



# FEED THE FUTURE

The U.S. Government's Global Hunger & Food Security Initiative

## QUALITY STANDARDS LEARNING STUDY

HOW DOES THE ABSENCE OF WEIGHING SCALES AFFECT  
OUTGROWER LOSSES AND AGGREGATOR PROFIT  
DURING PRODUCE SALES IN THE UPPER WEST REGION?

2015



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# GHANA ADVANCE II PROJECT

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AOR USAID: PEARL ACKAH

CHIEF OF PARTY: EMMANUEL DORMON

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## ACRONYM LIST

ADVANCE	Agricultural Development and Value Chain Enhancement
NF	Nucleus Farmer
NAWIs	Non-Automatic Weighing Instruments
OB	Outgrower Business
OG	Outgrower
SEG	Small Equipment Grants (SEG)
USAID	United States Agency for International Development

## 1 Introduction

### 1.2 Background

Increased market and trade of tons of maize, rice and soy commodities in a fair and competitive business environment for producers and buyers is a major objective of the Agricultural Development and Value Chain Enhancement (ADVANCE) II Program. Access to market, standard weighing scales, transport, storage facilities and competitive pricing are some of the post-harvest challenging factors affecting the maize, rice and soy value chain producers in Ghana.

The Upper West Region is among the regions ranked poorest in Ghana, with a majority of the active population mostly farmers cultivating maize and soy as major crops. With very deplorable road infrastructure, transporting farm produce from farm level to more accessible points adds extra cost to farmers. Storage facilities are inadequate, compelling many producers to sell at farm gate where aggregators (market queens, companies etc.) take advantage to use not always reliable weighing mechanisms (Bowls, Bush weight, hand supported etc.) to measure produce, therefore paying less for more volumes.

In ADVANCE I, weighing scales were promoted as Small Equipment Grants (SEG) and farmers were trained on their utilization. Those farmers were surprised about their financial remuneration when they used a weighing scale for their sales for the first time.

In the first year of ADVANCE II, about 173 Out-Grower Businesses (OBs) (151 Nucleus farmers and 22 Aggregators) were expected to buy maize, rice and soy produce from 37,022 smallholder farmers at competitive pricing using standard weights. 61,955.78 Mt of maize, 8,874.203 Mt of rice and 8,403.636 of soy from outgrowers were traded at the Outgrowing Business (OB) level, with an estimated value of sales of USD 19,325,600 for maize, USD 2,515,151 of rice and USD 4,047,724 of soya.

### 1.3 Study Objectives

This study sought among other things to:

- a) Help the project understand the extent of and quantify the loss the outgrowers are facing. This information will allow us to present a cost benefit analysis of the investment in scales and sensitize accordingly our beneficiaries;
- b) Propose some recommendations and an action plan on how the project can improve the situation.

### 1.4 Study methodology

The study assumed some level of homogeneity among the outgrowers in the region when it comes to this topic. Outgrowers were therefore selected based on a simple quota system. In all, 215 respondents were interviewed. Respondents provided information based on a structured questionnaire and also weighed product depending on the containers that they used for produce sales in the communities. For each respondent, up to 5 measurements was be done for maize. Another 5 measurements were done for a second crop, rice or soya, based on its availability at the time of the data collection. Loss by the outgrowers were assessed through the difference between the weight as perceived by the outgrowers and the actual weight of their produce as measured using a scale. In the case of some containers however doing five measures were not feasible due to the size and sacks to be done and so three measurements were done.

Actual weight measures were converted to 100kg units and used in finding the gains or loss to the farmer for using that unit of measure.

Data was collected using physical and electronic questionnaires. All respondents were reached in their respective communities. All measurements were also done by the respondents and its implications on their sales thoroughly discussed before moving to other questions.

