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INNOVATIVENESS AND STAKEHOLDERSHIP IN THE *FUFU* PROCESSING SYSTEMS IN SOUTHWEST NIGERIA

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ABSTRACT

Previous research has emphasized the need to explore the popularisation of cassava post-harvest technologies among individuals, processing groups and large-scale processors. This study used data obtained from 129 cassava processors to highlight the relative positioning of key stakeholders and the social dynamics, which promote innovativeness in *fufu* processing in five locations selected after extensive scoping visits to *23 fufu* processing sites in southwest Nigeria. After the initial analysis of the data, a small-scale validation exercise was carried out using focus group discussions in three of the locations. The study found that younger, more active women and men are more likely to specialise in wet paste *fufu* processing. All processors of other cassava products identified in the study were native Yoruba women. The main stakeholders in the *fufu* processing and marketing system identified in this study were *fufu* processors, cassava farmers, family members, cassava traders, transport providers, other service providers, labourers, processors of other cassava products and *fufu* traders. Processors were found to have readily adapted processing techniques to their local situation. This initiative demonstrates that local processors can be innovative. The study concluded that wet paste *fufu* processing is a viable commercial enterprise in rural, peri-urban and urban areas. The relatively recent entrance of men into this business may reflect its growing commercial potential. Individual processor's ownership of an innovation is not necessarily a precursor for its introduction since a key characteristic found in the *fufu* processing system is processors' rental of technologies from service providers.

Keywords: Innovativeness, Stakeholders, Cassava processing, *Fufu,* Post-harvest technologies

INTRODUCTION

Cassava has traditionally been a subsistence crop of predominantly lowincome families in rural and urban areas in Nigeria (Ikpi and Hahn, 1989; Adebayo *et al.,* 2003a). Nevertheless, the place of cassava in livelihood systems may be changing. It has already been reported that most families consume cassava products *(gari, lafun, tapioca* and *fufu)* at least once a day (Adebayo *et al.,* 2003b). Others also claim that cassava constitutes 53% of the bulk of the Nigerian diet and 53.4 % of the national calorie intake (Adegeye, 1999). Furthermore, Nweke (1996) describes cassava as a major source of income for households who cultivate the crop. Cassava is becoming increasingly important in areas with higher populations and which are closer to market centres (Adegeye, 1999). Indeed, rapid population growth and changes in market demand have led to increased production over recent years in high population areas (Nweke *et al.,* 1997).

Of all the traditional products of cassava processing, *fufu* is the product that is produced the quickest and with least drudgery. *Fufu* is prepared by the submerged fermentation of peeled cassava roots. According to existing research, when the roots are sufficiently soft they are broken by hand and fibres are removed by manual sieving of the softened mass on a nylon or cloth screen, using water as a carrier in the process. The sieved mass is then left to sediment for about 24 h. The water is then decanted and the filtrate is 'de-watered' by placing it in sacks, pressing with heavy stones and leaving the sacks overnight (Oyewole and Sanni, 1995). The product can be sold in this wet paste form or can be converted to a ready-to-eat product by mixing an optimum quantity of the paste in boiling water over heat and stirring for some time. The edible form is consumed with fish, meat. vegetable stew or soup.

The problem

Previous research has emphasized the need to explore popularisation of cassava postharvest technologies not only amongst processing groups and large-scale processors, but also amongst the individual market-oriented and subsistence-oriented processors who dominate the industry (Afolami and Ajani. 1995; Sanni *et al.,* 1999). This will entail developing simpler equipment and processes which are accessible to the processors. One technology that has been widely taken up in cassava processing is the mobile graters used for *gari* processing. The use of the hydraulic press in *gari* processing has also gained in importance. Studies have shown that processors generally prefer to operate activities from their own site; hence, mobile technology that enables flexibility in the location of processing activities is preferred (Afolami and Ajani, 1995). The use of such technologies has signaled men's increased involvement in cassava processing. Men are involved in grating as they own and operate grating machines, renting out this technology to processors (Ikpi and Hahn, 1989; Afolami and Ajani, 1995). This confirms existing knowledge that as soon as innovations generate significant cash flow. they attract local elite, and often become dominated by men (Tichenor. 1970; Adebayo, 1994, Okwoche *et al.*. 1998; Bernet *et al., 2001).*

