IMPACT OF VIDEO INSTRUCTIONAL PACKAGE ON IMPROVING THE PARBOILING AND MILLING PRACTICES OF LOCALLY PROCESSED RICE IN KWARA STATE, NIGERIA

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Abstract
This study examined the influence of video instructional package on rice processing in rice production communities of Kwara State, Nigeria. Two hundred and fifty (250) adult rice farmers were purposively sampled from five communities in Kwara State. The treatment administered was a video instructional package in rice processing which was packaged and validated by West Africa Rice Development Association (WARDA), Republic of Benin. Oral interview was the test instrument used and the findings of the study revealed that 69.20%, 70.40% and 69.60% of the respondents responded that the parboiling, milling and cleanliness qualities of rice processed after watching the video package were improved respectively. Video instruction is therefore recommended as a means of informing and training rice farmers on rice processing with a view to improving the quality of locally processed rice.

Keywords: milling, parboiling, rice processing, video instructional package

Introduction

Rice is the world's most extensively cultivated crop. It accounts for about 60% of the world's total crop production. Japan, China, India, Phillipines and Indonesia are regarded as the world's largest rice producing countries with Nigeria coming next to Egypt on Africa's rice production table (Osungade, 2004). Nigeria is regarded as the largest producer of rice in West Africa (Osungade, 2004; WARDA, 2005), yet the country still import rice because urban dwellers prefer it to locally produced ones, a situation that makes demand for imported rice to be high at the expense of local product.

Consumers of rice in the country complain of low quality which arises as a result of poor processing. Imported rice takes five years after production before being consumed in Africa and would have lost its nutrients before consumption (WARDA, 2005). If well processed, locally produced rice can compete favourably with imported ones and add market value to the product with its intact nutrients. After harvest, rice paddy needs to be processed before a consumable commodity can be obtained. Parboiling and milling are two essential activities that take place during processing. The purpose of the operation is to respond to consumer preferences while it also has a positive effect on the nutritional properties.

Video instructional package could be used to improve the knowledge of local rice farmers especially during rice processing with a view to improving the parboiling and milling qualities of their product. Consructivism, a learning theory based on the ideas of revered educational philosophers, psychologists and practitioners such as John Dewey, Jerome Bruner, and Lev Vygotsky among others, strongly calls for the use of video in instructional activities. Authors like Hackbarth (1996); Gagne and Medsher (1996); Heinich, Moluda, Rusell & Smaldino (2002) generally present the viewpoints of Constructivists in such a way that authentic activities should be part and parcel of

instructional presentation. According to them, emphasis should be placed on packaging learning activities on video which learners will interact and interpret according to their understanding.
In a study, Bourhis and Allen (2005) conducted an experimental study dealing with the use of videotaping to provide feedback to students in public speaking courses. The result of the investigation indicated that the use of videotaping to provide feedback to students in public speaking courses results in better content of students' speeches, greater acquisition of public speaking skills, better performance in objective test and more positive attitude towards the course in public speaking.

Also, Zossou, Van, Vodouche and Wanvoeke (2009) compared farmer-to-farmer video training method with conventional workshops in training rural women of improved rice parboiling process in central Benin. The findings of the investigation revealed that about 95% of those who watched the video adopted the content of the video package in processing their rice.

Purpose of the Study
The main purpose of this study was to investigate the influence of video instructional package on productive rice processing in rice production communities of Kwara State, Nigeria. Specifically, the study examined;
(i) the parboiling qualities of rice processed after watching the video instructional package in rice processing.
(ii) the milling qualities of rice processed after watching the video instructional package in rice processing.
(iii) whether the rice processed after watching the video instructional package is cleaner with regards to impurities.

Methodology
The research design employed for this study was One-shot case study design. It was a pre-experimental procedure that involved one group of dependent variable. This single group was exposed to treatment and a time interval was allowed before post-testing.

The population for this study consisted all rice farmers in rice production communities of Kwara State. Adult rice farmers in Shonga, Patigi, Bacita, Lafiagi and Charagi communities were sampled for the study. In the selected communities, two hundred and fifty (250) adult rice farmers were sampled for the study using purposive sampling procedure. This was because only full-time adult rice farmers who have rice paddy to be processed as at the time of this investigation were involved.

A researcher adopted treatment was used. It was packaged from real life experience by Africa Rice Centre, Republic of Benin and named Video Package Instruction in Rice Processing (VPIRP). The content covered rice processing activities like rice drying, parboiling and milling. Oral interview was the test instrument employed and it comprises a set of structured questions on rice processing. It was conducted in Yoruba, Hausa or English language.

