fellowship Fellowship	Organized by African Bio-safety Network of Expertise (ABNE) under the NEPAD in collaboration with Federal Ministry of Environment Abuja The USDA's Agricultural Research Service (ARS) Subtropical Horticulture Research station Miami, Florida, United State.
3	Mr. B. A. Ogunjobi Snr. Science Lab. Tech.	Training on laboratory Procedures and Analysis of soil Crop & Agricultural Products	03 – 09 August, 2015	Self Sponsorship	Nigeria Institute of Science Laboratory Technology, Samanda, Ibadan
4	Mr. Babafemi I. B Snr. Programme Analyst	Notification of 3 days off duty for Research 4 life training of trainers Workshop	24 – 26 March, 2014	Self Sponsorship	Information training and outreach centre for Africa (ITOCA) in collaboration with the University of Ibadan
5	Dr. S. O. Aroyeun Asst. Director	Permission to travel to University of Ghent, Belgium to attend Cocoa and Cholate processing	11 – 26 June, 2014 12 – 16	Self Sponsorship	University of Chent Belgium

S/N	NAME/DESIGNATION	EVENTS/COURSE OF STUDY	DURATION	SPONSORING BODY	HOST ORGANISATION ORGANIZATION EVENTS
		Workshop Permission to attend WASD Conference	August, 2014		Montreal Canada
6	Dr. B. D. Adewale Snr. Research Officer	African Plant Breeding Academy 2014	15-28 June, 2014	CRIN, Sponsorship	The Training is at World Agronomy forestry centre (ICRAF) Nairobi Kenya
7	Engr. A. S. Mofolasayo Prin. Research Officer	A Research Methodology Seminar	27 – 28 May, 2014	Self Sponsorship	At the ICT Resources Centre Federal University of Agriculture, Abeokuta
8	Dr. S. B. Orisajo Ag. Head, (FSR & E)	Request for permission to CLP/COCTAFFS facilitators training Workshop	13 – 14 March, 2014	-	Mount Pleasant Hotel, Old Ijebu Ode road, Ibadan
9	Agbebaku Endurance Senior Agric. Supt.	Community Driven Development Approach on Agriculture & Rural Development	20 – 26 Sept, 2014	-	Agricultural & Rural Management Training Institute, Ilorin, (ARMT)
10	Ebulu Sunay A. Prin. Science Lab. Technology I	Maintenance of Visual Aids Equipment for optimum performance	11 – 14 Nov, 2014	CRIN, Sponsorship	Public Administration and Management Development Institute (PAMDI)
11	Mr. Kolawole Oluwaseun Research Officer I	Norman E. Borlang Fellowship for the leadership enhancement in Agriculture Programme (LEAP)	8 months 13 January – 14 Sept., 2014		University of Florida, USA
12	Mr. Musa Samuel Ojo Chief Motor Driver/Mech	Offer of provisional admission to candidate into the Mechanical electrical Engineering Develop Centre Six – months conversion training for Chief Driver Mechanic/plant operators to works Superintendent (Mechanical) cadre	July, 2014 to Dec., 2014	CRIN, Sponsorship	Ibara Abeokuta, Ogun State

S/N	NAME/DESIGNATION	EVENTS/COURSE OF STUDY	DURATION	SPONSORING BODY	HOST ORGANISATION ORGANIZATION EVENTS
13	Mr. Ajiroba Adeniyi Taiwo Chief Motor Driver/ Mech.	Offer of provisional admission to candidate into the Mechanical Electrical Engineering Develop Centre Six – months conversion training of Chief Driver-Mechanic/plant operators to works Superintendent (Mechanical Cadre)	July 2104 – Dec. 2014	CRIN, Sponsorship	Ibada Abeokuta, Ogun State
14	Dr. Ipinmoroti R. R Asst. Director	Retrospective approval to attend Organic Conference	6 -11 April, 2014	Self Sponsorship	Wedey University of Science and Technology, Ondo State
15	Mrs. I. U. Mokwuoye Prin. Research Officer	Permission to attend award role modelling event	16 May, 2014	CRIN Sponsorship	Prospect High School, Abanla
16	Mrs. Adeigbe O. O Senior Research Officer	Permission to attend award role modelling event	16 May, 2014	CRIN Sponsorship	Prospect High School, Abanla
17	Mrs. Yahaya A. T Research Officer I	Permission to attend award role modelling event	16 May, 2014	CRIN Sponsorship	Prospect High School, Abanla
18	Miss Alufa Funmillayo O. Higher Science Lab. Tech	Permission to attend award role modelling event	16 May, 2014	CRIN Sponsorship	Prospect High School, Abanla
19	Miss Ezeorah L. A Senior Science Lab. Tech	Permission to attend award role modelling event	16 May, 2014	CRIN Sponsorship	Prospect High School, Abanla
20	Anagbogu F. C Senior Research Officer	Notification on Norman Borloug 2014/15 leadership Enhancement in Agriculture programme Fellowship Leadership award and request for permission to go for the Research Programme	2014/2015 8 months Sep.,2014 to Aug, 2015	IITA, University of California, USA	CGAIR, International Institute of Tropical Agriculture (IITA) and University of California, U.S.A
21	Mr. B. A. Ogundeji Snr. Science Lab. Tech.	The 30 th Annual Conference of the Nigeria Institute of	29 Oct., and I Nov, 2014	Self Sponsorship	Akure, Ondo State, 2014

