

# INSIDE: WFP Post-Harvest Knowledge & Operations Centre

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Training Workshop on Harvesting and Post-Harvest Mechanization to support Food Security in Asia and Africa

## BACK GROUND OF POST-HARVEST LOSS INITIATIVE IN UGANDA

**2013-** TARGETED ABOUT 500 SMALLHOLDER FARMERS, MODIFIED EXISTING WATER TANKS INTO AIRTIGHT GRAIN STORAGE DRUMS, MADE BASIC TRAINING MANUALS, TRAINED THE FARMERS , GAVE OUT THE 250 LTR EQUIPEMENT FOR FREE WITH THE DONORS ON BOARD FOR FOOD SECURITY ,. ( MAIZE , BEANS, SORGHUM, PEAS..) THIS WAS MEANT TO IMPROVE QUALITY AND AVAILABILITY OF GRAIN FOR HOME CONSUMPTION BETWEEN HARVESTS IMPRESSIVE SUCCESS STORIES

**2014 -** TARGETED 8,000 SMALL HOLDER FARMERS , ATLEAST 50% WOMEN , IN ORDER TO MAKE THE MODEL MORE SUSTAINABLE WE ENGAGED LOCAL ARTISANS , VOCATIONAL INSITUTES TRIANED THEM TO MAKE THE SILOS ( 500 KG AND 1000KG ) IN THE RESPETIVE REGIONS, ADDED DRYING TARPULINS FOR BETTER GRAIN QUALITY , HERMETIC BAGS, BETTER TRAINING MANUALS , BETTER TRAINING CONTENT +AGRONOMY , MOISTUERE TESTTING ..IMPROVED TRAINING VENUE SETUP, BETTER TRAINING TIMING, 70% SUBSIDY (BUY IN,) INVOLVEMENT AND PROMOTING, IMPLIMENTING PARTNERS,, AND PRIVATE SECTOR. , ON TOP OF ENSURING FOOD SECURITY IN THE HOMES, THIS WASA ALSO INTENDED TO HELP THOSE FARMERS WHO WANT TO SELL SOME OF THEIR GRAIN TO MEET THE URGENT NEEDS LIKE SCHOOL FEES TO HOLD ONTO THEIR GRAIN UNTIL THE PRICES GO UP USUALLY AFTER 2 MONTHS ( 300 TO 800 UGX)

## BACKGROUND CONT...

2015 TARGETED 40,000 SMALLHOLDER FARMERS , ON TOP OF THE LOCAL ARTISANS WE ENGAGED BIGGER MANUFACTURERS WITH TECHNOLOGY THAT INCREASE OUTPUT AND REDUCE THE COST OF PRODUCTION AND MAKE THE SILOS MORE AFFORDABLE TO THE FARMERS (PLASTIC AND METALIC SIL - MADE IMPROVED DESIGNED-EG NESTABLE TO REDUCE TRANSPORT COSTS, 50% SUBSIDY AND 0% ON HERMETIC BAGS . - TRAINING INCLUDED THE BENEFITS OF FARMER GROUPS, HOW TO MANAGE THE GROUPS, WAREHOUSE SKILLS, SAVINGS...VSLA..WITH REFRESHER TRAININGS - CONSTRUCTION OF SATELITE COLLECTION POINTS (200-300MT) WHERE FARMERS CAN BULK THE WELL KEPT GRAIN AND SELL AS GROUP

2016-2017- TARGETED 65,000 SMALLHOLDER FARMERS ,50% SUBSIDY ON SILOS ,0% ON BAGS A TARPAULINE SATELITE COLLECTION POINTS OPERATIIONAL TO HELP FARMERS ACCESS MARKET INCLUDING BUT NOT LITMED WFP , REFUGEES OVER 1M AND SCHOOL; FEEDING PROGRAMEES ON BORAD

GOVERNMENT OF UGANDA TAKING UP THE MODEL TARGETING 2,500,000 FARMERS TO START WITH AND WITH THE SUPPOERT TO FARMERS ALDREAY GOVT HAS TAKSED WFP TO USE THE SAME MODEL AND CONSTRUCT 10 SCP WORTH 2M usd directly supervised by WFP , on top of the over 20 already in existence by WFP

ALL THIS WASN'T HAPPENIG WITHOUT THE TOUGHEST OF CHALLENGES AND WE LEARNT A LOT

More countries have since come on board Rwanda, Burundi, Zambia, Ghana. Sudan, Mozambique and Nigeria

Not mentioning the ministry of agriculture and other non- government orgs, international agencies ...in postharvest loss .

