Assessment of Post-Harvest Losses of Fruits During Marketing in Osogbo Metropolis, Osun State, Nigeria

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Abstract

This survey was carried out to examine the post harvest losses in fruits production in Osogbo Metropolis of Osun State. Simple random sampling was used to select sixty (60) fruit marketers, fifteen each from the four selected communities to constitute sample for the study. Primary data were collected from the fruit marketers using a structured interview schedule. Data from the study was analyzed using descriptive analysis. The constraints of high cost of transportation ranked first and this shows that it is a major constraint to fruit marketing, other major constraints are perishable nature of fruits, insufficient knowledge on fruit handling/storage, insufficient capital/poor credit availability. The minor constraints are high post-harvest losses and poor demand of fruits by consumers. The problem of insufficient knowledge and skill on handling and storage of fruits was suffered by a high percentage of fruit marketers which in turn leads to high fruit losses. This study recommends that Government and other private investors should invest in post-harvest processing technologies and establish processing industries to facilitate fruit processing. Fruit marketers should be adequately trained in the areas of fruit handling and storage by extension agents.

Keywords: Problems, Post-harvest Losses, Fruit, Marketers, Metropolis.

Introduction

Fruits and vegetables are important sources of essential minerals and vitamins in the human diet and when eaten together with some root and leguminous crops, they provide a proportion of protein requirements as well as flavour and colour.(FAO, 2013) estimates that 20% of fruits and vegetables is lost during production. Global food production, supply and consumption systems are not functioning to optimal efficiency, with food losses in sub-Saharan Africa alone exceeding 30 % of total crop production and representing more than US$4 billion in value every year(IFAD/UNEP 2013). Fruits can be consumed raw or processed. This can be attributed to the highly perishable nature of fruits coupled with lots of problems which are encountered during its production and marketing. In Nigeria, the marketing system for fruits is in three stages. The first are the farmers or producers. These groups of people carry out the process of cultivating the fruits and they sell in small surpluses to traders in the village markets. From this point, the traders which are the wholesalers move the produce along the marketing channel to the secondary collection centers while the third stage involves the movement of the produce to wholesale markets in urban centers. Transportation of the produce during the first and second stage is mainly by the use of motor vehicles, bicycles, carts, motorcycles

and farm animals while the transportation to the urban centers is mainly by open, non-refrigerated trucks with capacities within the range of 10-30tonnes (Aworh, 2005). Mechanical damage as a result of compression and vibration during transportation, poor transport conditions and bad roads account for substantial part of the post-harvest losses in fruits and vegetables in Nigeria. In developing countries, 19 % of fruit and vegetables loss occurs in the handling and storage stage of the food value chain (IFAD/UNEP 2013, Adegbola et al., 2011) . Recently the Food and Agriculture Organization of the United Nations (FAO) estimates that 32% of all food produced in the world was lost or wasted in 2009 (FAO, 2013).Goletti and Wolff (1999) stated that "while research on the improvement of agricultural production has received considerable attention and funding, until recently post-harvest losses has not attracted much attention from international research organizations.

Research problem

A resolution was passed calling for a 50% reduction of post-harvest losses by 1985 in the 7th special session of the U.N General Assembly held in 1975.Post-harvest losses are as high as 30% in cereals, 50% in roots and tubers and up to 70% in fruits and vegetables (FAO/UNIDO, 2010). From the above statistics it can be seen that, post - harvest losses is higher for fruits and vegetables than for cereals and other root and tuber crops. This can be attributed to the highly perishable nature of fruits. According to Patrick (2013), Nigeria records over 40% hike in food importation in the country. And this post-harvest losses are making farmers poorer (Ahmed, 2013). Post-harvest losses of fruit faced by fruit marketers are a major problem which reduces their income. In Nigeria, losses in fruit such as banana, citrus and pineapple is very huge and due to the marketing system of fruit, the burden of about 75% of these losses is placed on the fruit marketers. These losses are caused by a lot of factors like low demand of fruit by consumers, poor storage facilities of fruit, poor infrastructural facilities like good roads which affect transportation of the fruits and also certain environmental factors (Busari et al, 2015). The main objective of the study is to examine problems of post-harvest losses among fruit marketers in the study area. The specific objectives are:-to identify the major constraints of fruit marketing among respondents in the study area and determinants of post-harvest losses among respondents in the study area.

