

# Malawi Annual Report, April 2010-March 2011

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# Summary of Malawi strategy

- The strategy focussed on developing two value chains for HQCF
  - Sundried value chain involving community processing groups and Press Agriculture to supply products to rural end users (Bakers of scones, doughnuts, buns and mandazi makers)
  - Artificial dried value chain involving private sector players to invest in flash dryers targeting the millers, paperboard and biscuit industries

# Estimated demand for HQCF

Type of Market	Estimated demand for wheat (ton/yr)	Estimated demand for HQCF(ton/yr)	Potential supply chain
Millers	49,000	4,900 (10%)	Flash dryer
Rural retail	36,000	7,200 (20%)	Sundried
Biscuit	10,000	2,500 (25%)	Flash dryer
Paper board & other	1,000 (maize starch)	1,000 (100%!)	Flash dryer
<b>Total</b>	<b>96,000</b>	<b>15,600</b>	

# Revised milestones

Key milestone	Target 2010-11	Target 2011-12	Target 2012-13
No. of farmers selling to flash dryer	-	75	3600 farmers 203 processors
Farmers benefiting (\$93/yr) from sundried HQCF	78	200	400
Processors benefiting (\$125/yr) from sundried HQCF	35	90	180
New flash dryer in operation with C:AVA support	-	1 unit installed in Malawi by October 2011	1 unit operating and 2 new units installed
Increase in production & sales of HQCF	112 tons (15t?) 74t rural 38t commercial	696tons 170t rural 488t commercial	2,100 250t rural 1,388t commercial

# Achievements against revised milestones as of March 2011

Key milestone	Revised target	Target achieved	Remarks
Farmers benefiting (\$) from sundried HQCF	78	163 (37)	
Processors benefiting (\$) from sundried HQCF	35	83 (78)	
Increase in production & sales of HQCF	112 tons (15?)	18.6 tons	
HQCF purchased by end users	1797 total for all countries	10.3 tons	8.3t in stock- Sales are continuing

# Highlights of activities

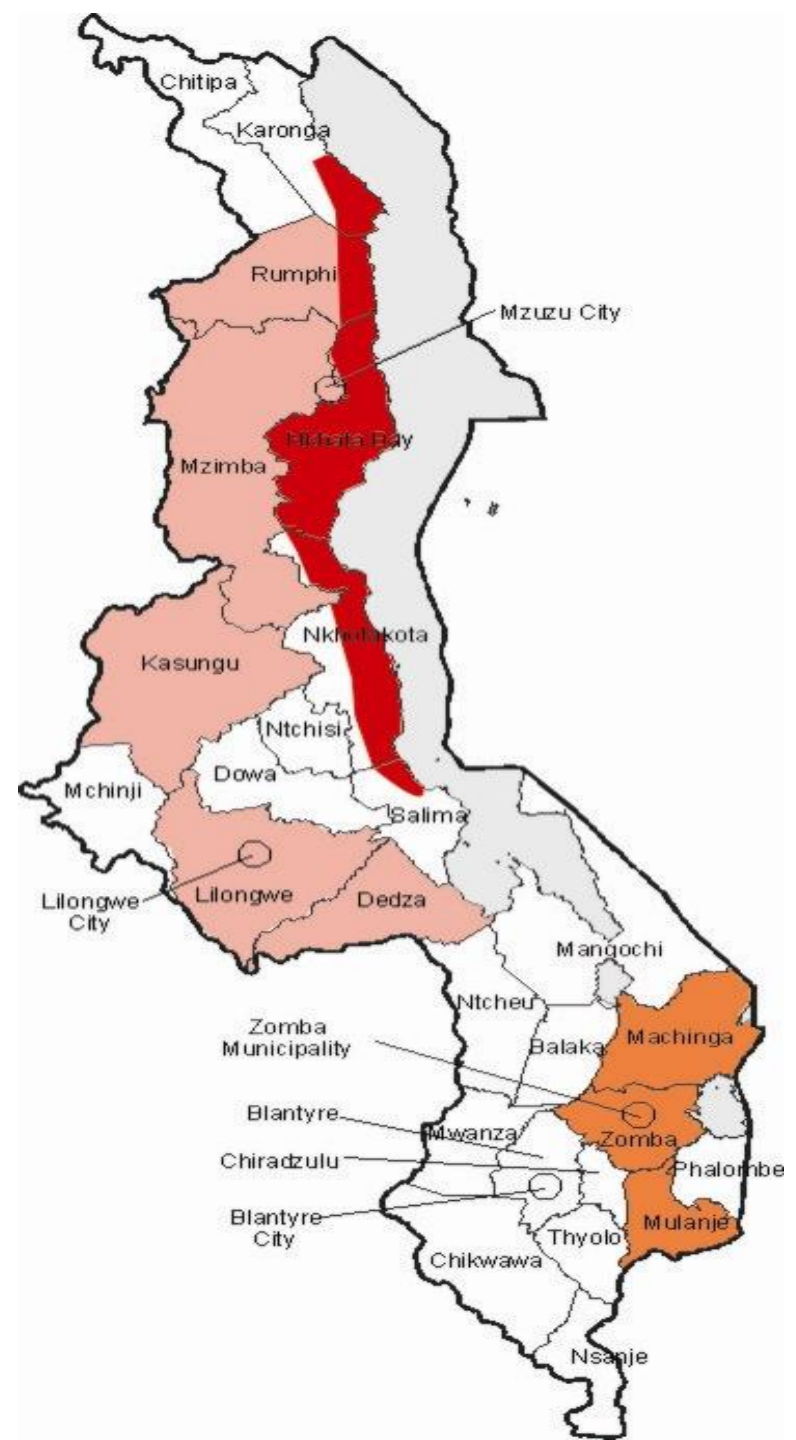
- A number of activities were implemented by a cross section of stakeholders including:
  - C:AVA team from NRI
  - C:AVA country office
  - Service providers
  - Independent consultants
  - Private investors
  - IITA