# WFP KNOC SET UP

ENGINEERING

TRAINING

COMMUNICATION

MONITORING AND EVALUATION

# ENGINEERING

1. DESIGN DEVELOPMENT OF SPECIFICATIONS, HERMETIC, MAINTAINANCE FREE, FEMALE FARMER FRIENDLY, NESTABLE (PLASTIC), FOOD GRADE MATERIAL, AFFORDABLE, LOCALLY MANUFACTURED, EASY TO HANDLE AND TRANSPORT
2. PLANT CAPACITY, INNOVATION, QUALITY SYSTEMS IN PLACE, LOGISTICS STRENGTH, MATERIAL SOURCING AND ABILITY TO COMPLY TO SPECIFICATIONS AT ALL TIMES
3. **QUALITY** CONFORMITY TO SPECIFICATION THROUGH VERIFICATION AND INSPECTION-ELIMINATION OF DEFECTIVE EQUIPMENTS, HERMETIC TESTING USING CANDLES AND PRESSURE DECAY, PROPER HANDLING OF THE EQUIPMENT BY THE MANUFACTURER, WFP/THIRD PARTY, PRIVATE SECTOR DISTRIBUTOR AND FARMERS
4. TRACABLE VERSIONS OF SPECIFICATIONS, EQUIPMENT HANDLING/MAINTANANCE INSTRUCTIONS, INSPECTION CHECKLISTS, GRAIN CAPACITY CONVERSIONS, MATERIAL SAFETY DATA SHEETS
5. DOCUMENTATION AND CONTINUOUS IMPROVEMENT

# TRAINING

REVIEW TRAINING CONTENT, ESTABLISH NEED FOR TRANSLATION, TRAINING MODELS AND UPDATE SHARE THROUGH ALL CHANNELS, ESTABLISH THE MOST SUITABLE MODE OF ROLL AFTER REVIEWING ALL THE AVAILABLE INFORMATION

# COMMUNICATION

SHARE THE NECESSARY INFORMATION DURING ROLL OUT , EXECUTION, OR UPSCALING

RECEIVE FEEDBACK, CHANNEL THE FEED BACK TO RELEVANT TEAMS , SHARE CHALLENGES AND SUCCESS STORIES , LIAISE WITH GOVERNEMENT , DONORS AND PARTNERS INTERESTED IN PHL

# MONITORING AND EVALUATION

MONITOR USED MODELS COMPARE SUCCESS FOR THE DIFFERENT COUNTRIES ,  
TIMELY COMMUNICATE WHAT IS WORKING & WHAT IS NOT, CHANNEL  
INFORMATION TO THE RIGHT , PEOPLE ADVISE OTHERS ON BOARD BASICALLY  
ENSURE VALUE FOR MONEY FOR BOTH DONORS AND BENEFICERIES . SHARE  
PERIODIC REPORTS

# WHAT IS NEXT

ON TOP OF SUPPORTING THE NEW COUNTRIES ON BOARD LIKE RWANDA, BURUNDI, SUDAN, ZAMBIA, GHANA, IVORYCOAST, NIGERIA AND USING THE FEEDBACK TO IMPROVE ON WHAT IS AVAILABLE

1. WE ARE SETTING UP DEMOSTRATION CENTRE WITH THE GOVERNEMENT -National Agriculture Research Organisation - WHERE ALL THE EQUIPMENT USED ARE TO BE CHARGED WITH ALL THE COMMON GRAINS AND WILL BE MONITORED FOR YEARS WHILE BY CARRYING VARIOUS TESTS ON THE CHARGED GRAIN FOR BETTER KNOWLEDGE ON HOW EACH OF THE EQUIPMENT PERFORMS FOR WHAT GRAIN OVER TIME- TO CHECK GERMINATION, COOKABILITY, AFLATOXINS, MOISTURE CONTENT , WASTAGE , MOULD....
2. WE HAVE STARTED WORKING WITH UNBS , NRI, PERDUE UNIVERSITY AMONG OTHER TO ESTABLISH STANDARDS FOR HERMETIC STORAGE EQUIPMENT IF -ALREADY IN ZAMBIA WE ARE AT STAKEHOLDER CONSULTATION LEVEL, AND IN UGANDA STARTING ON THE DESK RESEARCH -THE ROUTE ISO IS ALSO BEING REVIEWED
3. OTHER THAN HERMETIC EQUIPMENT WE ARE SUPPORTING THE COUNTRY OFFICE REGARDING OTHER ACCESSORIES THAT COME ALONG AT THE SCPS BALANCES, SHELLERS, MOISTURE METERS,....



# Can innovation improve post harvest handling in Uganda?

By Joshua Kato

Jane Bayitanunga, a mother of six, is a small-holder farmer in Iganga district. She mostly grows maize and beans, which she uses to feed her family and then sells the surplus. Like many farmers in the area, Bayitanunga has been losing a significant portion of her harvest through bad storage practices.

"We took a lot of caution, harvesting our grain using baskets and tarpaulins to maintain the quality," she explained. "But it was a waste of time as we had no where to store the produce. It was later attacked by weevils and rats. If I harvested five bags, one or two would be ruined after storing for a month."

Bayitanunga is not alone. Almost 40% of agricultural produce in the Sub-Saharan Africa is lost every year due to inadequate post-harvest management and household storage. In Uganda, WFP and its partners are combining efforts to reduce such losses through a post-harvest loss reduction initiative. Given the fact that the profit margin on cereals is less than 20% of the gross earnings, this means many farmers are making losses due to poor post-harvest handling.

