POSTHARVEST INFORMATION NEEDS AMONG PLANTAIN MARKETERS IN SOUTHWESTERN NIGERIA

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ABSTRACT
Paucity of adequate post-harvest handling information among marketers who handle most of the purchasing, storage, ripening and selling functions along the plantain value chain is largely responsible for high postharvest loss of plantain. .In order to bridge this gap, information need of marketers involved in the post-harvest handling of plantain in southwestern Nigeria was investigated in this study. Data on respondents' socioeconomic characteristics, source of information, postharvest handling practices, constraints to accessing information on the practices, and information need on improved practices were collected from 120 randomly selected plantain marketers. Data were analyzed using frequency counts, percentage, mean and Pearson Correlation. Findings reveal that most of the marketers were female (68.0%), married (64.0%) and 39.2% had secondary education. Friends (1.20) served as the major source of information for the marketers, while inadequate extension contact (47.5%) and poor access to information sources (42.5%) were the major constraints faced in accessing postharvest handling information. Marketing (63.3%), sorting (58.3%), transportation (50.0%) and processing (27.5%) were the postharvest handling practices marketers were engaged in. Post-harvest practices (r =3.64, p=0.00) engagement was significantly related to marketers' information need. Information on transportation, marketing and processing of plantain were respondents' main information need. Extension organisations as well as other media agencies that have responsibility for agricultural information dissemination should focus on these key areas.
Keywords: Information need, Postharvest practices, Plantain marketers

INTRODUCTION

Increased agricultural production without improved postharvest handling and processing techniques will fail to yield commensurate improvement in food security as high postharvest food losses continues to plague the food systems in developing countries. In Nigeria, post-harvest losses accounts for about 35%-50% for fruits and vegetables (Price Water House Coopers, 2017). Musa paradisiacal (plantain) is a major starchy staple in the sub-Saharan Africa, it provides more than 25% of the carbohydrate and 10% of the daily calorie intake for more than 70 million people in the continent (Kayode, Ajiboye, Babayeju, Kayode, Oladoye, Adu, 2013). Nigeria is one of the major plantain producing and consuming countries in Africa, producing about 2.11 million metric tons of plantains annually (FAO, 2011; Akinsanmi, Akinsanmi, Oduje, Akinyemi, and Adefegha, 2015). Plantain is a food and cash crop with the potential to contribute to strengthening national food security and decreasing rural poverty (Adejoro, Odubanjo and Fagbola, 2010). Its export potential, processing utilisation and health benefits make it a crop of national importance. However, seasonal glut during the peak periods of harvest from September to February (Adeniji and Ayandiji, 2014) makes the crop vulnerable to high post-harvest losses. Short shelf life, poor post-harvest systems which results in deterioration (Kwami and Nitty, 2014) and poor handling practices (Mebratie, 2015) account for the high rate of plantain postharvest losses.

According to Adeniyi and Ayandiji (2014) and Adewumi, Ayinde, Falana, and Olatunji (2009), the bulk of the postharvest losses of plantain are incurred by the marketers (wholesalers and retailers) that are involved in the transportation, marketing and sales of the produce. On examining the effect of knowledge, attitude and constraints on postharvest losses among plantain farmers and wholesalers in southwestern Nigeria, Ladapo and Oladele (2011), identify the need for an improved knowledge of postharvest practices to address postharvest loss along the plantain value chain. However, improving the knowledge on postharvest handling activities and practice demands addressing the information needs of the farmers, and other crop handlers such as the marketers, who do not have adequate information on proper crop harvesting and post-harvest handling methods, resulting in significant damage during storage and marketing (Abass *et al*, 2014). Achugbue and Anie (2011) also affirm that among the information needs of farmers, postharvest information is the most sought after. This is necessary to minimise economic losses to farmers in the absence of proper storage and adequate market access.

Most studies on plantain in Nigeria have been on production (Baruwa, Masuku and Alimi, (2011), Kainga and Seiyabo (2012), agronomy (Echezona Baiyeri and Aindigh (2011), marketing (Oladejo and Sanusi 2008), processing and postharvest losses (Ladapo and Oladele 2011, Folayan and Bifarin, 2011), economic analysis of postharvest losses (Adeniyi and Ayandiji, 2014). Given the need to address postharvest losses of plantain produce, it is expedient to identify the information need on postharvest handling practices; hence this study was guided by the following objectives:

i. determined the socioeconomic characteristics of plantain marketers in the study area
ii. identified respondents' sources of information on post-harvest handling practices
iii. ascertained the post-harvest handling practices engaged in by the respondents
iv. examined their information need on post-harvest handling of plantain
v. identified the constraints to accessing information on post-harvest handling practices

Hypothesis of the study are as follows;

There is no significant relationship between post-harvest handling practices by respondents and their information needs on postharvest handling.

