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Assessing the Postharvest Needs of Kauran Mata Community, Kano State, Nigeria

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Abstract: The paper posits that food problems of most of the Third world countries and Nigeria inclusive does not lie with underproduction but lies with what happens to food at post harvest stages. It indicted lack of post harvest know-how and technology as the primary bane of food security in these countries and maintained that postharvest technology needs assessment if carried out would lead to an overall development of farming especially at postharvest stages and nip food insecurity in the bud. It carried out a postharvest need assessment of Kauran Mata farming community and found out what their needs are in this order of priority: warehouse/withholding structure, multipurpose dryer, plastic crates, evaporative coolant structure (ECS), fruits shed, leafy vegetable basket and the fish box. Furthermore, it recommended that the government meet the postharvest needs of the community either by providing these needs for them at no cost or at a subsidized cost, or better still the farmers themselves synergise and pool resources together and acquire these needs or get help from the Bank of Agriculture or other related institutions. Conclusively, it brought to the fore the need for farmers in Kauran Mata to be trained on how to effectively utilize these technologies to achieve utmost efficiency.

Key words: Postharvest · Farmers · Needs · Priority · Technologies

INTRODUCTION

The food problem in Nigeria and most of the Third World countries is fast becoming an alarming one, prices of food commodities are soaring daily because of scarcities which often do not emanate from underproduction but which are offshoot of lack of awareness and availability of adequate postharvest technologies/equipments and practices to preserve these commodities when they are in season. The prices of agricultural products become embarrassingly low during the short harvesting periods; farmers have to sell their produce at a disadvantaged price since if these produce are not sold would be lost to spoilage, this leads to excess supply and inevitable glut in the market and lost of revenue for farmers. This scenario of surplus is always followed by a long period of scarcity when the commodities are out of season. This trend could be reversed if organisations in the agricultural sector, agricultural Research institutes inclusive know the post harvest needs of the farmers and not just supply these farmers with equipments without recourse to knowing what their needs are because funds needs to be used up somehow as is often the case in the time past. Inadequate technologies lowers agricultural productivity and remuneration [1], hence the need to carry out a post harvest farmers needs assessment which would lead to overall development of farming especially at the post harvest level.

According to McCaslin and Tibezinda [2] need is something necessary or required to accomplish a purpose. Needs are influenced very significantly by group interaction and are not static, they change with time [3]. Needs assessment or assessment of target needs is a systematic process of establishing priorities, it is a way of asking a group or community members what they see as the most important needs of that group or community, it is carried out when there are doubts as to what the most important needs are; needs that are rated most important are the ones to be addressed [4], It is also a part of planning process often used for improvement in organisation, groups, or communities [5]. According to Steadham [6] needs assessment includes all activities used to collect information about a people or group needs, wants, wishes and desires (extensive or intensive) and some of the tools used here includes questionnaires, test score, or an interview.

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Methodology: Kauran Mata is in Kwankwaso District of Madobi Local Government area of Kano state. Madobi is on coordinate 11°46' 38" N 8°17' 18" E and has a total land area of 273 k^2, it has a population of 136,623 according to National population census figures of 2006. Kauran Mata is blessed with rich agricultural land (Babankogi River passes through it), it produces the following crops in commodities in commercial quantity in these order of priority: sugarcane, fruits and vegetables, grains and fish. The survey was carried out in April of 2011. The study population was the farmers in Kwaran Mata community and at the time of the study there was no comprehensive list of farmers available in the community, hence, there was no way we can systematically sample the group. To this end purposive sampling technique was used; all farmers who came out during the exercise were sampled. Eighty eight (88) farmers were sampled and Intensive assessment which requires ranking of priorities was adopted for the assessment. Thirteen (13) Post harvest technologies from Nigerian Stored products Research Institute were displayed and the use of it explained to the farmers and thereafter farmers were made to make their choices in order of priority. Scores were awarded to their choices using a predesigned ranking method:

Choices	Grade	Points
1st	A	7
2nd	B	6
3rd	C	5
4th	D	4
5th	E	3
6th	F	2
7th	G	1

Finally, points were collated and processed and technology with the most points was made the 1st need, the same was done to get the 2nd, 3rd 4th, 5th, 6th and the 7th need which is least in the needs priority ranking. However, it is worthy to know that only the technologies that got at least a point were ranked and those that had no point were left out of the ranking/ priority list.