S/N	NAME/DESIGNATION	EVENTS/COURSE OF STUDY	DURATION	SPONSORING BODY	HOST ORGANISATION ORGANIZATION EVENTS
		Science Lab. Tech			
22	Dr. (Mrs.) Jayeola C. O Chief Research Officer	Team building and leadership Skill (LDSD)	11-15 August, 2014	CRIN, Sponsorship	Badagry Lagos
23	Dr. Orisajo Chief Research Officer	Team building and leadership Skill (LDSD)	6-10 October, 2014	CRIN, Sponsorship	Badagry Lagos
24	Dr. Agbeniyi O Asst. Ddirector	Team building and leadership Skill (LDSD)	6-10 October, 2014	CRIN, Sponsorship	Badagry Lagos
25	Dr. Famaye Asst. Director	Team building and leadership Skill (LDSD)	6-10 October, 2014	CRIN, Sponsorship	Badagry Lagos
26	Mr. Fagbami Director (LID)	Team building and leadership Skill (LDSD)	6-10 October, 2014	CRIN, Sponsorship	Badagry Lagos
27	Mr. Akhidime S. Prin. Admin. Officer	Advance Management Course (MSD 700)	7-19 Sept, 2014	CRIN, Sponsorship	Badagry, Lagos
28	Mrs. Oluwadare S. Prin. Admin Officer	Advance Management Course (MSD 700)	7-19 Sept, 2014	CRIN, Sponsorship	Badagry, Lagos
29	Mr. Okaisabor J. Prin. Agric. Superintendent	Participatory Management of Com. Dev. Groups Based Organisation in NARD Project (ARM 350)	13-17 October, 2014	CRIN, Sponsorship	Badagry, Lagos
30	Mr. Victor Enagu Prin. Agric. Superintendent	Participatory Management of Com. Dev. Groups Based Organisation in NAR in NARD Project (ARM 350)	13-17 October, 2014	CRIN, Sponsorship	Badagry, Lagos
31	Prof. M. O. Akoroda Executive Director	Public Policy Analysis & Mgt. Workshop (PASD)	4 – 8 August, 2014	CRIN Sponsorship	Badagry, Lagos
32	Dr. (Mrs.) Dongo Director (P & T)	Public Policy Analysis & Mgt. Workshop (PASD)	4 – 8 August, 2014	CRIN Sponsorship	Badagry, Lagos
33	Mrs. P. A. Ubebe Ag. Head (Admin & Supplies)	Public Policy Analysis & Mgt. Workshop (PASD)	4 – 8 August, 2014	CRIN Sponsorship	Badagry, Lagos
34	Mr. Fabowale K. M Head (Internal Audit)	Public Policy Analysis & Mgt. Workshop (PASD)	4 – 8 August, 2014	CRIN Sponsorship	Badagry, Lagos
35	Mr. Onifade A. Ag. Head (F & A)	Public Policy Analysis & Mgt. Workshop (PASD)	4 – 8 August, 2014	CRIN Sponsorship	Badagry, Lagos

S/N	NAME/DESIGNATION	EVENTS/COURSE OF STUDY	DURATION	SPONSORING BODY	HOST ORGANISATION ORGANIZATION EVENTS
36	Mr. Ayoade O. A Senior Executive Officer (Budget)	Computer Application for project Management (ARM 251)	7 – 11 July, 2014	CRIN, Sponsorship	Ilorin
37	Mrs. Adepoju O. A Confidential Secretary	Managing the Boss and organising the office for corporate efficiency	2 – 5 Dec., 2014	CRIN, Sponsorship	Badagry, Lagos
38	Mrs. T. Y Adeagbo Confidential Secretary	Managing the Boss and organising the office for corporate efficiency	2 – 5 December, 2014	CRIN, Sponsorship	Badagry, Lagos
39	Mrs. K. Olumini Asst. Chief Executive Officer (Marketing)	Strategies for revenue Generation (EFMS)	6 – 10 October, 2014	CRIN, Sponsorship	Badagry, Lagos
40	Mr. Shittu Abu Senior Accountant	Strategies for revenue Generation (EFMS)	6 – 10 October, 2014	CRIN, Sponsorship	Badagry, Lagos
41	Mrs. Alaba Olubukola Secretarial Assistant	Managing the Boss official schedule and office/Document security	16 – 19 September, 2014	CRIN, Sponsorship	Ogba, Lagos
42	Mrs. Sanni Olayinka Secretarial Assistant	Managing the Boss official schedule and office/Document security	16 – 19 September, 2014	CRIN, Sponsorship	Ogba, Lagos
43	Mrs. Oladimeji L.T.N Senior Secretarial Asst.	Managing the Boss official schedule and office/Document security	16 – 19 September, 2014	CRIN, Sponsorship	Ogba, Lagos
44	Mr. Bakare A. T Asst. Chief Maintenance Engeer	Leadership and Managerial skills Development for Engineer and Technical Officers	8 – 11 July, 2014	CRIN Sponsorship	Enugu
45	Mr. Osita Ibe Programmer Analyst	Facilities Maint Management	5 – 8 August. 2014	CRIN Sponsorship	Lagos
46	Kuforiji Wale Prin. Accountant	Strategies for Revenue Generation (EFMS)	6 – 10 October, 2014	CRIN, Sponsorship	Badagry, Lagos
47	Ogunkua O. O Asst. Chief Executive Officer	Strategies for Revenue Generation (EFMS)	6 – 10 October, 2014	CRIN, Sponsorship	Badagry, Lagos
48	Farinola P. A Procurement officer	Procurement & Supply chain Management best practices in public & Private sectors	18 – 21 November, 2014	CRIN, Sponsorship	Lagos
49	lkokoh Loveth U.	Alternative dispute	11 – 15	CRIN,	Badagry, Lagos

