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## **KENYA ACCESS TO RURAL FINANCE**

### **OMENA VALUE CHAIN FINANCE – RESEARCH AND RECOMMENDATIONS**

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# KENYA ACCESS TO RURAL FINANCE

## OMENA VALUE CHAIN FINANCE – RESEARCH AND RECOMMENDATIONS

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## BACKGROUND

Omena are small finger-like fish captured by fisherfolk along the shores of Lake Victoria. The catch is normally dried and then sold either as a protein rich food source or as a feed ingredient for poultry. Thirty-one percent of Kenya's freshwater fish catch are Omena and the value chain is reported to employ approximately 840,000 Kenyans including fisherfolk, processors, wholesalers and retailers. The annual value of the catch is estimated to approach \$12 mm. Omena is an important value chain from the perspective of food security, entrepreneurship and economic development because the fish provides a low-cost of production protein source for Kenyans and it is primarily a *domestic* value chain where production, processing and consumption take place within Kenya versus Nile Perch and ocean varieties of fish which are largely exported.

During December 2009, USAID's Kenya Access to Rural Finance project (KARF), managed by DAI, conducted research on the Omena value chain. The focus of the study was input suppliers, fisherfolk, primary processors, transporters, wholesalers and retailers. A range of financial institutions were consulted to determine their involvement in the value chain or interest in doing so. Consistent with previous work undertaken by KARF, the research concentrated on buying and selling relationships among value chain actors. The data collected during the research activity defined sizes, values, timing and actors involved in each transaction to inform the development of appropriate financial products and strategies necessary to improve the overall functionality of the value chain.

## METHODOLOGY

In order to commercially finance any given value chain, relationships between buyers and sellers must be well understood. The critical level of understanding necessary for a financial institution to have adequate confidence can be based on appropriate sampling of the market using a statistical formulation to determine a minimum sample size. To develop a collection and analysis strategy, KARF reviewed documentation from prior research on the Omena value chain<sup>1</sup>. Four Omena landing sites<sup>2</sup> around Kisumu were chosen for research since they were considered representative of the entire chain. Questionnaires were developed to collect data from input suppliers, fisherfolk, primary processors, transporters, retailers, wholesalers and large scale processors of animal feed and human food. The questionnaires were brief and concentrated on understanding costs and benefits for each transaction point on a monthly basis.

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<sup>1</sup> The research approach was primarily qualitative and not adequate to provide a solid evaluation of opportunities and risks.

<sup>2</sup> Bondo, Mahanga, Mbita and Sori.

$$n = \frac{Z^2 \cdot p \cdot (1-p)}{(1 - \% \text{ conf})^2} = \frac{(1.96)^2 \cdot 0.5 \cdot 0.5}{(1-90\%)^2} = 96.04$$

Where: **n** is sample size of the fisherfolk and processors interviewed.

**Z** is the mass within 2 standard deviations of the mean in a normal distribution.

**p** is the degree of variability in the sample (0.5 is maximum and lowest risk).

**1-% conf** is the acceptable error (90 of 100 interviews should be accurate).

The actual sample (n) used was 126 fisher folk and 126 processors; actual confidence was 91.5 out of 100 interviews.

Using the Central Limit Theorem, ninety-six processors and ninety-six fisherfolk were targeted to achieve a ninety percent level of confidence in the data collected. In order to ensure adequate numbers were collected – allowing the data collection team to discard dubious information – fisherfolk and processors (126 in each category) were interviewed. Smaller numbers of other actors were also interviewed (ten input suppliers, ten transporters, ten retailers, ten wholesalers and two large processors) since those business are few in number.

