

Activities of QC and Value addition sub-component in KCDP

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Participating partners

- State Department of Fisheries
- BMU's in areas of implementation (Lake Kenyatta; Shimoni; Jasini-Vanga; Kilifi Central)
- NGOs: Africa Nature Organization (ANO)

Participants

- **KMFRI Scientists:** Oduor-Odote; Benard Ogongo; Maurice Obiero; Cyprian Odoli; Stanley Onyango;
- **SDF:** Jim Mwangi; Benrick Ogutu; Richard Deche; Winnie Ngendo (RIP);
- **KMFRI Interns:** Winnie Atieno; Joan Ndumi; Job Alex; Jackson Mupe; Victor Chebor; Phillip Ndung'u
- **KMFRI Technologists:** Ray Ruwa, Omega; Tunje Lewa; Winnie Jeffwa; Trizza Nyambura; Christine Migwi; Ken Oduor
- **NGO:** Murage

Objectives

- **Strategic objective:** Improve the socio-economic benefits from fisheries through development of enhanced value chains and reduced post-harvest losses.
- **Specific objectives**
 - ❖ To contribute to food security through reduced post-harvest losses by proper fish handling
 - ❖ To enhance fish quality assurance, value addition and marketing for improved livelihood

Activities

- Cold fish chain enhancement
- Dried fish chain enhancement
- Smoked fish chain enhancement
- Fried fish chain enhancement
- Product Marketing & Packaging
- Capacity building (human and infrastructure)

Preparatory strategies (2012-date)

- Baseline survey for Post-harvest status
- Blueprint for QC
- Strategic implementation plan for QC
- M&E chart for QC drafted

Cold chain enhancement

- **Motivation:**
 - ❖ High fish landings (Actual and potential)
 - ❖ Reduction of spoilage of fish, preserve quality
 - ❖ Reduction of exploitation by middlemen
 - ❖ Introduction of value addition of fresh fish products for better income by local communities
- **Pilot area:** Shimoni

Cold chain enhancement

- Strategic implementation plan for cold chain ;
- Preservation from upstream
- Insulated portable containers in small fishing boats, in fish banda, a prototype fishing and collection boat with insulated fish holds Improved fish banda in Shimoni and Kibuyuni
- [SHIMONI FISH LANDING BANDA PLAN AND MODEL.pdf](#)
- [KIBUYUNI FISH LANDING BANDA PLAN AND MODELS.pdf](#)
- Safeguards report
- MOU for cold chain facilities prepared for/with communities

Dry & Smoked chain enhancement

- **Fish drying:**

- **Motivation:** Sardine fish dried on the ground in Jasini-Vanga area
- Contamination with sand, bird droppings etc rampant
- Poor quality fish with low net income
- Drying racks eliminate sand, improve quality
- Better premium product for higher income

- **Fish smoking:**

- **Motivation:** High use of wood fuel and poor quality fish
- Improved fish smoking ovens yield better quality fish and 60% lower wood fuel consumption

- **Approach:**

- Consultations with BMUs
- Baseline data before and after intervention
- Construction and monitoring

Dried fish chain consultations



Results for dry/smoked chain activities

- Dry chain implementation plan
- Back to office reports
- Technical progress reports on dried and smoked fish shelf life evaluation including packaging (Studies on going)

Smoked fish chain



Fried fish chain enhancement

- **Motivation:** Supports a large female gender population
- Paraffin candles for lighting
- Contamination and high carbon footprint
- **Pilot area:** Kilifi town
- High population of female fried fish traders upto past midnight
- **Intervention:** Replace the candle light with eco-friendly light

Fried fish chain (Kilifi)



Results fried fish chain

- Strategic implementation plan
- Consultative meetings and demos of improved display shelves
- Patent application for fried fish chain display shelf

Carbon foot print reduction prediction of fried fish chain

- 1 litre of Kerosene emits when burnt, 2.53kg Eq CO₂
- ¼ litre to ½ litre kerosene burnt per night per shelf (“per Mama Karanga”)
- This emits when burnt, 2.53 by ¼ or 0.63 Eq CO₂
- 60 “Mama Karangas” at Kwa Charo Wa Mae alone every night
- They emit 60 by 0.63 by 365 = 13852 kg Eq CO₂ per year before intervention
- Emission CO₂ Eq. brought to Nil with intervention.

Marketing & Packaging

- **Motivation:** Products must have a market finally
- Back to office reports
- Dry & smoked chain Marketing strategy preliminary report
- **Products:** smoked and dried value added fish products (Catfish & Sardines); fresh value added fish products (Snapper)
- **Packaging:** Across the board

Capacity building

- Equipment purchase
- Short term training on fish value addition in Philippines
- Long term training (MSc): Maurice Obiero, Patrick Mathendu

Targeted achievements summary

- Table on achievements TARGETED ACHIEVEMENTS 2012-2014.docx

List of beneficiaries

- Jasini: [BENEFICIARIES FROM JASINI DRY CHAIN.xlsx](#)
- Mpeketoni: [BENEFICIARIES FROM MPEKETONI BMU.docx](#)
- Shimoni: [BMU BENEFICIARY MEMBERS IN SHIMONI.docx](#)
- Kilifi: [BENEFICIARIES TO BE FROM KILIFI CENTRAL.docx](#)

Impacts & Anticipated impacts

- **Smoked fish chain:** Higher prices from products
- **Dry fish chain:** Better quality fish products
- **Fried fish chain:** Better quality fish
- **Cold fish chain:** Better quality and higher prices for fish
- **Capacity building:** Value addition technology transfer

Challenges

- Funding delays
- Human capacity (Hire interns on temporary basis)
- Hire procurement process
- Capacity building (laboratory infrastructure)
- Transport

Strategic way forward

- Introduce basic sanitary and handling facilities in dry/smoked chain areas
- Fish Market plan and bench marking
- Upscaling cold chain (North coast) ; fried chain: North & South coast; dried chain (south and North coast) Smoked fish chain (Parts of North coast)
- Devise further marketing strategies and implementation
- “Total utilization concept” of fish
- Shelf-life enhancement
- Engage interns and attachees
- Capacity building for technologists on equipment handling
- Accreditation for QC lab
- Capacity on equipment lined to value addition (Philippines)

Photo gallery

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Value addition capacity building of communities in KMFRI



Value addition training in Philippines



Value addition training in Philippines



Value added fish products sold at Msa show



Acknowledgement

- KCDP
- BMUs (Mpeketoni, Jasini, Shimoni, Kilifi Central among others)
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**THANKS &
GBU**