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Commercial Ice Distribution Strategy and Key Program Activities for Mbita Ice Plant Kenya, Ltd.

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ACKNOWLEDGEMENT AND DISCLAIMER

This report entails the study on commercial ice production and distribution strategy for MBITA ICE PLANT in Suba District. The study was undertaken by **Mr. Stanley Karuga** (Team Leader) and **Dr. Richard Abila** for Mbita Ice Plant (K) Ltd on behalf of ACDI/VOCA and with support from Kenya BDS.

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We would wish to stress that opinions expressed in this report are purely those of our own based on observations and findings during the study period. We therefore take full responsibility for any errors of omission or commission that may be found in the report.

Stanley Karuga & Richard Abila

LIST OF ACRONYMS AND ABBREVIATIONS

BMU	Beach Management Unit
DFO	District Fisheries Officer
DoF	Department of Fisheries
EU	European Union
FCS	Fishermen Cooperative Societies
GDA	Global Development Alliance
GDP	Gross Domestic Product
GOK	Government of Kenya
ICIPE	International Centre for Insect Physiology and Ecology
IDI	Islanders Development Initiative
IFP	Industrial Fish Processors
KBDS	Kenya Business Development Services
KDA	KREP Development Agency
MIPKL	Mbita Ice Plant Kenya Ltd
MOL&FD	Ministry of Livestock and Fisheries Development
MOU	Memorandum of Understanding
MT	Metric Tons
USAID	United States Agency for International Development

1.0 INTRODUCTION

Kenya's fish sub-sector generates around 200,000 MT of fish and related products annually. Production is derived from three sources, which include inland fresh water lakes/natural dams/rivers; marine; and fish farming-on artificial ponds/dams scattered across the country. Freshwater sources accounts for close to 97% of total annual landed volume of fish in the country. Although currently accounting for a just around 0.3% of the country's GDP, the subsector is significant source of livelihood especially for people living in Lake Victoria basin and along the Indian Ocean coast line of the country. This is in terms of food, employment and income generation, foreign exchange earnings and animal feed in the form of fishmeal. Available information indicates that the subsector employs about 600,000 people directly. However, in total more than one (1) million people are believed to be benefiting from the subsector both directly and indirectly. These include people involved in various activities such inputs supply, fishing, transport, processing, marketing and retailing. Of the total number of beneficiaries, close to 43,000 comprise fishermen with over 35,000 of them operating around Lake Victoria while about 8,000 are operating along Kenya's Coast line of the Indian Ocean. Most of these fishermen operate artisanal fishing methods using a variety of fishing gears, mainly gillnets, long lines (hooks), small seines, beach seines and traditional traps. Currently, the subsector generates approximately Kshs 7.6 billion or close to US\$ 107 million¹ of which about Kshs 4 billion or close to US\$ 56 million is in the form of foreign exchange earnings. Nile perch accounts for about 95% in volume and value of Kenya's total fish exports. In 2004, the country exported about 16,000 MT of fillet valued at US\$ 55 million. Although, not fully exploited due to the widespread informality of fish business operations, the subsector contributes about Kshs 150 million or close to US\$ 2.1 million in the form of government revenue through payment of taxes, licences and levies. While the Nile Perch fish variety is mainly exported, the Dagaa and Tilapia species are important sources of low cost protein for the local people.

1.1 Brief Overview of Lake Victoria Fish Subsector

Lake Victoria is by far the most important source of fresh water fish accounting for more than 92% of all fish landed in the country. The Lake's output is dominated by three commercial fish species comprising Nile perch, Tilapia and Dagaa (*omena*). Although total catch has been on the decline over the last decade, recent data indicate that about 160,000 MT of fish were landed in 2005 from Kenya's portion of Lake Victoria, which accounts for only 6% of the total water mass on the lake². Of the total landed volume, Nile perch accounted for around 51,000 MT, Tilapia 22,000 MT and Dagaa 82,000 MT while the other fish species combined accounted for around 5 MT. Nile perch and Tilapia combined account for 82% of the value of landed fish, making them the most important commercial fish species in the lake. Close to 70% of the fisher folks operating in Lake Victoria target these two fish varieties which they supply to landing beaches where the Nile Perch is sold mainly to agents of the Industrial Fish Processors-IFP and the Tilapia to other traders. IFP agents in turn supply fish (mainly Nile Perch) to industrial fish processing establishments while regional/local traders supply (mainly Tilapia) to local and regional urban markets.

1.2 Overview of Suba District Fish Subsector

This study focused on parts of Suba District (see cover page) which is one of the eight districts sharing Lake Victoria coast line. The other districts include Bondo, Busia, Kisumu, Rachuonyo, Migori, Nyando and Homa Bay. Suba district has an estimated area of 1,055 Km² and a population of around 190,000 people. Administratively, the district is divided into five administrative divisions, Mbita/Rusinga Island; Gwasii; Mfangano; Central and Lambwe. Of the total annual landed volume of fish from Lake Victoria, Suba district accounts for around 40,000 MT or 25%. Of the district's total annual fish landing, the Nile perch and Tilapia species constitute about 65% or approximately 26,000 MT per year or which the Nile Perch accounts for about 20,000 MT. The district has approximately 104 landing sites-representing about 33% of all fish landing beaches in the

¹ At the current exchange rate of about Kshs 71 to the Dollar.

² The Lake has an estimated area of 68,000 Km² of which Tanzania accounts for 49% while Uganda accounts for 45%.

country. It has about 12,000 fishermen or nearly 28% of all registered fishermen in Kenya and 34% of all registered fishermen operating in Lake Victoria. Over 3,500 fishing boats are currently operating in the district.

1.3 Rationale for the Study

As mentioned earlier, Lake Victoria fish subsector is important source of livelihood especially for people living in the lake basin of whom about 83% live below the poverty line. In recognition of this, the USAID-funded Kenya BDS programme supported a *Fish Subsector Study* for the lake region around October/November 2003. The study identified key constraints which were hindering growth of the subsector as well as BDS interventions aimed at triggering increased rural household incomes in the area in line with USAID/Kenya Mission Strategic Objective 7 (SO-7). Among other things, the study identified inadequate availability of ice for preservation of fish (especially for Nile Perch and Tilapia) as one of the key constraints inhibiting growth in incomes for the rural fisher folks around the lake.

Fish is a highly perishable product and ice is a critical input for preservation at every point of the supply chain, right from the time it is removed from its natural habitat to the time it is actually prepared for consumption. Despite this fact, available ice in the area does not cover the entire supply chain. Currently, use of ice for fish preservation is only practiced by the Industrial Fish Processor (IFP) channel which concentrates on the Nile Perch predominantly for export to the EU. In this channel, ice is used at all levels of the supply chain right from the point it is purchased from fishermen in the lake or at the landing sites, during transportation to IFP factories, at the factory level and during exportation of various related products such frozen/chilled fillet to final market destinations. There are 11 operational IFPs in the country of which 7 of them concentrate their efforts around Lake Victoria. Of these 6 IFPs regularly purchase fish in the study area. These IFPs dominate services related to supply of ice and ice containers which in any case are not extended to the fisher folks and other potential users. Although this provides a needed service in an indirect way, it reinforces a dependency relationship upon the trader, and lowers any negotiating leverage on the part of fisher-folks. Against this background, Kenya BDS felt there was need for an appropriate mechanism to enable fisher-folks directly acquire ice from Lake Victoria-based ice manufacturers, and store fish at the landing sites for extended periods whenever need arises, particularly to enhance the bargaining power.

Appointed IFP agents get some ice from IFP transport vehicles for use in their collection boats which travel to pick fish at the beaches. However, independent fisher folks (who comprise an overwhelming majority) have no access to ice for preservation in the fishing boats. Ice is also not available at the landing sites for fish preservation in the event that IFP agents (and their trucks) are not available for immediate collection. Lack of ice for boat owners and at the landing sites is a major underlying reason for the high fish rejections which in some instances are as high as 40% to 50% of caught volume. It is also one of the key reasons underlying low prices offered by IFP agents which in some cases is as low as 15% for fish that stays over-night without preservation. In addition, it is also the main reason why many IFPs are no longer able to produce the highly-priced chilled fish fillet for export due to poor fish quality they receive from fishermen. These constraints formed the basis for this study which focused on a number of selected beaches, though it is expected that this could form a basis rolling out to other areas in the future.

1.4 Objectives of the Study

The main objective of the study was to conduct focused market research on the viability of a commercial ice distribution program for the fish subsector in Mbita mainland and the surrounding Islands. It was expected that the study would among other things, build upon the “Keringet Water Brand model”; provide the necessary program design, costing and tools to successfully replicate the proposed activity³. In this respect the study was expected to specifically undertake the following activities:

❖ *Analyze Supply and Demand for Ice*

- By conducting a quick market assessment to *determine overall requirement and the current volume of supply and demand for ice* in Mbita area and the surrounding key fish producing islands;
- By determining the *current level of ice utilization* in the study area;
- By assessing the *current and potential ice production by Mbita Ice Plant*;

❖ *Select Target Beaches for the Pilot Phase*

- By conducting a rapid assessment to identify potential beaches to be included in the pilot phase and to which Mbita Ice Plant will sell ice and support ice container supply programme;
- By developing a short list of 20 landing sites and prioritizing 15 of them for potential collaboration during the pilot phase based on appropriate criteria;

❖ *Identify Appropriate Containers*

- By identifying manufacturers currently supplying ice containers along the lake;
- Determining the most appropriate containers taking into account value for money-cost effectiveness versus quality, capacity to supply appropriate sizes and ability to offer effective back up services;

❖ *Design an Appropriate Strategy for Commercial Ice Distribution*

- By designing an effective and efficient commercial ice distribution strategy for MIPKL focusing on selected pilot beaches;
- Detailing relevant programme activities, work plans; resource requirements and costing to achieve commercial viability;

❖ *Provide Tools and Guidance for Implementation*

- By designing relevant sample agreement between MIPKL and buyers (e.g. lease, hire purchase and rent agreement documents among others) for beach-based ice containers as well as supply contract for regular delivery of ice;
- By Designing operational Memorandum of Understanding-MOUs between MIPKL and selected Beach Management Units-BMU as well as between MIPKL and other key collaborating parties where such an MOU is deemed appropriate;

❖ *Support Stakeholders Ownership Process*

³ The proposed program should initially be piloted in the study area focusing on MIPKL as the initial source of ice, though it would cover multiple ice plants leasing ice containers directly to fisher-folk cooperatives at the landing sites through annual lease agreements, as well as distributing ice to these clients through long-term contracts.

- By facilitating a stakeholders' work shop including BMU representatives of short-listed beaches for pilot activity, MIPKL management, Suba District BMU Chairman, Mbita District Fisheries Officer, representatives of selected ice container manufacturers, representatives of WET, Osienala, Africa Now, Kenya BDS, USAID and other relevant parties;
- By preparing a concise form-explaining the strategy, ways and means of implementation-and distributing it to participating BMUs for further discussion with fisher folks in their respective beaches and submission to Kenya BDS for consideration;
- By assisting in competitive selection of 15 beaches (out of 20 pre-selected beaches) for pilot phase collaboration/intervention;

❖ *Support Rolling out of Interventions*

- By providing hand-holding support as needed to ensure that participating beaches understand their commitments and obligations under the programme as well as coordinating with MIPKL to ensure that logistical, operational and financial systems are in place to ensure successful and sustainable implementation of the programme.

1.5 Selected Study Area

Area selected for the study around Mbita Town and the islands of Rusinga, Remba, Ringiti, Takawiri and the greater Mfangano. Of close to 104 landing sites found in the district, these islands have the majority accounting for close to 80% of the district's fish catch. These 104 landing sites are distributed as follows: Mbita/Rusinga Island Division (41), Gwasi Division (21), Mfangano Island Division (20), Central Division (18) and Lambwe Division (4).

This study covered 21 landing sites spread across the following areas:

- Mbita mainland (3);
- Rusinga Island (6);
- Remba Island (1);
- Ringiti Island (1);
- Takawiri Island (1);
- Greater Mfangano Island (9);

1.6 Study Approach and Methodology

This study was based on both secondary and primary data and information. Data and information from the latter source was gathered during field interviews which were conducted in Nairobi, Mbita mainland and surrounding Islands and Kisumu. With the exception of data/information on landed volumes of fish and information regarding MIPKL's past and current operations, financial support and partnership arrangements with other parties which were provided by MIPKL management and Kenya BDS, there was very limited secondary information from other sources. Consequently, much of the data and information used in the preparation of this report was collected by the consultants during the field work phase. Those interviewed included key people in the following:

- MIPKL management (Nairobi) and technical staff (Mbita);
- BMU management staff (Mbita mainland and surrounding Islands);
- Suba District Fisheries Department (Mbita);
- Plastic Ice Container Manufacturers (2 of them in Nairobi);
- IFP fish collection agents (Mbita mainland and surrounding Islands) ;
- Fishermen and boat owners (Mbita mainland and surrounding Islands);
- W.E. Tilley (Nairobi)

- IFP and ice producers (2 in Kisumu);
- Africa Now (Nairobi);
- Kenya BDS (Nairobi)
- Independent traders (Mbita mainland and surrounding Islands);
- KREP-Development Agency (Nairobi);
- SASA Kenya Ltd-(Mbita);

2.0 ICE SUPPLY AND DEMAND ANALYSIS

In this report, analysis of supply and demand for ice is focused on Nile Perch and Tilapia fish species which are the fish varieties for which preservation is an unavoidable requirement along the supply chain.

2.1 *Ice Production in Lake Victoria Region*

In Lake Victoria region as whole, there are only a few manufacturers of ice whose combined output is however inadequate to meet the needs of IFPs, fisher folks and other potential users such as soft drink kiosk owners-where electricity is not available. These manufacturers comprise two broad groups which include the following:

- **IFPs manufacturers** comprising *FP 2000, East African Seafood and Peche*, each with a processing factory in Kisumu producing ice only for their own use during transportation from the landing sites, at the factory and during exportation.
- **Independent commercial ice manufacturers** who comprise the following:
 - *Mbita Ice Plant* in Mbita Town who are currently producing only 1 MT per day;
 - *Webuye Wholesalers Ice Plant* in Kisumu who are currently producing about 6 MT per day;
 - *Victoria Ice Manufacturers* in Kisumu who are producing about 4.5 MT per day;
 - *Tanaka Ice Plant* in Kisumu town which produces about 5.6 tons per day;
 - *Bunyala Fishermen Cooperative Society Ice Plant* at Marenga Beach at Port Victoria which has just started and is expected to produce an estimated 15 MT per day;

2.2 *Supply Analysis in the Study Area*

Supply of ice for fish preservation and other uses in the study area originates from three sources

- Industrial Fish Processors (IFPs);
- Mbita Ice Plant (K) Ltd; and;
- Coca Cola Company (K) Ltd.

Except for ice originating from IFPs which purchase fish in and around Suba district, the only other sources of ice supply in the study area is Mbita Ice Plant and Coca Cola Bottlers. That of the IFPs is specifically for own-use and is not offered to the fisher folks or other potential users, except little bits that are sold illegally by IFP agents. Ice from Coca Cola Co. Ltd, which is said to consist of small and irregularly supplied quantities, is also only meant for traders dealing with the Company's products. Thus the only current source of ice for use by fisher folks is the Mbita Ice Plant which at the moment is producing an overly insignificant amount in relation to local needs. Ice from independent manufacturers listed in the foregoing section is normally destined to other areas of the lake and rarely reach Suba District or Mbita area. Thus lack of ice for preservation of fish remain as one of the biggest constraints to growth in fish-related income-generating activities especially from the point of view of losses, poor quality of fish and the resultant low selling prices.

2.2.1 Industrial Fish Processors

No systematic analysis of ice supply in the study area has been conducted in the past. However, field interviews conducted during this study indicated that Industrial Fish Processors (IFPs) are by far the most important sources. According to W.E. Tilley, all the 11 operational IFP companies in Kenya produce approximately 500-600 MT per day specifically for their own use. Based on individual and focused group discussions with IFPs and their agents, Beach Management Units (BMUs) and other sector players, this study estimates that on average 70-80 MT⁴ of ice comes in and out of the study area every day through this channel though the daily volume tends to vary depending on the availability of fish and weather conditions which dictate accessibility through road transport. The main IFPs which regularly operate in the study area include the following:

- (i) **Capital**-with a processing factory in Homa Bay;
- (ii) **W.E. Tilley (WET)**-with a processing factory in Ruraka-Nairobi;
- (iii) **Midas or Prinsal**-with a processing factory in Migori,
- (iv) **FP 2000**- with a processing factory in Kisumu;
- (v) **East African Seafood** -with a processing factory in Kisumu; and,
- (vi) **Peche**-with a processing factory in Kisumu.

Ice gets to the area through agents of respective IFPs who frequent the lake region to purchase Nile Perch fish. Once ice is produced, it is loaded into trucks of various sizes ranging from 4-12 tons. These trucks travel with the ice to the landing sites to buy fish. A small proportion of the ice is often loaded into collection boats owned by IFP's agents for purposes of preserving fish collected from fishermen operating off-shore. Fish delivered by collection boats and that which is purchased at the landing sites is loaded into the trucks with ice and transported to the factory for processing after which the processed products are then packed in insulated containers and exported. Thus, except for a minute but unknown volume of ice that sometimes is illegally sold (as far as IFPs are concerned) by a few agents to fisher folks at the landing sites and also to soft drinks traders in the local area, the bulk of the ice originating from IFPs literary comes in and out of the study area and is not available for use by fisher folks either at the landing sites or in the fishing boats.