Purpose of the study

The study is part of an on-going research which seeks to develop an approach to the commercialisation of traditional cassava processing in Nigeria, in particular the processing of the product *fi.rfir,* with the aim of enhancing the livelihoods of cassava processing communities and the underlying goal of contributing to the alleviation of poverty. The project has three core components: technical, economic and social. The technical work involves developing improved techniques and practices for processing *fufu.* The economic component includes studies of current market dynamics, the economic viability of traditional and improved processing, and market potential for new fufu products. The social research involves analysing the contribution of traditional *fufu* processing to local livelihoods and identifying optimum entry points for enhancing, livelihoods through improvement to processing. This paper explains the findings in the social component of the research with the general objective of highlighting the relative positioning of key stakeholders and the social dynamics, which promote innovativeness in *fqfu* processing among village-based processors.

Specifically, the objectives are to:

1. Describe fufu processing as a livelihood activity;

2. Characterize *fufu* processors and other key stakeholders in the *fufu* processing system;

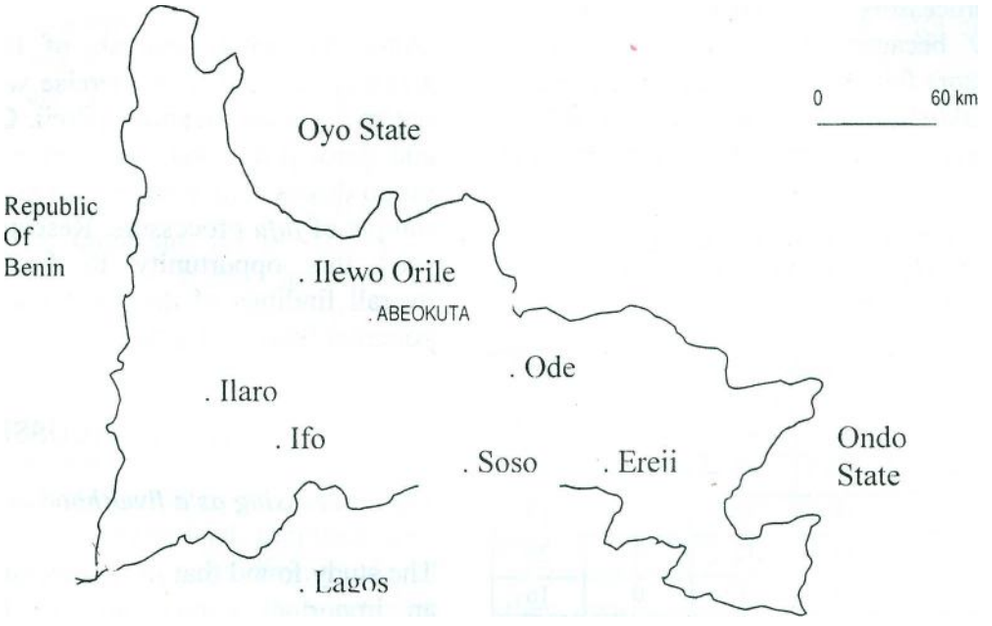
Examine the critical dynamics of *fufu* processing systems in the area studied; and Determine the potential for improving *fufu* processing in the study locations.

METHODOLOGY

This study was carried out in five sites in Ogun State (Figure 1). Each location was selected purposive after extensive preliminary consultations in *23 fufu* processing sites. Considerable effort was placed on the selection of study sites to enable data to be obtained from a range of locations with differing resource bases and varying dependence on the processing of fufu and other cassava products. It was envisaged that such a range of locations would be conducive to understanding the relative positioning of key stakeholders and the social dynamics, which promote innovativeness in *fufu* processing among the processors.

Ode Remo was selected because of the high concentration of wet paste *fufu* processors in one of its major sections and its location almost midway on the highway between Lagos and Ibadan (the two most populous cities in Southwest Nigeria). Ereji was selected because almost all households

in the village have a wet paste *fufu* processing unit and sell *fufu* to Lagos. Ilaro was selected because wet paste *fufu* processors in the town were concentrated in areas called *odo fufu (fufu* processing sites) on the outskirts of the town. The town is linked by good mbtorable road to Lagos through Ifo (a major *fife* market town) and the border between Nigerian and the Republic of Benin. Both Soso and Ilewo Orile were chosen as they are ready-to-eat *fufu* processing locations with relatively



poor access by road to nearby urban centres.