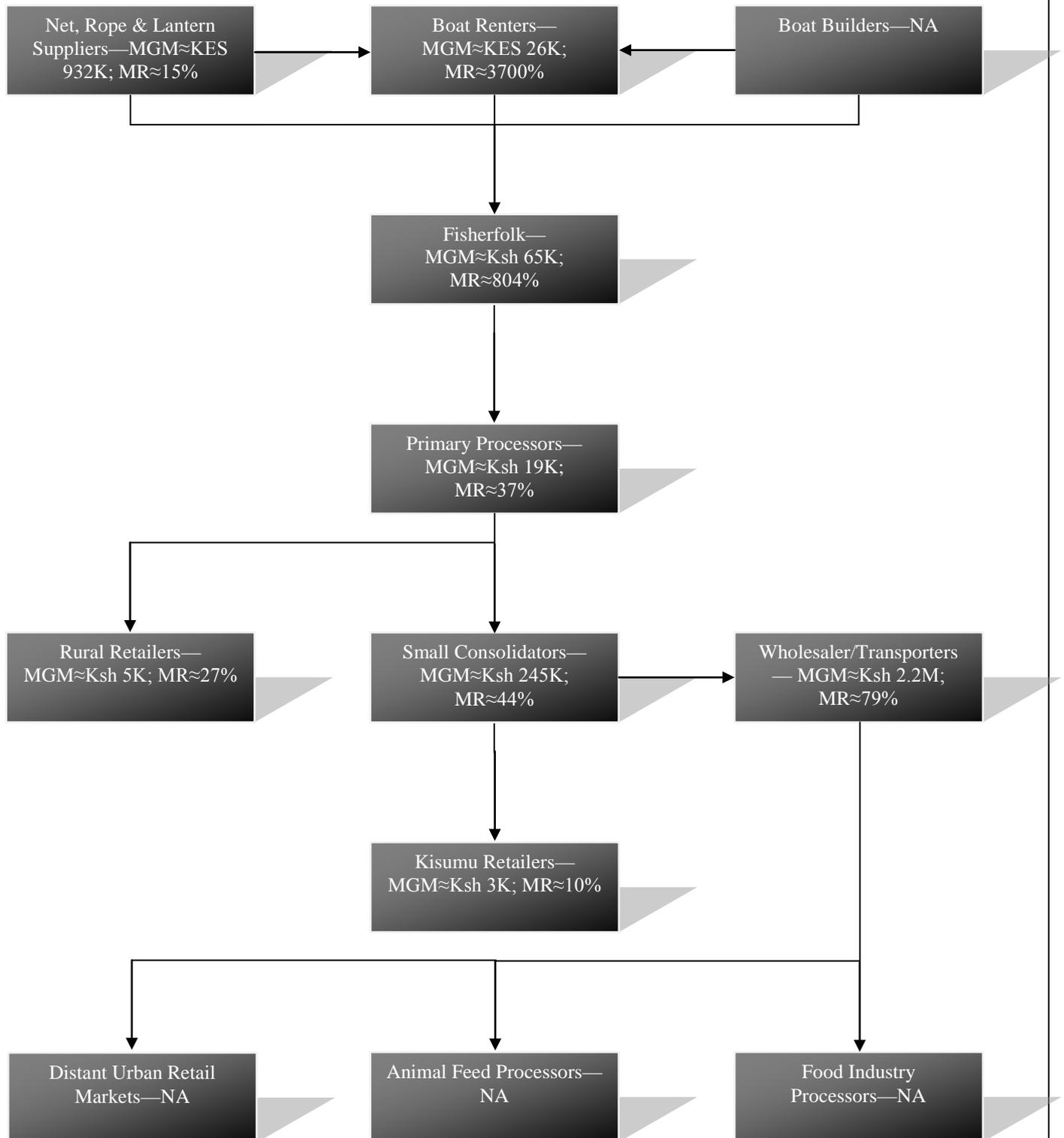
The methodology enabled two key results underpinning the legitimacy of the findings:

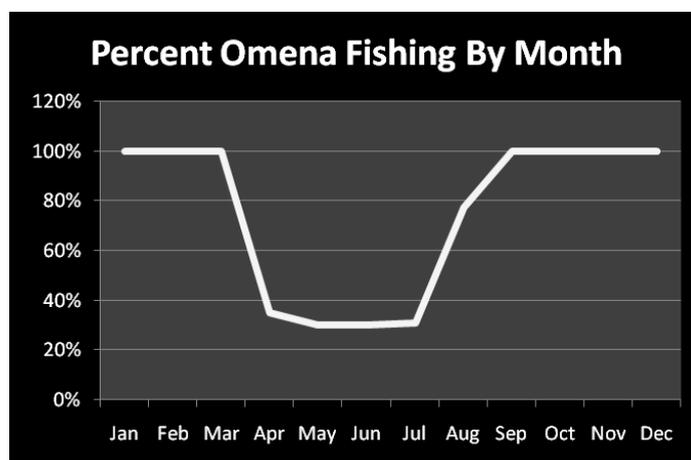
1. The research team was able to measure the degree to which each value chain segment was profitable or not. This information is critical since a financier must be certain that a client is profitable and that the market a potential client sells into must also be profitable and capable of accepting greater supply.
2. With a large enough sample, findings can be generalized across the general population of 50,000 fisherfolk and 840,000 total value chain actors. While a sample size of ninety six might be of some interest to a financial institution, a detailed and clear understanding of how to finance 840,000 transactions is far more attractive for obvious reasons.

## BROAD FINDINGS

Overall, the Omena value chain functions very well. Profits earned at each segment of the value chain were more than adequate to support finance and transaction times were short in duration. Large terminal market actors were eager to increase the reliable supply of Omena. These conditions create an ideal situation for financing since profitable and rapid turnover transactions with a well understood and commercialized terminal market optimally meets financiers' dual goals of high profit and low risk. The diagram on the following page illustrates the various transactions points along the Omena value chain.

**Overview of Omena Value Chain with Average Profitability for Value Chain Segments  
(MGM=Monthly Gross Margin; MR=Monthly Return on Cost; NA=Not Available)**





## Input Supply

Specialized input suppliers for fisherfolk are few in number. Most fisherfolk source nets and lanterns either from Kisumu or from weekly markets. Planning to interview ten input suppliers at each landing beach, only one interview was completed because suppliers were not available. Fisherfolk were found to purchase eleven nets and one lantern annually (average). Since 50,000 fisherfolk are active in the value chain, the dearth of retail supply available at all times presents a potential and profitable business opportunity. Input suppliers interviewed in Kisumu earned between seven and twenty-three percent monthly on sales of fishing supplies. Monthly gross margins ranged from Ksh 50,000 to Ksh 2.2 mm.

## Fisherfolk

Fisherfolk are numerous and profitable. Fishing is done at night with boats either rented or owned with teams of four to five workers. The majority fish full time only seven of twelve months since restrictions on fishing are placed by the government from April through August. This restriction prevents about seventy percent of fisherfolk from working in April, May, June and July with twenty percent of total resuming in August. In other months, 100 percent of fisherfolk work. This fact is reflected in the graphic showing the percent fishing and the table demonstrating how incomes and profits fluctuate by month.

Eighty-eight percent of fisherfolk sell their Omena on cash terms. Only thirty-one percent of fisherfolk participate in any form of organized savings and only five percent have credit from a financial institution. Forty-six percent of fisherfolk rent their boats even though costs of owning a boat are not substantial (Ksh 36,000 depreciated over fifty-one months). Boat owners earn an average annual return of 1,470 percent while boat renters earned average annual returns of 788 percent. Annual gross margins for renters and owners are similar because

	All		Sori		Bondo		Mahanga		Mbita	
	GM	R/T	GM	R/T	GM	R/T	GM	R/T	GM	R/T
Jan	87,309	1220%	124,420	1992%	66,993	568%	47,811	485%	41,400	412%
Feb	90,017	1282%	127,479	2096%	68,439	573%	46,542	467%	46,920	472%
Mar	91,759	1270%	129,172	2038%	69,107	582%	33,611	293%	59,114	657%
Apr	29,384	227%	11,325	5%	44,061	392%	16,160	74%	68,275	712%
May	22,529	202%	-	0%	50,375	433%	13,019	86%	58,179	558%
Jun	22,632	205%	-	0%	53,984	464%	13,238	90%	55,371	543%
Jul	25,088	228%	-	0%	57,463	485%	17,419	115%	61,719	621%
Aug	68,987	716%	55,760	829%	56,588	444%	53,343	479%	121,655	835%
Sep	89,641	1101%	103,476	1556%	80,298	677%	85,373	660%	67,392	664%
Oct	78,872	1021%	92,353	1473%	85,886	748%	49,211	400%	59,328	572%
Nov	81,453	1045%	97,211	1532%	92,111	736%	44,570	380%	57,862	573%
Dec	87,236	1137%	109,357	1702%	100,621	807%	43,561	394%	50,320	546%
Σ	774,908		850,554		825,927		463,859		747,532	

renters work more frequently than owners. The average annual gross margin of all fisherfolk interviewed was Ksh 774,000 and the average return on cost was 1,160 percent. From the sample, geography had a large impact on profit as location determined when a person fished. Nonetheless, in all cases, fishing was found to be highly profitable.