2.2.2 Mbita Ice Plant

Plans to construct Mbita Ice Plant and a few others in strategic sites around Lake Victoria and along the Indian Ocean coast line-was originated by the Government of Kenya-GOK in early 1980s. The Mbita Ice project was aimed at improving fish handling to enhance quality and to help reduce post harvest losses in the study area by establishing an ice plant and cold storage facilities to provide the fisher folks with a facility that would preserve their catch as they negotiate for better prices. With the local community having donated ten-acres of land, GOK started constructing Mbita Ice Plant in 1993. By 2003, an equivalent of US\$ 698,000 had been invested by way of community-donated land, building and machinery constructed by GOK. Having shown interest in the project, the government invited the local community to manage the plant, with the objective of transferring its ownership to them at a later date. The community then formed Mbita Ice Plant Kenya Limited-MIPKL through the assistance of *Islanders Development Initiative (IDI)*, on behalf of the Suba District Co-operative Union. Mbita Ice Plant is therefore a company limited by shares of which fisher folks from around the district are the majority shareholders. MIPKL has been managing the assets which include the land, a building, ice making units, three cold rooms with a total capacity of 125 MT (which are intended for preservation of fish and other things), water pumps and tanks, and water supply and filtration/purification equipment.

The company's current business lines-which are however operating at a very low scale, include the production of bottled drinking water and ice flakes. Although it was not within the mandate of this study, it was clearly observed that these business lines are operating unprofitably for reasons related to problems of inputs supply-

⁴ These are derived from estimates from the following sources: Nyagina BMU-who gave a figure of 48-96 tons/day; Kiumba BMU - who gave a figure of 78 tons/day; Mbita Town BMU-who gave a figure of 70-80 tons/day; and IFP agents at Sindo Beach-who gave figures ranging from 70-90 tons/day.

e.g water from the county council and water bottle labels, high costs of operation, lack of technical capacity and general management. In addition, MIPKL has plans to open two other business lines in future, a *fish filleting business line* especially for Tilapia targeted at domestic institutional consumers, and a *fish preservation business line*. The latter is intended to be linked to a central fish auction market system to be established at a later stage. Whether MIPKL should eventually undertake all these businesses or just concentrate on ice making and bottling of drinking water is a point that should be addressed objectively.

The current ice production capacity at full technical and managerial efficiency at the Mbita Ice Plant was difficult to establish. However the plant is currently producing about one (1) MT of ice flakes per day though it was noted that production was irregular due to various problems including those mentioned in the preceding paragraph. Due to the scarcity of the commodity, MIPKL is able to immediately sell whatever they are able to produce which is normally packed in 100 kg bags (polythene) and sold at a price of Kshs 3.50 per Kg⁵. The main buyers are the Tilapia traders for fish preservation during transport to local and regional markets. However, with the recent grant awarded by USAID amounting to US\$300,000 and the pledged donation of two used ice-making machines from W.E. Tilley, MIPKL expects to increase production significantly. Two new ice-making plants have already been imported using part of the funds provided by USAID under the GDA facility. Each of these new ice-making units has a output rating of 15 MT of ice per day which means at best both units are expected to produce an additional 30 MT of ice per day. The remaining funds are being used for the construction of a new building to house the machines and also for the procurement of a brand new 4-ton truck to be used in ice distribution around Mbita mainland and Rusinga Island. According to MIPKL management staff, the two-used machines, which W.E. Tilley has pledged to MIPKL, are each expected to produce 12 tons of ice per day which, if it turns out to be true, works out to a total of 24 tons per day. To the extent that the above expectations materialize, it is expected that MIPKL will be able to produce a maximum of 54 MT of ice per day, even without taking into account production from the currently installed units.

2.2.3 Coca Cola Co. Ltd

Ice supply from this source constitutes very small amounts specifically meant for kiosk owners selling Coca Cola products. The amount is not well known but according to one company agent, the average amount delivered to the area is about 2 MT per day. It is not known how much of that enters the fish sub-sector supply chain.

2.2.4 Summary of Estimated Total Supply of Ice

Taking into account the above reviewed sources of supply, our best estimate of average daily supply of ice in the study area at the moment is as indicated in table 1 below:

Table 1: Total Estimated Supply of Ice-Study Area

Supplier	Estimated Supply per Day Equivalent (MT)	% of Total
IFPS	75	96%
Coca Cola Co.	2	2.5%
MIPKL	1	1.5%
Total	78	100%

Assuming no additional supplies will be forthcoming from the IFPs and Coca Cola Company, it is expected that, total supply in the study area will be about 132 MT of ice per day when Mbita Ice Plant expands its production capacity as planned.

2.3 Demand Analysis

Broadly speaking, potential demand for ice in the study area can be expected to come from the following consumers:

⁵ MIPKL has never worked out their selling but merely adopted the price previously charged by ICIFE when they were producing and selling ice.

- *Fishermen*-for preservation of fish during fishing expeditions and transportation to the landing sites;
- *Fisher folks*-for preservation during storage at the beaches while awaiting collection from IFP agents;
- *IFPs and their agents*-for preservation during transport to and at the factory;
- *Independent Traders*-for preservation of fish during transport to various markets destinations, especially for Tilapia which is sold in the local and regional markets;
- *Kiosk and beer bar owners*-for cooling of beers and soft drinks.

Ice requirements for preservation of fish in the fishing boats, landing sites and IFP trucks offer the largest market potential for ice utilization in the area. The rest are currently small consumers although demand by Tilapia traders is somewhat significant and on the increase in recent years.

2.3.1 *Estimated Technical Requirements of Ice*

As mentioned earlier, the Nile Perch and Tilapia are the only two main fish species which require preservation. The Omena species normally does not require ice-based preservation. Technically speaking, the required ratio of ice to fish for purposes of proper preservation should be 1 ton of ice to 1 ton of fish. Going by this recommended ratio, the maximum ice requirement in the study area would therefore be equivalent to the sum total volume of fish caught by fishermen multiplied by three given that fish caught will require ice in the fishing boats, at the landing site and during transport. Based on this extreme assumption, one could argue that with the annual fish landing in Suba district alone estimated at 26,000 MT-Nile Perch and Tilapia combined (see section 1.2 above), the upper limit for ice requirement in the district would be in the order of 78,000 MT of ice per year around 250 MT of ice per day⁶. This implies that the current average daily supply of 78 MT per day meets only about 30% of daily ice requirement in Suba district.

For the 21 beaches that were visited during the study (see table 4), close to 310 MT of fish are landed weekly which is equivalent to about 52 MT per day. On the basis of the above-stated technical ratio, ice requirement for these landing sites would be in the order of 930 MT per week or about 155 MT per day. For the 13 selected pilot beaches, the total volume of fish landed is approximately 275 MT per week or approximately 46 MT per day, implying that technically-based requirements amounting to 825 MT of ice per week or 138 MT per day.

Thus, on the basis of technically recommended utilization, the current daily supply of ice from all sources combined (amounting to 78 MT per day) in Suba district and in the study area, results in overall deficits of about 30% and 50% respectively.

In practice, utilization of ice neither actually happens at all the three supply chain levels (fishing boats, landing site and land transport) nor has it been deemed necessary by the fisher folks considering that some of the fish are off-loaded from the boat straight into IFP trucks. Thus the above estimates would probably be on the higher side and would not represent a realistic approximation of potential demand for ice.

2.3.2 *Estimated Short Term Potential Demand*

(a) *IFP Agents*: IFP agents are currently the main users of ice for preservation of fish. Even for these users, it was observed that a majority of them actually use less than technically recommended ratio of 1:1 partly due to the high cost associated with transportation of ice to and from the landing sites. Notwithstanding this practice, it is probably safer to assume that short term potential demand by IFPs is around their current level of utilization estimated at 75 MT of ice per day.

(b) *Fishermen*: In practice, the fisher folks have not been using ice in the fishing boats or at the landing sites. Many of the fisher folks interviewed seemed reluctant to use ice during their fishing expeditions largely because

⁶ This is based on a six-day fishing week equivalent to 312 days a year.

most (about 80%) of the landed fish is often picked by IFP agents soon after arriving at the landing sites. Only the long line fishermen were somewhat willing to consider this issue positively and, for that matter, not immediately. Thus, in the short to medium term it would be safer to assume that there will be little or no demand from these actors, though technically speaking, close to 84 MT⁷ of ice per day would be needed in the long run to preserve fish while in the fishing boats.

(c) *Landing Sites:* All fish caught by fishermen ends at the landing sites and the same volume of ice (84 MT) would be required if the entire volume were to be stored at this point of the supply chain. According to the fisher folks, not all fish caught and taken to the landing sites require ice preservation largely because some are immediately off-loaded from the fishing boats straight into IFP trucks, which normally have ice. However, there is growing interest for ice to cater for over-night preservation at the landing sites for fish that arrive after IFP transportation trucks have left. These late deliveries emanate mainly from long line fisher folks who go deeper into the lake and therefore return late in the evening (up to 10 P.M). The proportion of late deliveries is gradually increasing with reduced catch rate, the increasing need to go deeper into the lake and the extended periods required for the accumulation of sufficient volume before embarking on the return journey. While this is the case, the reasons given for not using ice at the landing sites are lack of ice and appropriate/affordable ice containers. Our estimate is that on average, approximately 20% of fish arrive late and therefore in need for ice for overnight preservation, implying that in the whole of Suba district, about 5,200 MT of fish per year or close to 17 MT per day are landed after IFP agents have left the landing sites. Therefore, close to 17 MT of ice per day would be needed in the entire district just to cater for late deliveries.

During this study, it was observed that the variation between the minimum and maximum volume of fish landed per BMU per day tends to vary very widely as indicated in table 1, making estimation of daily ice requirements a rather complex endeavour⁸. However, respondents (including BMU leaders and fishermen) were asked to indicate what they considered as the most reasonable weekly averages of landed fish and the volume that arrives after IFP vehicles have left the respective beaches. Based on this approach, the study team estimates that on average; about 310 MT of Nile Perch and Tilapia fish are landed every week across all the 21 beaches visited, translating into about 52 MT of fish being landed daily. With an estimated 20% of the volume arriving late, close to 10 MT of ice per day is needed by these 21 beaches merely to cater for over-night preservation at the beaches.

(d) *Tilapia Traders:* Most of the Tilapia produced in the area is transported by traders (mainly women) to regional markets such as Nairobi, Kisumu and Mombasa. The need for ice to preserve fish during storage and transportation to these market destinations is very high, yet only small amounts are accessible through illegal sales by IFP agents. Based on landed volume of Tilapia fish in Suba district which average about 6,000 MT per year, it is estimated that potential demand in the district by all Tilapia traders combined would be around 115 MT of ice per week or approximately 19 MT per day. In the study area, the Fisheries Department and MIPKL staff estimates that the current utilization of ice by Tilapia traders is about 5 MT per day.

(e) *Kiosk owners:* In addition to the little supplies that originate from Coca Cola, these potential ice users also buy some unknown amounts from IFP agents. Our estimate (based on information from a few kiosk operators in the study area and information from one Coca Cola agent), is that short term potential demand for ice by Kiosk owners in Mbita town and other surrounding urban centres is currently around 30 MT per week or approximately 5 MT per day. It is important to point out that demand for ice in this area is also growing rapidly with increased urbanization and is expected to become a significant consumption outlet in the future.

2.3.3 Summary of Estimated Total Fish Subsector Requirements for Ice

⁷ This is based on the average daily landing (312 days) taking into account Suba District produces close 26,000 MT of Nile Perch and Tilapia fish.

⁸ The variations are as low as 1,300-2,300 Kgs of fish per day-which is equivalent to 7,800-13,800 kgs per six-day week at the Nyamasare Beach or as high as 40-3,000 Kgs of per day which is equivalent to 240-180,000 kgs per six-day week at Mbita Town Beach.

If utilization of ice occurred at the recommended rate and at all levels of the supply chain, total requirement for ice would be as indicated in table 2 below:

Table 2: Estimated Fisher folks Requirement for Ice at full Utilization

Ice Requirement	Suba District (MT/Day)	Sampled Beaches (MT/Day)
Fishermen	84	52
Landing sites	84	52
IFP-for Nile Perch only	64	40
Traders-Tilapia only	19	12
Total	251	156

As mentioned earlier, this level of utilization may not be realized in the immediate future as field investigations seemed to suggest. It is more likely that requirements will be for late deliveries only. In addition, there will be requirements by other non-fisher folk users. On this basis, table 3 provides estimations for potential ice demand in Suba district and around the sampled beaches under two scenarios, with scenario 2 being the more likely situation in the near future.

Scenario 1: Potential demand based on the recommended ratio of 1: 1, and also assuming actual utilization at all levels of the fish supply chain (in the fishing boats, landing sites, during transport by IFPs and Tilapia traders) and by kiosk owners;

Scenario 2: Potential demand based at the recommended ratio, but limiting utilization to preservation of late deliveries at the landing sites, during transport by IFPs and Tilapia traders, and also kiosk owners for cooling of soft drinks as well as beer. This is considered as the more realistic short term potential demand for ice in the study area as demand for preservation in fishing boats is less likely to materialize in the short run. This conclusion is based on field observations which indicated that fishermen had no immediate keenness to make use of ice while on fishing expeditions but were more interested in preserving late deliveries.

Table 3: Estimated Short Term Requirement for All Potential Users

Potential User	Scenario 1:	Scenario 2:
	Technical-based Requirement for Ice (MT/Day) Based on use at all levels of the supply chain-fishing boats, landing sites ⁹ and road transport	Short term potential Demand for Ice (MT/Day) Based on needs of IFPS, landing sites for late deliveries, Tilapia Traders and Kiosk owners ¹⁰
Suba District		
Fishermen (based on daily landed catch)	84	0
Landing Sites (based on 20% being late deliveries)	17	17
IFPs-Nile Perch	75	75
Tilapia Traders (based on daily landed catch)	19	19
Kiosk owners	5	5
TOTAL	200	116
For Sampled 21 beaches		
Fishermen (based on 20%-being late deliveries) ¹¹	52	0
Landing Sites ¹²	10	10
IFPs ¹³	47	47

⁹ Note that only late deliveries (20%) are considered at this point of the supply chain.

¹⁰ Excluding requirements for fisher folks on account that short term potential demand seems uncertain-based on field level findings.

¹¹ Based on daily landing from the 21 beaches (i.e 310 MT per week/6 days).

¹² Being 310 MT per week/6 days * 20%.

Tilapia	12	5
Kiosk Owners	3	3
TOTAL	124	65

With overall availability estimated at 78 MT of ice per day, the above analysis suggests that ice deficits in the district are of the following magnitudes:

- About 122 MT of ice per day or approximately 60% based on technically recommended ratio of 1:1 and with demand for landing sites being confined only to requirements for late deliveries;
- About 38 MT of ice per day or approximately 30% based on technically recommended ratio of 1:1 and excluding ice utilization in the fishing boats on the basis of the low keenness observed during the field study;

2.4 Targeted Beaches for the Pilot Phase and the Selection Criteria

Suba District has around 104 landing sites of which 61 are situated within the study area (Mbita and Mfangano Divisions). For purposes of selecting the list of pilot beaches, this study used the following set of key criteria which was first discussed with the Fisheries Department, Suba District BMU Chairman and a few other key players operating in Mbita including fisher folks and IFP agents. A major factor in deciding on the criteria was the potential for it to effectively support the establishment of a successful commercial ice distribution business for MIPKL. The key criteria used included total landed volume, volume of late deliveries, existence of storage facilities, strength/stability of BMUs, willingness to participate in the activity, accessibility from MIPKL, and geographical outreach. Each of these criteria and the underlying rationale for their use are briefly discussed below:

2.4.1 Average Landed Volume of Nile Perch and Tilapia Species

The need for ice to preserve both the Nile Perch and Tilapia along the supply chain is critical and the landed volume for these two fish species can be considered a good proxy for potential demand of ice. Based on interviews with the respective BMU representatives, the 21 beaches that were visited receive approximately 310 MT of Nile Perch and Tilapia fish per week or close to 62% of total weekly landing in the entire Suba District. In the study area, beaches in Mfangano Division account for the largest share, with Remba and Ringiti in the lead.

2.4.2 Average Volume of Fish Delivered Late

While fish arriving in time for off-loading from fishing boats into the IFP trucks also need ice (at least in the fishing boats), ice requirement for over-night preservation of fish arriving after IFPs have left the landing sites appeared very critical. Indeed, most BMUs indicated this was their first priority. Most of the late deliveries originate from the fact that a majority of the long line fishermen have a tendency to go deeper into the lake and hence unable to return in time to catch the IFP agents at the landing sites. This is often compounded by problems associated with mechanical breakdowns or bad weather. Those arriving late have either to keep their fish or have it delivered to where IFP trucks may be still available. In either case, losses have to be incurred by way of quality deterioration and hence the ultimate reduced selling price (where fish is stored without ice) or by way of additional costs incurred for transport to the main IFP collection beaches e.g Sindo and Mbita. Losses associated with these problems are often very high. For example, Ringiti BMU informed the study team that on 2nd April 2006 some 3,000 Kgs of Nile Perch fish arrived after IFP agents had left forcing the concerned fishermen to sell their catch at Kshs 20 per kg instead of the current market price of Kshs 105, resulting in losses amounting to Kshs 255,000 in a single day. Kiwari beach reported that they lost Ksh 250,000 in a single

¹³ Based on 62% being the proportion accounted for by the 21 sample beaches in the entire district's daily landing (i.e 52/84) percentage contribution to overall daily landing in the district

day in 2005 for the same reasons. Litare Beach also indicated that they lost approximately 20% of sales revenue every day due to lack of ice for over-night preservation.