## 2 Produce Measurements in communities

Research has been silent on produce measurement in the study communities, the three regions of the north and in Ghana in general. In an article on **Traders brace for weighing-scales** (<http://www.ghanaweb.com/GhanaHomePage/NewsArchive/artikel.php?ID=257193>) provides the only information about the subject. Therein, the news portal presents an attempt by the Ghana Standards Authority in 2012 at the re- introduction of Non-Automatic Weighing Instruments (NAWIs) and measures for both domestic and international trading activities by June 2013. The main purpose of the activity was to encourage market women to adopt the use of scales so they could attract customers from neighboring countries. The focus of the campaign was however towards the adoption of scales by market women.

There are however no published documents about scale promotion by any national agency among farmers as suppliers of produce sold by the market women for reference and comparison.

An article that links scales to farmers in Ghana found on <https://www.wfp.org/blog/blog/ghana-%E2%80%93-importance-weighing-scales>, presents the profits that farmers in Ejura Sekyeredumasi in the Ashanti region of the country. Since the farmers measured the produce before sales, they measured 100kg instead of the 130kg that they give to aggregators at the same price. The farmers experienced increased income from sales as a result of selling using the scales.

There is however no document on such activities in northern Ghana. The information on weights and measurements in community presented below were therefore gathered from the communities during data collection.

### 2.1 “Koko” Bowls

The team observed from the research that out-growers across the region uses three different types of measuring bowls all communities referred to as “Koko” bowls for produce sales activities. Each bowl is used under different circumstances thus a bowl for selling of produce and a bowl for purchasing produce. The figure below shows the three sets of bowls used in buying and selling.



Figure 1: “Koko” bowls used in selling and buying of produce

The white “Koko” bowl (in the extreme right above), which is decorated with different paintings is the most widely used bowl for produce sales in the communities. In most of the communities visited that bowl is perceived to weigh 2.5kg and that 40 of such filled bowls will give one 100kg. The actual weight however was between 2.4-2.9kgs depending on the measurer. The green and silver bowls



scarcely used in the buying of produce from farmers by market women weighs between 3.2-3.4kgs depending on the one measuring. This bowl according to the outgrowers were used by women aggregators who bought in the communities. They all believe that 37 to 38 of such bowls makes up 100kg. It was interesting to find that some of the outgrowers who bought produce in the communities also used the green or silver bowl to buy from fellow farmers but sold with the white bowl. The green and silver bowls produced weight between 3.2kg to 3.4kg instead of the perceived weight of 2.7kg. In all communities, weighing by the bowl is left for the woman. Men only weigh with the bowl when they want to sell at a time that their wives are not at home.

## 2.2 Other containers

The team also found other containers that were used for measurement in some communities. These containers were however used in some few communities for produce measurement.

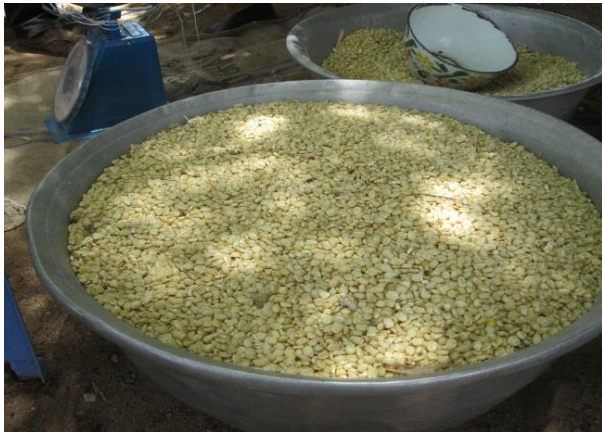


Figure 2: A basin used for measuring maize into sack.



Figure 3: A bucket used in filling the sack

The container in Figure 2 above is perceived to be 50kg. two of such filled containers were poured into one cocoa sack in the communities. Farmer in Banu and Navariwie in the Sissala East district believed that the bucket in figure 3 is 16kg and fill a cocoa sack with 6 bucket fills.