## Processors

Processors purchase the Omena from fisherfolk at landing beaches.

Processing is rudimentary and usually done by stretching old fishing nets over stones and spreading Omena to dry in the sun. Drying takes a single day with practically no costs other than labor, the cost of old nets (which are owned or rented) and Omena itself.

	All		Sori		Bondo		Mahanga		Mbita	
	GM	R/T								
Jan	29,626	46%	42,959	45%	19,633	47%	20,093	47%	15,452	47%
Feb	29,632	46%	42,861	45%	20,529	47%	18,749	47%	15,355	47%
Mar	25,374	45%	35,025	43%	18,574	47%	17,952	47%	14,914	47%
Apr	9,889	20%	7,325	4%	16,760	43%	3,773	26%	11,192	31%
May	5,894	17%	243	0%	15,097	41%	4,098	26%	9,889	29%
Jun	6,084	18%	243	0%	15,563	41%	5,517	27%	9,988	30%
Jul	6,320	17%	243	0%	16,411	40%	7,320	29%	9,863	29%
Aug	21,812	38%	28,565	38%	19,461	43%	19,446	48%	12,379	33%
Sep	24,402	45%	31,554	43%	21,836	47%	19,708	48%	14,904	47%
Oct	23,176	45%	29,466	43%	20,173	47%	20,868	48%	14,897	47%
Nov	23,926	45%	30,597	43%	21,719	47%	20,799	48%	14,652	47%
Dec	25,258	46%	33,680	44%	22,354	47%	19,830	48%	13,945	47%
<b>Σ</b>	<b>231,392</b>		<b>282,762</b>		<b>228,109</b>		<b>178,152</b>		<b>157,429</b>	

As seen in the table, business follows the fishing cycle. April through August is lean for many processors and particularly where the fishing ban is enforced. Eighty percent of the processors sell on cash terms while twenty percent are paid within four days after selling (average). Twenty-two percent of the processors interviewed accessed credit; thirty-three percent engaged in savings (either with financial institutions or informally in self-help styled groups); and sixty-one percent belonged to some sort of self-help group. The average annual gross margin for these processors was Ksh 231,000 and average annual return on cost was forty-six percent. Processors are clearly profitable enough to support financing and would benefit greatly from income smoothing savings products when cash is accumulated during the fishing months and withdrawn during lean periods when income is scarce.

## Off-Takers

Dried Omena is purchased from processors either by local retailers or wholesalers. They consolidate it for sale to retailers away from the lakeshore or for sale to commercial processors. Retailers are essentially petty traders. Most retailers have access to microfinance. Wholesalers range from micro to very large. Smaller wholesalers consolidate sacks of Omena and transport product to Kisumu using matatus (private public transport minibuses) where they sell into the retail market or to larger traders for further consolidation and sales. The data for monthly gross margins for smaller traders was approximately Ksh 120,000. Larger wholesalers use their own or hired trucks and earn as much as Ksh 4.5 mm monthly selling Omena to markets as far away as Mombasa and to commercial processors based in Nairobi.

## Processors

Unga Limited, the largest animal feed manufacturer in Kenya, buys and processes large volumes of Omena. Unga purchases and processes fifty metric tons each week to manufacture poultry feed. Omena is delivered weekly to the Unga factory in Nairobi by a handful of regular providers. Unga has experienced price volatility ranging from twenty-five to thirty percent on wholesale Omena over the past year (2009). Omena is normally stored in Nairobi for up to four weeks prior to processing in an attempt to stay ahead of demand; ideally, Unga would prefer to warehouse inventory closer to the source of production and manage the delivery itself to Nairobi on a weekly basis to reduce spoilage and optimize utilization of storage space. Unga is eager to develop a competitively sourced, forward priced, reliable, quality-assured supply of Omena.