2.4.3 Existence of Banda

Ice distribution business is not possible without availability of appropriate ice containers and storage. Availability of a banda was considered an important criterion on account that ice requires containers and that such containers require safe custody in the form of a banda or other forms of storage. This is necessary for enhancing freshness of ice for a longer period and for security reasons. Of the 21 sampled beaches, 12 of them have bandas of varying quality and sizes. The other 9 beaches either have no banda or are in the process of constructing one.

2.4.4 Strength/stability of BMU

The capacity of BMUs particularly in terms organization, management and finance strength are critical factors in determining the possibility of carrying out a sustainable ice distribution business. This was considered an important criterion because it is a good indicator the ability to effectively honour contract agreements as may be entered into with respect to procurement of containers and ice under the proposed MIPKL commercial ice distribution business initiative. In general, BMUs were found to be weak, with the exception of a few such as Remba (4 beaches), Ringiti (3 beaches) and Kiumba Beach in Rusinga Island. The rest of the beaches are generally weak, especially in terms of management and financial capacities. Many of these beaches rarely hold BMU meetings, have no bank accounts and have little or no savings.

2.4.5 Willingness to Participate in the Proposed Ice Distribution Programme

Willingness to participate in the MIPKL commercial ice distribution is a critical factor in determining the success of the initiative. Due to the frequent and high financial losses associated with fish landed late, BMUs interviewed overwhelmingly indicated great interest to participate in the programme. This is with the exception of Litare beach which was very reluctant to enter into the proposed programme. In this regard, interviewed BMU officials clearly indicated that they were willing to pay for ice upfront but preferred lease purchase in the case of ice containers.

2.4.6 Accessibility from Mbita Ice Plant

Accessibility to the Mbita Ice Plant is among crucial factors which will determine the success of the ice distribution initiative. All beaches are accessible from Mbita Ice Plant through water transport, but those in Mbita mainland and Rusinga Islands are also accessible through road transport. It should be noted that water transport appeared far more expensive than road transport and where possible road transport should be given first priority.

2.4.7 Regional Outreach

This was considered an important criterion taking into account the need to have a broad-based participation in the programme by fisher folks and their cooperative societies. This was deemed important particularly given that share-based ownership of Mbita Ice Plant is spread across all beaches of Suba district.

Taking into account the above-described criteria, beaches selected are spread across the divisions of Mbita/Rusinga Island and Mfangano Island as well as Gembe and Kaksingiri areas. The table below indicates beaches selected for inclusion in the pilot phase-marked (√). Those marked (x) may be considered in any other subsequent phase that may follow.

Table 4: Selected Beaches and Key Selection Criteria

Name of Beach	Location	Average Landed Volume (Kgs/week)	Estimated Average Volume of Fish Arriving Late (kgs per /week)	Estimated Ice Requirement (Tons/Week) ¹⁴	Willingness to Participate	Strength /Stability of BMU	Accessibility	Existence of Banda	Potential Pilot Beaches
Remba	Remba Island	108,000	21,000	21.0	Yes	Strong	Water Transport	Yes - 4	√
Ringiti	Ringiti Island	72,000	15,000	15.0	Yes	Strong	Water Transport	Yes - 3	√
Mbita Town	Mainland	40,200	6,000	6.0	Yes	Strong	Road Transport	Yes	√
Kiumba	Island - Rusinga	10,200	2,100	2.0	Yes	Strong	Road Transport	Yes	√
Kiwari	Island - Mfangano	4,200	1,500	1.0	Yes	Strong	Water Transport	Yes	√
Takawiri	Island	6,000	1,200	1.0	Yes	Strong	Water Transport	Yes	√
Ulugi	Island - Rusinga	6,000	900	1.0	Yes	Modest	Road Transport	Yes	√
Nyakweri	Island - Mfangano	4,200	600	0.5	Yes	Modest	Water Transport	Yes	√
Mrongo	Island - Mfangano	1,800	800	1.0	Yes	Strong	Water Transport	Yes	√
Wakula	Island - Mfangano	3,000	450	0.5	Yes	Modest	Water Transport	Yes	√
Sindo Gateway ¹⁵	Mainland	9,000	1,500	2.0	Yes	Modest	Road Transport	Incomplete	√
L/Nyamasare ¹⁶	Mainland	6,000	900	1.0	Yes	Weak	Road Transport	Yes	√
Masisi	Island - Mfangano	4,200	600	0.5	Yes	Weak	Water Transport	Yes	√
Nyagina ¹⁷	Island - Rusinga	24,000	2,400	2.4	Yes	Modest	Road Transport	Yes	x
Sena	Island - Mfangano	2,400	600	0.5	Yes	Weak	Water Transport	Incomplete	x
Ugina	Island - Mfangano	1,500	600	0.5	Yes	Weak	Water Transport	Yes	x
Kitawi	Island - Mfangano	1,800	300	0.3	Yes	Weak	Water Transport	None	X
Kasarani	Island - Mfangano	600	150	0.2	Yes	Weak	Water Transport	None	X
Uta	Island - Rusinga	2,100	200	0.2	Yes	Weak	Road Transport	None	X
Litare	Island - Rusinga	1,200	150	0.2	Yes	Modest	Road Transport	None	x
Utajo	Island - Rusinga	360	150	0.2	Yes	Weak	Road Transport	None	x
Total		309,960	57,100	57.0					

3.0 AVAILABILITY OF ICE CONTAINERS AND ESTIMATED COSTS

Insulated containers are an integral part of fish preservation without which losses in the form of quality deterioration and hence reduced selling price is inevitable. The range of containers that have been tried for ice and fish storage around the study area comprise locally-made containers made of wood and plain iron sheet; plastic containers (with or without insulation) and insulated fiberglass containers all of varying sizes depending on the specific needs and source.

Currently there is minimal usage of any of these types of ice-storage containers at the landing beaches. Out of the 21 landing sites visited, only 5 had some sort of container provided by IFP agents often on condition the fisher folk sell fish to them and not other buyers. Except in Kiumba Beach where 2 plastic containers (imported

¹⁴ Ice requirement is based on average daily volume of fish delivered after IFP agents have left and at the ratio of 1 ton of ice to 1 ton of fish translated into weekly requirements (i.e replenishment of ice every two days). For example Remba requires 7,000 kgs of ice every two days which translates into 21,000 Kgs per week. Ringiti beach requires 5,000 Kgs of ice every two days which translates into 15,000 Kgs per week.

¹⁵ Representing Kaksingiri area;

¹⁶ Representing Gembe area;

¹⁷ Mainly dealing in omena;

from Malaysia) owned by IFP agents were found, the other containers noted were the locally-manufactured type using wood and plain iron-sheets. Most of these containers were small with storage capacity ranging from 200-500 Kgs and were poorly insulated, hence not ideal for ice storage. A visit to plastic container manufacturers in Nairobi, including Roto Tanks and Kentainers, revealed that they do not normally produce insulated plastic containers unless on order for a sizeable number. Kentainers used to manufacture such containers but stopped due to lack of market. Roto Tanks indicated that they could manufacture insulated containers on order for a minimum of 50 units.

3.1 Price Estimates for Fiberglass Ice Containers

As part of the preparation for commercial ice distribution initiative, MIPKL had recently invited price quotations for the supply of fiberglass insulated ice storage containers from three local companies. Specifications in terms of size were 8ft x 4ft x 3ft and 8ft x 4ft x 4ft. The choice of these sizes was based on MIPKL's conviction that this is an appropriate size for most beaches. Indeed, our field interviews seemed to corroborate this position. Most interviewees preferred this size which in our own estimate has a capacity equivalent to 1-1.5 tons of fish. In response to MIPKL call for price quotations for these sizes of fiberglass containers, average prices quoted were as follows¹⁸:

Type of Container	Dimensions	Maximum Volume	Unit Cost-Kshs	Implied Cost per Unit of Volume-Kshs
Fiber Glass	8ft by 4ft by 4ft	128 cubic feet	93,500	730
	8ft by 4ft by 3ft	96 cubic feet	82,500	859

3.2 Price Estimates for Plastic Ice Containers

Under the recently approved request to the EU by Africa Now for funding to support the fisher folk communities in Suba District over a period of 4 years, acquisition of ice containers (both in fisher boats and landing sites) was one of the targeted interventions. Africa Now has agreed to support landing site-based ice storage containers that may be leased under the Kenya BDS dissemination activity. To this end, Africa Now has factored in funds for ice container design and supply of about 15 units whose capacity is yet to be determined, but approximated at 1 ton (according to Africa Now). According to Africa Now, the approximate amount which had been factored in for ice container design was €1,500 or Kshs 127,500, while the approximate amount factored in the project for the purchase was €900 or Kshs 76,500. The actual price has yet to be confirmed. In addition, local manufacturers of plastic containers e.g. Kentainers and Roto Tank companies indicated that they are no longer in the business of making ice containers unless on large orders.

3.3 Choice of Ice Container

Ideally, the choice of ice containers should consider a number of critical factors. These include unit cost, efficiency in ice storage, durability, appropriateness with respect to size as per the needs of fisher folks, maintenance cost and after-sale service, among others. Taking into account the average unit cost, efficiency, durability and preferences of the fisher folks, MIPKL prefers the use of fiberglass ice containers. This study concurred with this view on account of the above-mentioned parameters. In particular, an important advantage of the fiberglass variety is that they can maintain ice freshness for 3-4 days compared with plastic containers which are said to achieve 2-3 days. According to various ice container users, they are hardy, more durable and easy to clean.

3.4 Proposed Distribution of Ice Containers

Based on the criteria and selection of pilot beaches presented in table 4 above, it is proposed that a total of 18 containers be provided for and distributed as follows:

¹⁸ The quotations are inclusive of design cost if 15-20 units are purchased.

Table 5: Proposed Distribution of Ice Containers

Area	Name of Beach	No. of 1 Ton-Sized Ice Containers
Mbita Mainland	Mbita Town	1
	Sindo gateway	1
	Luanda Nyamasare	1
Rusinga Island	Kiumba	1
	Ulugi	1
Mfangano Island	Kiwari	1
	Nyakweri	1
	Mrongo	1
	Wakula	1
	Masisi	1
	Takawiri	1
Remba Island	Remba Coop Society	1
	Sango	1
	Winam	1
	Nairobi	1
Ringiti Island	Koiwai	1
	Muefco	1
	Ringiti Development Self Help Group	1
TOTAL		18

4.0 MBITA ICE PLANT PROJECT AND COLLABORATING PARTIES

Under the current arrangements for ice production, its distribution and that of ice containers, Mbita Ice Plant will be collaborating with a number of parties interested in promoting the business in the study area and probably beyond as circumstances allow. Each of these parties as briefly discussed below are/will be contributing to the project in various ways. Key parties include the following:

- (i) The Government of Kenya;
- (ii) Local communities-through Fisher Folk Cooperative Societies;
- (iii) Mbita Ice Plant (K) Ltd-MIPKL
- (iv) Islanders Development Initiative Ltd-IDI;
- (v) USAID-through the Global Development Alliance (GDA) and Kenya BDS;
- (vi) Osienala;
- (vii) W.E.Tilley;
- (viii) Africa Now
- (ix) KREP Development Agency

The following is a brief overview of the MOUs governing the cooperation between the above-listed parties, though that of Africa Now-MIPKL and Krep-Development Agency is yet to be designed and agreed upon.

4.1 MOU between GOK-MIPKL and IDI Ltd

As mentioned in section 2.1.2 of this report, the Mbita Ice Plant project was initiated by the Government of Kenya in 1980s after the local communities donated a 10-acre piece of land for this purpose. The project was completed around 2003 after which the Government-under the auspices of Public-Private Sector Partnership Initiative-decided to hand over to the community to run it, though the issue of ownership **was not and is still**

yet to be definitively concluded. To run the project, the local community-through Suba District Co-operative Union, formed Mbita Ice Plant Kenya Limited-MIPKL with the assistance of Islanders Development Initiative (IDI) who are up to now managing the plant on behalf of share holders derived from various fisher folks cooperative societies in Suba District. To this effect, an MOU between GOK, MIPKL and IDI was signed in December 2004-see [Appendix 3](#) of this report.

4.2 Cooperative Agreement between MIPKL and USAID-GDA

Under this Cooperative Agreement- *Number 623-A-00-05-00325-00-dated 25th October 2005*, USAID-through the Global Development Alliance has awarded MIPKL US \$300,000 to provide support to Mbita Ice Plant in expanding its ice production capacity. The funds are intended for the following: (a) Procurement of two ice-making machines each with a capacity of 15 tons per day. These machines have already been imported and will soon be delivered for installation at the project site. (b) Factory construction/renovations to accommodate the additional machines. A new building is currently under construction adjacent to the old building which currently houses the old ice-making unit which was handed over to MIPKL by GOK. (c) Procurement of a 4-ton lorry for transporting ice from the Factory to the beaches where road transport will allow. For More details see [Appendix 4](#) of this report.

4.3 MOU between USAID-WET-Osienala

Under this MOU the parties' role are as follows: (i) *USAID* undertook to provide US\$300,000 as per the MOU described in section 5.2 above. (ii) *OSIENALA* shall offer community sensitization and advisory/capacity building services to MIPKL and to the fisher folks. The services shall include education on fish preservation as well as savings mobilization and investment of incomes. In addition, *OSIENALA*'s radio services will be used to promote at discounted rates, the products and services offered by the plant, as well as sound environmental management measures geared towards quality and sustainable fishing, fish preservation methods and use of appropriate fishing gears. (iii) *W.E.Tilley Ltd*, which is one of the largest IFPs purchasing Nile Perch Fish around the Suba district/project area, has agreed to strengthen MIPKL's ice production capacity as part of its internal reorganization of operations. In this respect, *W.E. Tilley* has agreed to provide the following:

- Two used ice-making machines (two years old) with a capacity of 15 tons each at no cost to MIPK. Information available indicates that the units are more likely to achieve 12 tons of ice per day each¹⁹.
- Technical assistance in the procurement and installation of equipment and machinery;
- Technical support the Mbita Ice Plant in the areas of ice production and fish handling;
- Ready market for the fish as well as the ice produced.

In return, *W.E.Tilley* will benefit from the reduced cost of procuring ice at Mbita point instead of transporting ice all way from Nairobi, with all the attendant loss of ice and wear and tear of its trucks. It will also benefit from improved quality of fish as a result of increased use of ice by fisherfolk in fish preservation. For more details, see [Appendix 5](#) of this report.

4.4 MOU between MIPKL-Africa Now-KREP Development Agency

Africa Now has also received funding from EU of which part of it was earmarked for the support of fisher folk communities in Suba District over a period of 4 years. The support was to be in the form of acquisition of 15-20 ice containers for lease to both fishermen and fisher folks for storage of ice to facilitate preservation of fish in the fishing boats and at the landing sites respectively. In this regard, Africa Now has agreed to partner with Kenya BDS, MIPKL and any suitable micro-finance institution. According to Africa Now, KREP-Development Authority-KDA, whom they have worked with in the past, will be their preferred choice. The role of Africa Now will be to provide the containers to MIPKL in the form of a grant, while the role of KDA will be to manage the

¹⁹ It was not possible for the consultants to verify the capacity of the plants.

container lease/hire purchase program by entering into contract with selected SACCOs on behalf of their BMUs who will be selected competitively and on the basis of the criteria discussed in Chapter 3 of this report.