## 2.3 Sacks for Selling Of Produce

The cocoa sack is the predominantly used sacks in the communities that were visited followed by the 50kg which was in most cases used when organized aggregators or NFs directly bought from the outgrowers. Some rice farmers use the Size 4 and Size 5 bags for sales. Farmers who packaged in 50 kg also made use of the nylon sack but such farmers were very few.

Farmers in the process of bagging their produce for sales use three methods; filling with bowls, just filling the sack to the brim and weighing of bags with a scale. The first option is the most commonly used in the community. Most farmers said they were filling the cocoa sack with 40 bowls of the white bowl to give them 100kg.

It was however realized based on a random measurement of some filled sacks in some communities that the filled sack weighted between 105kg and 125kg. At Gindabour a bag filled with 35 silver bowls weighed 125 kg and 30bowls weighed 105kg. In Funsu, farmers who just filled their sack without measuring with either bowls or scale had their bags weighing between 117kg to 120kg. This was revealed when the team weighed some of those filled sacks at the warehouse of an NF.



Figure 4: A cocoa and nylon sack that was just by a farmer to the being weighed by the team at Funsu and Gindabour respectively

A few farmers who had end markets being companies like Masara and Premium foods did have their produce weighed into a 50kg bag during selling.

The team however could not measure the filled Cocoa sacks in communities where the NF did not have a scale. Analysis of the filled cocoa sack is therefore limited to the only places where we had the bags measured.

### 3 Results and Analysis

#### 3.1 Demographic analysis

A total of 215 out-growers were involved in the research consisting of 120 females and 95 males. These outgrowers were interviewed in 24 communities located in 10 district as presented in the table below.

Table 1: Demographic Information of respondents

DISTRICT	FEMALE	MALE	Grand Total
Sissala East	41	13	54
Sissala West	27	15	42
Wa East	12	17	29
Jirapa	5	14	19
Lambusie-Karni	11	4	15
Lawra	5	10	15
Daffiama-Issa-Busie	4	9	13
Nadowli Kaleo	5	6	11
Wa municipal	3	7	10
Sawla-Tuna-Kalba	7	0	7
<b>Grand Total</b>	<b>120</b>	<b>95</b>	<b>215</b>

More female outgrowers participated in the study than males.



### 3.2 Scale ownership

The study sought to find out whether respondents owned scales as a step in determining the presence or otherwise of scales in the communities. The responses to this question have been presented in Table 2 below.

Table 2: Scale ownership information

Scale Ownership	Count Of Own Scale
No	214
Yes	1
Total	215

One (1) person had a scale. This individual had contributed for the acquisition of a scale by a group he belonged to and so felt that he had the right to claim ownership of the scale.

### 3.3 Reasons for Not Owning a Scale

Respondents were then asked why they were not having scales for their sales businesses. The response were categorized into 6 main points. Table 3 below shows the response by category and by sex.

Table 3: Reasons for not using scales in sales

Reasons for not owing Scale	Female	Male	Grand total
Don't use it in market	29.9%	20.1%	50.0%
Don't know how to use it	15.0%	12.1%	27.1%
Cannot afford	9.8%	6.5%	16.4%
Buyers must bring scale	0.9%	2.8%	3.7%
Does not Know its Importance	0.5%	1.4%	1.9%
Fear of market loss	0.0%	0.9%	0.9%
<b>Total</b>	<b>56.1%</b>	<b>43.9%</b>	<b>100.0%</b>

According to 50% of the respondents, the lack of market recognition for the use of scales is the key reason why they don't have scales. All buyers and sellers were using the "Koko" bowl or just filling their sacks to the brim without any objection from buyers. They therefore did not lose anything without the usage of a scale. Next is those who do not have it because they do not know how to use it but this can also be attributed to scales not being a requirement for sales in the community. Some respondents however felt that selling with scales and measuring accurately will lead to loss of their clients to those who do not measure. There is therefore a strong link to scales not being generally accepted in the market.

### 3.4 Commodity I: Maize

#### 3.4.1 Frequently used sales container

The study sought out what was predominantly used for maize sales in the communities details can be seen in the table below.