After initiating dialogue with the people and explaining the aims of the study, arrangements were made for researchers to stay in the five locations for two-week periods (one in the dry season and one in the rainy season). Researchers were tasked with collecting in-depth information on up to 30 purposively selected family units to provide in-depth data for understanding the roles of various stakeholders and the social dynamics that allow the *fufu* processing system to function.

In Ode Remo, Ereji, Soso and Ilewo Orile all active *fufu* processors were included in the study (Table 1). However, in Ilaro, which is more urban than all the other locations, one of the *fufu* processing sites (Odo Oshun) with the best access to Lagos (via Ifo market) was selected. At this processing site, data were collected from 15 processors in alternate fashion from the 35 found on the site. At Soso and Ilewo Orile all of the ready-to-eat *fufu* processors were interviewed. This is mainly because of the low number of processors found in both locations. In order to establish a basis for some level of comparison between *fufu* processors and

Table 1. Distribution of selected *fufu*, *gari* and *lafun* processors interviewed for the study

Location	Number of processors Selected			Total
	Fufu	*Gari*	*Lafun*	
Ode remo	17	15	6	38
Ereji	18	0	0	18
Ilaro	15	12	0	29
Soso	14	2	0	16

Ilewo Orile	11	10	7	28
Total	75	39	15	129

processors of other cassava products *(gari* and *lafun)* in each location, the presence of such processors in each location was surveyed. Where they existed, samples of such processors were also included in the analysis (Table 1). Overall, 129 cassava processors were involved in the study: 75 *fufu* processors, 39 *gari* processors and 15 *lafun* processors.

Interviews were carried out using household level interview guides. The data collected include background information on access to resources and general livelihood activities and detailed information on cassava processing activities, particularly the production of *fufu.* To build trust with respondents, glean further information and confirm some of the of the more formal interviews, researchers spent considerable periods of time carrying out participant observation, which involved visiting *fufu* processors and their families at their processing sites, their homes and farms.

After the initial analysis of findings, a small-scale validation exercise was carried out in the three locations (Ereji, Ode Remo and Ilaro) producing wet paste *fufu.* Focus group discussions were held with a random sample of *fufu* processors. Researchers also used this opportunity to feedback the overall findings of the project to date and potential future activities.

RESULTS AND DISCUSSION

Fufu processing as a livelihood activity

The study found that *fufu* processing makes an important contribution to household security in all locations. However, the overall importance of *fufu* processing to household incomes and the levels of commercialisation of *fufu* enterprises were found to differ quite markedly. One early finding of the study was that, in locations (Ereji, Ilaro and Ode Remo) where wet paste *fufu* was being produced for sale the output of this enterprise was much higher than that of ready-to-eat processors. The range of volume of output from these locations was 480-28,800 Kg compared to 150-300 Kg for ready-to-eat *fufu* processors. The study also found that wet paste *fufu* processors were operating in rural, peri-urban and urban areas and the activity appeared to be increasing in popularity. Wet paste processors operated on a range of scales. Family labour played a critical role, but micro-enterprises, which employed casual labour, are also common and in a minority of cases, permanent employees were recruited. For some wet paste enterprises *fufu* processing constituted a full-time activity.

Wet paste *fufu* enterprises played a more significant role in enhancing the livelihoods of the cassava processing communities. In contrast, ready-to-eat *(RTE) fufu* processors had relatively small output and their part-time *fufu* processing appears to make a narrower contribution to the local livelihood system. This does not imply that RTE fufu processing is important for the individual processor and the potential for assisting these women to increase their output by improving their access to credit or improving their market access. However, these findings mean that there is likely to be more scope for developing options for improving and 'scaling up' wet paste processing for commercial purposes with 'he aim of enhancing the livelihoods of cassava processing communities amongst wet paste processors than amongst RTE enterprises at this stage.