S/N	NAME/DESIGNATION	EVENTS/COURSE OF STUDY	DURATION	SPONSORING BODY	HOST ORGANISATION ORGANIZATION EVENTS
	Senior Admin. Officer	resolution (LGLSD)	August, 2014	Sponsorship	

ANNEXURE VII

LEFT THE SERVICE

List of staff who left service as a result of Age/Length of Service and Transfer/Withdrawal, Resignation and Disengagement.

S/ N	NAME	DATE OF BIRTH	AGE ON RETIR EMENT	DATE OF IST APPOINT MENT	DESIGN ATION/ RANK	CON RAIS S	DEPLOY MENT	RETIR EMEN T DATE	MODE OF EXIT
1.	Ojo Zacheaus Olusegun	14/2/195 4	60 years	1/9/1993	Head Security Guard	05	Security Section	14/2/201 4	Compuls ory retireme nt on account of age
2.	Mr. Odeleke Tajudeen	1/1/1956	58 years	23/3/1979	Works Supt	06	Engineeri ng Works	23/3/201 4	Compuls ory retireme nt on account of length of service
3.	Ogunbosoye Idowu Akin	16/4/196 0	54 years	21/3/1979	Chief Sc. Lab Tech	13	Plant Breeding	21/3/201 4	Compuls ory retireme nt on account of length of service
4.	Adesina Serah	1/1/1962	52 years	1/12/1997	Chief Agric. Field Overseer	06	PEM	3/1/2014	Voluntar y retireme nt
5.	Gbiye Emily	16/1/196 0	54 years	2/6/2003	Senior Agric Field Overseer	06	PEM	6/1/2014	Voluntar y Retireme nt
6.	Nwakaeze	27/8/197	32 years	29/4/2011	Agric. Field	01	Ibeku	23/8/201	Resignati

	Linus	1			Attd. III		S/Station	3	on
7,	Mrs. Domi Maria	17/7/1954	57 years	2/6/2003	Agric. Field Attd. I	03	Admin & Supplies	24/11/2011	Withdra wal
8.	Fadele W	13/4/1954	60 years	1/12/1997	AFA I	03	Owena	13/4/2014	Compuls ory retireme nt
9.	Adamu P	10/10/1958	56 years	27/5/1979	Chief Sec. Asst.	08	Headquart ers	29/5/2014	Compuls ory retireme nt on account of length of service
10.	Adesina E.O.	26/6/1960	54 years	11/6/1979	Chief Sec. Asst.	08	Headquart ers	11/6/2014	Compuls ory retireme nt on account of length of service
11.	Aighekaen E.O	26/4/1949	65 years	10/10/1978	Director	15	Headquart ers	26/4/2014	Compuls ory retireme nt on account of length of service
12.	Adisa Sikiru	10/10/1984	30 years	19/6/2009	AFA I	03	PEM	1/6/2014	Resignati on
13.	Victor E	27/6/5	years	1/12/1997	Head Watch Man	03	Ajassor	27/6/2014	Compuls ory retireme nt
14.	Ajao A.A.	5/6/1966	48 years	11/8/2000	PRO	11	CPU	2/9/2014	Voluntar y retireme

									nt
15.	Emaku L	12/7/1954	60 years	4/8/1980	Asst. Chief Statistics	12	Econs/Statistics	12/7/2014	Compulsory retirement
16.	Ogar O.P	29/10/84	30 years	19/5/2013	Health Asst.	03	Ajassor	28/7/2014	Disengagement
17.	Aderolu Ismaila	13/6/1974	40 years	29/9/2010	SRO	09	Entomology	8/11/2014	Transfer
18.	Oduwaye Fehintola	23/12/1975	39 years	29/9/2010	RO	08	P/Pathology	27/11/2014	Resignation
19.	Adefaka Olusola Saka	2/12/1959	55 years	29/11/1990	Asst. Director	14	F & Acct	28/11/2014	Voluntary Retirement
20.	Dr. Adewale Babasola Daniel	20/2/1967	47 years	5/2/2009	SRO	09	P/Breeding	7/7/2014	Transfer