Methodology

The research was carried out in Osogbo metropolis in southwestern Nigeria. Osogbo town, the capital of Osun state is situated about 96 kilometers north-east of Ibadan and about 240 kilometers away from Lagos. The choice of Osogbo as the study area was premised on availability of many fruit marketers in the study area. The study was conducted in Osogbo metropolis. Purposive sampling technique was used to select Olorunda local government from the two local governments in the capital. Cluster sampling was used to select four communities which included Igbona, Testing ground, Oja-oba and Alekuwodo where fruit marketers are commonly found in the Local Government Area. Simple random sampling was then used to select sixty (60) fruit marketers, fifteen each from the four selected communities to constitute sample for the study. Primary data were collected from the fruit marketers using a structured interview schedule. Data from the study was analyzed using descriptive and inferential statistics.

Results and discussion

Constraints to fruit marketing

The constraints of high cost of transportation ranked first and this shows that it is a major constraint to fruit marketing. Other major constraints in their order of severity include; problem of perishable nature of fruit, insufficient knowledge on fruit handling/storage, insufficient capital/poor credit availability, inadequate storage and processing facilities and poor handling / untimely harvest of fruits. The minor constraints are high post-harvest losses, poor demand of fruits by consumers, fruit price instability, bad state of rural roads, problem of pests and diseases and lastly problem of middle men as shown in Table 1.

Table 1: Constraints To Fruit Marketing In The Study Area. n=60

CONSTRAINTS	TOTAL RANK SCORE (%)	RANK RANK
High cost of transportation	76.48	1st
Problem of perishable nature of fruit	76.47	2nd
Inadequate knowledge/skill on handling and storage of fruits	66.67	3rd
Insufficient capital/poor credit availability	66.00	4th
Inadequate storage and processing facilities	60..79	5th
Poor handling and untimely harvesting of fruits	54.00	6th
High post-harvest losses	25.49	7th
Poor demand of fruit by consumers	19.62	8th
Instability of fruit prices	19.23	9th
Bad state of rural roads	9.66	10th
Problem of insects and pests	9.62	11th
Problem of middle men	7.84	12th

Source: Field Survey, 2016

Determinants Of Post-Harvest Losses In Fruit Marketing

From the results (Table 2) of the survey carried out, it was discovered that the problem of bad state of rural roads had a non-severe effect on 40.34% of the respondents; it slightly affected 50% of the respondents and had a severe effect on 9.66% of the fruit marketers. This indicates the problem of bad state of rural roads from the point of purchase to the point of sale is not really a serious issue. The fruit marketers in the study area purchase their fruits from Kajola, Ila, Iresi, Ifon, Egbeda, Ife, Ilesa, Ode-omu, Ilobu, Ota-efun, Iwo, Ikirun, Esa-oke, Ore, Owena and Gbongan. Almost 2.0% of the fruit marketers were not severely affected by the constraint of high transportation cost, 21.56% were slightly affected while 76.48% perceived the constraint as a very serious issue which needed to be looked into. This illustrates that the problem of high cost of transportation is a very serious one faced by the fruit marketers. Most (80.77%) perceived the