In locations such as Ode Remo and Ilaro, and even more remote places such as Ereji; wet paste *fufu* processors had long-standing connections to urban markets and market their produce on a relatively large scale. It was estimated that the largest scale wet paste processors who sold at Lagos could earn up to $3,360 per month, although a more common income was in the range of $196-$378. This figure does not reveal overall profit. The relationships between income and profitability were not researched as part of this study. It is contained in the report on the "Viability of Fufu Processing Enterprises in Ogun State" currently being concluded as part of DFID Project

A0898. Even wet paste processors further from market points who do not sell directly at Lagos but rely on intermediaries or intermediary markets can earn up to $390 per month.

Characteristics of fufu processors

The study found *that fufu* processing was a female-dominated enterprise, with children often playing an active role in some activities such as collection of water and peeling of cassava roots. The women often combine processing with other livelihood activities. It is important to distinguish processors in terms of the scale of their enterprises, however. While some wet paste processing units were dominated by family labour, many cases were found of women entrepreneurs, managing processing sites and employing labourers to assist them. In two locations, Ode Remo and Ereji, men were also found to be involved in wet paste *fufu* production. In Ode Remo, several examples were found of men even running their own processing sites, and these were on a large scale. These findings challenge previous studies that defined cassava processing as an exclusive female domain and men's involvement is only at the level of hiring out technology (Afolami and Ajani, 1995).

In fact, it could be argued that male involvement may enhance the commercial potential of wet paste *fufu* processing. It was found that at Ode Remo and Ereji, while joint husband and wife enterprises were rare, female processors were often receiving support from their husbands and male relatives, through the supply of credit and assistance in activities aimed at increasing output, such as the construction of surface tanks. This may reflect the nature of the livelihood partnerships established when husband and wives operate from the same location. Conversely, the absence of male involvement in the specific processing sites that had been established at Ilaro (apart from cassava traders who supply the main raw materials) may have negatively influenced the uptake of more capital-intensive processing techniques at these locations. Men were not found to be involved in ready-to-eat *fufu* production. This may reflect the limited commercial potential of this activity as well as cultural conventions concerning the preparation and sale of food by Yoruba men.

It is notable that in Ode Remo the enterprises run by men were the largest enterprises at this location. This may reflect men's privileged access to resources in when compared to women. Their tendency to specialise in key income-generating activities, as well as their ability to maximise market opportunities. Previous experience has shown that when new innovations generate significant cash flow then they became dominated by local elite (Tichenor. 1970; Adebayo 1994). Activities with considerable commercial potential inevitably attract men. This means that further commercialisation of *fufu* processing may leave smaller scale enterprises run by women vulnerable to aggressive competition from larger scale enterprises.

Another important characteristic of the wet paste *fufu* processors included in this study was their engagement in the trade as an allyear round activity. Both full-time and parttime *fufu* processors were found, but in all cases / *fu* processing took place at regular interval throughout the year. This highlighted the importance of *fufu* processing in securing income for the household. A summary of the dominant characteristics of *fufu* processing in the study locations is presented in Tables 2 and 3.

Characteristics of processors of other cassava products

In all of the locations studied, cassava products other than *fufu* were processed either exclusively for home consumption or for both home consumption and sale. Unlike *fufu* processing, all processors of other cassava products identified during the study tended to be native Yoruba women.

It appears that some specialisation takes place in certain locations. For example, in Ode Remo, although *gari* processing was a more widespread activity for women it is predominantly older native women (over 60 years of age) who are more active in this field. Younger, more active women and some men were more likely to specialise in wet paste *fufu* processing. This may again reflect the new and growing commercial potential of, *fufu* production at this location. Apart from this difference, access to cassava roots, water, credit and other inputs appear to the cassava processing system

Table 2. Dominant characteristics of wet paste *fufu* processing in study locations