LIST OF DECEASED OFFICERS FROM 01 JANUARY, 2014 TO 31 DECEMBER, 2014

S/N	NAME	DESIGNATION	CONRAISS	DATE OF IST APPT	DATE OF DEMISE	Deployment
1	Dr. A.O. Fademi	Director	15	30-Mar-1982	10-Mar-2014	Headquarters
2	Okoro Emmanuel	Agric. Field Attd I	3	2-Jan-2009	2-Jun-2014	Ibeku
3	Oloyede Kazeem	Agric. Field Attd I	3	2-Jun-2006	18-Aug-2014	Headquarters
4	Uwakwe Young	Agric. Field Attd II	2	1-Dec-2011	1-Sep-2014	Ibeku

NAMES OF STAFF WHO LEFT SERVICE BASED ON DISCIPLINARY ACTION

S/NO	NAME	DESIGNATION	DEPLOYMENT	OFFENCES	DISCIPLINARY ACTIONS
1.	Mrs. Okonche Julianah	Clerical Assistant	Statistics Section	Presentation of fake National Diploma Result	Dismissed from Service
2.	Mr. Jonan Johnson	Agric. Field Attd. III	PEM	Absent from duty without leave	Termination of Appointment

UNCONFIRMED STAFF WHOSE APPOINTMENTS' WERE TERMINATED

S/N	NAME	DESIGNATION	CONRAISS	DATE OF 1 ST APPT.	DATE OF TERMINATION	DEPLOYMENT
1	Adegbindin Abel	Higher Executive Officer	07	13/12/2011	24/1/2014	ADMIN.
2	Abioye Bosede (Mrs.)	Nursing Sister	07	5/4/2012	24/1/2014	Health Centre
3	Ipadeola Funke (Miss)	Asst. Agric. Supt.	05	1/12/2011	24/1/2014	PEM
4	Ajibola Yinka	Clerical Officer II	03	1/12/2011	24/1/2014	ADMIN.

S/ N	NAME	DESIGNATION	CONRAI SS	DATE OF 1 ST APPT.	DATE OF TERMINATI ON	DEPLOYME NT
5	Fademi Omoditunu (Miss.)	Clerical Officer II	03	5/12/2011	24/1/2014	ADMIN.
6	Robert Oludare	Clerical Officer II	03	24/1/2012	24/1/2014	ADMIN.
7	Adeyemo Adekunle Johnson	Clerical Officer II	03	28/12/201 1	24/1/2014	ADMIN.
8	Adeyemo Stephen	Clerical Officer II	03	1/12/2011	24/1/2014	LID
9	Ganiyu Bolanle (Miss.)	Clerical Officer II	03	5/12/2011	24/1/2014	Finance & Accounts
10	Osho Ezekiel	Craftsman	03	1/12/2011	24/1/2014	Engineering
11	Odugbela Oluwasina	Motor Driver/Mech	03	7/12/2011	24/1/2014	Engineering
12	Makinde Gbolagade	Motor Driver	02	25/1/2012	24/1/2014	Security
13	Alamu Risikat	Agric. Field Attd.III	01	1/12/2011	24/1/2014	PEM
14	Ogenyi Simon	Agric. Field Attd.III	01	1/12/2011	24/1/2014	PEM
15	Alalade Kunle	Agric. Field Attd.III	01	1/12/2011	24/1/2014	CFC
16	Ayidu Sunday	Agric. Field Attd.III	01	1/12/2011	24/1/2014	PEM
17	Ochenchi Paulina (Mrs.)	Agric. Field Attd.III	01	1/12/2011	24/1/2014	PEM
18	Lawal Kazeem	Agric. Field Attd.III	01	1/12/2011	24/1/2014	PEM
19	Okojere Happiness	Agric. Field Attd.III	01	1/12/2011	24/1/2014	PEM
20	Ijadunola Funmilayo	Agric. Field Attd.III	01	1/12/2011	24/1/2014	PEM

S/ N	NAME	DESIGNATION	CONRAI SS	DATE OF 1 ST APPT.	DATE OF TERMINATI ON	DEPLOYME NT
21	Dauda Olawoyin	Agric. Field Attd.III	01	1/12/2011	24/1/2014	PEM
22	Olaleye Bidemi (Mrs.)	Agric. Field Attd.III	01	1/12/2011	24/1/2014	PEM
23	Akinpelu Modinat	Agric. Field Attd.III	01	1/12/2011	24/1/2014	PEM
24	Onanuga Odutola	Agric. Field Attd.III	01	1/12/2011	24/1/2014	PEM
25	Adelaju Kayode	Agric. Field Attd.III	01	1/12/2011	24/1/2014	PEM
26	Olayiwola Iyabo (Mrs)	Agric. Field Attd.III	01	1/12/2011	24/1/2014	PEM
27	Oloyede Elizabeth (Mrs)	Agric. Field Attd.III	01	1/12/2011	24/1/2014	CFC
28	Williams Olabisi (Mrs.)	Agric. Field Attd.III	01	1/12/2011	24/1/2014	PEM
29	Okontah Kehinde (Miss)	Agric. Field Attd.III	01	1/12/2011	24/1/2014	PEM
30	Ganiyu Ibrahim	Agric. Field Attd.III	01	1/12/2011	24/1/2014	PEM
31	Akinola Bukola (Miss.)	Agric. Field Attd.III	01	1/12/2011	24/1/2014	PEM
32	Isaac Emmanuel	Agric. Field Attd.III	01	1/12/2011	24/1/2014	PEM
33	Oladokun Abiodun	Agric. Field Attd.III	01	1/12/2011	24/1/2014	PEM
34	Olugbade Lukman	Agric. Field Attd.III	01	1/12/2011	24/1/2014	PEM
35	Oyeniran Adejoke (Mrs.)	Agric. Field Attd.III	01	1/12/2011	24/1/2014	Health Centre
36	Salawu Adetunji	Agric. Field Attd.III	01	1/12/2011	24/1/2014	PEM