## GENERALIZED BROAD FINDINGS

With a large sample size of fisherfolk and processors, the study team generalized findings to the entire population involved in the value chain. Using probability and statistical tools, the data demonstrated that as the sample size grows, the more closely it approximates the actual population studied. As noted in the methodology, a sample size of 126 yields a ninety percent confidence level in the data across the full population of fisherfolk.

## Fisherfolk

The broad population of fisherfolk, according to the literature reviewed, consists of approximately 50,000 actors. Therefore, the averages for cash flows, incomes and expenses across the population interviewed provide an excellent proxy for the full 50,000 fisherfolk.

Clearly, a tremendous amount of cash is paid to Omena fisherfolk. Almost Ksh 44 bb (\$620 mm) is paid to fisherfolk on an annual basis; and after deducting business related costs, they retain Ksh 39 bb (\$550 mm).

Item	Average Annual Value	Multiplied by 50,000
Revenue	868,424	43,421,199,187
Costs	(93,516)	(4,675,809,782)
Gross Margin	774,908	38,745,389,405
Potential Savings		8,020,295,607

Thirty-one percent of fisherfolk interviewed saved in regulated institutions or with self-help styled groups. Therefore, sixty-nine percent of fisherfolk income in no way reaches the financial system – i.e., approximately Ksh 27 bb (\$380 mm). If thirty percent of these *unbanked* funds are captured as savings deposits, an additional Ksh 8 bb (\$115 mm) would be added in liabilities to Kenya’s financial institutions (and theoretically available for intermediation less Central Bank of Kenya reserve requirements).

Forty-six percent of fisherfolk rent boats with a single unit costing Ksh 36,000 (\$520). A large potential audience exists for micro-leases or small asset loans. A boat crew averages five individuals and those persons could collectively own a boat used for fishing. Forty-six percent of the sample surveyed did not own boats, implying that across the population of fisherfolk almost half the 50,000 use rented equipment. Self-owned boats would eliminate

costly rental fees and increase disposable income for capacity improvements and production. Potentially, loans or lease portfolios across this population might reach Ksh 170 bb (\$2.3 mm).<sup>3</sup>

### Primary Processors

The Omena value chain consists of approximately 25,500 primary processors. Averages for cash flows, incomes and expenses across the population interviewed provide an excellent proxy for the full 25,500 primary processors.

Item	Average Annual Value	Multiplied by 25,500
Revenue	726,586	18,527,949,375
Costs	(495,194)	(12,627,448,134)
Gross Margin	231,392	5,900,501,241
Potential Savings		1,186,000,749

Unlike fisherfolk, margins earned by primary processors were much smaller but still remarkable. Almost Ksh 19 bb (\$260 mm) is paid to processors on an annual basis after deducting business costs (purchasing costs for Omena). After expenses, processors retain Ksh 5.9 bb (\$80 mm).

Thirty-three percent of processors interviewed save in regulated institutions or with self-help styled groups. Therefore, sixty-seven percent of processor income does not reach the financial system – i.e., approximately Ksh 4 bb (\$55 mm). Again, if Kenya’s financial institutions attract thirty-percent of this income as savings deposits, it would introduce an additional Ksh 1.2 bb (\$16.5 mm) in liabilities aggregated across the balance sheets of institutions engaged in this market.

Fisherfolk and Primary Processors Percent Accessing Savings and Credit											
	All		Sori		Bondo		Mahanga		Mbita		
	FF	PP	FF	PP	FF	PP	FF	PP	FF	PP	
Savings	31%	33%	25%	40%	45%	30%	19%	13%	40%	24%	
Credit	5%	22%	5%	32%	0%	26%	6%	0%	8%	9%	

## INDIVIDUAL LANDING SITES SPECIFIC TRENDS

Among the four landing sites, several observations were specific to but different for each location. The data collection and subsequent analysis to underpin the development of financial products and financing strategies is noted, when necessary, to provide a better understanding of specific local markets evaluated. The table shows access to savings and credit by landing site for fisherfolk and primary processors as compared with the total sample interviewed.