# Marketing-General

- Indicative market identification was done during the value chain study at the initial stages of the project.
- Samples of HQCF (processed locally and imported from Peak Products) were distributed to a number of identified markets to confirm this potential demand
- Universal Industries, Mothers Holding and Rab Processors were given samples to try in different products including biscuits, bakery products and other composite products.
- Each one of them reported back that HQCF was unique and that it performed different from traditional cassava flour

## Map of Malawi showing Intervention areas for sundried value chain

- End user trials were conducted for sundried HQCF in 6 districts.
- Number of location ranged from 5-6 per district
- Participants to the rural end user trials included rural bakers, mandazi makers, medium bakeries from district centres, SMEs and representatives from service providers





# Objectives of rural end-user trials

- Bring together rural bakers and processors and introduce HQCF to them
- Raise awareness on the differences between traditional cassava flour and HQCF
- Show differences and similarities between HQCF and wheat flour
- Demonstrate on wheat flour substitution with HQCF through baking of various products
- Evaluate differences and similarities between the products from 100% wheat flour and composite flour

# Rural end-user trials/demonstrations

District	Participants				Total
	SMEs (traders)	M	F	SP	
Mulanje (6)	4	16	111	4	135
Zomba (5)	4	27	191	2	224
Nkhotakota (6)	4	19	116	13	152
Nkhata Bay (5)	4	17	128	18	167
Mzimba (2)	1	6	1	2	10
Rumphu (1)	1	4	2	3	10
<b>Total</b>	<b>18</b>	<b>89</b>	<b>549</b>	<b>42</b>	<b>698</b>

# Commercial end-user trials

## **Trials conducted at PIM (paperboard company)**

- Locally produced sundried HQCF from Old Maula and CMRTE was used after performing a number of preliminary quality tests including %MC, particle size, fibre content, pH, pasting temperature, peak viscosity etc.
- Production of cartons run for 2.35hrs using HQCF
- Demand has been created but no supply yet



# Highlights of activities with SMEs (traders) for rural value chain

- Facilitated the identification of SME traders from rural trading centres close to village processing units
- Trained them on incorporation of HQCF in assorted wheat products (area specific)
  - 18 SMEs identified and trained in four districts
- Provided a poster indicating which products HQCF could be incorporated and % substitution for wheat flour

# Highlights of activities with intermediaries for commercial value chain

- Identification and motivation of potential investors in flash dryers
  - Universal Industries Ltd – Letter of intent received
  - Rab Processors Ltd – Draft of business plan circulated
  - Press Agriculture

# Highlights of activities with intermediaries for commercial value chain

- Techno-economic study tour to Nigeria for potential investors and end users of HQCF
  - 6 potential investors from 3 companies and one potential end user taken to Nigeria
- Provision of necessary information towards investment in flash dryer
  - Efficiency of artificial dryers (32% vs. 49%, 2t vs. 4t/d)
  - Ideal location for flash dryer (raw material vs. technical management)
  - Potential market opportunities (successful paperboard trials)

# Highlights of activities with intermediaries for commercial value chain

- Provision of services towards preparation of business plans
- Provision of technical support towards identification of appropriate flash dryer- installation, training and commissioning of first two flash dryers



# Highlights of activities with intermediaries for commercial value chain

## Provision of support towards supply systems for raw materials to flash dryer locations

- Identification and engagement of potential growers of cassava to supply to artificial drying units (smallholder as well as large scale growers)
- Provision of start up planting materials to farmers
  - Facilitated with IITA support provision of 2,600 bundles of cassava planting materials to Millennium Villages Project estimated to plant 40ha
  - 1,200 farmers benefitted from planting materials
  - In the process of providing 4,500 bundles of cassava stems to 8 commercial growers close to Njuli (location for first flash dryer) who will use irrigation in yr1