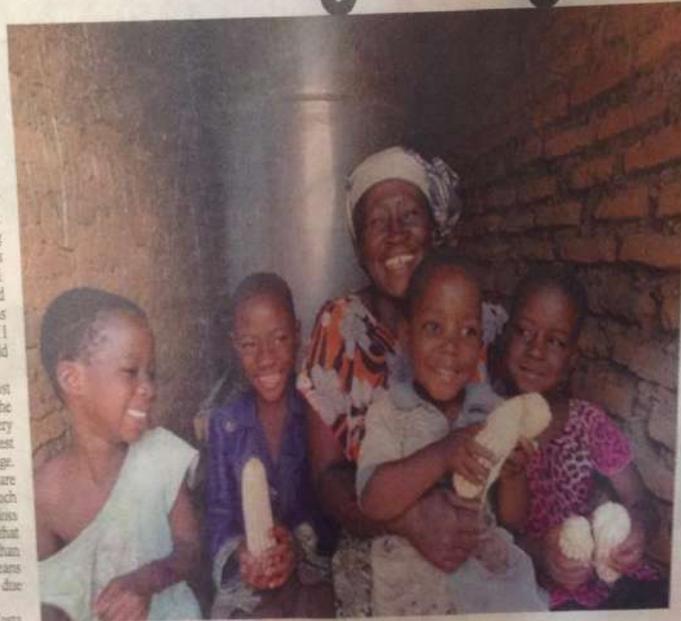
But according to Simon Costa, an official from UN World Food Programme, these losses can easily be stopped with the application of simple innovations. "This system has been implemented effectively elsewhere in the world and I am sure it can be done here in Uganda," Costa says.

The air-tight cereals storage facilities can store all kinds of grains including maize, sorghum, millet and beans.

## Is this a saviour?

Thanks to the post-harvest loss minimisation programme funded by WFP, Bayitanunga is one of over 16,600 low income farmers to realize more from their labour through improved post-harvest practices and storage equipment. The programme, although started with just 400 farmers, has now spread to Acholi, Lango and most of eastern Uganda.

According to experts, to produce high quality grain, it is essential that farmers' households handle their produce after harvest in a proper and timely manner. The programme not only trains farmers on how to do this, but it also provides household storage and handling equipment on a post-harvest basis.



A mother and her children in front of a metallic silo

*"We are extremely happy that the silos have been introduced to us."*

Bayitanunga

storage equipment registered a 56% reduction in losses. WFP increased the programme this year to assist over 16,600 farmers (mostly women) throughout Uganda. The target is to reach 17,000 farmers.

WFP is promoting the most successful options from the trial - the metallic and plastic silos and the Super Grain bags - to enable households store food for family consumption and for sale.

The project is aligned with a joint post-harvest loss minimisation programme by the Rome-based agencies, namely WFP, the Food and



Drying maize on a tarpaulin donated by WFP

Development. The facilities come in different sizes and costs. The smallest one, with a capacity to store 100kg, goes for around \$10,000.

This is largely a normal storage bag whose trade is lined with a water tight polythene bag. The second is a modified PVC water tank, with the capacity to store 250kgs.

It costs \$141,000, while the last is the metallic silo, with a capacity to store 540kgs-1,200kgs. It goes for

## Positive results

"We are happy that these silos have been introduced to us," Bayitanunga said.

"They reduce infestation and (allatoxin) contamination, they help us keep everything that we grow and allow us to store it for as long as we want. Besides the silos we have acquired a useful new skill as we now know how to dry our grain before it can be stored well in the silos," she says.

Sophia Namugaya lives in Mwin village, a few kilometers away from Bayitanunga's house. Last year, she harvested 5,000 kilos of maize grain and lost 80 percent of it to rats, contamination and infestation.

After acquiring her 1.3 metric ton capacity silo from WFP this year, she allocated it an entire room in her small house. She was happy to temporarily remove her roof in order to install the silo. The plan is to spread the storage facilities across the country.

"This year, I am confident I will not lose any of the maize that I will store in the silo," said Namugaya, with a broad smile. The silos can store food for almost a year. This means that farmers are now able to keep their produce and sell it when prices are better.

The WFP project also covers parts of the areas which were affected by the Lord's Resistance Army (LRA) insurgency.

David Obwock, formerly from the internally displaced people's camp of Kalongo in Agago district, says when he returned to his home at the end of the LRA insurgency, there were few livelihood opportunities besides farming and yet there were no adequate means of storing his harvest. Obwock used to store his food in the granary. And now, the new facilities are gradually replacing the traditional granary.

For years of years, the grain and waste granary has been seen as the main storage facility. However, its main disadvantage was that the produce was always stolen because it was kept outside.

"But now I have this (plastic) silo for household storage. I used to store maize last year, now I am using it to store the beans. It is sealed and is safe and in good condition. It can keep enough up to nine months. I would like to buy another one, the bigger like to buy another one, the bigger like to buy another one, the bigger like to buy another one," explained Obwock.

The other advantage is that













**THANK YOU**

The background features abstract, overlapping geometric shapes in various shades of green, ranging from light lime to dark forest green. These shapes are primarily located on the right side of the frame, creating a modern, layered effect against the white background.