Financing Foodstuff Marketing in Akwa Ibom State, Nigeria: Some Considerations.

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ABSTRACT

The introduction of micro credit schemes to provide financial services to the small operators in the food marketing industry deserve some caution because available literature confirms that formal credit programme involving small operators in the agricultural sector have low repayment history. This study assessed how micro finance schemes directed at the small operators in the food marketing industry can package result oriented financial services for the success of the lending schemes. The report is based on panel data obtained in a research involving 116 food retailers in Akwa Ibom State. The simple random sampling procedure was used to select the respondents. Descriptive statistics such as means and percentages, and the multiple regression analytical technique were used to analyze the data. The results show that among the palm oil, grains, vegetable and seafood sellers transport cost had significant effects on the marketing margin, are positively related but unit increase in their numbers adds less than proportionately to the marketing margin. Among the palm oil and grain sellers, the quantity of produce handled had significant effect on, are positively related to, out bring about a less than proportionate increase to the marketing margin. For seafood and vegetable sellers, more margin can be ensured if more quantity of the seafood are handled but efforts must be made to assist the traders handle such quantity that will bring about more than proportionate increase in the marketing margin. Younger sellers make better margin comparatively. Micro finance schemes directed at the operators in the food marketing sub sector must be designed to provide financial and non-financial services that are accompanied with appropriate package of dynamic and static incentives to motivate and compel loan beneficiaries to repay loans. The credit package must include efforts to direct credit to younger sellers, reduce the transport cost and increase the quantity of produce handled so as to ensure that the operators earn satisfactory margins to repay loans. More importantly regular repayment schedule designed to match the time pattern of earnings of the beneficiaries and appropriate research instrument must be packaged alongside these financial and non-financial services to add impetus to loan repayment, identify problems and solutions that can make the micro-finance scheme a going concern.

KEYWORDS: Micro finance, marketing margin, Loans repayment.

INTRODUCTION

The excitement about the promise of micro-finance has come to stay in Nigeria. Day by day, new micro finance schemes emerge with new institutional design and are directed at small operators. Before now the food production sector was the most favored activity. Today micro credit schemes have started to be introduced to service the credit needs of small operators in the foodstuff marketing industry. Thanks to micro finance. Unfortunately the high repayment rate that endears many to the micro finance option seldom translates to profit (Morduch, 1999). The situation could be worse if repayment rates are low. The introduction of micro credit schemes to provide financial services to the small operators particularly, in the food marketing industry deserve some caution. This is particularly so because available literature (Eyo 2002, Igben et. al 2002) confirm that formal credit programme in Nigeria involving small operators in the agricultural sector have low repayment history.

Micro finance schemes directed at a market must be designed to suit the particular market structure for optimal performance. This is particularly so because any particular market model vary in the number of firms, size of firms in relation to the market, type of product, extent of control over price, conditions of entry and the nature of non-price competition. Invariably, a particular market model defines a structure which in turn determines its conduct and performances and there must be a suitably designed financial services directed at the firm operating under a given market structure to ensure that loan beneficiaries behave predictably.

In Nigerian agricultural sector, the small operators face pure competition both at production and marketing stages. Because of this structure, outputs are sold at industry-determined price and profits are maximized at the level of output where marginal cost equals marginal revenue. However the size of the profit depends on how large the per unit output price is, compared to the unit cost of production. If the per unit output price is very large, the operators earn pure profit in the short run. Invariably, the outcome of the pattern of structure and conduct is the performance, which is interpreted by the profit or marketing margins, among other things.

Marketing margin is an important concept in agricultural marketing. It dictates the pace of entry into and exit out of the business; and encourages existing investors to expand in the long run. Also when large margins are earned, lcan repayment obligations are met with ease. Invariably, operators in the food marketing system who use external finances must earn large margins to be able to repay loans. More so, participation in any credit programme must bring about improvement in marketing margin for the lending scheme to achieve a necessary condition for loan repayment. The question is, what package of financial services would ensure that this necessary condition for loan repayment is achieved. This study assesses food marketing operations,

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TABLE 1: **The Socioeconomic Characteristics of Respondents**