### Sori Beach

Sori Beach is a large landing site. As a consequence, almost half the data was collected from Sori Beach. With respect to fisherfolk, averages for incomes, expenses, and trends in savings and credit were extremely close to the sample average. The aggregate sample average across all beaches reported thirty-one percent of fisherfolk accessed savings, whereas Sori Beach the figure was only twenty-five percent, representing an opportunity, albeit it small,

<sup>3</sup> No environmental impact is implied. Adding substantial fishing capacity to Lake Victoria may not be environmentally or financially sustainable if Omena stocks become depleted.

to mobilize additional savings among fisherfolk at Sori. The seasonality of cash flows was more significant for Sori Beach versus other sites surveyed. The capture of fish effectively drops to zero between May and July due to the ban on fishing, intended to allow Omena breeding and restocking the lake. Fisherfolk interviewed did not fish while the ban was effective. Productivity in the months of April and August leading into and out of the banned months is very low. This reality provides an additional justification for savings mobilization during the robust fishing months that would create a reserve of cash for the fisherfolk during the long lean season. Microenterprise loans during the lean months could be used to underpin income generating activities, offsetting lost income from the fishing ban.

Primary processors at Sori Beach earn significantly more than counterparts at other landing sites. The financial premium earned by Sori fisherfolk is due to large numbers of processors attracting more buyers which therefore reduces the effort and resources needed to consolidate supply. Thus, consolidation time and effort is condensed by the higher price of Omena, a positive result of increased competition to procure Omena (more processors buying from fisherfolk with more transporters and others procuring from processors). As with fisherfolk, processors effectively lose their livelihood between April and July. The sample of processors at Sori Beach had significantly more savers than the overall sample (forty percent save at Sori Beach versus thirty-three percent of the total sample). Savings mobilization should be promoted since Sori processors generated higher levels of cash among the four landing sites. In addition, Sori processors suffered the most, among the four beaches, as a result of the three and a half month fishing ban.

Increased use of finance by processors was also observed for borrowing. In the overall sample, twenty-two percent of processors accessed credit. At Sori Beach, the figure was thirty-two percent. Concerning processors, Sori has the highest capacity to support financial services due to higher levels of revenue generation and better cash flows. This situation offers the opportunity to support higher levels of borrowing. Again, the seasonality of incomes could potentially drive a market-based solution for saving during times of high productivity and borrowing for microenterprise during the months when fishing is banned.

## Mahanga Beach

Mahanga Beach is a small landing site. It is remote and can only be accessed by boat. Approximately ten percent of the data collected came from this location. Fisherfolk using Mahanga Beach as a landing site earn smaller returns and gross margins versus any of the other sites surveyed. In fact, they earn between forty-six percent and sixty-three percent of the margins earned by fisherfolk from other sites. Their experience with and attitude toward savings is also weak. Only nineteen percent of the sample accessed savings versus thirty-one percent for the total. Their access to credit was effectively in step with the sample average; six percent of fisherfolk access credit while the total sample average was five percent. The location is fairly remote and accessible only by boat which accounts for lower margins and inability to access savings services among fisherfolk. Of the fisherfolk sampled, over thirty percent fished every month of the year despite the ban on fishing from May to July due to the remote location of the site.

Monthly gross margins and returns on costs for primary processors at Mahanga Beach fell well below the sample average. As with the fisherfolk, access to financial services was also below average. In terms of access to credit, no one in the sample had received a loan. Thirteen percent accessed savings, comparing poorly with the thirty-three percent sample average. Processing took place year round with sixty-three percent doing so year round.

### Bondo Beach

Bondo Beach is also a small landing site but not as remote as Mahanga. Approximately twenty percent of the data came from this location. The fisherfolk at Bondo Beach were profitable. Their monthly gross margins and return on cost were below the sample average. Since they fish throughout the year, annual returns were above the sample average. Savings activities were also above the sample average with forty-five percent of the fisherfolk engaged in some form of savings versus thirty-one percent of the total sample average. Conversely, access to credit was well below average with no fisherfolk stating they accessed credit. Unlike other beaches, twenty-seven percent provided Omena to processors on credit with an average payment period of five days.