S/ N	NAME	DESIGNATION	CONRAI SS	DATE OF 1 ST APPT.	DATE OF TERMINATI ON	DEPLOYME NT
37	Ibitoye Folake (Mrs.)	Agric. Field Attd.III	01	1/12/2011	24/1/2014	PEM
38	Morufu Salawu	Agric. Field Attd.III	01	1/12/2011	24/1/2014	PEM
39	Adebayo Olusola	Agric. Field Attd.III	01	1/12/2011	24/1/2014	Bakery
40	Alhassan Gloria (Mrs.)	Agric. Field Attd.III	01	1/12/2011	24/1/2014	PEM
41	Atoyebi Oluwatoyin (Miss.)	Agric. Field Attd.III	01	1/12/2011	24/1/2014	PEM
42	Kuforiji Monisola (Mrs.)	Agric. Field Attd.III	01	1/12/2011	24/1/2014	PEM
43	Ayidu Temitope (Mrs.)	Agric. Field Attd.III	01	1/12/2011	24/1/2014	PEM
44	Gbadamosi Taye	Agric. Field Attd.III	01	1/12/2011	24/1/2014	PEM
45	Ojo Sunday	Agric. Field Attd.III	01	1/12/2011	24/1/2014	PEM
46	Ehimme Charles	Agric. Field Attd.III	01	1/12/2011	24/1/2014	PEM
47	Oghenejabor Rita (Mrs.)	Agric. Field Attd.III	01	1/12/2011	24/1/2014	PEM
48	Ojo Iyabo (Miss)	Agric. Field Attd.III	01	1/12/2011	24/1/2014	PEM
49	Oladipupo Olabisi (Mrs.)	Agric. Field Attd.III	01	1/12/2011	24/1/2014	PEM
50	Kunnuola Seun	Agric. Field Attd.III	01	1/12/2011	24/1/2014	PEM
51	Adewumi Ngozi (Mrs.)	Agric. Field Attd.III	01	1/12/2011	24/1/2014	PEM
52	Okoh Chuks	Agric. Field	01	1/12/2011	24/1/2014	PEM

S/ N	NAME	DESIGNATION	CONRAI SS	DATE OF 1 ST APPT.	DATE OF TERMINATI ON	DEPLOYME NT
		Attd.III				
53	Salami Theresa (Mrs.)	Agric. Field Attd.III	01	1/12/2011	24/1/2014	PEM
54	Olayiwola Sakiratu (Mrs.)	Agric. Field Attd.III	01	1/12/2011	24/1/2014	PEM
55	Oshodi Veronica (Mrs.)	Agric. Field Attd.III	01	1/12/2011	24/1/2014	PEM
56	Ugwu Paulina (Mrs.)	Agric. Field Attd.III	01	1/12/2011	24/1/2014	PEM
57	Ayoade Olufemi (Mrs.)	Agric. Field Attd.III	01	1/12/2011	24/1/2014	PEM
58	Kayiwedo Solomon	Agric. Field Attd.III	01	19/12/201 1	24/1/2014	PEM
59	Fadahunsi Fatai	Agric. Field Attd.III	01	19/12/201 1	24/1/2014	PEM
60	Okojie Peter	Agric. Field Attd.III	01	19/12/201 1	24/1/2014	PEM
61	Matthew Samuel	Agric. Field Attd.III	01	2/4/2012	24/1/2014	PEM
62	Oniosun Basiru	Agric. Field Attd.III	01	2/4/2012	24/1/2014	Bakery
63	Lawal Kafaya (Miss.)	Agric. Field Attd.III	01	2/5/2012	24/1/2014	ADMIN.
64	Olorungbami Nike (Mrs.)	Agric. Field Attd.III	01	2/5/2012	24/1/2014	PEM
65	Animashahun Taofeek	Agric. Field Attd.III	01	2/5/2012	24/1/2014	PEM
66	Muritala Waheed	Agric. Field Attd.III	01	2/5/2012	24/1/2014	PEM
67	Olorunkalu Taye	Agric. Field Attd.III	01	2/5/2012	24/1/2014	PEM
68	Akinola Wasiu	Agric. Field	01	2/5/2012	24/1/2014	PEM