NO.	CHARACTERISTIC	FREQUENCY	PERCENTAGE
1.	Sex of respondents		
	MALE	41	35.34
	FEMALE	75	64.66
	TOTAL	116	100
2.	Age of respondents		
	15 – 20	6	5.17
	21 – 25	38	32.76
	26 – 30	15	12.93
	31 – 35	20	17.24
	36 – 40	25	21.55
	41 - 45	12	10.35
	TOTAL	116	100
3.	Marital Status		
	Single	29	25
	Married	64	55.17
	Widow	11	9.48
	Divorced	12	10.35
	TOTAL	116	100
4.	Level of Education		
	Pry. School attempted	44	37.93
	Pry. School completed	30	25.86
	Sec. School attempted	23	19.83
	Sec. School completed	15	12.59
	Post Sec. Sch. attempted	3	2.59
	Post Sec. Sch. completed	1	0.86
	TOTAL	116	100
5.	Years of experience		
	1 - 5	68	58.62
	6 - 10	33	28.45
	11 - 15	15	12.93
	TOTAL	116	100
6.	Sources of Finance		
	Personal savings	101	50.00
	Banks	6	2.97
	Friends/relatives	58	28.71
	Cooperative society	14	6.93
	Osusu	23	11.39
	TOTAL	202	100

Source: Field survey 2002.

identifies the determinants of marketing margin and suggests how financial schemes directed at the small operators in the food marketing industry can package result oriented financial services for the success of lending schemes. The work is presented in four sections. Section 2 shows the methodology of study, section 3 presents results and discussion and section 4 shows the conclusion.

METHODOLOGY OF STUDY

This study was conducted in Akwa Ibom State. Two markets namely the Uyo main market in Uyo Local Government Area and the Itam market in Itu Local Government Area were used. The study involved at least 116 food retailers (40 from each market) including 16 sellers of grains (rice and maize), 24 sellers of vegetable (okra, tomatoes, Gnetum africana, fluted pumpkin, water leaf), 16 sellers of sea foods (clams, periwinkle, fresh fish, crayfish) and 60 sellers of palm oil. Panel data were collected weekly from the two markets. The simple random sampling procedure was used to select the respondents. Data analysis utilizes descriptive statistical tools like mean and percentages and inferential statistics such as the multiple regression

analysis. The implicit form of the model is

$$Y = f(X_1, X_2, X_3, X_4, X_5)$$

Where Y = The marketing margin in Naira

X_1 = Transport Cost in Naira

X_2 = Quantity of farm produce handled. [litre /Kg]

X_3 = Age

X_4 = Education index

X_5 = Work force. (Number of persons assisting)

RESULTS AND DISCUSSION

Socio-Economic Characteristics of Respondents

This study involved 116 retailers of selected foodstuffs [palm oil, vegetables, sea-foods and grains]. They were mostly female. (Table 1 shows the socio-economic characteristics of the sellers. According to this table, 64.66% of the respondents were female and only 35.34% were male.

They were mostly aged 21 – 40 years. However, only 5.17% of the retailers were in the 15 – 20 years age class, 10.35% were in the 41 – 45 years age class, 12.93% were in the 26 – 30 years age class, 32.76% were in the age class 26 – 30 years class, while 17.24% and 21.55% of the respondents were in the 31 – 35 and 36 – 40 age categories. Invariably, marketing of foodstuff is carried out by the active part of the population.

The respondents were mostly married (55.17%) and had attempted at least, primary education. Table 1 shows that 37.98% of the foodstuff sellers attempted primary education, 25.86% completed primary education whereas 19.83% and 12.59% respectively attempted and completed secondary education.

The majority of the retailers 1 - 5 years of selling experience. However, 28.45% had 6 –10 years experience, and 12.93% of the retailers had 11 – 15 years of on-the-job experience. Their most important source of finance is their personal savings. Friends and relatives, osusu groups, cooperative societies and banks follow this.

The quality of services carried out in the marketing system is important in ensuring the health of the system. Table 2 shows the common handling methods used by the respondents. According to this table, the items used in handling these produce buying from the purchase points are drums and 20 litre plastic containers for palm oil, bags for the grains, baskets for vegetables and basins for the sea foods.

The most popular means of transport from the point of purchase of the marketable produce is motor cars/van. Lorries (21.55%), wheelbarrow (16.38%) and motorcycle (6.03%) followed this. On arrival at the location of sales, the most popular means of transportation is the wheelbarrow. The item used to package these products during sales is the polythene bags. However, seafood and vegetable sellers wash their products and cut or chop, before sale (see table 3). After sales preservation is achieved by spreading on flows for grains and vegetable; palm oil is preserved in drums and jerry cans; seafood is preserved by smoking, refrigeration and in basins; and grains are preserved in bags. The common assets of the sellers of grains are bags, basins,

Table 2: Service Characteristics.