Characteristic	*Ode Remo*	*Ereji*	*Ilaro*
Nature of location	Peri-urban	Rural	Peri-urban
Social group which dominates processing	Medium scale: Female and some male non-natives; Large-scale: Male natives	Female natives	Female natives and non natives
Processing method	Ibo method - two-stage fermentation ("dry sieving")	Yoruba method	Yoruba method
Period of processing	All year round	All year round	All year round
Use of improved processing technology	Graters; concrete water tanks (owned or rented)	Some water tanks (owned -recently introduced)	None
Size of workforce	2-20	3-12	4-7
Total range of output	(28 - 480) x 60kg bags per month (1,680 - 28,800 kg per month)	(8 -24) x 60 kg (480 - 1,440kg per month)	(35 - 150) x 25 kg (875 - 3,750 kg per month)
Income	N 19,600 - N 336,000 per month (US$ 196 - 3,360)	N 2,640 - 15,840 per month (U $ 26.4 - 158)	N 9,100 - N 39,000 per month (US$ 91 - 390)
Management of enterprise	Individual women and individual male entrepreneurs	Individual women	Individual women
Main markets	Lagos	Lagos	Ifo
Market access	Good all year round	Good per season	Good all year round
Market relationships	Pre-ordered. Processors transport goods to traders.	Pre-ordered. Buyers purchase at processing site.	Not pre-ordered. Processors sell at market place.
Access to informal credit	Deferred payment for cassava. Loans from family/ friends.	Deferred payment for cassava. Loans from family/ friends.	Loans from family / friends.
Access to formal credit	Money lender	None	None
Importance of *fufu* processing as income-generating activity	Small proportion of population very dependent	All households very dependent	All processors very dependent

Table 3. Dominant characteristics of ready-to-eat *fufu* processing enterprises

Characteristics	Ilewo-Orile	Soso
Size of output	3-6 baskets of 50 balls each per day	4 or more baskets-of 50 balls each per day
Location	Family house	Processing sites within the village
Types of commodity produced	Ready-to-eat fufu in polyethene 'wraps	Ready to eat fufu wrapped in leaves

Entrepreneur	Female family member (not head of household)	One woman business recruitment
Workforce Numerical strength Basis of recruitment	Average 4 (I) kinship (11) casual labour	3-5 Casual, hired from among wives of non Yoruba village residents
Means of remuneration	(I) none/subsistence (II) mostly in kind	Cash and kind
Source of cassava	Family members and from other farmers	Own farm + purchase from other farmers
Accessibility and utilization of improved technology	None (one isolated case of use t grater)	None
Period of operation	All year round	All year round
Marketing strategy place arrangement	(I) local market (II) Abeokuta market (I) random sales (II) random sales income, particularly in the rainy season.	Ogijo, Ikorodu, Sagamu Preordered
Role played	Significant contribution to family income, particularly in the rainy season. Considered flexible, easy earner.	Income for family use; home consumption

Appeared to be similar amongst fufu processors and the processors of other cassava products.

The wet paste *fufu* processing system operates through the combined efforts of several actors including the providers of the main raw materials (cassava farmers and in some cases water suppliers) to a number of other service providers along the *fufu* processing and marketing chain. The main stakeholders identified in this study are: *fufu* processors, cassava farmers , family members, cassava traders, transport providers, other service providers, (water suppliers and the owners of mechanized graters which are regularly used at Ode Remo, and occasionally at Ereji during the rainy season), labourers, processors of other cassava product and fufu traders.

The range of different stakeholders in the system revealed the complex relationships between *fufu* processing, rural, and urban livelihoods, at household level, community level and beyond. An intricate web of relationships exists amongst the various actors in different locations. The nature of these relationships is dependent on a number of factors, many of which are difficult to isolate during a relatively short study. The categories listed below are not mutually exclusive; stakeholders may participate in a range of activities relating to *fufu* processing, as well as other income generating activities. Perhaps the most important thing to recognise is that any change in the *fufu* processing system, regardless of how it emerged, is likely to impact on some, if not all, these actors.

Critical dynamics of fufu processing systems

Fufu processing systems differed across locations. They were inextricably related to complex interactions, relationships, household, community access to, and ownership of resources. The systems were dynamic and change over time. Some of the most salient aspects of the systems in different locations, which were unearthed during the study, are outlined below. In some cases, these will be relevant for cassava processing as a whole.

Social capital

The types of social capital on which processors are able to draw, play a critical role in the sustainability of *fufu* processing as a livelihood activity. One example of this is the purchase of cassava on credit from farmers. This system is of mutual benefit. A regular supply of cassava on credit ensures that processors can maximise their output (and devote precious financial capital to the funding of other resources).