4.5 *Additional Agreements to be Developed*

The following agreements will need to be developed in this regard:

- (i) MOU between Africa Now and MIPKL-for the funding;
- (ii) MOU between Africa Now, MIPKL and KDA-for operationalization ice container lease/hire programme;
- (iii) Ice Containers Lease Contract Agreement between KDA and Selected pilot SACCOs on behalf of their BMUs/cooperative societies;
- (iv) Ice Supply Contract Agreement between MIPKL and BMUs;

While the first three Contract Agreements will be developed by the respective parties in due course, a sample agreement for ice supply contract between MIPKL and selected BMUs **will be provided as part of technical support from Kenya BDS.**

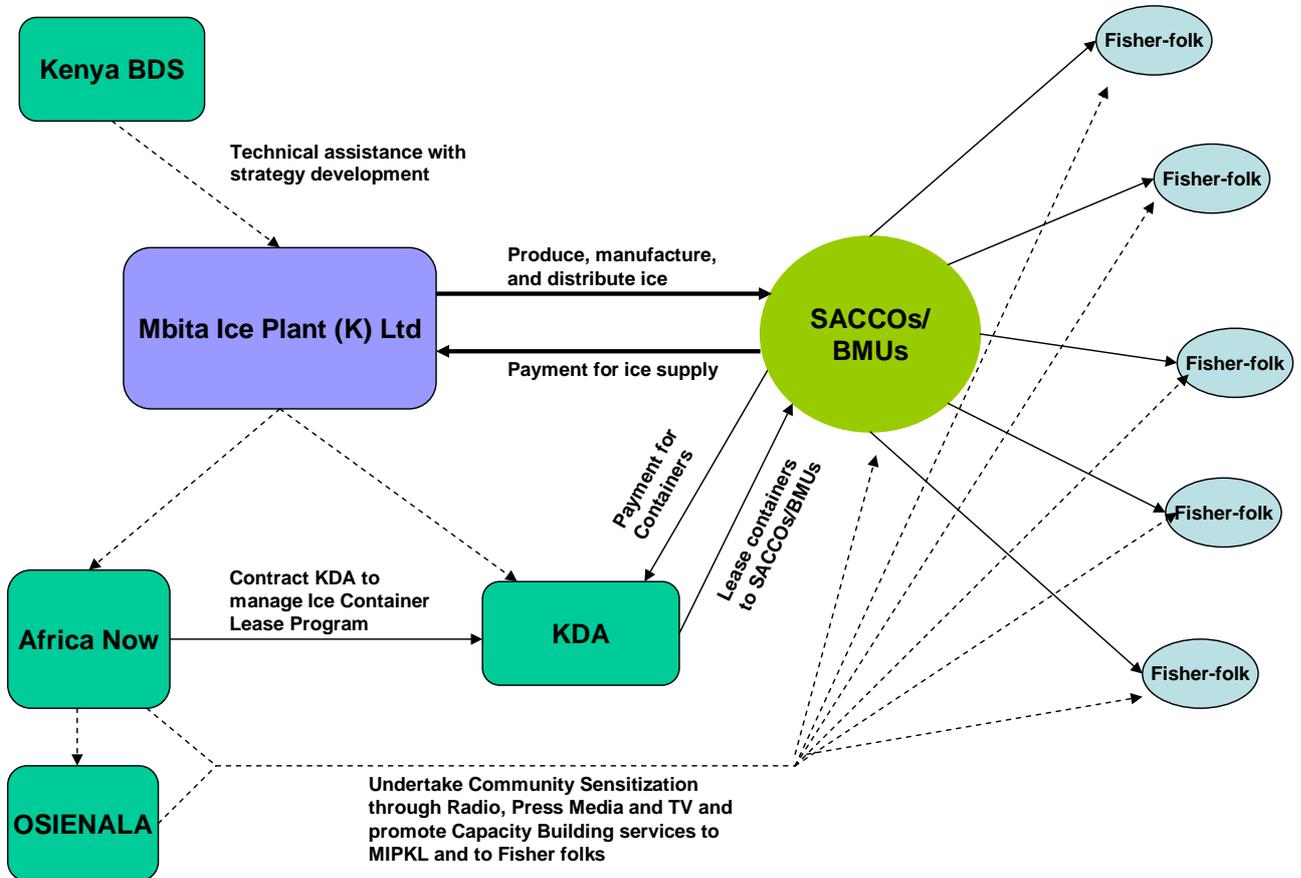
5.0 KEY PARTIES AND THEIR RESPONSIBILITIES IN PROGRAM IMPLEMENTATION

At the implementation level, several parties will also be involved in various ways. The following provides a summary of the key players and their responsibilities in this regard.

Party	Role/Responsibilities	Key Action (s)
Africa Now	<ul style="list-style-type: none"> ✓ Providing Grant to MIPKL in the form of Ice Containers (15-18 one-ton fiber glass containers) for on-ward lease to selected BMUs through their respective SACCOs. ✓ Support MIPKL with Market Promotion for Ice-based fish preservation at all levels of the supply chain. 	<ul style="list-style-type: none"> ✓ Africa Now, MIPKL and KDA to jointly develop the relevant MOU (which should explicitly indicate that the grant will be operated as a revolving fund to enable roll out of the ice container programme in future).
	<ul style="list-style-type: none"> ✓ Contract KREP-Development Agency to execute the ice container lease programme on behalf of MIPKL programme; 	<ul style="list-style-type: none"> ✓ Africa Now and KDA to develop relevant MOU
KREP-Development Agency	<ul style="list-style-type: none"> ✓ Distribution of ice containers on behalf of MIPKL in accordance with the final selection of beaches; ✓ Execute the ice container lease contract programme on behalf of MIPKL 	<ul style="list-style-type: none"> ✓ KDA and MIPKL to develop relevant MOU
		<ul style="list-style-type: none"> ✓ KDA to develop lease contract and sign with SACCOs representing selected BMUs
MIPKL	<ul style="list-style-type: none"> ✓ Production and distribution of ice according to supply schedule to be agreed with the selected BMUs. ✓ Overall ownership and management of ice production business. 	<ul style="list-style-type: none"> ✓ Put in place effective and efficient management and staffing; ✓ Complete construction of ice making factory; ✓ Install ice-making plants and undertake ice production and distribution according to agreed supply schedule. ✓ Acquire truck and boats for ice distribution.
SACCOs	<ul style="list-style-type: none"> ✓ Collection of payments for ice container lease and depositing into KDA lease program account. 	<ul style="list-style-type: none"> ✓ Selected BMUs to develop and sign Agreement regarding ice container payment/funds collection systems.
BMU	<ul style="list-style-type: none"> ✓ Maintenance of ice containers at the landing sites; ✓ Collection of user charges from fisher folks and transferring container lease payment to their respective SACCOs for onward transfer to MIPKL special account through KDA. 	<ul style="list-style-type: none"> ✓ BMUs to agree with fisher folks on the modalities of collecting funds towards payment for the ice container as well as the charging system (flat rate or usage-based systems)
OSIENALA	<ul style="list-style-type: none"> ✓ Support MIPKL initiative through education on fish preservation as well as savings mobilization and investment of incomes 	<ul style="list-style-type: none"> ✓ Design sensitization program and initiate dissemination
Kenya BDS	<ul style="list-style-type: none"> ✓ Support design and recommendations of ice distribution strategy 	
Fisher folks	<ul style="list-style-type: none"> ✓ Fishing, storing fish in ice containers and paying for the services as per the agreed system (whether flat rate per boat or as per amount stored in containers for preservation. 	

The functions and inter-relationships of the various parties are depicted in the flow chart provided below:

Business Relationships between Key Parties



6.0 KEY STRATEGY ELEMENTS FOR MIPKL'S COMMERCIAL ICE AND CONTAINERS DISTRIBUTION PROGRAMME

Besides taking into account the above described partnership arrangements, MIPKL's commercial ice production and distribution business plans will need to address the following key strategic elements:

- Physical Infrastructure;
- Product Choice and Target Markets;
- Human Resources and Management;
- Office Equipment and Information Management Systems;
- Production Costs;
- Packaging Materials and Storage;
- Market Promotion;
- Transport Facilities;
- Distribution and Payment for Ice and Ice Containers;

6.1 Physical Infrastructure

The main physical infrastructure needed to support ice production includes, land, water supply and storage facilities, factory buildings and storage, ice-making plants and accessories. MIPKL is already in possession of a ten-acre plot which has adequate space for further expansion if needed. There is already one factory building which currently houses the old ice-making plant. With support from USAID/GDA funds, a new factory building is currently under construction. Financial resources earmarked for this construction/renovation was US\$ 30,000 or about Kshs 2.1 million which according to our estimates will be sufficient to complete the new factory wing. This new building has sufficient capacity to house the two new and two-used machines and their accessories-provided through USAID and W.E.Tilley agreements respectively. In our judgment, the building is unlikely to have any extra space to house the old in-situ ice-making machine even though it would have been desirable to have all the processing plants in one building for ease of operations and cost minimization. The old Building has three cold storage facilities with a total capacity of 125 MT, which in our opinion should be used for the storage of ice once it is packed in the so called Indian-bags. Water supply (either from the lake or the county council) and storage facilities are also in place but supply systems will need to be connected to the new factory building.

Critical Actions: Although MIPKL management, indicated that the new factory building is scheduled for completion in a few weeks, our best bet is that completion to the point of ready-to-use including factory building works, installation of all relevant equipment/accessories, water and electricity fittings among others will not be achievable before the July 31st 2006. Completion of this works will be a critical activity towards commencing ice production.

6.2 Product Choice and Target Markets

The choice of MIPKL to produce ice flakes is appropriate given that this is the product preferred in the study area and not so much ice blocks. However, a number of interviewees indicated that ice flakes offered should be fully cured to minimize their costs and provide value for money. They pointed out that the quality produced by IFPs is good enough and MIPKL should aim to achieve that standard. The target markets for MIPKL should initially focus on the selected pilot beaches indicated in table 1 of this report. However, the 13 selected pilot beaches indicated that they require a combined total of 57 tons of ice per week (about 10 tons per day or 19 tons every 2 days). In the short to medium term, MIPKL have the opportunity to supply to IFPs including W.E. Tilley, East African Sea Food and others who may include independent Tilapia traders. As other beaches acquire ice containers, MIPKL will have much wider market. It would appear that the last market segment to capture will be the fishing boats as field observations seemed to suggest.

Critical Action: It will be necessary for MIPKL to secure firm supply contracts, firstly with the selected beaches and secondly with other potential users including W.E. Tilley and IFPs, Tilapia traders, other beaches and so forth. This is important because it will be vital to know as early as possible the kind of volumes MIPKL has to generate on a daily basis, develop production schedules and help to minimize the risk of post production losses, among other things.

6.3 Human Resources and Management

Adequate capacity by way of technically qualified and experienced personnel as well a management skills and commitment are crucial for the establishment of a successful commercial enterprise. At present, MIPKL has a thin and lowly qualified staff base. Although with qualified and committed management staff, their effectiveness is currently constrained by the fact that technical support is weak and communication between management staff and technical staff has been rather difficult given that the former (comprising 2 people) operate from Nairobi. More often than not, communication is by way of telephone which has been difficult and expensive. It is also worth noting that communication between MIPKL management and the shareholders fraternity has been weak.

Despite having a good organizational chart with managerial and support staff positions MIPKL is yet to fill up the following key positions in level 1 and 2 of the organizational chart-see Appendix Figure 1:

- General Manager;
- Finance and Administration Manager;
- Production and Maintenance Manager;
- Sales and Marketing Manager;

In addition, the Company's organizational structure does not provide the position for and have internal auditor. It is considered essential that this position is created and filled with a qualified, dedicated and honest person.

Critical Actions: Although there will be other human resources and management issues to address such as remuneration, terms and conditions work, code of conduct, responsibilities, performance assessment and promotion procedures, among other things, open advertisement and actual recruitment of suitable technical staff to fill up the above listed positions as well as an internal auditor and appointment of an official external auditor will all be a pre-requisites to commencement of a viable commercial business. In terms of other junior staff (including the sales and marketing team), it will be necessary for MIPKL to undertake a staff rationalization initiative to determine their complete staffing requirement. In addition, it will be necessary to have in place adequate financial resources to engage the above listed staff as well as others who will be needed under an expanded business operation.

6.4 Office Equipment and Information Management Systems

Although a detailed needs assessment for office equipment, facilities and systems smooth business operations was not undertaken during this study, it was evident that there is need to these issues. Previous observations by the Volunteer who was providing technical support to the Ice Plant strongly suggested that timely processing and management of information was poor and as MIPKL gets onto an business expansion path, it will be necessary to carry-out an objective needs assessment and avail resources in this regard.

6.5 Production Costs

MIPKL's cost of producing ice will be a critical factor in determining their ability to capture not just the fisher folks market, but also the IFPs who have been producing their own ice and traveling with it all the way to the landing sites. It was not possible to establish the current unit cost of production at Mbita Ice Plant because ice production operations are inter-mingled with water bottling operations. Although the Company is selling ice at Kshs 3.50 per Kg, the staff were not able to establish whether they were currently breaking-even, leave alone making any profit. According to a monthly activity report prepared by Mr. Jason Kinker (a volunteer worker who was assisting MIPKL until recently), the Company made an estimated gross profit margin (from water bottling and ice making) of 9.9%, but based on the more critical net profit margin (net income/sales) the company was operated below the break-even point in 2004. The return on assets (net income before tax/total value of assets) was estimated at minus 16.4%. The report concluded that many of MIPKL's financial problems originate from low capacity utilization, high production losses and excessive transportation costs, among others. Improving efficiency of operations through adequate financing, improved technology, better quality control and inventory management were cited by the report as some of the critical issues MIPKL must address.

During this study, an attempt was made to establish the IFP's average unit cost of producing ice to provide at least as benchmark although this may not be realistic as it is not their main business line. Three IFPs and two independent ice producers in Kisumu were interviewed. These included Victoria Ice Makers, Webuye wholesalers; East African Sea Foods Ltd., Peche Foods Ltd and FP2000 Ltd. In all cases, approximation of unit cost of producing ice was difficult because they do not normally separate operational costs of fish processing and ice production. However, Victoria Ice Makers and East African Sea Foods Ltd indicated that the costs are between Kshs 3.50-4.00 per Kg. The two companies indicated that the price of ice should, therefore, be

expected at between Ksh 4.00 and Ksh 5.00 per Kg if one has to remain in business. These companies are operating at relatively high levels of efficiency and yet consider realistic costs to be in this range. Although it is not possible to make a definitive conclusion, this could imply that at Kshs 3.50 per Kg, MIPKL is possibly selling at or below the cost of production. In fact East African Sea Food indicated that they would be willing to buy 15 MT per day at up to Kshs 4.0 per Kg. The issue of achieving maximum efficiency in production of ice will be an important milestone for MIPKL if they are to be competitive and therefore secure a significant proportion of the market among IFPs and the fisher folk.

Critical Actions: MIPKL will require putting in place mechanisms for minimization of production costs. Arising from this, the Company should then determine their selling prices taking into account the need to be competitive and maximization of out reach.

6.6 Packaging Materials and Storage

Ice requires to be packaged before delivery to users. At present, the commonest mode of packaging ice flakes is in Indian bags. It will be essential for MIPKL to access financial resources for the procurement of bags and their replenishment as they get old. Each bag holds approximately 100 kgs. Assuming a MIPKL will achieve 54 tons per day with the additional two new and two used ice-making machines that have been offered through USAID and W.E.Tilley, some 540 bags would be needed for just one day's output. Bags are normally returned after ice has been delivered but there may be a time lag as long as the time between the first and second delivery-2 to 3 days on average. Based on maximum possible throughput of 54 tons per day, this would imply that MIPKL would be looking at about 2,000 bags or so to enable start of ice delivery operations smoothly. To avoid congesting the process of manufacturing ice, it is necessary to have appropriate storage facilities. MIPKL has three cold rooms with a combined storage capacity of 125 MT. This would be sufficient to hold more than two day's output assuming it will be possible to generate 54 tons of ice per day. Thus in terms of storage, MIPKL seems to be well taken care of at present as long as the cooling equipment is operational. The consultants were informed that this was actually the case.

6.7 Market Promotion

Promotion of ice and container utilization among the various potential users in the study region and beyond will be a vital strategic action for MIPKL's business growth. According to the MOU between USAID, W.E. Tilley and OSIENALA²⁰-see Appendix 5; OSIENALA has agreed to offer community sensitization and advisory/capacity building services to MIPKL and to the fisher folks. The services shall include education on fish preservation as well as savings mobilization and investment of incomes. In addition, OSIENALA's local radio services will be used to promote at discounted rates, the products and services offered by the plant, as well as sound environmental management measures geared towards quality and sustainable fishing, fish preservation methods and use of appropriate fishing gears. In this regard, OSIENALA has agreed to contribute US\$ 48,000 to supplement financial resources provided to MIPKL under the USAID/GDA facility.

Critical Actions: For effective market promotion for ice and ice containers, it will be necessary for MIPKL in consultation with OSIENALA to prepare concise and simple advertisement materials in the form of brochures for placement in strategic areas, radio and TV captions. To maximize effectiveness, the advertisements should at least be in local and Kiswahili languages.

6.8 Transport Facilities

Having in place an appropriate distribution strategy will be a critical to MIPKL's ice business development. According to our field observations, fisher folks are not prepared to engage activities in the actual collection of ice from the Mbita Ice Plant. Instead, they need it to be delivered to their respective beaches, which mean

²⁰ A local NGO focused on the restoration of environmental and economic growth in Lake Victoria region

MIPKL should be prepared to do so. In this regard, MIPKL will require investing in appropriate ice transport facilities.