S/N	Characteristics	Grains	Vegetables	Seafood	Palm oil	Total	%
1.	Means of transport from point of purchase					66	(56.89)
	Motor cars/ van	5	4	12	45	66	(56.89)
	Lorries	7	8	-	9	25	(21.55)
	Wheel barrow	4	8	2	5	19	(16.38)
	Motor cycle	-	4	2	1	7	(6.03)
2.	Means of transportation on arrival at destination						
	Wheel barrow	12	22	14	32	102	(37.93)
	Motor cycle	4	6	2	2	14	(12.07)
3.	Items used for packaging						
	Polythene bags	16	24	18	118	127	(98.45)
	Paper bags	-	-	-	-	-	-
	Bottle	-	-	-	2	2	(1.55)
4.	Washing before sale						
	Yes	-	14	6	-	20	(50)
	No	-	10	10	-	20	(50)
5.	Cutting before sales						
	Yes	-	6	6	-	12	(30%)
	No	-	18	10	-	28	(70%)
6.	After sales preservation						
	Spread on floor	4	18	2	-	24	
	In drums	-	-	-	16	16	
	Use of jerry cans	-	-	-	82	82	
	Smoking	-	-	6	-	6	
	Refrigeration	-	-	2	-	2	
	Basins	-	-	2	-	2	
	Bags	12	-	-	-	12	

Source: Field Survey 2002

measuring cups, polythene bags and weighing scale. The common assets of the sellers of vegetables are baskets, basins, and polythene bags. The common assets of the seafood sellers are basins, polythene bags, machetes, and in some cases measuring cups.

Among the palm oil sellers the common assets include drums, 20, 10, 5, and 4 litre containers, polythene bags, waterproofs, basins, buckets, funnel, tomatoes and milk tin measures, stirrers, as well as bottles.

Unfortunately majority of the respondents do not keep records. Table 3 shows the distribution of the retailers by nature of sales management practices. According to this table, only 1.72% of the retailers accept that they keep records of their daily transactions while 33.62% sparingly keep records and 64.66% of the retailers never kept records. Some retailers (58%) sell low quality goods at low prices, 81% separate and sell only good quality goods and 27% mix good and low quality produce to sale to unsuspecting consumers.

They utilize the services of sales assistants who are mostly paid in kind and the most important problems are those associated with transportation which result in loss of goods and spoilage or spillage (in the case of palm oil) as well as low storage and pest attack.

Determinants Of Marketing Margin

Four regression models were estimated to verify the determinants of marketing margin among palm oil, vegetable, seafood and grain sellers. Table 4 shows the regression equation estimated for these sellers.

PALM OIL: Table 4 shows that for the palm oil sellers, the multiple R is 84%, the standard error of the estimate is 0.3184 and the F value of 22.31 is significant at 1% level. The coefficient of multiple determination is 68%,

which is an indication that the independent variables explained 68% of the total variation in the marketing margin. However, transport cost (X_1), quantity of oil (X_2), education index (X_4) and number of persons assisting (X_5) increase as marketing margin increases whereas the age of the respondents (X_3) and the marketing margin are negatively related. However, there is a less than proportionate increase in marketing margin that result from a unit change in transport cost, quantity of produce had led age of respondents and the education index where as a unit increase in number of persons assisting in the sales increase the marketing margin more than proportionately. On the whole only cost of transportation and quantity of produce handled had significant effect on the marketing margin.

VEGETABLE: The estimated regression equation for the vegetable sellers has a standard error of 0.1891, a multiple R-value of 0.90, an F value of 15.53 and a coefficient of multiple determination of 91%. The F test indicate that the overall fit of the estimated equation is significant at 1% whereas the independent variables explained as much as 91% of the total variation in the marketing margin.

However, transport cost of the vegetable sellers and number of persons assisting related positively with the marketing margin. On the other hand the quantity of vegetable, age of respondents and the education index related negatively with the marketing margin. Invariably, the larger the quantity the lesser the margin, the older the respondents, the lesser the margin and less educated respondents have better margin. However only the transport cost had significant effect on the marketing margin and the changes in marketing margin

attributable to these variables were less than proportionate.

SEA FOOD
The regression equation estimated for the sea food sellers has a standard error of 0.1553, an F value of 32.75, a multiple R of 97% and an adjusted R^2 of 91%, an indication that the overall fit of the regression equation is significant at 1% and the independent variables explained more than 90% of the total variation in the marketing margin. However, among the seafood sellers only age of the retailers related negatively with the marketing margin, but the change in age brought about a less than proportionate change in the marketing margin. Among the independent variables, only the transport cost and the age had significant effect on the marketing margin.