Table 4: Most used container for selling maize

Most used Container for Sales	FEMALE	MALE	Grand Total
Maxi	42.2%	35.3%	77.5%
Bowl	8.3%	2.0%	10.3%
Mini	2.5%	4.4%	6.9%
Num5	1.0%	2.9%	3.9%
Other	0.5%	0.5%	1.0%
Basin	0.5%	0.0%	0.5%

<b>Grand Total</b>	<b>54.9%</b>	<b>45.1%</b>	<b>100.0%</b>
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Majority of the farmers sell in the 100kg sack. The Cocoa sack was the predominantly used for such sales is assumed to be 100kg when filled to the brim. This is generally accepted in all the communities that were visited. Some farmers however mentioned that when used for some time, the bag expands and can take more than 100kg. They however generally accept a fully filled cocoa sack to be 100kg. The white “Koko” bowl was usually used in selling maize in the local market on market days and when outgrowers wanted to sell some small amount of maize to raise money to attend to emergencies. Farmers used the mini bag for sale of commodities in 50kg units. This normally occurs when selling produce to the NFs or organized aggregators like Savana Marketing Company.

### 3.4.2 Determination of the weights

The white “Koko” bowl is mostly used in filling sacks for sale. In most communities, outgrowers mentioned putting 40 of the white “Koko” bowls into the Cocoa sack to sell to the buyers. 37% of the outgrowers however just filled the cocoa sack to the brim and after the approval of the buyer about the content, stitched and sold it. Some outgrowers however sold using scales from the buyers or that of the NF. The details of this response can be found below.

Table 5: How weight of produce are determined in community

<b>Weight determination</b>	<b>FEMALE</b>	<b>MALE</b>	<b>Total</b>
Bowl	37.1%	19.3%	56.4%
Filled	16.8%	20.8%	37.6%
Scale	1.0%	5.0%	5.9%
<b>Total</b>	<b>55.0%</b>	<b>45.0%</b>	<b>100.0%</b>

Scales were used when the outgrowers were selling to organized marketing companies mentioned above.

### 3.4.3 Perceived Weight by Farmers

In finding out the perceived weight of container by the outgrower, researchers inquired how much measures of the containers outgrowers will give to an individual who want to by 100kg of maize. Their response was then used in determining their perceived weight.

Table 6: Outgrower perceived weight for “Koko” bowl by district

<b>District</b>	<b>Average Weight Per “Koko” Bowl</b>
Wa Municipal	2.5
Wa East	2.5
Daffiama-Issa-Busie	2.5
Lambusie-Karni	2.5
Lawra	2.5
Jirapa	2.5
Sissala East	2.6

Out-growers perceived the weight of the white “Koko” bowl used in measuring/selling in all communities to be 2.5kg in almost all districts. In Sissala East however some of the farmers used the green “Koko” bowl leading to an increase in the average “Koko” bowl perceived weight.

### 3.4.4 Predominant sources of produce sales

Direct aggregation of both NFs and Aggregators, 57.4%, absorbs most of the produce from the respondents. Some however feels that some of the produce they sell in the local market are still

purchased by the aggregators some of whom are NFs. Details on buyers for most of the maize sold by outgrowers can be found in the table below:

Table 7: Buyers of Outgrowers' produce in communities

Predominant source for maize sale	FEMALE	MALE	Grand Total
Local Market	30.9%	11.2%	42.0%
Aggregator	18.6%	18.1%	36.7%
NF	8.5%	12.2%	20.7%
Processor	0.0%	0.5%	0.5%
<b>Total</b>	<b>58.0%</b>	<b>42.0%</b>	<b>100.0%</b>

Researchers inquired from NFs why they were not the ones buying more of the outgrowers produce. Some NF provided only ploughing or seed support and in some cases collected cash for the support and so had little control over most of the produce of the outgrowers. Others only supported part of the acres done by the outgrowers and had no money to buy the remaining produce after recovering support repayment. Some on the other hand gave the option to outgrowers to either return produce or pay cash giving the outgrowers the strength to sell produce to buyers who will give them more money than the NF.