Fifty full-time adult rice farmers in each of the five selected communities were exposed to the instructional package using video player, multimedia projector and screen or television set. After a time interval of four weeks, they were interviewed using a set of structured question items on rice processing. The responses of the 250 rice farmers in the interview were analyzed using simple percentage and report method. The analysis was done to provide answers to the research questions.

Results

Research Question 1: What is the influence of video instructional package in rice processing on the parboiling qualities of rice processed?

Table1: Rice processors' response on rice parboiling qualities

Community	Rice Processor	Rice Processor with Improved Parboiling Responses	Percentage (%)
Bacita	50	34	68.00
Charagi	50	37	74.00
Lafiagi	50	38	76.00
Patigi	50	34	68.00
Shonga	50	30	60.00
Total	250	173	69.20

Figure1: Areas improved by parboiling in rice processing

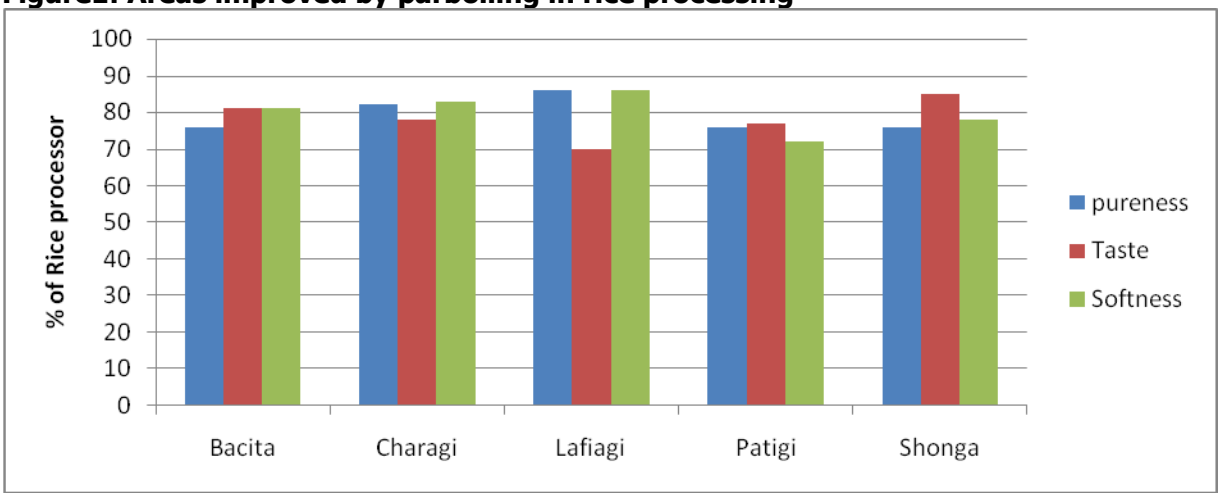


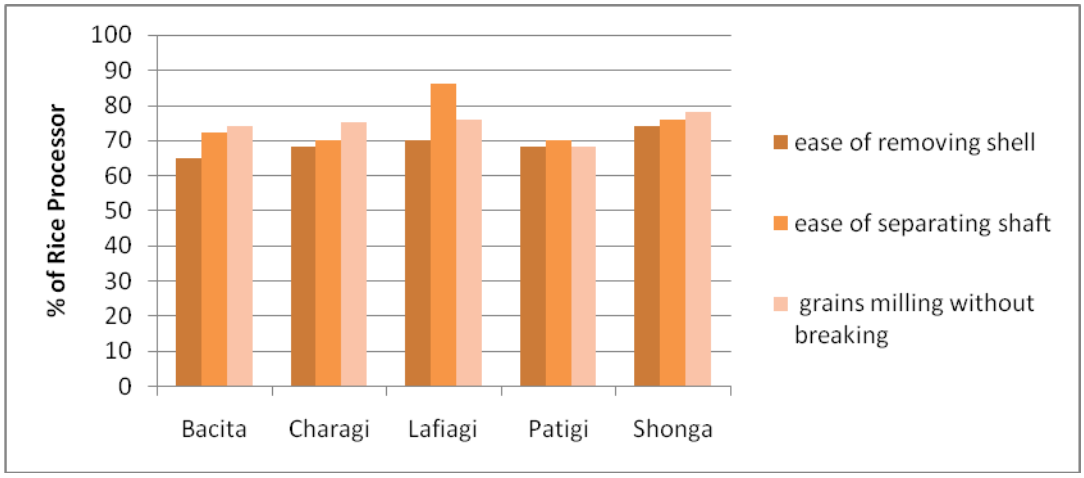
Table 1 revealed that 173 out of 250 rice processors representing 69.20% responded that the video instructional package in rice processing improved the parboiling qualities of rice processed after watching the package. Figure 1 revealed that over 70% of the respondents in each community surveyed, responded that the rice parboiled after adopting the content of the video package was pure, soft and tastes better when cooked.