All the *fufu* processors interviewed depend highly on their established relationships with trusted traders (both intermediaries and at the marketplace). This was understood as a form of social capital. The most common arrangement with traders is the pre-ordering of a specific supply of *ft f u* on a regular basis. This provides processors with some security as guaranteed demand for their output. The established relationship with traders was found to be even more important than physical infrastructure (access to urban markets) and market price in defining where processors sold their product. For example, although Ilaro traders were aware that they could gain a higher price for their goods by making the relatively easy trip to Lagos, they preferred to sustain transactions with their traditional trade partners at Ifo market.

However, despite the importance of maintaining trusted contacts, in virtually every case the relationship with traders was found to be a `double-edged sword'. For example, fufu processors in Ereji are aware that the price they obtain for their goods from intermediaries who visit from Lagos is far less than could be obtained at markets in the capital city, and the arrangement leaves them with little negotiating power. However, their experience of providing goods to traders in Lagos on credit some years back has left them with fears of debt and insecure demand so they abandoned this relationship. In contrast, Ode Remo traders are willing to provide *fufu* on credit in Lagos. They realise that this involves the investment of 'double money' to get involved in the enterprise but this does not appear to be a problem to them. They appear to be able to afford to leave an initial delivery of wet paste for traders on credit while they return to their processing unit to commence the next cycle. Yet they also face problems as have little negotiating power if traders decide to change their order and try and bargain prices down when payment is due. The limited shelf life of their product puts them in weaker position as if their sale is delayed or they fail to sell their product then it will spoil and they will lose their investment.

Different locations reveal distinctive ways in which processors can organise together, utilising social capital to enhance their

livelihood situation. For example, Ereji, a small rural village with strong community co-operation has lobbied the government to improve access roads and services. The village *Fufu* Processors' Association was used to negotiate a fair price for all processors. Similarly, at Odo Oshun in Ilaro each processing unit was managed separately but the entire site is managed cooperatively through the Path Processors' Association, which represented the processors in negotiating optimum output and price with market points. It is notable that this is the only location where processors assist each other for mutual benefit by providing exchange labour (although this may be a more formalised version of family labour in an urban location where kinship links are not so strong). In contrast, in some locations processors are more individualistic. For example, in Ode Remo the local *Fufu* Processors' Association collapsed due to a lack of consensus on several group decisions.

Local innovations and cassava processing

Processors were found to have readily adapted processing techniques to their local situation. For example, processors in Ereji had developed a method of double packaging the wet paste to increase the shelf life of their product, as they have to store *fufu* between visits from traders. In Ilaro some processors sun-dry *their fufu* for home consumption as cooking this product is less labour and energy-intensive than preparing ready-to-eat *tutu* from wet paste. While the sun dried product is not being used for commercial purposes, it is nonetheless benefiting these processors, both in terms of household food security and in storing left-over wet paste which would otherwise spoil.
In addition, processors were found to be open to innovations introduced from the outside if the relevant local resources are available, benefits are evident and markets are secure. For example, during a visit to Ereji village, technical members of the study team provided *fufu* processors with information about surface tanks that enable a larger quantity of cassava roots to be soaked at one time, which were already being used in other locations in the region. On a return visit the team found that these tanks had been constructed by some processors, unassisted. This initiative demonstrates the enthusiasm of local processors regarding innovations aimed at improving processing activities, which have clear benefits. It is interesting to note that in this example, some joint family decision making is required. In many cases the multi-purpose nature of improved technology (e.g. surface tanks,

cassava graters) is likely to be part of its appeal to both processors and service providers who invest in these technologies (who may or may not be processors themselves). An ideal technology in this context is therefore probably one which can be used for a range of purposes, and is also mobile/accessible enough to be rented out for a range of purposes.

The study also found limited evidence that processors are willing to develop new market relationships if demand is secure. At Odo Oshun processing site in Ilaro, the *f 0i* processors described how an external organisation had facilitated a relationship between them and a manufacturer of dried *fiufu* who was exporting this product. They provided wet paste to the manufacturer on a regular basis. The relationship collapsed as the manufacturer stopped trading when he was suspected of smuggling cocaine. This example probably caused optimism and pessimism concerning potential for the establishment of new market relationships.

Vulnerability context

A number, of external contextual factors were found to be affecting wet paste *fufu* processing as a livelihood option, or at least having the potential to affect this option.