- (a) *Vehicle*: Under the MOU between USAID, W.E.Tilley and Osienala-see Appendix 5; financial resources amounting to US\$ 32,000 or approximately Kshs 2.3 million had been provided for the procurement of a new insulated 4-ton truck. The vehicle is considered sufficient for the distribution of ice around Mbita mainland and Rusinga Island areas whose accessibility is possible through road transport.
- (b) *Transport Boat*: Distribution in the other Islands such as Mfangano, Remba, Ringiti and Takawiri will require investing in appropriate boats. In this regard, options available to MIPKL would be either to hire private sector-owned boats or to procure their own. During the field study, it was established that suitable boats for transporting ice (locally known as *Chombos*) are indeed available locally. For example, indications were that there are about ten of them at Mbita town alone. Many more are also available in the surrounding islands such as Mfangano Ringiti and Remba. According to our own assessment, it would be more economical to purchase own boat rather than hire even taking into account the need to hire additional staff under the former option. Interviewees with a local boat builder indicated that a new 7 ton-insulated *Chombo*, fully fitted with a 40 HP-engine, would cost about Kshs 550,000²¹. Water transport is quite expensive and hiring this size of boats would cost around Kshs 15,000-17,000 per day. That means, to just deliver 57 tons currently required per week by the 13 selected pilot beaches (table 4 above), not less than 8 trips per week would be needed where a 7 ton *Chombo* is used. Assuming such a vessel would make 2 trips per day, it would cost MIPKL about Kshs 64,000 per eight trips just to cover one week's deliveries. This would translate to a total cost of about Kshs 3.3 million per year which is equivalent to the total cost of 6 seven-ton boats. In other words, the cost for hiring a 7 ton boat for just 9 weeks would be equivalent to the cost of buying a new one.

Critical Actions: In preparing for ice distribution, MIPKL needs to take the following actions:

- Pay and take possession of the 4-ton truck which was budgeted for under the USAID/GDA funding-for ice distribution around Mbita mainland and Rusinga Island. This will include five of the selected pilot beaches that are accessible by-which together require about 12 tons of ice per week-see table 4.
- Procure two new 7 ton fully fitted boats (*Chombos*) to cater for distribution of ice to beaches that are accessible only by water transport which together require about 40 tons of ice per week-see table 4.

6.9 *Distribution and Payment Systems for Ice and Containers*

Under ideal conditions where appropriate ice containers and bandas are available, ice can take 2-4 days before replenishment is needed. As indicated earlier in this report, fiber glass containers are more effective and ice can take 3-4 days before further replenishment is required and are therefore recommended. Under such a situation, MIPKL needs to ensure ice-deliveries at most every 72 hours (three days). With the required combined total of 40.5 tons of ice per week by beaches which are not accessible by road transport, having two 5-ton distribution boats as proposed above is deemed adequate. The 4-ton truck is also deemed more than sufficient to cater for selected pilot beaches that are accessible by road transport which together require 12 tons per week.

Ice: Discussions with fisher folks revealed that they need both ice and ice containers and are willing to pay for these items. They are willing to pay upfront for ice, but prefer lease/hire purchase in the case of containers. But to avoid risks of handling cash on the part of MIPKL transport crews, it is proposed that beaches pay MIPKL an advance cash amount equivalent to their one week's ice requirement. Each BMU would be required to fully replenish their accounts before the following week otherwise they will not receive further supplies.

²¹ A 40 HP engine costs about Kshs 350,000 while the 5 ton-boat costs about Kshs 200,000. In comparison a 40 HP-3 ton boat costs about Kshs 150,000.

Containers: Except at Kiumba, Ringiti and Remba beach, most BMUs are financially weak and would not be in a position to pay upfront for the proposed 1 ton fiber glass ice container costing approximately Kshs 93,500. However, virtually all the BMUs that were interviewed indicated their willingness to pay for the ice containers in a period not exceeding 3 years. Taking into account the need for a rapid roll-out of the intervention and to maximize out reach, Africa Now informed the study team that they would prefer that full payment for ice containers be made within a period of 12 calendar months. With serious commitment on the part of the fisher folks, this is possible given the estimated average number of active boats targeting Nile Perch/Tilapia and BMU membership which in the study average around 80 and 330 respectively. Based on the available data/information on active boats targeting Nile Perch and Tilapia and the number of fishermen in beaches that were interviewed, the average daily contribution required to meet the cost of a fiber glass container priced at Kshs 93,500 (see section 3.1) payable over a maximum period of one year would be a mere Kshs 2 per fisherman or Kshs 6 per fishing boat. Most BMUs appeared quite comfortable with these levels of contributions towards repayment of ice container hire/lease purchase²². Africa Now prefers that a micro-finance institution, in this case KREP-Development Agency be recruited to manage the proposed ice container lease programme on behalf of MIPKL to whom they have agreed to provide containers in the form of a grant. As a sign of commitment on the part of the fisher folks, we propose that a down payment for ice containers of at least 10% of full purchase price be charged up front to prospective BMUs.

Critical actions: With respect to ice and ice container distribution, the following actions will be needed:

- Formulation of an operative MOU between MIPKL, Africa Now and KDA regarding the grant (in the form of ice containers) and the subsequent lease arrangements;
- Formulation of an operative lease contract between KDA and SACCOs representing selected pilot beaches;

6.10 Other Key Issues

In addition to the above issues, we also consider it prudent for MIPKL to address the following issues:

- Having in place adequate financial resources to enable MIPKL to start operations at least before incomes begin to flow in from ice sales;
- Clear up property ownership especially the land and currently installed equipment and accessories.

7.0 ADDITIONAL KEY RESOURCE REQUIREMENTS AND ESTIMATED COSTS

The full list of additional requirements can not be determined at this stage and will require more intensive consultations between the consultants and the MIPKL management. This will take place in the next few weeks.

Component	Cost Item	No.	Estimated Costs (Kshs)
Human Resources	Vacancy advertisement costs (2 Days)	--	??
	Recruitment Costs	--	??
	Salaries for Level 1 and 2 personnel (2-3 months lead time)	5	??
	Salaries for Level 3-5 Personnel (2-3 months lead time)	?	?
Equipment	Computers	2	80,000

²² The system of contribution to payment (whether per boat, per fisherman or per volume of fish actually placed in containers for overnight preservation should be a subject of discussion during the planned stakeholders' workshop).

	Information Management Systems-software	--	??
	Office Furniture & Equipment	--	??
Transport facilities	7-ton transport boats	2	400,000
	40 HP engines	2	700,000
Packaging Materials	Indian bags/Nylon bags	2,000	160,000
Funds	Operational Funds	--	??
Others			
Total			

8.0 PRIORITY PROGRAMME ACTIVITIES AND WORKPLAN

The following table provides priority activities and estimated time of completion/commencement. Completion of the new factory building and installation of equipment are critical factors in determining production commencement. Our best guesstimate is that this will not be until 31st July 2006.

Category	Priority Activities	Target Completion Date							
		15 th May	31 st May	15 th June	30 th June	15 th July	31 st July	31 st Aug	1 st Sep
Building, Equipment & Fittings	Construction of New Factory Building								
	Receive Machines from W.E.Tilley								
	Install All Machines and Test Run								
Level 1 & 2 Staff Recruitment- GM; F&AM; P&MM; S&MM and Internal Auditor	Prepare Job Descriptions/TORs for Level 1 Staff								
	Advertise in National/Local Press Media								
	Interview Level 1& 2 Applicants								
	Recruit Successful Applicants and Employ								
Level 3-5 Staff Recruitment	Undertake Needs Assessment ²³								
	Advertise locally and recruit ²⁴								
Office Equipment and Information Management Systems	Identify Additional Requirements								
	Undertake Procurement through competitive bidding								
Ice Distribution	Secure Firm Supply contract with Selected BMUs/SACCOs								
Packaging Materials	Procure bags (1,500-2,000)								
Market Promotion	Secure Advertisement Contracts with OSIENALA								
	Prepare advertisement Materials in collaboration with OSIENALA								
	Commence advertisements and Market Promotions								
Transport Facilities	Pay and take possession of 4-ton Truck								
	Order Engine and (2) 7-tons boats								
	Receive Boats (fully fitted and ready to use)								
Ice Containers	Formulate MOU between MIPKL, Africa Now, and KDA								
	Formulate and sign Lease Contracts Between BMU, SACCOs and KDA								
	Secure Supply Contract with Manufacturer								
	Receive Containers/Distribute d BMUs Contractors								
Ice Production and Distribution	Commence Production and Distribution								
Key:		Target Completion Date							
		Target Commencement Date							

²³ Including Vehicle and Distribution Boats operators

²⁴ This should including those currently on board.

APPENDICES

Appendix 1: Study Itinerary

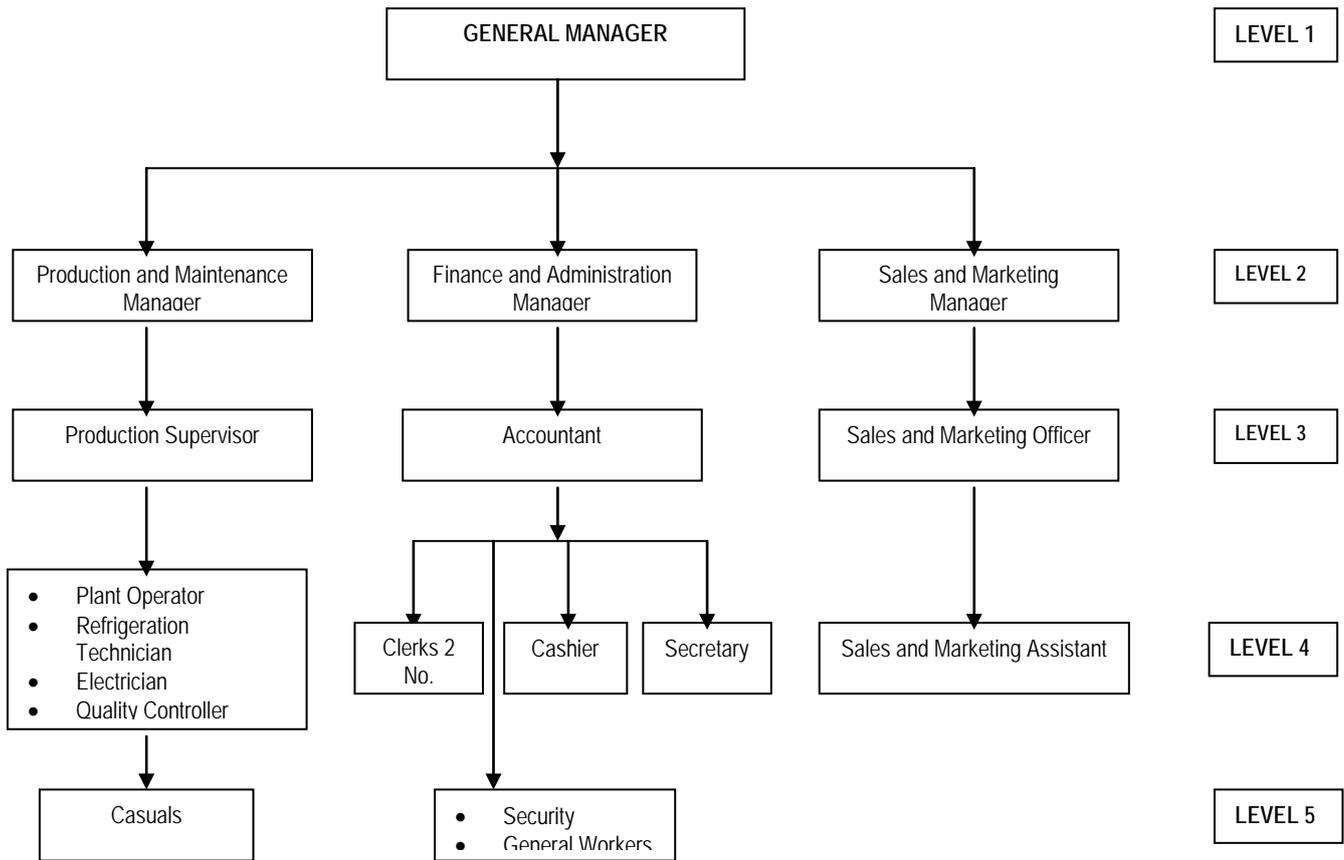
Date	Activity
27 th March 2006	Meeting with Kenya BDS
	Work planning & logistics
	Literature review
28 th -29 th March 2006	Field Interviews-Nairobi (MIPKL Management, Kentainers, Roto Tanks & W.E.Tilley)
	Literature review
30 th March 2006	Travel to Mbita
	Meeting with DFO and Mbita Ice Plant Staff
31 st March -8 th April 2006	Field interviews (BMUs Mbita mainland & Islands-Rusinga, Mfangano, Takawiri, Remba & Ringiti)
8 th April 2006	Travel Back to Kisumu/Nairobi
11 th - April 2006	Interview with Africa Now, Mbita Ice Plant Chairman (Nairobi)-Karuga
	Interview with EASF, Peche, FP 2000, Victoria Ice Makers(Kisumu)-Abila
12 th April 2006	Interview with K-Rep Development Agency (KDA)
18 th -22 nd April 2006	Preparation of field notes
	Data/information Analysis
24 th -27 th April 2006	Preparation of Draft Report
28 th April 2006	Presentation to USAID/Kenya BDS
2 nd May 2006	Presentation to USAID, Kenya BDS, Africa Now, MIPKL & KDA,
3 rd May 2006	Travel to Mbita/Revise Report and Visit to DFO for data update (Nyadhiwa and Kiwa)
4 th May 2006	Preparation of workshop materials
5 th May 2006	Facilitation of Stakeholders Workshop-Mbita

Appendix 2: List of People Met/Interviewed

Name	Organization	Position	Contact
David Knopp	Kenya BDS	Chief of Party	0722919988
Emmans Otadoh	Mbita Ice Plant (K) Limited	Chairman	0722789880
Otiob Obuogo	Mbita Ice Plant (K) Limited	General Manager	0722353647
Radhan Mohan Kurup	Roto Tank Ltd	General Manager	0722203486/0734600203
Kul B. Karki	Kentainers Ltd	Operations Manager	0721435475
Zhul Jessa	W.E.Tilley	Managing Director	0722521893
Firoz Jessa	W.E.Tilley	Marketing/Finance Manager	0733633327
Aggrey Ogola	Fisheries Department	District Fisheries Officer-Suba	0733716544
George Odero	Mbita Ice Plant (K) Limited	Accountant/ Admin. Officer,	0722216298
Mark Ragot	Mbita Ice Plant (K) Limited	Quality Controller	---
George Owino	Mbita Ice Plant (K) Limited	Production/Refrigeration Officer	0721-894865
Fred Ayoki	Mbita Ice Plant (K) Limited	Sales/ Marketing Officer	---
John Ooko Otieno	BMUs-Suba	District Chairman	0726506815
Japheth Ouma	Uta Beach	Chairman	0725343729
Joseph Owili	Uta Beach	Assistant Secretary	-
Odhiambo Mathira	Uta Beach	Committee member	-
Tom Okombo	Litare Beach	BMU Chairman	0724653445
Peter Odhiambo	Litare Beach	BMU Committee Member	-
Bob Aoko	Litare Beach	BMU Committee Member	0723399235
Hezron Ooro	Kiumba Beach	Member	0723412815
Samwel Odira Osewe	Kiumba Beach	BMU Chairman	0725825385/ 0734162796
Wilson Ogot	Kiumba Beach	BMU Secretary	0735564732
James Owuor	Kiumba Beach	Committee Member	-
Peter Okongo	Kiumba Beach	Committee Member	-
John Ochieng	Utajo Beach	BMU Chairman	0725413268
Benson Pumbe	Utajo Beach	BMU Vice-Chairman	0720236670
Tom Oyugi	Utajo Beach	Ag. Secretary Suba District Coop	-
Joseph Njiri	Uluji Beach	BMU Chairman	0735744764
John Lomo Dawo	Mbita Town Beach	BMU Chairman	-
Silas Odhiambo	Mbita Town Beach	BMU Secretary	0725484831
Charles Ochieng	Mbita Town Beach	BMU Committee Member	-
Joseph Mitema	Mbita Town Beach	BMU Assistant Secretary	-
Kennedy Sam	Mbita Town Beach	BMU Committee member	-
Thomas Mwai	Mbita Town Beach	BMU Committee member	-
Suleiman Okello	Mbita Town Beach	BMU Committee member	-
Gilbert Mboya	Mbita Town Beach	BMU Assistant Chairman	-
Margaret Anyango	Mbita Town Beach	Women Leader	-
Tobias Matinde	Nyagina Beach	BMU Secretary	0735398418
Narkiso Okanga	Nyagina Beach	Chairman	-
Philip Ogada	Nyagina Beach	BMU Committee member	0735514986
Abdul Rashid	Sindo Beach	Agent, Capital Fish Ltd.	-
Charles Onyango	Sindo Beach	Agent, W.E. Tilley	-
Ibrahim Oriaro	Sindo Beach	Agent, W.E. Tilley	-
Salim Mohammed	Sindo Beach	Agent, W.E. Tilley	-
Wilfred Ochola Magadi	Sindo Gateway Beach	BMU Chairman	0724940995
David Kiche	Luanda Nyamasaria Beach	BMU Assistant Secretary	0725413287
Edward Odhiambo	Luanda Nyamasaria Beach	BMU Committee member	-
John Obondo	Takawiri Beach	Secretary	0725657924
Naftali Onyango Orao	Takawiri Beach	Member	0720768278
Jeremiah Otieno Masiwo	Takawiri Beach	Agent	-
Abdulahi Oriaro	Remba Island Beach	Agent, W.E.Tilley	0721992422
Julius Baya	Remba Island Beach	Vice-Chairman	-
Elly Ochieng	Remba Island Beach	Secretary	0725111185
James Masiga Oriri	Remba Island Beach	Village elder	-
Noor Maalim	Remba Island Beach	Committee member	-
Samwel Ogutu	Remba Island Beach	Committee member	-