Primary processors at Bondo Beach were in almost perfect sync with the total sample with respect to monthly gross margins and returns on cost. Twenty-six percent of primary processors accessed credit as compared with twenty-two percent of the total sample; while thirty percent accessed savings compared to thirty-three percent of the total sample. Processing continued throughout the year for eighty-seven percent of processors surveyed at Bondo Beach.

### Mbita Beach

Mbita is a medium sized landing site. Approximately twenty percent of the data was collected at Mbita. Fisherfolk at Mbita were the least profitable measured in monthly returns on cost among the entire sample. However, in terms of annual gross margins, they were close to the sample average since the majority of the fisherfolk (eighty-four percent) fish throughout the year. Forty percent of fisherfolk access savings services which is well above the sample average of thirty-one percent. Eight percent of fisherfolk access credit in line with the sample average of five percent.

Mbita Beach primary processors fared less well than their counterparts at other landing sites. Annually, they earn gross margins valued at sixty-seven percent of the sample average. Nonetheless, returns on costs are close to the sample average, meaning these processors are equally profitable as their counterparts but simply earn profits on a smaller scale. Measured against savings and credit, Mbita processors were well below the sample average. Twenty-four percent access savings services versus the thirty-three percent of the sample average; nine percent access credit against twenty-two percent of the sample average. This reality is attributable to the lower overall income earned by Mbita processors versus counterparts at other landing sites.

# STRATEGIC RECOMMENDATIONS

## Income Smoothing

Savings for income smoothing in both fisherfolk and processor segments is necessary and feasible. Economic activity for fisherfolk and primary processors essentially stops during the fishing off-season when bans are largely enforced. Fisherfolk and primary processors quickly deplete cash reserves during this time as few have structured mechanisms (and the self discipline) to set aside and accumulate robust earnings when fishing is legal, creating a financial cushion to draw down during the slack season. Unfortunately, this situation underpins various economic problems andacerbates social ills. Interrupted cash flows constrict financing into the value chain, thereby slowing economic growth and development. It also creates the conditions for usurious relationships between fisherfolk and primary processors as processors scramble to procure the small quantities of Omena caught in spite of the ban<sup>4</sup>.

## Owning Equipment Enhances Bankability

Large numbers of fisherfolk and primary processors rent equipment despite purchase affordability (based on actual cash flows). Ownership of assets, including boats, fishing nets and drying racks<sup>5</sup> could be achieved through financing leases at very low-risk to the lessee over a short-term period. These leased assets, in turn, could be used as collateral to leverage additional financing while significantly improving profitability and accumulation of income and assets.

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<sup>4</sup> It is well documented that most fisherfolk are men and the majority of primary processors are women. When Omena supply is scarce, processors exchange sexual favors for Omena (in addition to cash) which has led to social ills, the proliferation of HIV/AIDs and erosion of communities.

<sup>5</sup> While the literature reviewed for this study notes that drying racks are essential for quality control, and buyers interviewed cited quality control as a real concern, the study team did not actually observe any processors using this low cost item.

## FINANCIAL PRODUCT RECOMMENDATIONS

The data analysis clearly revealed adequate levels of qualified demand for financial services by various actors in the Omena value chain. The development and marketing of financial products are summarized in the table below.