GRAINS
The estimated regression equation for the grains sellers has an F value of 46.25, a multiple R of 0.98, a standard error of 0.1403 and an adjusted R^2 of 94%, which indicate that the independent variables explained as much as 94% of the total variation in the marketing margin. The cost of transportation and the number of sellers had significant effects on the marketing margin. However, age, education index and number of persons assisting were negatively related to the marketing margin. Also, changes in each of these variables brought about a less than proportionate increase in the marketing margin.

Designing An Optimal Micro Finance Scheme For Small Foodstuff Sellers
Lending programs directed at retailers in the food-marketing sub-sector needs to be commodity specific. Such lending schemes must be designed bearing in mind that agricultural produce is seasonal, as such there are peak production periods where there could be glut and there are off seasons where there is scarcity of produce. At peak periods, the market structure allows free entry, and there may be several sellers of homogenous products. At slack periods there is free exit. As much as possible loans for small produce marketing must be self-liquidating. Efforts should be made to march loan repayment with the time pattern of earnings. It is not proper to design a 12-month repayment programme for vegetables and seafood seller when the harvesting and sells of vegetable and seafood spans only one to two month. Invariably financing programme for vegetable and seafood seller should begin at harvest periods, and repayment should be complete at the end of harvest. For small sellers of grains and palm oil, the timing of borrowing and repayment can span throughout the year due to the availability of storage. The regression analyses indicate that transport costs had significant effects on the marketing margin, are positively related to the marketing margin but unit increase in their numbers bring about a less than proportionate increase in the marketing margin in all the cases considered. Loan repayments are greatly enhanced when projects funded with borrowed funds succeeds (Besley 1994, Yaron et al, 1996). Invariably, adding less than proportionately to the marketing margin is not healthy for any meaningful micro finance scheme. For financial schemes to achieve satisfactory levels of loan repayment these variables must add more than proportionately to the marketing margin. Among the palm oil and grain sellers, the quantity of produce handled had significant effect on, are positively related to, but bring about a less than proportionate increase to the marketing margin. This invariably means that one

Table 3: Sales Management Operations

S/N	ITEM	FREQUENCY	PERCENTAGE
1.	Record keeping		
	Always	2	1.72
	Sometimes	39	33.62
	Never	75	64.66
	Total	116	100
2.	Commodity Management		
	Sell of low quality produce at low prices	210	57.38
	Separate spoilt goods before sales	296	87.0
	Mix good with low quality produce before sale	97	26.50
3.	Nature of payment for sales assistant		
	Cash	35	30.17%
	Kind	81	69.83
	Total	116	100
4.	Problematic areas		
	Inadequate/ low storage facilities	73	36.32
	Transport related problems (spillage spoilage etc)	92	45.77
	Storage pest	18	8.96
	Finance	9	4.48
	Weather (rain disturbs trade)	9	4.48
	Total	201	100

Source: Field survey, 2002.

TABLE 4. Multiple Regression Analysis

S/n	ENTERPRISE	REGRESSION RESULTS
1.	Palm oil	$LnY = 3.6 + 0.48LnX_1 + 0.39LnX_2 - 0.28LnX_3$ $(t=3.6)$ $(t=5.33)^*$ $(t=2.85)^*$ $(t=-1.3)^*$ $+ 6.7E-_{02}LnX_4 + 5.0E\ 02\ LnX5$ $(t=0.75)$ $(t=0.33)$ F test = 22.31*; R = 0.84; R^2 = 71.3%; Adj. R^2 = 68% S. E. = 0.3184. [* sig at 1%]
2.	Vegetable	$LymY = 4.3 + 0.69LnX_1 - 4.0E-02\ LnX_2 - 0.11\ LnX_3$ $(t = 2.8)^{**}$ $(6.06)^*$ (-0.34) (-0.22) $- 2.9E-02LnX_4 + 0.101\ LnX5$ (-0.22) (-0.42) F test = 15.53*, R = 0.90, R^2 = 81%, Adj.R^2 = 76%, S. E. = 0.1891 [** sig at 5% ; * sig at 1%]
3.	Sea food	$LnY = 7.8 + 3.4E-04X_1 + 1.5E-_{03}X_2 - 3.6E-02X_3$ $(t = 17.5)^*$ $(t = 5.579)^*$ $(t = 1.7)$ $(t= -2.79)^{**}$ $+ 4.4E-02X_4 + 4.7E-02\ X_5$ $(t = 1.684)$ $(t = 0.328)$ F test = 32.75*; R = 0.97; R^2 = 94%; Adj. R^2=91% S.E. = 0.1553 [** sig at 5%; * sig at 1%]
4.	Grains	$LNY = 2.55 + 0.38LnX_1 + 0.79LnX_2 - 0.34\ LnX_3$ $(t = 2.59)^{**}$ $(t = 2.02)^{***}$ $(t= 3.91)^*$ $(t = -1.294)$ $-1.9E-02LnX_4 - 0.324\ LnX_5$ $(t = 0.227)$ $(t = -2.094)^{***}$ F test = 46.251*; R = 0.98; R^2 = 96%; Adj R^2 = 94%; S.E. = 0.1403. [*** sig at 10%;** sig at 5%; * sig at 1%]