### 3.4.5 Average Losses/Gains to Out-Growers for use of “Koko” bowls

The study sought to find out the impact of the differences in measurement will have on outgrower losses or gains per 100kg of maize soled with the “Koko” bowl as the measure of how much goes into the sack. The average loss to outgrowers based on the district they were interviewed have been presented below.

Table 8: Average Loss per sale of 100kg maize in each district

Average Kilos Lost Per 100kg of Maize sold	FEMALE	MALE	Community Average
Lawra	-15.2	-7.8	-10.9
Jirapa	-11.7	-10.4	-10.9
Sissala east	-13.8	-11.4	-13.5
Sissala west	-18.8	0.1	-13.7
Wa municipal	-15.2	-13.4	-14.1
Lambusie-Karni	-14.3	-14.2	-14.2
Daffiama-Issa-Busie	-16.5	-15.3	-15.7
Wa east	-19.9	-15.6	-17.0
Nadowli Kaleo	-27.2		-27.2
Sawla Tuna Kalba	-31.1		-31.1
<b>Regional Average Loss</b>	<b>-17.0</b>	<b>-12.0</b>	<b>-15.0</b>

It can be seen from the table above that female outgrowers were making more losses than male outgrowers in all the locations. The primary reason being that the women were more involved in the measuring and sales in the market or with aggregators and so know that measuring well affects their ability to retain a buyer. Outgrowers in Sawla-Tuna-Kalba were making the most losses of about 31% loss for every kilogram that they sell. Farmers in Lawra were losing on the average, 11kg for every 100kg that they sell using their preferred mode of measurement.

### 3.4.1 Average Losses/Gains to Out-Growers who just filled the sack

Field officers used scales in warehouses of NFs to measure cocoa sacks that had already been filled and stitched or filled and measured the cocoa sack when possible. This happened in Funsu and Gindabour where the NFs had scales and were available to give us acces to their ware houses. It came out from the measures that farmers who brought that sack had an average loss of 14kg of

maize for that filling. They however mentioned that buyers will not accept those sacks as properly filled.

### 3.5 Commodity 2: Rice\ Soys

#### 3.5.1 Respondents per crop

Out of the total number of out-growers that were involved in the research, 84 had commodity 2 available for measurement and discussions on it. Table 9 below provide information on the distribution of the crops across the districts is presented below:

Table 9: Outgrowers who provided information for the second commodity

Name of District	RICE	SOYA	Total
Sissala West	3	18	21
Wa East	4	12	16
Sissala East		11	11
Wa municipal		9	9
Lambusie-Karni	9		9
Nadowli Kaleo	2	7	9
Jirapa	3		3
Daffiama-Issa-Busie	3		3
Lawra	2		2
<b>Total</b>	<b>26</b>	<b>57</b>	<b>83</b>

It can be seen that 31.3% of respondents who did the second crop grew rice while 68.7% did soya in the previous farming season, 2014 and had the commodity to measure and provide answers to the related questions. The above response is not so surprising since cultivation of those crops is now picking up in the region.

#### 3.5.2 Frequently used sales container

From the table below, the maxi bag was still the dominant container used for sales of both commodities. This situation is as a result of the famers getting used to the use of the cocoa sack for the sale of maize. Since rice is sold mostly in the local market, the bowl is the second most frequently used container. Additional information on sales conatainers for both commodities are presented in Table 10 below

Table 10: Frequently used item for sales of maize and rice

Frequently used sales container	RICE	SOYA	Total
Maxi	16.0%	33.3%	49.4%
Bowl	7.4%	14.8%	22.2%
Mini	1.2%	19.8%	21.0%
Basin	1.2%	2.5%	3.7%
Num5	2.5%	0.0%	2.5%
Num4	1.2%	0.0%	1.2%
<b>Total</b>	<b>29.6%</b>	<b>70.4%</b>	<b>100.0%</b>

#### 3.5.3 Weight Determination

The most dominant way of determining the content of most bag of rice or soya is the use of bowl. Some however just filled the bags or used scales provided by the buyer. The table below provides extra details.