S/ N	NAME	DESIGNATION	CONRAI SS	DATE OF 1 ST APPT.	DATE OF TERMINATI ON	DEPLOYME NT
		Attd.III				
69	Aransi Ramoni	Agric. Field Attd.III	01	2/5/2012	24/1/2014	PEM
70	Tijani Sadia (Mrs.)	Agric. Field Attd.III	01	2/5/2012	24/1/2014	PEM
71	Iseoluwa Samuel	Agric. Field Attd.III	01	2/5/2012	24/1/2014	PEM
72	Sikiru Koro	Agric. Field Attd.III	01	2/5/2012	24/1/2014	P/Breeding
73	Onipe Modupe (Mrs.)	Agric. Field Attd.III	01	2/5/2012	24/1/2014	ADMIN.
74	Ganiyu Saidi	Agric. Field Attd.III	01	2/5/2012	24/1/2014	PEM
75	Bakare Motunrayo (Mrs.)	Agric. Field Attd.III	01	2/5/2012	24/1/2014	P/Breeding
76	Falana Maria (Mrs.)	Agric. Field Attd.III	01	2/5/2012	24/1/2014	PEM
77	Saheed Ademola	Agric. Field Attd.III	01	2/5/2012	24/1/2014	Engineering
78	Babalola Bayo	Agric. Field Attd.III	01	2/5/2012	24/1/2014	PEM
79	Sarafa Hammed	Agric. Field Attd.III	01	2/5/2012	24/1/2014	PEM
80	Bello Jelili	Agric. Field Attd.III	01	2/5/2012	24/1/2014	PEM
81	Jimoh Abdulahi	Agric. Field Attd.III	01	2/5/2012	24/1/2014	PEM
82	Taoheed Ojo	Agric. Field Attd.III	01	2/5/2012	24/1/2014	PEM
83	Ishola Ropo	Agric. Field Attd.III	01	2/5/2012	24/1/2014	PEM

S/ N	NAME	DESIGNATION	CONRAI SS	DATE OF 1 ST APPT.	DATE OF TERMINATI ON	DEPLOYME NT
84	Adedokun Israel	Agric. Field Attd.III	01	2/5/2012	24/1/2014	PEM
85	Ojo Olawale	Agric. Field Attd.III	01	2/5/2012	24/1/2014	PEM
86	Ogah Sunday	Agric. Field Attd.III	01	2/5/2012	24/1/2014	PEM
87	Azeez Taofeek	Agric. Field Attd.III	01	2/5/2012	24/1/2014	PEM
88	Dada Victoria (Miss.)	Agric. Field Attd.III	01	14/5/2012	24/1/2014	PEM
89	Adeyemo Solomon	Watchman	01	2/5/2012	24/1/2014	Security
90	Hammed Abiola	Watchman	01	2/5/2012	24/1/2014	Security
91	Solomon Oluremi	Asst. Exec. Officer	05	28/12/201 1	24/1/2014	Audit

ANNEXURE VIII

LIST OF DEAD PENSIONERS IN 2014

S/N	NAME	DATE RETIRED	DATE OF DEATH	LOCATION
1.	Monkio, J.O.	5/6/03	January 2014	Headquarters
2.	Efunla Marcus	14/7/06	January 2014	Headquarters
3.	Kalu, J.O.	10/10/00	May 2014	Ibeku
4.	Ukwu, C.U.	10/10/00	May 2014	Ibeku

5.	Oladunmoye, J.	31/8/99	June 2014	Headquarters
6.	Ogbechie Pius	18/2/91	June 2014	Headquarters
7.	Awodele R.A.	31/12/00	August 2014	Headquarters
8.	Onasanya Lawrence	31/8/99	October 2014	Headquarters
9.	Echeng, P.E.	29/4/04	July 2014	Ajassor

LEGAL UNIT (Ikokoh L.U.)

1) APPOINTMENT OF A NEW LEGAL RETAINER

The start of the Legal Unit in 2014 began with the appointment of a new Legal Retainer in person of Barr. Kunle Faokunla, Principal, Kunle Faokunla Chambers, Oke-Ado, Ibadan, who was appointed on 22 January, 2014 after the retirement of Chief K.O. Latunji, on 31 December, 2013, having served the Institute as Legal Retainer for thirty one (31) years.

Barr. Kunle Faokunla immediately took over all the Institute's cases pending at the National Industrial Court, Ibadan.

The Institute's Management agreed that the sum of ₦100,000.00 which was also paid to Chief K.O. Latunji should be maintained for Barr. Faokunla and it would be paid bi-annually.

2) LITIGATION

Three new suits were received, in which the Institute and the Institute's Governing Board were sued. Below is the list of fresh suits, cases still pending at the various courts, the cause of action and the different stages of each suit.

Out of three fresh suits, two were concluded at the National Industrial Court, Ibadan, in 2014 and judgement given in favour of CRIN.

Also, the case of Mr. Ibrahim Suleiman which began in 2010, was concluded in 2014 in favour of CRIN as the court held that a staff on probation is not entitled to the processes or steps required for termination of his/her appointment.

Kindly find attached the report on cases in Court.