Michael Oweke	Remba Island Beach	Beach Youth	-
Caleb Maviri	Ugina Beach	Chairman	-
Morris Nyakwamba	Ugina Beach	Councilor	-
Gideon Makawala	Ugina Beach	Committee member	-
Daniel Odhiambo	Ugina Beach	Committee members	-
Jacob Juma	Ringiti Island Beach	Secretary	-
Leonard Ouko	Ringiti Island Beach	BMU Chairman	-
John Opingo	Ringiti Island Beach	Committee member	0725103207
Fredrick Kaganda Otieno	Wakula Beach	BMU Chairman	-
Augustine Onyonyi	Wakula Beach	Group Chairman	-
Michael Walwanda	Wakula Beach	BMU secretary	-
George Ouko	Wakula Beach	Group Secretary	-
Stephen Omolo Opiyo	Kiwari Beach	BMU Chairman	-
Joshua Rachier	Kiwari Beach	Member	-
Joseph Omondi	Kiwari Beach	Member	-
Elly Oloo Otieno	Nyakweri Beach	BMU Chairman	-
Evans Ogenyo	Nyakweri Beach	BMU Secretary	-
Wilson Ogonga	Nyakweri Beach	Coop Chairman	-
Daniel Onyango	Masisi Beach	BMU Chairman	-
Hezbon Kora	Masisi Beach	Committee Member	-
Elly O. Ogutu	Masisi Beach	Ag. Chairman	0724370208
Benson Otieno	Masisi Beach	Committee member	-
Nam Oneko	Masisi Beach	Agent	0721914145
George Blasto	Mrongo Beach	BMU Chairman	0725-234759
George Ocholla	Sena Beach	BMU Chairman	0721367227
Ogolla Wakiaga	Sena Beach	BMU Secretary	-
Abdi Odhiambo	Kitawi Beach	BMU Chairman	0720982464
Joel Apinde	Kitawi Beach	BMU Secretary	0721406385
Daniel Dunga	Kitawi Beach	BMU Asst. Secretary	-
Benard Ogutu	Kasarani Beach	BMU Chairman	-
Alphonse Juma	Kasarani Beach	Beach Recorder	-
Philip Ogutu Sage	Kasarani Beach	Committee Member	-
Samson Wameo	SASA Micro-finance Kenya Ltd	Credit Officer	0725861075
Robert Hale	Africa Now	Country Director	0733625480/4183120
David Otieno	Africa Now	Country Manager	07228366462
Clarice Kionge	Africa Now	Project Manager-Kisumu	0721550746/0572021181
Augustine Cheruiyot	K-Rep Development Agency		0720870442/4343493/5
Lugano Ogutu	Mfangano West Coop Society	Chairman	0725377789
John Oimo	Kiumba Beach Coop Society	Chairman	0725825385/0734542724
Samson Maende	Gembe Fishermen Coop. Society	Chairman	0725628392
Samson Abuoga	Mfangano North Coop Society	Chairman	0723935684
Peter Ogot	Mfangano South Coop Society	Chairman	----
Sebastian Xavia	East African Sea Food	General Manager-Kisumu	

Appendix Figure 1: MIPKL Organizational Structure



Appendix 3: MOU between GOK-MIPKL and IDI

MEMORANDUM OF UNDERSTANDING

BETWEEN

THE GOVERNMENT OF KENYA

(DEPARTMENT OF FISHERIES)

AND

MBITA ICE PLANT (K) LIMITED

(ISLANDERS DEVELOPMENT INITIATIVE)

FOR

MANAGEMENT AND OPERATION OF THE MBITA ICE PLANT

IN SUBA DISTRICT

DECEMBER 2004

BACKGROUND TO THIS MOU

The Government of Kenya in the early 1980s, decided to improve fish handling to enhance quality and to help reduce post harvest losses at the production areas by establishing ice plants and cold stores at strategic points along the Coast and on the shores of Lakes Victoria. One such Ice Plant and Cold storage facility was built at Mokowe in Lamu and another one at Mbita in Suba District. These plants were designed to provide the fishers with a facility that would preserve their catch as they negotiate for better prices

The Government's intention after completion and commissioning of the plants was that the Department of Fisheries would, in conjunction with the fishing community, through fishermen Co-operatives or any other community based fisher groups, manage and operate the plants. The Mbita Ice Plant was therefore, a partnership project in which the Government financed the construction of the buildings, purchased and installed plant, machinery and equipment and financed installation of a large transformer that would ensure sufficient power supply to the plant. The community donated the ten-acre land on which the Plant is situated and is now sourcing for funds through USAID to expand the ice making capacity.

The Government's desire to take charge of the plant was actualized by the formation of Mbita Ice Plant (K) Ltd through the assistance of Islanders Development Initiative, on behalf of the Suba District Co-operative Union.

On 29th and 30th July 2003 the Minister for Livestock and Fisheries Development, Hon Joseph K. Munyao together with the Permanent Secretary of the Ministry and the Director of Fisheries toured Suba District and impressed by the community's desire, commitment and enthusiasm to take up the responsibility for operating and managing the Ice Plant, decided to give them the opportunity to improve and manage it on trial basis. The Authority to take up this challenge was granted to the community *vide* the Permanent Secretary's letter' Ref. LVFS/31/Vol III (20) of 26th August 2003.

The Mbita Ice Plant (K) Ltd., encouraged by this move by the Government, carried out an inventory of the plant, jointly with the Department of Fisheries. The Company subsequently recruited from the open market, competent technical and support staff to professionally manage the plant.

Having fulfilled the conditions stipulated by the Government and desirous to take up the management as granted, the Mbita Ice plant Ltd. with assistance of IDI Islanders Development Initiative is willing to enter into a Memorandum of Understanding with the Fisheries Department on behalf of the Government, which stipulates the terms and conditions under which the Ice Plant shall be managed.

THE MBITA ICEPLANT (K) LTD. AND FISHERIES

DEPARTMENT (hereinafter referred to as Parties)

HAVING A MUTUAL INTEREST in the Proper management, long-term conservation and sustainable use of fishery resources in Lake Victoria and desiring to further their objectives through a collaborative approach;

RECOGNIZING THAT post harvest losses occurring in fish landings as one of the principal factors responsible for chronic poverty amongst the fishing communities;

REALIZING the socio-economic importance of fish in riparian districts especially Suba District;

DESIRING to reduce post harvest losses and enhance fish quality and safety to improve fisher's incomes;

BEING AWARE of the importance of using ice in fish preservation;

CONVINCED that development of fisheries requires collaborative approach between the Government and stakeholders especially the resource users and beneficiaries;

Agree as follows:

ARTICLE I: OBJECTIVE

The objective of this Memorandum of Understanding (hereinafter referred to as MOU) is to further develop the partnership between the Department of Fisheries (hereinafter referred to as Department) and the Mbita Ice plant (K) (hereinafter referred to as Company) assisted by the Islanders Development Initiative (herein after referred to as IDI) in all aspects of mutual interests, in order to facilitate the smooth running and eventual takeover of the Ice plant located in Rusinga Island at Mbita, Suba District.

This is in line with the Government's stated objectives of developing Public-Private partnerships to enhance the development of the fisheries sector in Kenya.

ARTICLE II: LEGAL MANDATES

1. Fisheries Department

The Fisheries Department of the Ministry of Livestock Fisheries Development is responsible for all fisheries matters in Kenya.

The Department's mandate is "fisheries development and management" and is empowered to fulfill this mandate through the Fisheries Act, Cap 378 of Laws of Kenya. The Act mandates the Department to:-

- (a) Promote development of fisheries and related industries through co-operation with other appropriate agencies and departments of the Government, so as to maximize production returns and conservation of fisheries resources;
- (b) Promote cooperation among the fishers and orderly marketing of fish and fishery products;
- (c) Impose management measures that are necessary for responsible utilization of the fishery resource; among others

2 Mbita Ice Plant Ltd:

The company is a registered public Company body representing stakeholders in the Suba District. It is registered under the Companies Act Cap. 486 of the Laws of Kenya as a company limited by shares and having a share capital of Kshs. 10 million. It is established for the following objects among others, to carry on the business of:

- a) wholesale and retail of fish
- b) fish processing and export trade
- c) ice manufacturing and merchandizing
- d) refrigeration, cold storage of fish and fish products
- e) import and sale of fishing gears
- f) facilitating responsible fishing activities
- g) Securing and guaranteeing credit (loans) for its members.

3. Islanders Development Initiative:

The IDI is a community based development group registered under the Ministry of Culture and social services with the following objectives, among others;

- a) To promote commercial fishing activities and elimination of exploitation of fishers by middlemen, through sensitization and capacity building.
- b) To advocate for building the capacities of community institutions so that grassroots fishers and fisher groups become agents of change of their own livelihoods and enable them to identify, design, implement, monitor, evaluate and finance or co-finance their development programs.
- c) To encourage and promote proper and wise utilization of the abundantly available resources essential for developing the region.

ARTICLE III: AREAS OF CO-OPERATION

1. A strong participatory partnership shall be established between the Department and the Company to promote and ensure:
 - a) Handling of fish under approved hygiene and sanitary standards at both the fishing grounds and landing sites to ascertain the quality is competitive internationally.
 - b) Rational and sustainable management of fish stocks.
 - c) Expeditious development of the fisheries sub-sector.
 - d) Environmental management and protection of fisheries ecosystem
 - e) Reduction of post harvest losses
 - f) Economic empowerment of fishers through value addition and increased profitability as a result of sustainable utilization of fisheries resources.
- 2 The Company and the Department shall endeavour, in close co-operation with other agencies, to foster integrated development and management of the resources.
- 3 Each Party shall cooperate in making available equipment, facilities, information and any other necessary resources for the purpose of planning and implementation of this MOU.

ARTICLE V: GENERAL PROVISIONS

1. Any Party to this MOU may enter into bilateral or multilateral agreements separately for the management of fisheries resources, provided that such agreements are consistent with the objectives of this MOU and are in the interest of both Parties. Copies of such agreements between any of the party to this MOU and other agencies shall be communicated to the Depository.
2. The Parties shall jointly take all measures to ensure that this MOU shall neither undermine nor attempt to change the legal mandates of any of the contracting parties.
3. Each Party shall act in a collaborative manner when addressing issues of mutual interest to both parties.

ARTICLE VI: FORMATION OF SUB-MOU

The Company and the Department may enter into Sub-MOUs on specific projects. The specific components and details of such shall be defined before the Sub-MOU comes into force. The Depository of the MOU and Sub-MOUs shall be the same.

ARTICLE VII: TERMS AND CONDITIONS OF THIS MOU

This MOU stipulates the conditions under which the Ice plant in Rusinga Island of Suba District will be managed, operated and improved by the Company with the assistance of IDI.

1. The Company shall test-run the Plant for a period of six months without any rent payment, with an option of extension to a maximum of twelve months with effect from the date of the official launch.
2. The Ministry of Livestock and Fisheries Development (**hereinafter referred to as the Ministry**) and the Company shall set up a Committee to carry out inventory and evaluation of the land, building, machinery and equipment during the test-run in preparation for handing/taking over, either on lease or sale basis.
3. Upon successful completion of test-run period and subsequent commissioning of the Ice Plant, the company may be granted grace period of 12 months or such period as may be mutually agreed upon by both parties, during which the Company may be exempted from paying rent.

4. At the end of the grace period, the Company shall pay to the Government rent at the rate and terms mutually agreed upon by both parties.
5. The company shall provide working capital and technical staff.
6. The Ministry may, during the test-run period, attach to the plant such members of staff as may be mutually agreed upon between the Company and the Department.
7. Repairs, replacement or procurement of additional machinery and equipment shall be the responsibility of the Company. Expenses on major repairs (except normal tear and wear) and additional machinery and equipment shall be taken into consideration during handover/takeover negotiations after expiry of grace period mutually agreed upon by both the Company and the Department.
8. The Company shall provide to the Ministry continuous updates on the recruitment of members through share holding initiative and the level of share capital.
9. At least 51% of the shares of the Company shall be exclusively reserved for the fishing community and there shall be adequate representation of fishers in the Company's Board of Management.
10. The Department shall audit the Company's management and the Plant's operations and shall work closely with the Company's staff. Consequently, for purposes of ensuring protection of the Government interests, objectives and purposes for development of the plant, the Department shall be a member of the Board of Directors of the Company.
11. The Department shall continue to occupy the current offices within the Plant's compound until alternative accommodation is found.
12. For purposes of building leadership and management capacity, IDI together with the Company shall continue to offer both apprentice and institutional training in management skills to the leaders of the District Co-operative Union and Beach Management Units.
13. The Company and IDI shall sensitize the fishers on preservation of fish quality and subsequent enhancement of earnings from fish through use of ice.
14. The company shall sell the ice to the fishers and the fishers shall be encouraged to carry the same to the fishing ground so that they may ice the fish immediately upon harvest.
15. The company shall offer and provide, to the fishers who do not wish to sell their catch outright, holding cold storage facilities at reasonable fee so that they may preserve the fish while they are negotiating for better prices.
16. The Company shall provide to the Department data and accounts of their operation at agreed intervals.
17. The Company shall be fully responsible for the security of the plant and all the machinery, equipment and moveable items, from the date of the first inventory.

ARTICLE VIII: STEERING COMMITTEE

1. The cooperation between the Parties shall be achieved through a Steering Committee whose membership shall be drawn from the company's Board and Department.
2. The role of the Committee shall be limited to specific issues and projects determined by the Company and the Department.
3. The Steering Committee shall meet quarterly and whenever urgent matters arise.
4. The Chairperson of the Steering Committees on scheduled meetings shall alternate between the Department and the Company.
5. The Department and the Company shall make available to the Steering Committee reports on the issues adopted for implementation under this MOU, in such a form and at such intervals as the Committee may determine.

6. All issues discussed by the Steering Committee shall be presented before the Company's Board for approval and implementation.

ARTICLE IX: AMENDMENT

Any part to this MOU may make proposal(s) for amendment(s). Such proposal(s) shall be presented in writing before the Steering Committee, for consideration and decision by consensus. Such mutually agreed amendment(s) shall then be submitted to the Depository for recording and notification purposes by either registered mail or hand delivery through a delivery book. The Depository shall in writing, notify the Parties of the acceptance of amendment(s) within a period of thirty (30) days from the date of receipt of the agreed amendment(s). The amendment(s) shall enter into force upon acceptance by the Depository in writing or at the expiry of the thirty (30) days, whichever is earlier.

ARTICLE X: ENTRY INTO FORCE

This MOU shall become effective on the date it is signed by all Parties. Copies of the instruments shall be deposited with the Permanent Secretary responsible for Fisheries and the Chairman of the Board of Directors of the Company.

ARTICLE XI: DEPOSITORY

The Permanent Secretary responsible for Fisheries shall assume the function of Depository of this MOU. The Depository shall notify the Parties in writing:-

- a) The entry into force of the MOU and also submit a copy of the official instrument to the Contracting Parties.
- b) The date the notification of intention to terminate is received and registered.
- c) The registered amendment(s) to the MOU and the date of adoption.

ARTICLE XII: TERMINATION

1. This MOU shall be terminated:-

- a) If any Party contravenes the conditions of the MOU. Any aggrieved Party may submit written request for termination of the MOU, to the Steering Committee.
- b) Through mutual agreement by all parties.
- c) The Steering Committee shall deal with termination process of this MOU and the decision of Steering Committee shall be communicated to the Depository for final decision.
- d) On termination of the MOU, enough time of not less than six (6) months shall be given to all parties to allow completion or finalization of ongoing projects and programmes.

ARTICLE XIII: SETTLEMENT OF DIPUTES

All parties shall seek settlement of dispute through amicably settle disputes, an arbitrator, mutually agreed upon by both parties, and shall be approved. The ruling, of the arbitrator on the contentious matter shall be final.

ARTICLE XIV: DECLARATION

Parties to this MOU express their commitment to ensuring the contents of this MOU are implemented as intended so that the Company can make a major contribution to the welfare of the people of Suba District and beyond.

Having read and agreed to all the aspects expressed herein, the undersigned do hereby undertake to commit their organizations to this MOU.

This Memorandum of Understanding is hereby signed this

..... day of December, the year 2004

IN WITNESS WHEREOF, the Parties hereto, acting through their

Authorized representatives, have signed this MOU, this..... Day of December 2004.

SIGNED BY	WITNESSED BY
Director, Department of Fisheries P.O.Box 187, NAIROBI Name..... Signature..... Date.....	Permanent Secretary, Ministry of Livestock and Fisheries Development Box 34188, NAIROBI Name..... Signature..... Date.....
Board Chairman, Mbita Ice Plant (K) Ltd P.O.Box 143, MBITA Name..... Signature..... Date.....	Board Member, Mbita Ice Plant K (Ltd) P.O.Box 143, MBITA Name..... Signature..... Date.....
Secretary, Islanders Development Initiative P.O.Box 73283, NAIROBI Name..... Signature..... Date.....	Member, Islanders Development Initiative P.O.Box 73282, NAIROBI Name..... Signature..... Date.....