Source; Field survey 2002

unit of palm oil or grains handled must increase the marketing margin more than proportionately. In fact credit programme must increase the quantity of palm oil or grains sold to a level that 1% increase quantity handled brings about a more than 1% increase in the marketing margin. Although the quantity of produce had no significant effect on the marketing margin of the seafood and vegetable sellers, more margin can be ensured if more quantity of the seafood are handled but efforts must be made to assist the traders handle such quantity that will bring about to more than proportionate increase in the marketing margin. For the vegetable sellers the marketing margin decreased as the quantity of vegetables handled increased. This may arise due to the existing low handling and preservation methods as well as the increasing rate of perishability that arise. Sellers may have to reduce the quantity of produce handled per unit time in order to avoid losses and ensure satisfactory margin.

The regression equation also indicated that age was generally negatively related to the marketing margin. This implies that younger sellers generally make better margin comparatively. Invariably, credit programme directed at the food marketing sub sector should foster younger sellers particularly those selling palm oil, vegetable, seafood and grains. On the other hand, the level of education and the number of persons giving assistance had no significant effect on the marketing margin earned, related positively to the margin of some sellers and negatively in others. Invariably, the level of education and the number of person assisting need not be emphasized as criteria for credit worthiness.

There are popular financing arrangements that can be used in designing the financing programme for the small operators in the food marketing industry. These are the non-revolving line of credit and the standard operating loans, [Barry et al, (1998)]. The non-revolving line of credit (where the lender and the borrower agree on a loan amount at the beginning of the year to be supplied and repay loans as specified by a monthly cash flow budget) would best suit the palm oil and the grains traders whereas the standard operating loans (where borrower and lender agree on amount of

loan, purpose, interest rate and repayment dates each time) would suit the sellers of vegetables and sea food.

CONCLUSION

Production, marketing and finance are important organizational areas of the farm business. Finance is particularly important because financial decisions play prominent roles in food production and marketing decisions. In Nigeria, overtime, a considerable impetus has been given to the financing of agriculture by the formal financial institutions. But, information asymmetry, moral hazard, adverse selection and, auditing cost and difficulties in enforcement of contracts culminate in low loan repayment, which discourage formal lenders from extending credit to small operators (Stiglitz 1990, Udry 1990, Eyo 2002). Micro finance schemes save loan processing, screening and collection cost and some emphasize joint liability as a means of solving these problems encountered by formal lenders. In fact, better organized micro finance schemes with efficient institutional design, satisfactory non financial sanctions, and high motivation to use loans properly are known to achieve satisfactory levels of loans repayment (Adams, 1990; Areety and Udry 1997;Ghatak and Guinnane 1998; Igben et al 2002 and Reinke 1998). Formal lending schemes in Nigeria generally lack appropriate packages of incentives [dynamic or static] and non-financial sanctions that compel loan beneficiaries to behave predictably. Micro finance schemes directed at the operators in the food marketing sub sector must be designed to provide financial and non-financial services that are accompanied with appropriate package of dynamic and static incentives to motivate and compel loan beneficiaries to repay loans. The credit package must include efforts to direct credit to younger sellers, reduce the transport cost and increase the quantity of produce handled so as to ensure that the operators earn margins that enhance loan repayments. More importantly regular repayment schedule must be designed for the loan beneficiaries to match their time pattern of earnings. Also research must be packaged alongside these financial and non-financial services to identify problems and solutions that can make the micro-finance scheme a going concern.

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