constraint of fruit price instability to be a slightly severe problem while 19.23% acknowledged it to be a very severe issue. This shows that fruit marketers more often than not are confronted with the problem of instability of fruit prices. The problem of inadequate storage and processing facility was not perceived as a very serious issue by 5.88% of the respondents, 33.33% perceived it to be slightly severe while the remaining 60.79% saw it as a very serious problem. This shows that majority of the fruit marketers are confronted with the problem of inadequate storage and processing facility and the fruit marketers stored their fruits in baskets, sacks, spreading on a mat and covering with cloth which are all traditional methods of fruit storage. The marketing constraint of middle men was acknowledged by 45.10% as being a non-severe issue, 47.06% of the respondents perceived it to be a slightly severe problem and the remaining 7.84% thought of it as a highly severe problem. This indicates that the problem of middle men is a not too serious issue and hereby doesn't have much effect on fruit marketing. The problem of poor demand for fruits by customers was agreed not to constitute a serious problem by 35.29% of the marketers, 45.09% saw it as a slightly serious problem while 19.62% saw it as a serious problem. From this statistics, it can be seen that the problem of poor demand for fruits is not a severe problem faced by the marketers although they are sometimes confronted with the issue. Majority (71.15%), of the fruit marketers' acknowledged that their fruits do not suffer from serious problem of pests and diseases, 19.23% were slight affected while 9.62% of the fruit marketers were seriously affected by the problem of fruit pests and diseases. This shows that the fruit marketers don't really face serious problem of fruit pests and diseases. The problem of the perishable nature of fruit was perceived to be unserious by 1.96% of the respondents, 21.57% acknowledged it to be a slightly serious problem while 76.47% saw it as a very serious issue. From the statistics above, it can be seen that fruit is highly perishable in nature therefore it has a high rate of spoilage and this also accounts for post-harvest losses in fruit marketing. The financial problem of insufficient capital/poor credit availability did not affect 12.0% of the respondents seriously; it slightly affected 22.0% and had serious effect on 66.0% of the fruit marketers. This infers that fruit marketers are confronted with the problem of insufficient capital and credit facilities to run their business. Problem

of poor handling and untimely harvest of fruit did not have a serious effect on 6.0% of the marketers, had slightly severe effect on 40.0% of the respondents and a highly severe effect on 54.0% of the fruit marketers. Therefore, the above problem is a serious one. Almost 20.0% of the fruit marketers did not suffer from the problem of insufficient knowledge/skill on handling and storage of fruits, 13.73% slightly suffered from this problem and the remaining 66.67% perceived it to be a very serious issue. Therefore, the problem of insufficient knowledge and skill on handling and storage of fruits was suffered by a high percentage of fruit marketers which in turn leads to high fruit losses.

Table 2: Determinants Of Post-Harvest Losses In Fruit Marketing n=60

DETERMINANTS OF THE LOSSES	NOT SEVERE(%)	SLIGHTLY SEVERE (%)	HIGHLY SEVERE (%)	Cumulative Percentage
Bad state of rural roads	40.34	50.00	9.66	100
High cost of transportation	1.96	21.56	76.48	100
Instability in fruit prices	0.00	80.77	19.23	100
Inadequate storage and processing facilities	5.88	33.33	60.79	100
Problem of middle men	45.10	47.06	7.84	100
Poor demand for fruits by consumers	35.29	45.09	19.62	100
Problem of insects and pests	71.15	19.23	9.62	100
Problem of perishable nature of fruits.	1.96	21.57	76.47	100
Insufficient capital/poor credit availability	12.00	22.00	66.00	100
Poor handling and untimely harvesting of fruits	6.00	40.00	54.00	100
Insufficient knowledge /skill on handling and storage of fruits	19.60	13.73	66.67	100

Source: Field Survey, 2016

Conclusion and Recommendation

Constraints which inludes inadequate storage and processing facilities, high transportation cost,

problem of high rate of fruit perishability, insufficient capital, poor credit availability, poor handling and untimely harvest of fruit and insufficient knowledge on fruit handling/ storage were faced by the fruit marketers and this accounted for the high post-harvest losses in fruit marketing. This study thus recommended that Government and other private investors should invest in post-harvest processing technologies and establish processing industries to facilitate fruit processing. Fruit marketers should be adequately trained in the areas of fruit handling and storage by extension agents.

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