Table 11: Determination of weight for Commodity 2

Weight Determination	RICE	SOYA	Total
Bowl	22.0%	48.8%	70.7%

Filled	8.5%	8.5%	17.1%
Scale	0.0%	12.2%	12.2%
<b>Grand Total</b>	<b>30.5%</b>	<b>69.5%</b>	<b>100.0%</b>

### 3.5.4 Buyers of Rice and Soy

Most rice are sold in the local market while aggregators serve as the best point for sales of soy in the communities. The respective share of the various markets are seen in the table below:

Table 12: Buyers for Rice and Soy

Buyers of Commodity	RICE	SOYA	Total
Aggregator	7.7%	34.6%	42.3%
Local Market	17.9%	24.4%	42.3%
NF	1.3%	14.1%	15.4%
<b>Total</b>	<b>26.9%</b>	<b>73.1%</b>	<b>100.0%</b>

### 3.5.5 Average Losses/Gains to Out-Growers

The study sought to find out the impact of the differences in measurement will have on outgrower losses or gains per 100kg of maize soled. The average loss to outgrowers based on the district they were interviewed have been presented below in different tables for rice and soy.

Table 13: Average rice loss/gains in kilos per 100kg sold

Community	FEMALE	MALE	Across community
Lipilime	12.8		12.8
Karni	5.3		5.3
Bulenga		5.2	5.2
Kunyukuo		3.2	3.2
Kojokpere		0.8	0.8
Guripie	0.0		0.0
<b>Average loss across region</b>	<b>5.7</b>	<b>3.0</b>	<b>4.9</b>

It can be observed from the above that outgrowers made gains from using the bowls in measuring their rice for sale. There was an average gain of 4.9kg per 100kg sold among the participants. The likely explanation is the size of the grain which made heaping it very difficult after filling the bowl to some level.

Table 14: Average soy loss/gains in kilos per 100kg sold

Community	FEMALE	MALE	Across community
Bulenga	-9.9	-2.4	-6.9
Busa	-10.0	-11.2	-10.9
Gowie	-13.6	-15.2	-14.1
Guripie	-14.4	-12.0	-13.0
Jawia	-20.5		-20.5
Jeffesi	-18.6		-18.6
Kone	2.1		2.1
Lipilime		-7.6	-7.6
Navariwie	-6.4		-6.4
<b>Across community</b>	<b>-12.3</b>	<b>-10.1</b>	<b>-11.6</b>



From the table above, it can be seen that outgrowers are making losses from sales of 100kg bags of soy in the communities.

### 3.6 Investment in Scales

#### 3.6.1 Ready to by a scale

Respondents were asked if they were ready to buy a scale based on the difference in their perceived weight and the actual measurements. There were a good number of them who were not ready to buy a scale as can be seen from the table below.

Table 15: Decision on Scale acquisition

Investment decision	Female	Male	Total
Yes	45.1%	32.6%	77.7%
No	10.7%	11.6%	22.3%
<b>Total</b>	<b>55.8%</b>	<b>44.2%</b>	<b>100.0%</b>

#### 3.6.2 When to purchase one

Those who responded in the affirmative were asked when they were going to purchase the scale. Their response grouped under some key points have been presented in the table below:

Table 16: When outgrowers will buy scales

When to invest in a scale	FEMALE	MALE	Total
Around Harvest Period	25.1%	16.2%	41.3%
When I get money, No definite time	15.0%	8.4%	23.4%
Just Cannot Tell	8.4%	5.4%	13.8%
When market begins to use scales	4.8%	7.2%	12.0%
Ready to buy	1.8%	1.8%	3.6%
After a year	1.2%	1.2%	2.4%
Need additional information to decide	0.0%	1.8%	1.8%
Learn its uses before purchase	1.8%	0.0%	1.8%
<b>Grand Total</b>	<b>58.1%</b>	<b>41.9%</b>	<b>100.0%</b>

Most outgrowers pushed the decision to purchase a scale to the harvesting period when they would have finished all their planned investment in their farms, will need the scale or will have raised some money from some sales. Others could just not tell when they will get the money to buy. Other however needed the market to adopt scales as the basis before they will consider adopting it.