Appendix 4: Cooperation Agreement between MIPKL and USAID

Mbita Ice Plant Kenya Limited
Emmans A. Otadoh
Chairman, Board of Directors
P.O. Box 30099
Nairobi, Kenya

Email: Eotadoh@KPLC.co.ke
Phone: 4440125-8
Fax: 4440899

Subject: Cooperative Agreement Number 623-A-00-05-00325-00 with Mbita Ice Plant Kenya Ltd

Dear Sir:

Pursuant to the authority contained in the Foreign Assistance Act of 1961, as amended, the U.S Agency for International Development (USAID) hereby awards to Mbita Ice plant Kenya Limited (hereinafter referred to as the "Recipient"), the sum of \$300,000 to provide support to Mbita Ice Plant in expanding its ice production capacity as described in the Schedule of this award and in Attachment B, entitled "Program Description."

This award is effective and obligation of \$300,000 is made as of the date of this letter and shall apply to expenditures made by the Recipient in furtherance of program objectives during the period beginning with the effective date and ending 10-20-2008. USAID will not be liable for reimbursing the Recipient for any costs in excess of the obligated amount.

This award is made to the Recipient on condition that the funds will be administered in accordance with the terms and conditions as set forth in Attachment A (the Schedule) and Attachment B (the Program Description), both of which have been agreed by your organization.

Please sign the original and all enclosed copies of this letter to acknowledge your receipt of the award, and return the original and all but one copy to the undersigned.

Sincerely yours,

Christine E. Lyons
Regional Agreement Officer

Attachments:

- A. Schedule
- B. Program Description
- C. Standard Provisions

ACKNOWLEDGED: MBITA ICE PLANT LTD
BY: EMMANS ABISA OTADOH
TITLE: CHAIRMAN, BOARD OF DIRETORS
DATE: 28TH OCTOBER, 2005

A. GENERAL

- | | |
|---------------------------------------|---------------------------|
| 1. Total Estimated USAID Amount: | \$300,000.00 |
| 2. Total Obligated USAID Amount | \$300,000.00 |
| 3. Cost-Sharing Amount (Non-Federal): | \$889,200.00 |
| 4. Activity Title: | Mbita Ice Plant Kenya Ltd |
| 5. USAID Technical Officer: | USAID/Kenya/ABED |

B. SPECIFIC

MAARD NUMBER: 615-0007-3-30051
APP: 72-4/81021
BPC: JDVA-04-29615-KG13
ECN: V540590
AMOUNT: \$300,000.00

PROGRAM DESCRIPTION

1. BACKGROUND

A. Overview of the Global Development Alliance

The Global Development Alliance (GDA) is USAID's commitment to change the way we implement our foreign assistance mandate. On May 10, 2001, Secretary of State Colin Powell announced the Global Development Alliance as USAID'S new business model, and the GDA is one of the pillars of USAID's reorganization and reform strategy. No longer are governments, international organizations and multilateral development banks the only assistance donors. Rather, over the past 20 years, non-governmental organization (NGO's) primary voluntary organizations (PVO's). Cooperatives, foundations, corporation, the higher education community, and even individuals, now provide development assistance. As a result, the U.S. Government is not the only, or perhaps even the largest, source of U.S. resources being applied to the challenges of foreign relief and development.

USAID has developed strategic partnerships in the past and the formation of the GDA pillar expresses the Agency's strong commitment to developing future alliances that leverage significant resources, expertise, creative approaches, and new technologies to address international development issues. GDA was created to make better use of USAID notable strengths in concert with resources of other donors for purposes of meeting international development challenges.

USAID has much to offer the international community with its unique mandate within the U.S Government and long-term experience with, and access to, host-country governments, GDA is able to capitalize on our extensive field presence, network of local development partners and technical expertise to catalyze, integrate, coordinate, and facilitate public-private alliances among development assistance actors.

The GDA reorients how USAID sees itself in the context of international development assistance, how we relate to our traditional partners, and how we seek out alliances with new partners. USAID uses its resources and expertise to assist strategic partners in their investment decisions, and stimulates new investments by bringing new actor and ideas to the overseas development arena.

While the Agency will continue to deploy resources where private funding is not available and where the governmental role is clear and pre-eminent to stimulate institutional and policy change, GDA activities provide synergy and economies of scale to organizations and individuals working on common development issues. USAID recognizes that effective partnerships will marry common interests and will require time and careful planning. Done correctly, alliances will mobilize additional resources and results for USAID 's development assistance programs worldwide.

By overview of the Mbita Ice Plant (K) Ltd Alliance

The alliance addressed in the agreement was originally crafted by the Mbita community in the form of Mbita Ice Plant Kenya Ltd (MIPKL), a private sector company. Broadly, this alliance is intended to support the endeavors of fisher-folk and the Suba community by providing sustainable opportunities to bring Lake Victoria's bounty to the market at the highest quality and most efficient means. In addition to MIPKL, the Recipient, alliance partners include USAID, OSIENALA, W.E. Tilley, and the Government of Kenya through the Ministry of Fisheries and Livestock Development. The alliance has an ambiguous schedule of production, outreach, market linkages, and a fish handling program that will have far reaching impacts on the community livelihood. USAID funding will provide for general management of the plant at its early stages of operations, structural improvement of the buildings, and capacity building.

II. OBJECTIVE

This alliance seeks to provide value added services, enhance the quality and sustainability of Lake Victoria's bounty and improve the economic status of stakeholders. MIPKL will focus on raising the living standards of fisher-forks by creating market stability and enhancing opportunities for profitable linkages in the supply chain. MIPKL is a community owned and commercially operated enterprise serving the needs of the fisher-folk shareholders and Industrial Fish Processor (IFP) customers. The abundant quantity of

Nile perch in Suba District and the MIPKL's anticipated capability to produce ice inputs offer a unique market opportunity to stakeholders. The fisher-folk will have access to ice in-puts at beach pick-up points for ease of collection. Placing fresh caught fish on ice at the earliest possible moment preserves quality and lowers rejection rates for the fisher-folk, thereby raising their incomes. MIPKL's ice-laden collection boats will collect the catch from fisher folk, who cannot make it to the plant, from designated beach collection points. Fish will then be sorted at the beaches and brought to the plant from further grading and delivery to the IFPs.

Contractual relationship will be put in place between MIPKL and the IFPs, which will guarantee the fisher-folks a fair market and stable price for their catch and an assurance of supply to the IFPs. The pricing formula will be based on fisher-folk expenses plus an acceptable profit margin level, thus ensuring their ability to make a viable living. With the "rejects" currently running as high as 40%, a lowering of the rate to 15% will enhance the overall fisher-folk incomes up to 30% after the plant becomes fully operational.

Fisher-folk will be paid in cash when the fish is turned over to the seller (in this case, the MIPKL collection boat), as is the current custom. Based on the strength of MIPKL's relationship with the fisher-folk's Union and societies and the individual fishermen themselves, MIPKL will interrupt this trend and create the following two critical shifts:

1. 5% of every fisherman's sales proceeds will be automatically placed into a savings scheme for himself and his family. The money will be put into a personal account or a society account. Efforts are already on the ground to establish Beach Banks by OSIENALA and Africa Now in Suba District through the Kenya BDS program.
2. Fisher-folk will have a steady, non-fluctuating wage from a trusted source. As rejects begin to minimize and wages stabilize, MIPKL intends to work through its partners to sensitize the fisher folk on financial management and budgeting issues. MIPKL and our partners believe that personal financial management is easier to achieve when wages are accrued bi-monthly or monthly (the customs in Kenya), rather than daily. The calculation of the fisher-folk's prices will change from the current system to a new system identified with MIPKL as illustrated below.

Market channel	IFP	Agent	Sorter/Middlemen	Fisher-folk
Current beach system	Pays Ksh76/kg for fish delivered to the factory	Receives 76kg/and has a percentage of reject to make-up for	Receive 56-66 kg and has a percentage of rejects to make-up for	Receives 40-56/kg and has a percentage of rejects which make-up a big loss in income
MIPKL system	Pays Ksh76/kg for fish delivered to IFP	N/A	N/A	Receives ksh 65/kg. Rejects are minimized.

III. ACTIVITIES

The major products, services and work to be provided/undertaken by the project are ice flakes, bottled drinking water, fish fillets, cold storage, and building improvements as detailed below:

Ice Processing

Ice is made in compliance with the national and international health standards. The ice is produced from the Lake Victoria water, which is first purified in the water treatment plant, which is part of MIPKL. The water from the Lake is passed through a series of sedimentation tanks, treated with chemicals and finally filtered through a number of filters of varying sizes until it is fit for human consumption. It is then directed into the ice-making machines where it is "frozen" and "shaved" for ice chips or flakes, left in blocks or frozen into cubes, depending on the need. The machines are periodically maintained and the plant shares a maintenance, plumber and electrician between the ice making and water bottling lines. With USAID funding for this alliance MIPKL will procure two ice making machines each with a capacity of 15 tons per day, giving an additional production of 4 tons. Further, MIPKL will procure a 4-ton lorry for transporting ice.

Ice is distributed in several different ways. The method preferred, particularly for better fish handling is where the fisher folk purchase ice at wholesale prices at the easy access lake facility, load the ice onto their boats as they go out fishing and use them to preserve the catch immediately. Alternatively, boats filled with ice go to the lake, collect fish from the fisher folk and bring it back to the shore for sale to the IFP customers. MIPKL will also make arrangements to have trucks of the IFP contract customers loaded with ice and fish at the MIPKL depot, where they find the fish already graded and ready for packing. It is also expected that non-contract customers will purchase ice directly from the plant without buying the fish.

Bottled Drinking Water

MIPKL has installed water treatment and bottling plant, which meets the highest standards of human consumption. The system consists of sedimentation tanks, chemical treatment machines and several filtration machines. The MIPKL, water bottling line provides

high quality bottled water for drinking as well as for use in the production of ice. The product has been tested and certified by the Kenya Bureau of Standards as suitable for human use. This line will employ 6 additional people by the end of its first year. A total of 2.8 million litres of water will be produced in the first full year of production at a net profit of \$85,310.

Cold Storage

MIPKL has three cold rooms of varying sizes, with a total capacity of 125 metric tons, to preserve fish or other perishables, 20% of which is for deep freezing. When fully operational, a maximum of 80 tons will be set aside for fish storage and the rest for other local commodities such as milk, meat and other agricultural produce. Cold storage will be at peak use during rainy seasons when roads around the Lake region are treacherous and impassible. Cold storage will enhance fisher folk incomes by reducing the urgency to dispose of their fish immediately to avoid spoilage and high rejection rates. It will also help stabilize supply, ensure fish quality and ultimately improve prices.

Building Renovation/Construction

In order to accommodate the new ice machines to be installed, and to facilitate smooth flow of operations, the existing building will be renovated to provide for extra space. Furthermore, since the plant was built with asbestos roofing materials, which are not suitable for a plant producing items for human consumption, these will be replaced with the correct, safer materials. Some of the major renovation work which will take place include reinforcement of the four 20 ft insulated containers such that the machines can be hoisted and placed on their tops, provision of roofing shade on top of the insulated containers to provide roofing to the machines, civil works to provide for loading point, and electrical installation and wiring works to cater for the additional machines.

Fish Filleting

MIPKL plans to open a filleting line after the ice production and water treatment lines have been fully operational. Tilapia filleting for the domestic institutional market will be the last phase on the first tier of our business plan and may start at the end of the second or third year of full operations. This will be possible with a little additional investment in fish cleaning tools and extension of the plant building. The main investment will involve replacement of the current asbestos roofing materials with hygienic tin roofing material, creating the working space and buying cleaning tables and other tools. While the fillets will be sold to institutional customers including hospitals, hotels, prisons, schools, etc, the waste which comprises 60% of the fish will be discarded, but sold to the animal feed processors. The filleting line will create employment for 22 female workers, when fully operational. The line is expected to sell 1.25 million kg of fillets in year one, increasing to 2.5 million in year 3. Total profit for this line is projected to rise from \$3,207 in its first year to \$6,415 when fully operational.

Fish Auction

MIPKL plans to establish a central fish auction market at MIPKL, when the capacity for ice production and cold storage and the ability of fisher folk to handle fish professionally have hit their peak. With the assistance of local authorities, the necessary bylaws will be enacted to close all beach fish markets and enforce compliance. This will make it easy to levy and collect fish cuss for the local authority and any other deductions that may be directed at community empowerment.

Activities identified by the fisher folk. IFP and other fish buyers will benefit from a central location with ready access to ice inputs and a pre-sorted, graded fish in large quantities. Prices will reflect market value as set by demand and supply in the market and any cartel like behavior will not be allowed. MIPKL sees this as one way of establishing direct market linkage for the fisher folk with large buyers and giving them an opportunity to bargain as a strong group.

IV EXPECTED RESULTS

The impacts of this project are far reaching. The array of beneficiaries range from the fisher-folk, all the way to the ultimate end users in the US and EU, who will benefit from a superior product, professionally handled, by enlightened fisher-folk. The IFP partner is a vital and dynamic link in the project and a cornerstone of MIPKL's strategy. This project is expected to generate the following results within three years from the first year of full operation:

1. Income for the rural fisher-folk households to increase by 30% within three years due to stabilized markets and favorable fish prices.
2. Savings by the fisher-folk to increase to 40% of income by 2007. This will be facilitated by a savings mobilization scheme to be introduced among the fisher folks, requiring an automatic deduction from fish payment. Africa Now, with USAID KBDS support, is already implementing a savings mobilization activity within Suba District among the fisher community targeted by MIPKL.
3. Market linkages will be established for 50% of the fisher-folk with fish processors and exporters. Fish handling skills will be improved and use of ice increased among fisher folks, resulting in a 30% reduction in fish rejection rate.
4. Overall household income for the fishing community will increase by 50% within three years of full operations.

5. With increased awareness and more responsible use of their incomes, the rate of HIV/AIDS will fall by 20% in the third year.

Appendix 5: MOU between USAID-W.E. Tilley and Osienala

Memorandum of Understanding

Between

United States International Development Agency (USAID)

And

W.E. Tilley

And

OSIENALA

Alliance Duration

The duration of the GDA will be for an initial period of three years, and on review may be extended for an agreed-upon period, by mutual agreement of the USG and the Alliance partners.

Profiles

USAID Kenya recognizes that Mbita Ice Plant project will contribute directly to its strategy of “increased rural household incomes,” including those of the fisher folks. Provision of ice is one of the key business support services identified by the USAID-funded Kenya Business Development Services (KBDS) program as urgently needed by the fisher folks. KBDS provides business services and capacity building to the smallholder farmers and other micro and small enterprises. Ice is a critical link in the economic value chain of the fishing industry as it leads to enhanced durability and quality of fish catch and stabilizes the fish market. In its efforts to support the Ice plant, USAID, through the Kenya Business development Services program has facilitated the placement and management systems. USAID/W has approved \$300,000 under the Global Development Alliance program for the expansion of the plant's production capacity, in recognition to its complementarity and contribution to the success of the USAID strategy.

W.E. Tilley is the private sector industrial Fish Processor (IFP) partner, who is directly linked with success of this project. It is one of the largest industrial fish processors/exporters in Kenya, exporting 6,240 fillets per annum with a work force of 600, at full capacity. It has been operating for the past 20 years, even when many competitors interrupted operations due to European bans on fish imports in the 1990's/ W.E. Tilley survived during the difficult period and then thrived by supplying customers with quality exports at reasonable prices through an efficient production process. It has been supplying international markets with Kenyan chilled fish fillets since 1984 and is Hazard Analysis Critical control point (HACCP) – rated and licensed by the EU as a “quality operation.

W.E. Tilley will strengthen MIPKL's ice production capacity as part of reorganization of its operations. Currently W.E.Tilley and other IFPs transport ice from Nairobi, which increases wear and tear on trucks, leads to costly overnight trips for drivers and increases market delivery time by up to three days. They would prefer to have their vehicles travel empty and then load ice at the point where they take fish. A key role of W.E.Tilley in the partnership will be to provide a ready market for the fisher folk's products and the ice produced by MIPKL. MIPKL will supply W.E. Tilley with fresh, high quality sorted and graded fish at a commercial rate that will ensure good returns for both the fisher folk and the IFP. Fish will be supplied at single or close proximity collection points in a single day with accompanying ice inputs. The fisher folk will benefit from better prices as the catch is preserved and the shelf life extended.

OSIENALA is a highly regarded local NGO focused on restoring environmental and economic growth in the region. OSIENAL, which literally means “friends of Lake Victoria”, plays a key role in advocating and promoting sound environmental management measures

geared towards the restoration of the Lake. This has been accomplished through some very successful community-based projects such as: Lake Kanyaboli Rehabilitation and Conservation Programme, sponsored by UNDP from

Background

The Lake Victoria Fish subsector is a commercially vibrant sector, providing direct and indirect employment and income to over 33,000 fishermen and 350,000 Kenyans, respectively. According to the Department of Fisheries, the annual average total production of fish in Kenya is estimated at 180,000 Metric tones (MT) valued at \$86 million to the fishermen with a market retail value \$328 million. While Kenya has only 6% of Lake Victoria waters (Uganda 45%, Tanzania 49%, it is virtually important with respect to fish breeding, with five important river mouths including Kuja, Awach, Miriu, Nyando, Nzoia, and Sio. The main fish species from the lake are the Nile Perch, Dagaa and Tilapia which in the year 2002 accounted for 51%, 31% and 15% of the landed volume, respectively. In Kenyan part of the lake, fishing occurs in all the eight bordering districts with three of the districts together accounting for over 73% of landed fish catch as follows: Suba (37%), Bondo (22%) and Busia district (14%). The first two districts have the highest concentration of fishing activities together accounting for 56.4% (18,634) of fishermen, 55% (5,444) of fishing vessels and 56% of the 297 registered beaches around the lake in 2000.