Post Harvest Need of Kauran Mata Community at a Glance

SN	Technology	Point(s)	Rank
1	Warehouse/withholding structure	588 (84 x 7)	1st
2	Multipurpose dryer	432 (72 x 6)	2nd
3	Plastic crate	320 (64 x 5)	3rd
4	Evaporative coolant structure	172 (43 x 4)	4th
5	Fruit shed	108 (36 x 3)	5th
6	Leafy vegetable basket	16 (8 x 2)	6th
7	Fish box	4 (4 x 1)	7th

Warehouse/ withholding structure had 588 points and was rank the 1st need of the community, this has a lot to do with sugar cane production which is the number one crop grown commercially. This is also not unconnected with the production of maize which is their number three commercial crop. The planting period of sugar cane is between December – February and the crop matures after 7 – 8 months. There are two major varieties of sugar cane produced in the community:

- Sugarcane sold and eaten in their fresh state
- Sugarcane sold to the processing plant located in their community

Merchants come from other non-sugarcane-planting local government areas of the states to buy canes, also merchant come from neighbouring states like Jigawa and Katsina states to buy the freshly harvested canes. han leaving. The community has no modern means of preserving the cut canes to this end they leave their sugarcanes uncut on the farm and continue to water them, this method ties down much needed land and any rainfall during this period reduces the quality of the sugarcane. It was observed that majority of the farmers sell off their sugarcane immediately they mature thereby flooding the market and causing excess supply, glut and a disadvantage bargaining power.

The Multipurpose dryer with 432 points ranked 2nd in the needs priority ranking. The multipurpose dryer as the name connotes is a dryer used for dehydrating an array of farm produce from root and tubers to meat and fish, grains and fruits and vegetables. The community produces fruits and vegetables commercially in this order of priority: onion, tomato, garden egg, carrot, pepper, okra, pumpkin, lettuce, cabbage and cucumber. Onion is planted is planted between January – February and is harvested after four months. The farmers preserve their harvested onion by spreading them on the ground in rooms with sand floor and also by spreading them on traditional decking made of mud below their roofs. The farmers experience a lot of rotting of their onions which is caused by heat, to avoid this, some farmer harvest and sell their onions at a low price during harvest time when the commodity does not command a premium price. Tomato and pepper are planted between November – December and are harvested between 3 – 4 months after planting. The only known means of drying tomato and pepper to the farmers is to spread the harvested tomato

and pepper on the bare ground or floor and allowed to dry in the sun. Okra is usually planted in March for a period of two months after which they are mature and harvested. Apart from selling the product fresh, it is dehydrated the same manner like tomato and pepper, this method is far from being hygienic and does not give the best of dried product; products are laden with dirt, stones, dust and other foreign matters. Garden egg, cucumber, lettuce, carrot and cabbage are sold in their fresh forms immediately after harvest.

The 3rd ranked priority postharvest technology/equipment need is the plastic crate, this has 320 points. This importance of this could be rightly linked to the level of production tomato, okra, garden egg, cucumber and cabbage which are mostly transported to markets in neighbouring towns and states to be sold. The plastic crate would reduce damages due to weight effect (compression) and bruises to the barest minimum during packaging, transportation, display and sales; this is a departure from what is obtained when they use their traditional cane basket.

The 4th ranked priority postharvest need is the Evaporative coolant structure (ECS), this got 172 points. The ECS is a structure which works by action of evaporation; the structure is made of a structure inside another that is separated by riverbed sand which is watered at regular interval. The ECS is a must-have for a community like Kauran Mata which is not connected to the National power grid and which have fruits and vegetable in abundance. The fruit shed got 108 points and was ranked the 5th need of farmers in the community this is also not unconnected with the high level of fruit production here. Leafy vegetable basket got 16 points and was ranked the 6th priority postharvest need of the community.

The Fish box which is used for storage and transportation of fresh fish came 7th with 4 points and was ranked least in the priority needs ranking. The Fish box is an air-tight lagged coolant system with an effective cooling capacity for short-time fish preservation which's effectiveness is a function of proportion of fish to ice. The Babankogi River passes through Kauran mata community; hence their involvement with fishing activities, fishing is not done at a commercial level though. However, they sell caught fish which is mostly poorly handled to other members of their community fresh or dried.

CONCLUSION AND RECOMMENDATION

From the foregoing, we have known, ascertained and ranked what the postharvest needs of farmers in Kauran Mata are; it would be worthwhile for the state and its agricultural related agencies and donors alike to do all that can be done to support not just the production of these agricultural produce which the community produces but more effort should be channelled towards creating a market for it and buy up the excess production, this would cushion the effect of low price during the short harvesting season. The community should be provided with access road and connected to the National power grid and also the mini sugar processing plant in the community be made functional and the production capacity improved.

Most importantly, the postharvest needs of the community should be provided by the government either at no cost or subsidized since these has been known and ranked in order of priority. In the alternative the farmers themselves could synergize and pool resources together, or for a cooperative and get low interest loans from The Bank of Agriculture or other related banks that have been specifically put in place by the government for this. Lastly, the farmers should not just have these technologies on the ground; rather they should be trained on the effective utilization of these technologies by Nigerian Stored products Research Institute.

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