#### 3.6.3 Reason for Non-Investment in a Scale

For those who categorically stated they were not going to buy scales, the study sought their reasons for that choice. Their responses have been categorized and presented in the table below:

Table 17: Reasons why outgrowers will not buy scales

Reason for not buying scales	FEMALE	MALE	Total
Fear of losing buyers	13.0%	28.3%	41.3%
Cannot Afford	13.0%	6.5%	19.6%
Does not know how to use it	15.2%	2.2%	17.4%
Does not see the need now	2.2%	10.9%	13.0%
Market not ready for it	4.3%	4.3%	8.7%
<b>Total</b>	<b>47.8%</b>	<b>52.2%</b>	<b>100.0%</b>

The response shows that most of those who will not invest in a scale fear that they will lose their buyers if they begin to use scale and measure accurately. They feel that their losses, which are gains

to the buyers is a key reason why the buyers insist on buying from them without the scale. If all the buyers do not adopt scales, then those who continue using the bowl will continue having the nod of the buyers and so will take the market of those using the scales. This is a very valid point that needs to be considered. A sizeable number of them also see money and inability to use scale as the reason why they will not invest in it. The first reason actual affects all the other reasons why some will not buy. In fact if entire market adopts scale usage, those who do not have money will look for money to buy one whiles everyone will learn how to use it.

## **4 Findings and Recommendations**

### **4.1 Ownership and use of scales**

It is evident from the results that none of the outgrowers interviewed had a scale at home that he could use for weighing of the produce. We can therefore conclude that there is the absence of weighing scales for the sale of produce in the communities.

Outgrowers however do not have scales because the market does not recognize and reward the use of scales. Since the bowl is primarily accepted as a good measure of how much produce should be in a bag, and in some cases buyers will accept the content of a bag so long as it is filled to the brim, there has been no incentive for the outgrowers to invest to own scales.

Since most of the outgrowers are selling in bags, one can argue that there is the potential for weighing scale promotion and that outgrowers can use a weighing scale for measurement before sales.

### **4.2 Losses or gains from the use of containers**

It can be seen from the results that the average weight of the “Koko” bowl in the community is assumed to be 2.5 kg. In most cases however, farmers were weighing more than the 2.5 kg when selling using the bowl. Gains from usage of the bowl were made in rice sales averagely 4.9kg across the region for a 100kg bag sold. On the other hand, using the bowl for maize measurement resulted in an average loss of 15.0kg for every 100kg sales whiles soy sold with the bowl recorded on the average 11.6kg loss for every 100kg sold. The extent of loss or gains depended largely on the one doing the measuring. On the whole however, female outgrowers were making more losses than male outgrowers in all the regions.

All other containers used for sales in the community were filled beyond the perceived weight of the farmers. A farmer that used the perceived 50kg container (basin) to fill the cocoa sack lost on the average 15kg for every 100kg of maize that they sold using the container.

Farmers who did not use any container to fill their sacks also made some losses from sales. A farmer’s loss in just filling the sack to the brim and sewing will be between 12kg to 25kg if the buyer is very insistent on filling the sack to become very hard.

### **4.3 Major buyers of produce**

Aggregation by the NFs and aggregators took most of the produce from the outgrowers. A significant volume of all the three produce were traded in the open market. Some of these produce were still believed to be purchased by the aggregators. Aggregators are able to compete with NFs because some of the NFs offered only ploughing or seed support to the outgrowers not giving them enough control over the production of the outgrowers. Some outgrowers also paid for some of the service from the NFs in cash during the season or were given the option to sell the produce and pay for support with cash, reducing the volume of production that would be recovered as repayment for services. Outgrowers after harvest therefore sell to aggregators who sometimes offer competitive prices for their produce or in some cases sell to buyers introduced to them by the NFs because the NFs don’t have the money to buy the produce.