METHODOLOGY

This study was carried out in Southwestern Nigeria which has six states namely Lagos, Ogun, Oyo Osun, Ondo and Ekiti States. It is located between latitudes 5 and 9 North and longitudes 2 and 8 East. It is bounded by the Atlantic Ocean in the South, Kwara and Kogi States in the north, Eastern Nigeria in the East and Republic of Benin in the West. It has a land area of 114,271 square kilometers. The vegetation ranges from swamp forest in the southern coast to derived savannah in the north. The rain and deciduous forest lies between the two vegetation belts. Rainfall ranges from 300mm in the coastal area to 200mm in the extreme northern parts. The population according to 2006 census is 22,330,670. The agro ecological zone has the highest concentration of research institutes and tertiary institutions that offer courses in agriculture. Plantain production is found mainly in the southern states of Nigeria, with states like Ondo and Osun producing in large quantities which are transported to other parts of the country and nearby cities like Lagos and Ibadan metropolis for marketing.

The respondents were selected from the population using multi-stage sampling procedure. The first stage involved the purposive selection of two states (Lagos and Osun states) with major markets where fruits are traded. The second stage involved a purposive sampling of one local government areas in each state, where plantain markets are located, Lagos (Ketu/Isolo) and Osun (Irewole). In the third stage, one market from each local government areas was selected; Mile 12 market in Ketu/Isolo LGA and Ikire market in Irewole LGA, respectively. Fourthly, snow balling sampling technique was used to generate a list of 100 marketers in each of the markets in the LGA to make a total list of 200 marketers in all. Finally, simple random sampling technique was then used to select 60% of the marketers from each of the market to give a total of 120 respondents for the study.

The dependent variable, (information need) was measured using a 3-point Likert-type scale with eight management postharvest handling practices. Respondents were asked to indicate their level of information need. Response options of high, moderate and low were used and scores of 3, 2 and 1 were assigned, respectively. The mean score for each of the practices was calculated and was used in ranking their information need on the different practices. Data were analyzed using simple frequency counts, percentages, mean and Pearson Moment Product Correlation.

RESULTS AND DISCUSSION

Socioeconomic characteristics

Table 1 shows that most of the respondents were female (64.1%), with the mean age of 37 years. This confirms Ajayi and Mbah (2007) and Adewumi Ayinde, Falana, and Olatunji (2009) findings that plantain production is dominated by men, while women were young, active and were engaged in plantain marketing. Most of the respondents were married (84.2%) and had household size of between 1 and 5 persons. Also, most of the respondents were retailers (55.5%), more than wholesalers (37.0%) and they mostly had secondary school education. This corroborates Adewumi *et al*, (2009) who posited that there were more retailers than wholesalers amongst marketers in plantain marketing in Lagos State.

Table 1: Distribution of respondents based on their socioeconomic characteristics

Variables	Frequency	Percentage (%)
Sex		
Male	32	43.3
Female	68	56.7
Age		
Below 30 years	68	64.1
31-50 years	32	35.9
Educational level		
Tertiary education	9	7.5
Secondary primary	47	39.2
Primary education	40	33.3
No formal education	24	20.0

Variables	Frequency	Percentage (%)
Marital status		
Single	8	10.3
Married	64	82.1
Divorced	5	6.4
Widow	1	1.3
Household size		
0-5	82	68.3
6-11	38	31.7
Marketing occupation		
Wholesaler	35	55.5
Retailer	65	37.0
Wholesaler and retailer	10	7.0

Source: Field survey; 2015

Sources of information on postharvest handling practices

Table 2 shows that friends ranked first as major source of information for the marketers while radio and Cooperatives ranked 2nd and 3rd, respectively. Though, it is worrisome that extension agent ranked 4th and least in the order of importance as source of information to marketers, the picture presented by this result represents the true situation of extension services in Nigeria, which apart from being in short supply (Olajide, 2011), also always concentrate efforts in production component of most crops, but neglect stakeholders in the value addition chain. This result agrees with Asogwa, Abu and Onkpe (2014) which suggest that informal marketing information sources (other plantain marketers) were the most readily available sources of agricultural marketing information among the respondents.

