Marketing of Mukene (*Rastrineobola argentea*) has become a lucrative business in Uganda after decades of underutilization but its value-chain from capture to market remains unknown. Consequently, a study was undertaken at two selected landing sites located along L. Victoria and several Kampala markets. Using a structured questionnaire a total of 200 fisher-folk were interviewed to identify key-stakeholders, linkages and economic variables along the value-chain. Results indicated that boat-owners incurred the highest input per 100kg-bag of dried Mukene at a cost of UGX 60,000/= followed by regional traders and local traders at UGX 10,000/= respectively. However, the profit margins increased from the boat-owners to the regional traders who earned 2 and 4 times the cost of input respectively. This was expected because some traders were known to offer advance payment to fishers cum processors which trapped the latter in perpetual indebtedness and compromised the final product quality. Although fishers and processors influenced Mukene quality which ultimately determined the price of the final product, they benefited least from their efforts with profit margins 10% and 12% respectively. The profit margin for the boat-owners cum traders selling Mukene for human consumption, varied between UGX 180,000 and UGX 240,000 per 100kg-bag depending on market. Similar weight of Mukene designated for animal feed earned the manufacturer between 44% to 52% profit depending on the mixing ratio with other feed ingredients. The market retailers in the local as well as Supermarkets earned substantial profit.
Sun-dried Mukene (*Rastrineobola argentea*) value-chain analysis in Uganda

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**INTRODUCTION**

- Mukene (*Rastrineobola argentea*) is tiny bony fish - average length 5cm and weight 15g.
- 80% used for animal feed while 20% enters chain for human consumption
- Post-harvest losses vary between 40-90%
- Contributed US$ 2 million to Uganda’s economy 2010
- V-C consists of several key actors
- Relationships between different key actors is dictated by gender roles, capital and type of market
SPECIFIC OBJECTIVES

- To identify key-players in the Mukene fishery
- To determine linkages between key-players
- To establish inputs and profits at various segments along the Mukene value-chain.
- To generate data for policy formulation – facilitate streamlining of the Mukene sector

METHODOLOGY

- A structured questionnaire was used to collect information from Kasekulo and Kiyindi landing sites and market outlets in Kampala.
- About 213 randomly selected boat owners, processors and traders.
- Responses were coded and analysed using SPSS package.
- Input costs at each segment of the chain were determined and used to compute the final input cost per 100kg-bag of sun-dried mukene.
- Profit margin was calculated from the selling price of the bag at the respective chain segment.
RESULTS AND DISCUSSION

Annual Mukene availability in L. Victoria

KEY PLAYERS IN MUKENE FISHERY

At principal segments: -
- **Landing site** – include Boat owners, fishers, processors, (BMUs), traders (local & regional), and Local authorities
- **Market outlets** – include traders (local & regional), Supermarkets, Feed manufacturers, consumers (primary & secondary)
LANDING SITE ACTORS

(a) Boat owners

Artisanal:
• Varies with landing sites but on average 60% women and 40 men
• Average investment –UGX 12.5 million per boat (Equivalent to US$ 5000)
• Profit margin on 100Kg dry product = 30%

Medium scale
• Principally menfolk
• Average investment UGX 150 million (Equivalent: US$ 60,000)
• Profit margin on 100Kg dry product= 45%
(b) Fishers

**Artisanal:**
- Mainly hired adult and youthful males
- Trip investment in terms of food and site charges UGX 10-15K (Equiv US$ 4-6)
- Profit margin 37.5-46.9%

**Medium scale**
- Mainly salaried adult males i.e. workers
- No investment

(c) Processors

- Usually women carry Mukene from fishing boats
- No monetary investment except time and food to ensure good health
- If 30 basins are ferried to drying ground, they get 1 basin or UGX 5,000 (US$ 2)
- Considering standing of living at landing site, profit margin = UGX2,500 (US$ 1) per day
- 1 basin dried Mukene = UGX 15,000 (US$ 6)
Processors cont’

Artisanal:
- Mixed gender at drying ground
- Share chores of scarring off birds and domestic animals
- Paid in kind or US$ 1 per batch