#### **4.4 Scale purchase decisions**

Majority of the outgrowers expressed their readiness to buy a scale. A good number of them however will not buy a scale even though they saw that they were making losses without proper measurement. The major concern for them is the fear of losing buyers. To these outgrowers, their loss are the gains of their buyers who insist on not weighing produce. Such outgrowers believe that buyers will stop trading with them if they decide to properly weigh their produce. Those who decide not to weigh will therefore be the preferred sellers. For those ready to buy, carrying out planned season investment came first before the purchase of a scale.

#### **4.5 Recommendations**

The results from the study supports an attempt at promoting and equipping our outgrowers to measure the produce they sell in the community. It will clearly prevent the numerous loss to the outgrowers. A cut down on the losses of these outgrowers will also lead to increase in outgrower income and therefore their wellbeing. It will ultimately lead to the ability of the outgrower to earn more from sales than they currently get from sales.

Any attempt to promote the adoption of scales should however be done on a pilot basis. It should start with the provision of scales to either lead farmers or organized groups who will serve as the central points for other Outgrowers in the community to weigh products before selling. Outgrowers' response to such provision through the use of the provided scales will inform further actions on its provision.

A strong campaign to sensitize outgrowers about the uses of weighing scales should also be carried out in the communities. This must be done to ensure market acceptance of scale. It will in turn prevent people from losing buyers because others will fill sacks that contains more than the measured produce leading to loss of market as and when needed by those who will embrace the use of scales. The policy and advocacy team should include information on the importance of weighing produce to reduce losses and also receive feedback from farmers on what they feel about the use of scales.

Such a campaign should start some considerable time before harvest to ensure that the fears expressed by the farmers could be sufficiently addressed and their attitudes altered to promote their embracing the scale concept.

It can also be seen that our NFs are not the ultimate beneficiaries of the loss to the outgrowers. There is the strong presence of other aggregators in the market that are taking advantage of such losses. The role of NFs in supporting such campaign is very crucial. Since end markets of most OBs buy produce measured with a scale, they can provide assurance to outgrowers about the availability of buyers who will buy and pay for properly weighed products. The provision of access to such market will also help allay the fear of market losses that is pushing some outgrowers from embracing the use of scales.

### **5 Areas for further study**

The need to carry out this research from the aggregators' perspective is very important. Time and resource constraint made it impossible for the team to include that aspect in the research.



**ACTION PLAN FOR THE PROMOTION OF THE ADOPTION AND USAGE OF SCALE BY OUTGROWERS FOR PRODUCE SALES**

	<b>Action</b>	<b>Output</b>	<b>Responsible</b>	<b>Duration</b>	<b>Key Considerations</b>
1	Discussions on whether to provide scales for use by outgrowers in the communities	A decision provision of scales or other for use by outgrowers.	Management		
2	Determine the exact approach to use	A selected approach in the implementation of the decision above.	Management		The number of outgrowers to be reached in the initial roll out.
3	Discussions on a campaigns to promote the usage of scales in the communities.	Channels for sensitization selected. Materials for sensitization developed.	Policy and Advocacy Unit		
4	Carry out sensitization activities in the communities on the benefits of using scales.	Awareness on the benefit of using scales promoted among outgrowers.	Policy and Advocacy Unit		
5	Establish arrangements and modalities for the provision of scales for identified beneficiaries for use for produce sales.	Targeted outgrowers receives scales for sales of produce after harvest.	Management		Who to get the scale, how to apply for it, when to receive the scale.
6	Monitor the use of provided scales by outgrowers for produce sales in the communities.	A report on the use of the scales by the intended beneficiaries.	Trade and Marketing Unit		