Research Question 2: What is the influence of video instructional package in rice processing on the milling qualities of rice processed?

Table2: Rice processors' response on milling qualities in rice processing

Community	Rice Processor	Rice Processor with Improved Milling Responses	Percentage (%)
Bacita	50	37	74.00
Charagi	50	42	84.00
Lafiagi	50	38	76.00
Patigi	50	39	78.00
Shonga	50	20	40.00
Total	250	176	70.40

Figure 2: Areas improved by milling in rice Processing



Analysis of the responses of rice processors surveyed as shown in Table 2 revealed that 176 out of 250 respondents representing 70.40% had the milling qualities of their rice processed after watching the video instructional package improved. Also, Figure 2 revealed that over 70% of the processors who responded that the milling qualities of their rice processed after watching the video package were improved. Also, over 70% of each of the samples surveyed responded that it was easy for them to remove shell, separate shaft during milling and were also able to mill their grains without breaking.

Research Question 3: Is the rice processed after watching the video instructional package in rice processing cleaner with regards to impurities?

Table 3: Rice processors' response on cleanliness of rice processed from impurities

Community	Rice Processor	Rice Processor with freedom from impurities responses	Percentage (%)
Bacita	50	38	76.00
Charagi	50	34	68.00
Lafiagi	50	34	68.00
Patigi	50	38	76.00
Shonga	50	30	60.00
Total	**250**	**174**	**69.60**

Figure 3: Specific impurities cleaned in the rice processed

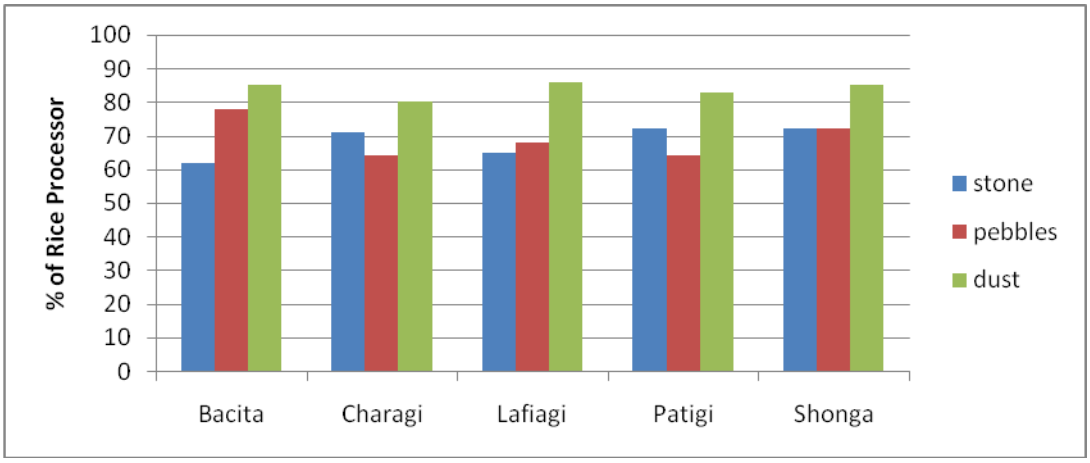


Table 3 revealed that 174 out of 250 respondents representing 69.60% responded that the rice processed after watching the video instructional package in rice processing was cleaner and free from impurities. Figure 3 revealed that over 70% of the rice processors who responded that their rice processed after watching the video package was cleaner (with regards to impurities) also responded that the rice processed was free from dust, pebbles and stones.

Discussion of Findings

The findings of this study revealed that video instructional package on rice processing improved the parboiling and milling qualities of rice processed by 69.20% and 70.40% of rice processors after watching the package respectively. This is in agreement with Fakomogbon (1997) that video instructional package is capable of improving learners' performance in activities contained in the package and also in agreement with Zossou, et al (2009) that video training method has the tendency of improving rice parboiling and milling practices.

Conclusions

From the analysis and findings of this study, it is logical to conclude that video instructional package is a powerful tool that can be employed to improve the quality of rice being processed by local processors. The response of majority of the rice processors sampled for the study indicated that the content of the package improved the parboiling, milling and cleanliness qualities of the rice processed. There is no doubt that the rice processed after adopting the content of the video instructional package is of high quality and can compete with imported commodity in the market.

Recommendations

Based on the findings of this study, the following recommendations are made:

(i) Government and other relevant bodies should employ video instruction as a means of informing, and training rice farmers on rice processing with a view to improving their production.

(ii) Rice farmers should always adopt the content of video instructional package on rice processing while carrying out their parboiling and milling practices

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