# Highlights of activities with intermediaries for commercial value chain

- Provision of start up planting materials to farmers
  - Acreage ranges from 5 – 20 ha each
  - Each commercial grower will give back to the project 50% of the acreage worth of planting materials for distribution to smallholder farmers for the subsequent season - estimated at 14,800 bundles value **K7,440,000/\$48,950**

# Highlights of activities with intermediaries for commercial value chain

- Provision of technical support towards agronomy
- Support towards development of cassava production model for commercial growers on fresh land and following tobacco – Consultant
- Facilitating development of contracts between growers and investors in artificial drying technology

# Community level activities

- Facilitated in identifying service providers
- Mobilization of groups into associations through DADOs
- Supplied processing equipment to 4 pilot groups and Press Agriculture
- Conducted a number of capacity building activities (equipment fabrication, business training, formation and mgt.of assoc., HQCF processing, QMS)
- Assisted in quality monitoring and technical backstopping of HQCF and appropriate storage
- Facilitated market linkages

# Community level activities-Supply of processing equipment to pilot groups & quantity processed

Name of group	Membership		Equipment supplied	Drying area sq m	Qty produced (t)
	Male	Female			
Tiyamike Green Belt	54	83	Grater, hydraulic press, 50 ton jack	60	4.89
CMRTE	314	1728	As above	90	2.65
NCPA	120	1306	FAO contribution	90 verified	3.18
Old Maula	11	81	As per Tiyamike	120	1.80
Press Agriculture	14	18	Facilitated fabrication of grater and press	480	6.90
<b>Total</b>	<b>513</b>	<b>3216</b>		<b>860+</b>	<b>18.61</b>

# Community level activities- Equipment supplied



# Highlights of community level activities

Capacity building activities for service providers and representatives of farmer/processing groups

Type of training	Participants		Total	Remarks
	Male	Female		
ToT on HQCF processing	11	12	23	Facilitated by FAO
Quality monitoring and management for HQCF	7	8	15	Facilitated by FAO
Fabrication of cassava processing equipment (technology transfer-Nigeria)	8	0	8	Facilitated by Peak Products
Training on entrepreneurship and business management	72	107	179	Facilitated by MEDI
Training on formation and management of associations	24	37	61	Facilitated by NASFAM
<b>Total</b>	<b>122</b>	<b>164</b>	<b>286</b>	

# Other support to community groups

- 3 ha of planting material has been **planted by DARS** for distribution to producer groups
  - 3 varieties of Chiombola, Mbundumali and Mulola being multiplied
- Distributed 212 bundles of cassava planting materials estimated to plant 3.2 ha to farmers in Nkhotakota-**already sufficient cassava in this area**
- Gender audit conducted for all service providers
- Baseline study conducted in three districts



# Cassava seed distributed to C:AVA production groups in Nkhotakota by DARS

Name of group	Variety	Number of bundle
Mapala East EPA, Mwaiwathu group and 1 new	Mulola	5
	Yizaso	2
	Phoso	6
Tigwirizane group of kapiri section in Mapala EPA (comprise of 4 sub groups)	Mulola	80
	phoso,	12
	yizaso	4
Kapiri group	Mulola	4
	Phoso	12
	Yizaso	7
Damba section of Zidyana EPA	<b>Mbundumali (best for HQCF)</b>	80
<b>Total</b>		<b>212</b>

# Challenges

- Inappropriate (capacity, quality) processing equipment such as graters and presses for some of the pilot groups e.g Nkhotakota
  - Lack of appropriate milling screens affecting particle size of HQCF for all groups-now identified correct screen for  $<250\mu\text{m}$  at 'Select & Save' Ltd
  - Lack of sufficient graters for processors
  - Lack of hammer mills for Old Maula and Tiyamike Green Belt (mill 5Km away)
- Founder syndrome, lack of volunteerism and dependency syndrome from community groups due to delay in group dynamics training by service providers
- Lack of coordination (training, materials, communication) amongst service providers and C: AVA) leading to delivery of uncoordinated services to community groups-targeting of bakers!

# Challenges cont'd

- Logistical problems in movement of HQCF from VPGs to SMEs (traders) coupled with poor follow up by DADOs
- The marketing strategy of targeting rural end-users does not seem to work well with all groups e.g in Mulanje district (no med-sized bakers in immediate vicinity). As well as smaller users (e.g. mandazi makers), there is need to target medium bakeries in wider areas.