3. LEGAL ISSUES

- a) The Legal Unit served as an advisory Unit to the Executive Director in Labour Matters between the Institute and the Federal Ministry of Labour, Oyo State chapter, when the Non-Academic Staff Union wrote to the Ministry of Labour for a reconciliatory meeting on the termination of appointment of 91 ex-staff in January, 2014.
- b) Advise was given to Management on matters relating to the Odo-Ona Nla Youth movement and letters were written to the Presidency, Honourable Minister and some others were copied.
- c) The Ugbenu Community in Abia State where CRIN Ibeku outstation land is situate, received a threat in December, 2014, from the Ugbenu Community member who wrote to the Institute through Barr. Obiora W. Abonyi on behalf of the Aketeke family claiming that the family gave out the land to the Institute on 14 April, 1983, based on certain conditions, which includes employment of some members of the family, assistance in project development within the family and community, payment of annual ground rent etc.

According to them CRIN has failed to fulfilled the above conditions and now they are requesting that CRIN, should re-negotiate its continued occupation of the land and fulfill the above conditions.

From investigation, it was established that some men from the Community spair-headed the move against CRIN without the knowledge and support of the traditional leader of Ugbenu who discussed with CRIN representative.

CRIN is to discuss further with the traditional leader and ensure the issue is settled amicably.

- d) The Legal Unit, on behalf of the Executive Director issued out reminder letters to all Heads of CRIN Substations including the Officers-in-Charge, requesting them to facilitate the acquisition of all instruments or documents that was used to transfer ownership of the Substation lands to CRIN.

This action was to be carried out at the various State Ministries of Lands and Survey, where the Substations are situate.

- e) On 13 November, 2014, a report was made to the Divisional Police Officer, Idi-Ayunre, Police Division, Oluyole Local Government, on the illegal entry into the Junior Staff quarters, by some ex-staff of CRIN, whose appointment were terminated on 24 January, 2014 and their quarters was sealed up in May, 2014.

Meanwhile, the issue of the termination of their appointment and ejection from the quarters is before the National Industrial Court, Ibadan and know order was given for them to return.

- f) CRIN Uhonmora Substation was sued and fined the sum of ₦200,000.00 (two hundred thousand naira) for failing to file staff tax returns for CRIN staff of Uhonmora Substation, between January, 2012 to September, 2013. The case was struck out after CRIN paid the fine.
- g) The Institute received a letter from Ondo State Lands Records Bureau requesting for the status of Ipinsa land because Ipinsa Community wrote to them to approve a layout on CRIN land at Ipinsa.

4. **ACHIEVEMENT**

a) **Favourable Court Judgement**

- i) Non Academic Staff Union of Educational and Associated Institutions (NASU) V. CRIN and CRIN Governing Board.

On 24 June, 2014, the National Industrial Court delivered its judgement in the above mentioned case in favour of CRIN by striking out the case stating that the National Industrial Court lacked jurisdiction over a trade union matter that had not exhausted all means of alternative dispute resolution since the matter was still before a reconciliator.

- ii) 12 retrenched staff of 1985 V. CRIN and Executive Director

This case was struck out by the National Industrial Court on 29 September, 2014, based on the preliminary objection raised by the Institute that the retrenchment in question took place in 1985, and going by the Public Officers

Protection Act, the case was statute barred because it was not brought within three months after the retrenchment.

iii) **Mr. Ibrahim Suleiman V. CRIN**

The aforementioned case was struck out and dismissed on 03 October, 2014, at the National Industrial Court, based on the following reasons:

- 1) Mr. Suleiman's case lacked merit.
- 2) His termination while on probation was lawful.
- 3) He is not entitled to any relief sought for, that is, reinstatement, payment of his salary from May, 2010 till date and compensation.

b) **Posting of Staff to the Legal Unit**

In February, 2014, three staff were posted to the Legal Unit, namely:

- a) Mrs. Fatima Suleiman Mohammed – Executive Officer
- b) Mrs. Florence Ogunsanya – Secretarial Asst. II
- c) Mr. Frederick Asein – Clerical Officer

The posting of the aforementioned staff greatly boosted the work of the Legal Unit, thereby making it more efficient and productive.

c) **Office of the Legal Unit**

With the kind assistance of the Executive Director and the co-operation of the Administration and Supplies Department, room A 46 in the Administrative building was allocated for the use of the Legal Unit until a more suitable office space is available.

d) **Imprest**

With the kind approval of the Executive Director, the sum of ₦20,000.00 was approved as monthly imprest for running the affairs of the Legal Unit, which was paid only in the month of August throughout 2014.

e) **Photocopier Machine/Desktop Computer set**

Again the Executive Director, approved the procurement of photocopy machine, sharp AR-5618 for both Legal Unit and the Procurement Division and a new desktop computer set. This has eased the work of the Legal Unit greatly.

f) **Furniture/Stationeries/other items**

Contrary to 2013, the Legal Unit was better equipped with sufficient tables, chairs, iron cabinet and other items highlighted in the attached table of items purchased in 2014.

g) **Training**

The Ag. Head, Legal Unit, Barr. L.U. Ikokoh (Mrs.), attended one week training on Alternative dispute resolution at the Administrative Staff College of Nigeria (ASCON), on 11 to 15 August, 2014 and the report/recommendation was written to Executive Director in which she stated the various ways to implement the knowledge gained at the training in relation to dispute between CRIN Management, Labour, Staff and other groups of people, commercial transaction and the ways to sustain peace in the Institute.

h) **Law Books**

In December, 2014, law books which includes Laws of the Federation of Nigeria, Labour Law Review and Law textbooks were procured for the Legal Unit to boost the Law Library and to be equipped with the knowledge of the Law.