Yet, amidst all this riches, the area is among the poorest in Kenya, with 83% of the population living below the poverty level, mainly due to an unregulated supply chain characterized by a highly perishable product, restricted market alternatives and absence of a savings culture. Due to lack of ice, the product fetches low prices and the fishermen experience fish rejections in the region of 40%.

Ice is used in preserving Nile Perch entering the Industrial Fish Processing (IFP) channel from the point of purchase at the landing sites through transportation to the factories. The amount of ice available is however only sufficient to cover fish preservation in the supply chain from the landing sites upwards. No ice is available to fishermen to preserve fish from the point it is caught to the time it is landed for sale to IFP agents. Ice is also not available at the landing sites for preservation in the event IFP agents are not available to buy the fish immediately. This leads to heavy fish rejection during rainy/hot weather seasons and it is the main reason why may IFP's are no longer able to produce the highly priced chilled fillet.

The Government of Kenya started constructing Mbita Ice Plant in 1993 to address the Ice constraint. Ten years later, having a total investment of \$698,000 in land, building and machinery, the government invited the community to manage the plant, with the objective of transferring its ownership to the community at a later date. The community then formed Mbita Ice Plant Kenya Limited, a company limited by shares, and raised \$125,000 from the fisher folk. The other alliance partners, W.E. Tilley and OSIENALA have agreed to contribute \$191,200 to supplement the \$300,000 to be provided by USAID.

The United States Government (hereafter referred to as the "USG") on the one part W.E. Tilley and OSIENALA, (hereinafter referred to as the "Alliance Partner" on the other part, agree to establish a Global Development Alliance (hereafter referred to as "the GDA") in order to expand ice production at the Mbita Ice Plant and increase ice access to the small scale fisher folk in Suba and Bondo districts along Lake Victoria. It is agreed by the USG and Alliance partners that Mbita Ice Plant Kenya Limited (MIPKL) will be the implementing partner to the GDA.

1993-1997; The St Monica Madiany Women Micro-enterprise project, sponsored by Germany's Mission Zentrale Der Franziskaner; The Lake Victoria Environmental Management Program (LVEMP) sponsored by UNDP, Germany and World Bank, OSIENALA training center for boat building and net making, sponsored by US government; Kisumu Ecological Water and Sanitation Project; sponsored by SIDA; IUCN Nile Perch Project on Socio-economics Fisheries of Lake Victoria and, Capacity Building for Community Based organizations in Suba District for Poverty Alleviation and Sustainable Development, sponsored by UNDP – Africa 2000 network.

OSIENALA works with the fisher-folk on several fronts. Leveraging an innovative Beach Bank program launched in April 2004 with the MIPKL stakeholder fisher-folk, OSIENALA is encouraging saving and investment among the fisher-folk. Individual members will contribute small amounts of money regularly, which OSIENALA will invest on their behalf. It will provide community sensitization and advisory/capacity building services to the plant and the fisher folks.

Alliance Purpose

This project seeks to provide value-adding services to enhance the quality and sustainability of the Lake's bounty and increase household incomes of the rural fisher folk. It will raise the living standards of fisher-folks by creating market stability and enhancing opportunities for profitable linkages in the fish products' supply chain.

Scope of Global Development Alliance

The additional investment in the project is expected to result in:

1. Increased rural fisher-folk household incomes by 30% within three years due to stabilized markets and favorable fish prices.
2. Increased savings by the fisher-folk by 40% by 2007. Savings will increase by a higher percentage than incomes as behaviour change following intensified savings mobilization activities among the fisher community targeted by MIPKL.
3. Established market linkages with fish processors and exporters for 50% of the fisher folk.
4. 30% reduction in fish rejection rate due to improved fish handling skills and increased use of ice for preservation by the fisher folk.
5. 20% fall in HIV/AIDS infection rate as a result of increased savings and more responsible use of incomes on investments.
6. The major products of the project will be ice flakes, bottled drinking water and fish fillets. The plant operations will have the following product lines.

Ice Processing:

The ice is produced from the Lake Victoria water, which is passed through a series of sedimentation tanks, treated with chemicals and finally filtered through a series of filters of varying sizes. It is then directed into the ice-making machines where it is "frozen" and "shaved" for ice chips or flakes, then left in blocks or frozen into cubes, depending on the need.

Bottled Drinking water

Production of ice requires a water treatment plant. Mbita Ice plant has a water treatment system consisting of sedimentation tanks, chemical machines and several filtration machines, which provides high quality bottled water for drinking as well as for use in the production of ice. The product has been tested and certified by the Kenya Bureau of Standards as suitable for human use.

Cold Storage

MIPKL has three cold rooms of varying sizes, with a total capacity of 125 metric tons, to preserve fish or other perishable, 20% of which is for deep freezing. When fully operational, a maximum of 80 tons will be set aside for fish storage and the rest for other local commodities such as milk, meat and other agricultural produce. Cold storage will be at peak use during rainy seasons when roads around the Lake region are treacherous and impassible. Cold storage will enhance fisher folk incomes by reducing the urgency to dispose of their fish immediately to avoid spoilage and high rejection rate. It will also help stabilize supply, ensure fish quality and ultimately improve price.

Fish Filleting

The plant plan to open a filleting line after the ice production and water treatment lines have become fully operational. Tilapia filleting for the domestic institutional market will be the last phase on the first tier of the project's business plan and may start at the end of the second or third year of full operations. While the fillets will be sold to institutional customers including hospitals, hotels, prisons schools, etc, the waste, which comprises 60% of the fish will not be discarded, but sold to the animal feeds processors. The line is expected to sell 1.25 million kg of delicious fillets in year one, increasing to 2.5 million in year 3.

In addition to providing ice inputs to the fisher folks, this project will undertake the following interventions:

- Increasing market access for the fisher folks by linking them to the main fish processors who can buy directly from them rather than brokers.
- Savings mobilization activities to redirect the vast lake resources away from reckless and dangerous spending into more productive investments and reduce the rate of HIV/AIDS infection. The current infection rate is due to the fact that fisher folk spend their incomes mainly on drinking and prostitution.
- Capacity building and awareness creation amongst the fisherfolk on environmental management for long-term sustainable use of the lake resources.
- Training of the fisherfolk on acceptable fishing methods and fish handling/preservation techniques that would result in higher quality fish products.

Roles Responsibilities and Contributions

USG: Provide overall project oversight and provide leveraged funding to the amount of \$300,000 as detailed in Annexure 1

The Alliance Partners will share information, provide direct and indirect contributions and inputs, provide market access, training, sensitization and savings mobilization activities, and leveraged funding to the amount of \$889,200 as detailed in Annexure 1

W.E.Tilley (WET) shall strengthen MIPKL's ice production capacity by providing two used ice-making machines (two years old) with a capacity of 15 tons each at no cost to the plant. In view of the nascent stage of MIPKL's capacity, WET undertakes to provide technical assistance in the procurement and installation of equipment and machinery and also provide technical support at the plant in the areas of ice production and fish handling. In addition, it will provide a ready market for the fish as well as the ice produced. In return, WET will benefit from the reduced cost of procuring ice at Mbita point instead of transporting ice all way from Nairobi, with all the attendant loss of ice and wear and tear of its trucks. It will also benefit from improved quality of fish as a result of increased use of ice by fisherfolk in fish preservation.

OSIENALA shall offer community sensitization and advisory/capacity building services to MIPKL and to the fisher folks. The services shall include education on fish preservation as well as savings mobilization and investment of incomes. In addition, OSIENALA's radio services will be used to promote at discounted rates, the products and services offered by the plant, as well as sound environmental management measures geared towards quality and sustainable fishing, fish preservation methods and use of appropriate fishing gears. Tilley and OSIENALA have agreed to contribute \$191,200 to supplement the \$300,000 to be provided by USAID.

Targets and Deliverable

Targets, Deliveries and annual work plans are agreed by all parties to this MOU and are contained in Annexure 2.

Operational Principles

Technical Committee

A technical committee will be established to review the implementation of the GDA work plan. The composition and terms of reference of the technical committee are referred to in Annexure 5.

Monitoring and Evaluation

Review and monitoring of the alliance activities, targets, deliverables and financial information will be undertaken at all levels by MIPKL who will report to USAID and the Alliance Partners.

Financial

The GDA financial procedures and administration will follow international accounting standards and will comply with USG accounting procedures and reporting systems.

Confidentiality Clause

The Parties undertake to keep confidential any information provided to each other as a result of this Alliance. No information, statistics or copies of any report relating to this alliance may be published without the consent and authority of all the parties concerned expressed in writing.

Disclaimer

The purpose of this MOU is to set forth the understanding and intentions with regard to these shared goals. The Parties are entering into this MOU while wishing to maintain their own separate and unique missions and mandates, and their own accountabilities. Unless specifically provided otherwise, the cooperation between the parties as outlined in this MOU is not to be considered or construed as a partnership or other type of legal entity or personality. Nothing in this MOU shall be construed as superseding or interfering in any way with other agreements or contracts entered into between two or more of the parties, either prior to subsequent to the signing of this MOU. The Parties further specifically acknowledge that this MOU is not an obligation of funds, nor does it constitute a legally binding commitment by any party.

This Memorandum of Understanding is signed on the ____ day of _____ 2005.

Signed for:

Signed for USAID/Kenya

Stephen M. Haykin, Director

Signed for W.E.Tilley

Zulfikar Jessa, Managing Director

Signed for OSIENALA

Dr. Obiero Ong'ang'a Executive Director

Annexure 1 – Alliance Partner Financial Inputs

Annexure 1 – Alliance Partner Financial Inputs

Cost Element	USAID	W.E. Tilley	OSIENALA	GOK	Community (MIPKL Ltd)	All
Professional Fees/Personnel	22,000		48,000		16,000	86,000
Vehicles	32,000					
Land						
Equipment	216,000		143,200			
Building Renovation/Construction	30,000			474,000	8,000	512,000
Electricity Supply				26,000		26,000
Other Direct Costs Water bottling					29,000	29,000
Working Capital					66,000	66,000
TOTAL	300,000	143,000	48,000	500,000	198,000	1,189,200

Annexure 2 – Alliance Deliverables and Targets

1. Rural fisher-folk household incomes to increase by 30% within three years due to stabilized markets and favorable fish prices.
2. Savings by the fisher – folk to increase to 40% of income by 2007. The USAID KBDS program is already implementing a savings mobilization activity among the fisher community targeted by MIPKL.
3. Market linkages will be established with fish processors and exporters for 50% of fisher folks.
4. Fish handling skills will be improved and use of ice increased amongst fisher folks, resulting in a 30% reduction in fish rejection rate.
5. Overall household incomes for the fishing community will increase by 50% within three years of full operations
6. The rate of HIV/AIDS infection to fall by 20% in the third year, with increased awareness and more responsible use of incomes.

Annexure 3 – Work plan (September 2005-2008)

Results/Indicator	Activities	Responsible Organization	Time-Line	Year 1 Target	Year 2 Target	Year 3 Target
SO 7: Increased rural household incomes						
Percentage change in fisher folks household incomes	i) Available ice inputs to the fisher folks for fish preservation	Mbita Ice plant Kenya Ltd.	Sept 2005 – Sept 2008	10%	20%	30%
IR 7.3.3 Non Financial Services Delivered Cost – Effectively Increased						
Percentage Increase savings amongst fisher folks.	a) Promotion of savings culture amongst fisher folks b) Linking fisher folks with micro-finance institutions and introducing banking facilities at beaches.	Mbita Ice Plant Kenya Limited. OSIENALA	Sept 2005 – Sept 2008	10%	25%	40%
Percentage of the fisher folks having direct access to fish markets	a) Establishing market Linkage with private sector processors/exporters.	Mbita Ice Plant Kenya Ltd. W.E. Tilley	Sept 2005- Sept 2008	20%	35%	50%

Percentage reduction in fish rejection rate	a) Promotion of acceptable fishing methods and fish handling and preservation techniques	Mbita Ice Plant OSIENALA	Sept 2005- Sept 2008	10%	20%	30%
HIV/AIDS infection rate reduced	a) Awareness creation and training on responsible use of fisher folks' incomes.	Mbita Ice Plant Kenya Ltd., OSIENALA	Sept 2005 Sept 2008	5%	10%	20%

Annexure 4 – Technical Committee Terms of Reference

Membership

- ❖ USAID Representative
- ❖ W.E. Tilley
- ❖ OSIENALA
- ❖ Ministry of Livestock and Fisheries Development
- ❖ Mbita Ice Plant Kenya Ltd

Terms of Reference

The role of the Technical Committee will be

1. Review the Alliance Program
2. Review the M & E process and results of the Alliance Program
3. Sharing of information and advice to enhance alliance activity implementation in relation to the national strategic plan and trends in HIV and AIDS service provision and observing best practice
4. Strengthened linkages between the private and public sectors through consultation and sharing of views
5. Receive the Alliance annual plan and report
6. Provide guidance on mediation

Appendix 6: Workshop Notes and List of Participants

Discussion Segment of Ice Workshop

ICIPE Guesthouse, Mbita

May 5, 2006

- *Chairman remark* - Request that more containers be provided to additional areas.
- *Chairman remark* - Will actual distribution of ice be done by the ice plant, or will the BMUs come and collect?
- *Group consensus* - Ice should be distributed by the ice plant, since some of it melts en route. Beaches should only pay for what is delivered. Beaches should only pay for ice that actually reaches the beaches.
- *Otadoh* – Mbita ice plant can contract out distribution of ice, but price will incorporate cost of transport to cover third party delivery. These costs will be worked out. A two-tier pricing system can be incorporated for: 1) delivered; and 2) factory-gate.
- *Ringiti Chairman* – Issue of late fish arrival. How will they service a situation when fish does not arrive? What if the supply of fish is high? Fluctuating supply and prices is a challenge. Some beaches require more containers to hold the fish.
 - Possible solutions:
 - *Projections based on seasonal requirements*
 - *Alternative market outlets (so beaches not beholden to broker)*
 - *Containers not limited to one per beach*
 - *Alternative uses of ice. Perhaps ice can also be used to transport fish to other areas like Bondo, which may have better roads.*
- *BMU Rep* – Asked question related to payment of lease deal. How long is the grace period? What are the penalties for the defaulters to pay promptly on usage of container? What is the interest rate on paying that loan for the ice container?
- *Osienala* – Fishermen need to be mobilized on the right gears to use. Fisheries department is confiscating illegal gear. Strategy should be community owned. Osienala feels Gwasi Division is not represented there.
- *JOD* – KDA must meet with fisherfolk and explain program with them, so that fisherfolk can ask questions. People need to know...how much will this cost? What are the terms?
- *Group Consensus* – Lease arrangement is most preferred.
- *Group Discussion* – Pharesh asked group are there beaches that can buy containers now upfront? Nobody committed on the spot.
- *Discussion on Payment Options* – Members think it is best that ice is paid upfront, as it is better business for the ice plant.
- *Discussion on selection criteria* – Geographic outreach should be included as part of consideration. Self-help groups, BMU groups, cooperatives, etc. all should be considered as well.
- *BMU accounting system* – BMUs need assistance with accounting system and capacity-building. Perhaps Africa Now can assist BMUs in these areas.
- *Fisheries Department* – DOF is in the process of reforming the BMUs, and ensuring that they maintain bank accounts is a critical requirement.
- *BMU Rep* – Some groups may have a cold room. Can they use the ice for their cold rooms? Of course.

	Name	Organization
1	George Okoth	Fisheries DPT Suba
2	John Ooko Otieno	BMU Chairman Suba
3	Samuel O Osewe	BMU Chairman Kiumba
4.	Jacob Juma	BMU Secretary Ringiti
5.	Elly Ochieng Okello	MBU Secretary Remba
6.	N. Okanga Ndege	BMU Nyagina
7.	Tom O. Okombo	BMU Litare
8.	David Kiche	BMU Lwanda Nyamasare.
9.	E. A. Otadoh	MIPK LTD
10.	Otieb Obuogo	IDI
11.	John Oimo	BMU Kiumba
12.	Clanza Kionge	Africa Now
13.	Wilfred O. Magadi	BMU Sindo gateway
14.	George Blasto	BMU Mrongo
15.	David Otieno	Africa Now
16.	Samson Maende	Gembe Fisherman Co-op
17.	George Odero	MIPKL Ltd
18.	Gemge Owin	MIPKL Ltd
19.	George Ochola	BMU Sena
20	Abdi Odhiambo	BMU Kitawi
21.	John Okumbe	Kiumba Beach
22.	Bernard Ogutu	BMU Kasarani
23.	Anades Scalet	Osenala
24.	Charles Okumu	Mbita Town Beach BMU
25.	John Onyango Obondo	Takawiri Beach
26.	Wilson Abuoga	Mnoflo
27.	Fredrick Kaganda	Wakula
28.	Daniel Onyagi	Masisi
29	Ouma Jod Obuogo	Yokia Beach
30.	Abiud Otieno	Nyakweri Assistant Beach leader
31.	John Kiambo	Ugina Beach