Financial Product 1: Micro-Lease Financing for Fisherfolk and Primary Processors	
Description	Provision of assets for fisherfolk, such as: boats, equipment kits (including nets, lanterns, floats, paraffin tins, etc.). Primary processors: drying racks, nets, etc. secured by the asset itself on finance lease terms. End user makes a down payment of twenty percent of the asset cost but the financier retains ownership of the asset until the last rental installment is paid by the borrower upon which ownership of the asset can be passed to the borrower on agreed terms.
Potential Market	Forty-five percent of fisherfolk rent boats; no primary processors have access to drying racks and thirty-three percent of primary processors rent old fishing nets for drying. To start with, a minimum of 300 leases per landing site is realizable.
Value	Micro-leases ranging among Ksh 7,000 (drying nets); Ksh 10,000 (drying racks); Ksh 40,000 (fishing boats) per lessee with minimum value of the lease equivalent to eighty percent of the asset cost leased and yielding a portfolio of between Ksh 8.4 mm to Ksh 48 mm the first year.
Timing	September 2010: with the onset of the fishing season, financial institutions offering lease products are well positioned with limited modification to current practices to enter the market.
Risk and Risk Mitigation	<ol style="list-style-type: none"> <li><b>1. Borrower default:</b> Retrieve and resell the asset.</li> <li><b>2. Loss of asset (specific) through theft, accident, fire and other hazards:</b> Make insurance mandatory for the higher value leased assets (comprehensive insurance in the case of assets with relatively high value); brand the leased assets and/or recover through guarantees.</li> <li><b>3. Poor quality assets supplied to borrowers:</b> Partner with reputable vendors and TA entities sourcing suitable assets.</li> <li><b>4. Asset poorly maintained by the lessee:</b> Repayment periods kept short (entirely feasible) to minimize risk of wear and tear accelerating asset depreciation.</li> <li><b>5. Overfishing resulting in encumbered cash flows and reducing repayment capacity:</b> enter the market with modest incremental increases in the fishing fleet.</li> </ol>
Complementary TA	<p><b>Financial:</b> Product development support and/or loan guarantees.</p> <p><b>Non-financial:</b> BDS support, particularly to primary processors, and introduction/enforcement of quality standards by Omena buyers.</p>

### Financial Product 2: Income Smoothing Structured Savings

Description	Regular contract savings deducted from Omena sales during high season from September to April payable with interest in four fixed-value withdrawals during the low production/processing season (May, June, July and August) to enable fisherfolk and primary processors to meet regular business (and household) financial requirements and have minimum cash required to diversify into other microenterprises.
Potential Market	Fisherfolk and primary processors in all beach landing sites that permit the realization of 15,000 potential clients (minimum target from the potential universe of 75,000 fisherfolk and processors).
Value	Minimum value of Ksh 5,000 per saver every month realizing a minimum of Ksh 75 mm monthly (or Ksh 600 mm annually) in low cost savings' liabilities.
Timing	Product implementation beginning September 2010.
Risk and Risk Mitigation	<b>Early withdrawal of savings:</b> Embed forfeiture of interest on savings withdrawn early.
Complementary TA	<b>Financial:</b> Support for product development, product launch and marketing.

### Financial Product 3: Savings for Processing Equipment

Description	Primary processors save a monthly predetermined non-withdrawable portion of his/her Omena revenue stream for subsequent investment in drying racks. When the accumulated savings meets the needed level, it is disbursed as a voucher to purchase the drying equipment.
Potential Market	Primary processors at all beach landing sites. The minimum number of potential clients is 25,000.
Value	Savings worth Ksh 2,000 monthly for five months with a total liability value of at least Ksh 50 mm for twenty percent of primary processors.
Timing	Continuous savings (beginning September 2010 for a maximum of eight months).
Risk and Risk Mitigation	<b>Early withdrawal of savings:</b> Embed forfeiture of interest on savings withdrawn early.
Complementary TA	<b>Financial:</b> Support for product development, product launch and marketing.

Financial Product 4: Short-Term Working Capital Structured Settlement for Omena Bulk Marketing	
Description	Primary processors borrow short-term working capital to accumulate large quantities of Omena and deliver to a Kisumu warehouse. A single buyer purchases Omena after a quality test and pays cash to the lender for the Omena. Lender deducts principal and interest and rebates balance of payment to processors' savings accounts.
Potential Market	250 primary processors at beach landing sites in proximity to Kisumu.
Value	Lines of credit with an average outstanding balance of Ksh 5 mm monthly for five months. If the business model succeeds at making the market more efficient, other buyers should emulate it, increasing as much as 100 fold.
Timing	Beginning September 2010.
Risk and Risk Mitigation	<b>Non-Performance in Terms of Omena Delivery:</b> For the pilot period, lend on a two to three day basis until confidence and systems are in place.
Complementary TA	<b>Financial:</b> Support for product development, product launch and marketing. <b>Non-Financial:</b> Support for organizing primary processors at beach landing sites, transport and a warehouse in Kisumu.