5. **CONSTRAINT**

With the kind assistance of the Executive Director and the Institute's Management, some of the constraint reported in 2013 annual report were taken care of in 2014. For this reason the present constraint is limited to the following:

a) **Shortage of professional personnel**

The Legal Unit is aware of the Institute's effort to employ a legal officer, to relieve the present staff of the Unit of some of the duties. It is still expected that another legal officer will be employed when possible.

b) Imprest

The sum of twenty thousand naira (N20,000.00) was approved as monthly imprest, for running the Legal Unit, but was paid only once August, 2014. The Legal Unit, humbly wish to use this opportunity to appeal for regularly imprest.

6. EXPENDITURE

In 2014, the total sum of N1,141,860.00 (One million one hundred and forty one thousand eight hundred and sixty naira) was released to the Procurement Division who purchased the following items on behalf of the Legal Unit. The above sum includes an imprest of the sum of twenty thousand naira (N20,000.00) for the month of August, 2014.

PROCURED ITEMS FOR THE LEGAL UNIT IN 2014

S/n	Item	Unit	Unit price ₦	Cost ₦
	Books			
1.	Labour Law Review	20	2,000.00	40,000.00
2.	Laws of the Federation of Nigeria	14	17,860.00	250,040.00
3	Nigeria Tax Offences & Penalties	1	2,500.00	2,000.00
4	Company Secretary & Legal Adviser	1	2,000.00	2,000.00
5	Public Service Rules	3	1,200.00	3,600.00
6	Administrative Law	1	4,000.00	4,000.00
7	Legal Drafting	1	3,500.00	3,500.00
8	Law of Tort by Ese Malami	1	3,500.00	3,500.00
9	Commercial Law	1	1,000.00	1,000.00
10	Compendium of Tax Law	1	4,000.00	4,000.00
11	Human Rights in Nigeria	1	2,900.00	2,900.00
12	Injunctions and Enforcement of orders	1	5,000.00	5,000.00
13	Law and Practice of Industrial Relation	1	6,000.00	6,000.00
14	Drafting Corporate & Commercial agreement	1	12,000.00	12,000.00
15	Essential of Corporate Law	1	5,000.00	5,000.00
16	The Law & Practice of Public procurement	1	5,000.00	5,000.00
	Other Items			
17	A4 Paper	4 packs	3,000.00	12,000.00
18	Markers	3 packs	500.00	500.00
19	Printer (3 in 1)	1	47,000.00	47,000.00
20	Flash 8gb	2	1,500.00	3,000.00
21	Large brown envelope	10 packs	800.00	8,000.00
22	Anti-virus multiple user	1	15,000.00	15,000.00
23	Standing fan	3 packs	10,000.00	30,000.00
24	DVD	2 packs	2,000.00	4,000.00

25	Desktop table	1	15,000.00	15,000.00
26	Window blind	18 metres	10,000.00	40,000.00
27	Generator (tiger 2.7)	1	35,000.00	35,000.00
28	Giant stapler	1	4,000.00	4,000.00
29	Giant Shapner	3 pieces	500.00	1,500.00
30	Photocopier toner	1 pack	12,000.00	12,000.00
31	Dust bin with cover	3 pieces	1,500.00	4,500.00
32	Toilet roll (full pack)	2 packs	4,250.00	8,500.00
33	Printer toner	1 pack	10,000.00	10,000.00
34	Small stapler	1	500.00	500.00
35	Desktop computer	1	158,000.00	158,000.00
36	Biro	1 pack	1,350.00	1,350.00
37	Pencil	1 pack	900.00	900.00
38	Envelope (official) smooth surface (box) medium	1 pack	2,300.00	2,300.00
39	Envelope (official) smooth surface (box) small	1 pack	1,850.00	1,850.00
40	Hard cover note book (dozen)	6 pieces	542.00	3,250.00
41	A4 Paper	1 pack	3,350.00	3,350.00
42	Harpic	6 pieces	317.00	1,900.00
43	Air freshner	6 pieces	320.00	1,925.00
44	Insecticides	6 pieces	708.00	4,250.00
45	Correction fluid (box)	1	75.00	75.00
46	Cellotape	1 roll	1,500.00	1,500.00
47	Power surge protector	1 piece	3,800.00	3,800.00
48	Steel framed leather chair	4 pieces	44,370.00	44,370.00
49	Office table	1	15,000.00	15,000.00
50	Executive table and chair	1 set	174,000.00	174,000.00
51	Double leaves steel file cabinet	1	104,000.00	104,000.00
52	Imprest for August	1 month		20,000.00
	Total			1,141,860.00

7. CONCLUSION

All staff of the Legal Unit wishes to appreciate the Executive Director and the Institute's Management, for the support given to the Unit so far, especially building up the law library and for the on-going reforms in the Institute. It may seem gradual but CRIN will get there.

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