Medium scale:
- Mixed gender
- Paid UGX 150,000 (US$ 60) per month

Inputs & Investments for other actors

<table>
<thead>
<tr>
<th>Value-chain actor</th>
<th>Basic Required Inputs</th>
<th>Production costs (UGX’000)</th>
<th>Average Investment (UGX’000)</th>
<th>Profit margin on 100Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local trader</td>
<td>Transport + Muk</td>
<td>100 per trip 120-150 per bag</td>
<td>2,000-1000</td>
<td>40-50%</td>
</tr>
<tr>
<td>Regional trader</td>
<td>Transport + Muk</td>
<td>600 per trip 120-150 per bag</td>
<td>20,000</td>
<td>70-83%</td>
</tr>
<tr>
<td>2nd processor</td>
<td>H/Q Muk + composite flour + mill + labour</td>
<td>120 per bag 25,000</td>
<td>100,000-150,000</td>
<td>30-40%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>300-600 per mo</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Retailer for human</td>
<td>H/Q Muk, mkt dues + Monthly rentals</td>
<td>135 per 100kg-bag 1-15 per month</td>
<td>200-250</td>
<td>30-37%</td>
</tr>
<tr>
<td>Supermarkets</td>
<td>Packaged Muk + rent</td>
<td>150,000</td>
<td>500</td>
<td>35-50%</td>
</tr>
<tr>
<td>Feed manufacturer</td>
<td>muken + maize or rice bran/husks + mill + labour</td>
<td>100-120 per bag 7,000</td>
<td>10,000</td>
<td>44-52%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>250-500 per month</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Value Share

<table>
<thead>
<tr>
<th>Chain actor (Process, transport, fishing)</th>
<th>Variable costs</th>
<th>Revenue (Selling price)</th>
<th>Gross income (profit)</th>
<th>Gross margin</th>
<th>Added value</th>
<th>Value share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boat owner</td>
<td>60,000</td>
<td>210,000</td>
<td>150,000</td>
<td>71%</td>
<td>120,000</td>
<td>57%</td>
</tr>
<tr>
<td>W/salers</td>
<td>135,000</td>
<td>300,000</td>
<td>165,000</td>
<td>55%</td>
<td>90,000</td>
<td>30%</td>
</tr>
<tr>
<td>Retailers</td>
<td>260,000</td>
<td>336,000</td>
<td>76,000</td>
<td>22.6%</td>
<td>36,000</td>
<td>10%</td>
</tr>
</tbody>
</table>

### SWOT Analysis

<table>
<thead>
<tr>
<th>Chain segment</th>
<th>Constraints</th>
<th>Opportunities</th>
<th>Recommendations</th>
<th>Responsible party</th>
</tr>
</thead>
</table>
| Fishing       | • Seasonality  
• High cost of inputs  
• Inappropriate handling facilit's | • Advance payment  
• Abundant Mukene stocks | • Group formation and strengthening  
• Sanitation and hygiene sensitization | • Boat owners  
• Fishers  
• BMU |
| Financial Institution | • Poor saving culture  
| Economic sustainability of the fishery | • Govt policy on poverty eradication | • Lower credit rates  
• Create awareness on saving | • Banks  
• SACCOS |
| Relation between actors | • Use of illegal gear  
• High by-catch gear  
| 10mm mesh size, catamaran, boat registration | • Sensitization  
• Standardize measurement tool | DFR  
LVFO  
BMU & Ext |
| Business environ. | • Unfair and unequal bargaining power  
• Lack of information sharing | • Relations exist  
• Willingness | • Establish platforms  
• Fisher grps | NGOs  
Dev partners  
DFR  
BMUs |
| • Poor infrastruct.  
• Corruption | • Draft policy  
• Decentralize. | • Exposure visits  
• Train actors | DFR  
BMU |
CONCLUSION

- Mukene value-chain in Uganda is multifaceted with different nationalities and gender participation at different chain segments.
- Gender disparity at the respective chain segment was influenced by socio-economic factors like labour intensity of task and capital investment.
- Lack of policies or inability to enforce them, has led to mismanagement of the resource.
- As a result some actors took advantage of the status quo to make huge profits.
- Profit margins varied across the value-chain: regional traders had lion’s share while fishers and processors earned least.

RECOMMENDATIONS

- Formulate and harmonize a Mukene quality policy for the ECA region to curb malpractices.
- Forge regional co-operation among respective inspection services and border post agencies to promote trade in high Q mukene products.
- Conduct a detailed study within the ECA region for better understanding of the Mukene value-chain dynamics.
- Create market platforms for chain actors to share challenges, risks and other relevant information about the mukene fishery.
Thank you for listening!!!