These include

- The price of petrol
- The de-regulation of fuel prices (which has been mooted by the government)
- Cassava production levels and prices

There are constant changing influences, both positive and negative, on local livelihood systems constantly taking place. For example, through the course of the study it was found that improvements to some roads took place, and an improved water supply was installed at one location. Similarly, fuel supplies improved, improving transport links.

Potential. for improving. fufu processing in the study locations

The locations studied for the baseline survey clearly differ in terms of the potential to improve wet paste *fufu* processing.

Ode Remo

Wet paste processing is a highly profitable enterprise in Ode Remo. Processors in this location have the highest average output and income of *fufu* per processor and run the largest scale operations out of all the locations studied. Processors had invested in water tanks and graters to facilitate *fufu* production. Processors in this location had strong market links, and had established long-term relationships with particular traders. They are able to market their goods in Lagos, due to their ability to sell on credit. The location is unique amongst those studied in that a number of relatively large scale commercial operations of wet paste production were being run by sole entrepreneurs. In every case, these are run by Yoruba men.

The existence of entrepreneurs with capital, access to resources (including electricity) and good market access to Lagos at this location would indicate that further commercialisation of *fufu,* such as the improvement of market linkages or the development of new, *fufu* products that meet market demand, might be feasible. As only a relatively small proportion of the local population is currently involved in fufu production, project partners may be limited, at least at the outset, and the uptake and impact of any new innovations may be limited. Interventions that require considerable capital outlay are likely to focus on processors who have considerable financial capital (at this location this means Yoruba men) and might disadvantage other, smaller scale processors, including non-natives and women. However, if such interventions focus on targeting new products at new markets (such as export markets) then smaller scale processors may be less affected. The needs and potential of small and larger scale processors may need to be identified

more clearly and tackled separately.

Ereji

In contrast with Ode Remo, *fufu* processing is vital to the livelihoods of all families at Ereji. The fact that all households depend heavily *on fufu* for income means that any intervention to improve processing methods and enhance the commercial potential of this activity is likely to have a widespread impact. Currently, processors employ the Yoruba processing method. The interest expressed by processors in innovations for *fufu* processing was encouraging. The use of surface tanks, for example, which have already began to be taken up in a few isolated cases with no apparent difficulty, could be promoted more widely. If wider market demand for this high-starch product can be confirmed, the double-fermentation processing method observed at Ode Remo, which involves the use of graters, could possibly be promoted at Ereji, particularly as processors have problems with water supply. Water sources at this location are situated at some distance from processing sites and water collection involves significant time and labour input. The involvement of entrepreneurs who can invest in graters and then rent it out may be crucial.

Odo Oshun, Ilaro

Odo Oshun is a specialised processing site situated on the outskirts of a major urban centre, Ilaro. At least ten of these specialised sites exist in the Ilaro area. Relatively little is known about the livelihood activities of processing families who live in the urban centre. Processors follow the traditional Yoruba method at this location and the scale of output is relatively high. Currently, however, technological innovation is low at this site. High volume water tanks, for example, are not used. One processor at this location was found to be sun-drying *fufu* for home consumption, and researchers' observations indicate that this practice may be widespread.

Such specialised *fufu* sites could provide excellent entry points for further project work due to the intensity of processing and the apparent strength of *Fufu* Processors' Associations. However, the intensity of *fufu* processing on this specialised site already appears to be causing some environmental damage and if any new activities are to promote increased output then the environmental implications should be carefully examined.

CONCLUSION

Wet paste *fufu* processing is a viable commercial enterprise in rural, peri-urban and urban areas and appears to be growing in popularity. The relatively recent entrance of men into this business may reflect its growing commercial potential. Many processors appear to_ be open to the use of improved technologies for processing, if the immediate benefits can be seen. Individual processor ownership of technology is not necessarily a pre-cursor for its introduction as a long-standing characteristic of *fufu* processing systems is processors' rental of technologies from service providers. Experience has shown that mobile, multi-purpose technology is popular amongst processors and technology service-providers.

Most processors set great store by their existing market relationships with trusted traders. This may outweigh their interest in increasing income through a change in processing techniques or output, unless the existence of secure markets can be demonstrated. In many locations. processors were averse to providing finished goods on credit due to their fear of debt and lack of working capital. This may affect their ability to access new markets. The development of *fufu* with a longer shelf life would be likely to enhance processors' bargaining power with traders, as the risk of spoilage would be less.

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