# Success stories

- C:AVA training (NASFAM) on formation and management of associations saves farmer groups from extinction – the case of CMRTE. The group is now **more visible and able to govern itself**.
- C:AVA opens new market opportunities to a farming community at the verge of collapse: the case of **Tiyamike Green Belt**. A new processing group has emerged after observing benefits from Tiyamike and this provides chances to the project to impact on more beneficiaries.
- Successful paperboard trials with HQCF- extending potential beyond national markets (additional benefits to growers/wet cake processors).

# Success stories

- Commitment from commercial growers to ensure guaranteed supply of raw material to potential investors (pre-requisite to invest)
- Sufficient quantities ( and quality!!) of sun-dried HQCF available for conducting trials

# Key lessons learnt

- Proper **timing** of activities is very critical for successful implementation of the project. Some activities are dependent on each other-delay in one could be disastrous
  - Case of end-user trials for paperboard industry
  - Timing of end-user trials for rural end users
- One **marketing strategy** may not work well for all groups/all regions
- Choice of **service providers** has a big influence on how fast the project could move
- HQCF can be in glue formulations, but **tailored** to suit particular specifications and plant operation/equipment
- Importance of having **right information** to facilitate engagement of private sector investors and development of value chain (raw material supply, markets, technical information-agronomy and processing technology)

# Key lessons cont'd

- **Flexibility** in project implementation helps to move the project in the right direction.
- Consistent **quality**, good **operations management**, **clear markets**

# Rural value-chain scale-up plan for 2011-2012

VPG	Drying area (m <sup>2</sup> )	Theoretical Capacity HQCF t/month (2Kgm <sup>-2</sup> )	Identified Market Demand/region (t)		Competition	Challenges	Strategy
		Based on 12d/month	Bakers	Mandazi and households?			
TGB	60	1.44	0.80		Makaka ? Rab composite mandazi mix?	-Catchment area -Dec-Mar lean periods	<b>-Marketing undertaken by VPG's.</b> Supported by target promotion campaigns and posters, in. VPG training
CMRTE	90	2.16	2.25				
NCPA	90	2.16	1.87				
OM	120	2.88	0.10				
PAL	480	11.52	1.72				
<b>Total</b>		20.16	6.74				

**Total 2011/12: = 80.6t Target = 74t 2011/12- achievable**



# Workplan for rural value chain

Activity	By who	A	M	J	J	A	S	O	N	D	J	F	M
TOT-Service Providers on QMS	LA	x											
TOT of business management for VPG managers	BDA	x											
Conduct targeted Market campaign/promotion	BDA		x	x		x	x	x	x				
Conduct training on equipment maintenance	Consultant		x										
Provide agronomy support to rural growers	CM							x	x	x	x	x	x
Provide support towards equipment (sieves, presses graters)	CM	x	x	x	x								
Support towards Chanco lab for quality control	AB/LA		x										
Training of HQCF processing for new groups	CM					x	x	x					

# Workplan (2011/12) for artificial dried value chain

Activity	By who	A	M	J	J	A	S	O	N	D	J	F	M
Finalize business plans	UFML	x											
Obtain board approval	UFML	x											
Confirm favoured flash dryer design	UFML	x											
Place order for flash dryer	UFML	x											
Establish factory infrastructure	UFML	x	x	x									
Build factory	UFML				x	x							
Test factory	UFML					x							
Training and tech support	UFML					x	x	x					
Start processing HQCF	UFML						x	x	x	x	x	x	x
Establish agreements for FCR supply	UFML	x											
Supply HQCF to markets	UFML						x	x	x	x	x	x	x

# Workplan for artificial dried value chain

Activity	By who	A	M	J	J	A	S	O	N	D	J	F	M
Form cassava agronomy group	VS/LA	x											
Establish trials programme	VS/LA	x	x	x	x	x	x	x	x	x	x		
Provide technical support to commercial growers	VS	x	x	x	x	x	x	x	x	x	x	x	x
Feasibility & selection of site (RM supply)	VS	x											
ToR for local support	VS	x											
Develop theoretical planting programs - Planting	VS	x				x	x	x					
Harvesting											x	x	x
Identify small-farmer groups near factories	VS							x	x	x			
Provide equipment to groups	VS					x							
Provide training to farmer groups	VS										x		

# Workplan for artificial dried value chain

Activity	By who	A	M	J	J	A	S	O	N	D	J	F	M
Evaluate Flexible Packaging	AG/LA						x						
Undertake DW trials	AG/LA						x						
Update PIM/DW trials	AG/LA								x				
Undertake trials in regional market	VS/MS									x			
Undertake trials at Flexible Packaging	AG/LA								x				
Finalize business plan for Rab	HL								x	x			
Support to laboratory	AB/LA	x											
Assist with tech specifications for procurement package	LA		x	x									
Undertake pre-feasibility for PAL	H/A			x									
Meet other donors	VS/MS				x	x							