Table 2: Distribution of respondents' source of information

Variables	Mean	Rank
Friends	1.20*	1st
Radio	0.71*	2nd
Cooperatives	0.53	3rd
Extension agent	0.22	4th

Source: Field survey, 2015

Postharvest handlings practices engage in by the respondents

Information in Table 3 shows that the postharvest practice engaged in by marketers were marketing (63.3%), sorting (58.3%) and transportation, while processing was least practiced (27.5%). This corroborates the findings of Ladapo and Oladele (2011) that all the farmers and wholesalers were engaged in sorting, marketing and transportation as postharvest activities. The results also have implication for the neglect of processing as a viable and veritable means of preserving agricultural produce, especially the very perishable ones like oranges, banana and plantain. It is quite disturbing that at this age and time, processing ranked the least of postharvest activities engaged by no less other groups, but marketers.

Table 3: Distribution of respondents based on their postharvest handling practices

Variables	Mean	Rank
Cleaning	0.86	5
Sorting	1.42	2
Packaging	0.94	3
Ripening	0.81	4
Transportation	1.21	3
Marketing	1.63	1
Processing	0.56	6

Source: Field survey, 2015

Information need on postharvest handling practices of plantain

Table 4 shows that information need on marketing ranked highest implying that plantain marketers could be experiencing inadequate marketing facilities. This is in view of Kader's (2005) position that inadequate marketing systems in developing countries is accentuated by lack of

marketing information; Information need on credit and supply inputs ranked second on the information need of farmers. This is consistent with the finding that finance is one of the top-most problems facing the marketers by Oladejo and Sanusi (2008). The result of the study further reveals that marketers also require information on processing (ranked third). This implies that marketers need information on processing as they also engage in processing activities though rarely as earlier reported (see Table 3). This reinforces the fact that though, perhaps, marketers would have loved to engage in processing but they lack information on the modalities of processing to maximize their profit as marketers

Table 4: Distribution of respondents based on their information needs on postharvest practices

Postharvest practices	Mean	Rank
Cleaning	1.43	7
Sorting	1.38	8
Packaging	1.70	4
Transportation	1.61	5
Ripening	1.56	6
Marketing	2.57*	1
Credits and input supplies	2.53*	2
Processing	2.22*	3

Source: Field survey, 2015

Constraints to accessing information on postharvest handling practices

Table 5 shows that the major constraints to accessing information were inadequate extension contact (47.5%) and inaccessibility (42.5%). The constraint of inadequate extension contact can be attributed to the few number of extension workers while the constraint of inaccessibility to information may be due to lack of electricity/power interruption, and agricultural information being broadcast at odd hours when marketers who need the information are not available (Aina, 2007; Obidike, 2011).

Table 5: Distribution of respondents based on constraints to accessing information on postharvest handling of plantain

Variables	Mean	Rank
Inadequate extension contact	2.03*	2
Information inaccessibility	2.4*	1
Lack of feedback	0.83	3
Irrelevant information	0.80	4

Source: Field survey, 2015

Relationship between postharvest handlings practices by respondents and their information needs on postharvest handling

Data in Table 5 shows that respondents' postharvest handling practices was significantly related to their information needs (r =3.64, p=0.00). This implies that the postharvest handling activities were informed by the information need expressed by the respondents. It can further be deduced that the multiplicity of postharvest handling activities by marketers is directly proportionate to their information need. This is consistent with Achugbue and Anie (2011) who posited that postharvest information needs of farmers is the most sought after.

Table 5: Relationship between respondents postharvest handling practices and their information need on postharvest handling practices

Variable	r-value	p-value	Decision
Postharvest practices/ practices/information need	3.64	0.00	Significant

CONCLUSIONS AND RECOMMENDATIONS

This study concludes that informal source (friends) serves as the main source of information to plantain marketers. Processing was rarely done by marketers, hence, plantain marketers, though rated marketing strategies as their most needed information, the importance of processing was not lost on them as they wanted information on plantain value addition. Poor extension contact remains an albatross to their access to information on postharvest handling. It is therefore recommended that deliberate attempts should be made by extension organisations and other media

outlet to serve the information needs on postharvest handling of practices of plantain marketers.

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