

# PURDUE IMPROVED CROP STORAGE FINANCIAL ACCESS WORKSHOP



February 24-25, 2016  
Hotel Royal Orchid Azure  
Nairobi, Kenya

**PICOS3**  
Purdue Improved Crop Storage

For programmatic questions:  
**Dr. Dieudonné Baributsa**  
baributs@purdue.edu

or  
**Ms. Jean Njiru**  
jeannjiru@gmail.com

For logistics questions:  
**Mrs. Carole Braund**  
cbraund@purdue.edu

## *Welcome to the PICS Financial Access Workshop*

Purdue and partners are organizing this workshop to facilitate credit access by connecting PICS supply chain actors to financial institutions.

While you're here, we hope to:

- Identify financial challenges in PICS supply chain development
- Explore financial products/credit access opportunities for PICS supply chain actors
- Explore grant opportunities to support PICS supply chain development

PICS manufacturers, distributors, and vendors will discuss their experience in commercializing the technology and financial constraints. Financial institutions will share information about credit facilities and requirements. Based on needs, potential lenders will be matched with potential borrowers.

## **Table of Contents**

Program .....	4
Resource Contacts .....	6
<b>PICS Supply Chain Actors: Manufacturers, Distributors &amp; Vendors .....</b>	<b>7</b>
Bell Industries .....	8
Ecoplastic .....	9
Entreprise Husa'a .....	10
Ephgen Trading PLC.....	11
Farmers Service (u) Ltd.....	12
Idha Tujje Agencies .....	13
Jonel Ltd .....	14
Pee Pee (Tanzania) Ltd (PPTL) .....	15
Simple Prince Enterprise .....	16
<b>Financial Institutions &amp; Development Partners .....</b>	<b>17</b>
Acumen East Africa .....	18
Africa Enterprise Challenge Fund (AECF).....	19
Alliance for the Green Revolution in Africa (AGRA) .....	20
Catholic Relief Services (CRS) .....	21
Chase Bank .....	22
East Africa Grain Council (EAGC) .....	23
Financial Access & Trade Services (FACTS).....	24
Grameen Foundation .....	25
Kenya Agriculture Value Chain Enterprises (KAVES) .....	26
The MasterCard Foundation Fund for Rural Prosperity .....	27
Open Capital Advisors .....	28
Shayashone Consultancy (SSC).....	29
Umati Capital.....	30
United Nations Eastern and Southern Africa Regional Office (ESARO) .....	31
World Food Programme (WFP).....	32
<b>Additional Resources .....</b>	<b>33</b>
<b>PICS Bags: Chemical-free Crop Storage .....</b>	<b>34</b>
<b>Countries with PICS Activities .....</b>	<b>36</b>

# Purdue Improved Crop Storage Financial Access Workshop

## Program

Wednesday, February 24, 2016

### Morning Session

- 8:00 am Registration..... Carole Braund  
 8:45 am **Opening and Introductory Remarks .....Facilitator: Jean Njiru**  
*Opening Remarks..... Phinius Nyaga*  
*Introductory Remarks..... Charlene McKoin*  
*Introduction of Participants..... Jean Njiru*  
*The Purdue Improved Crop Storage Program ..... Dieudonné Baributsa*  
 9:30 am Tea Break  
 10:00 am **Perspectives on PICS Supply Chain Development -**  
**Opportunities for Financial Services ..... Facilitator: Jean Njiru**  
*Manufacturer/Tanzania ..... Suraj Devani*  
*Distributor/Niger ..... Ibrahim Zanguina*  
*Distributor/Kenya ..... Lunah Njeri*  
*Distributor/ Ghana..... Prince Koveh*  
*Vendor/Uganda..... Elinor Wanyama*  
*Questions & Discussion*  
 12:30 pm Lunch Break & Networking

### Afternoon Session

- 2:00 pm **Innovative Financing in Agriculture .....Facilitator: C. McKoin**  
*Overview of Financial Access in the Agricultural Sector: Experiences,*  
*Opportunities & Challenges..... Hedwig Siewertsen*  
*Umati Capital ..... Sharon Olende*  
*Financial Access Commerce & Trade Services (FACTS)*  
 ..... Dominic Kinuthia  
*Chase Bank..... Beatrice Githinji*  
*Catholic Relief Services - Impact Investment ..... Beth Collins*  
*Questions & Discussion*  
 3:30 pm Tea Break & Networking  
 3:45 pm **Innovative Financing for PICS Supply Chain Actors**  
 ..... **Facilitator: Hezekiah Agwara**  
 5:00 pm Program ends  
 6:30 pm Dinner

Thursday, February 25, 2016

### Morning Session

- 8:30 am **Case Studies of Financing in Agriculture**  
 ..... **Facilitator: Yared Sertse**  
*Kenya Agricultural Value Chains Enterprises (KAVES)..... Steve New*  
*Grameen Foundation ..... Caitlin Burton*  
*East African Grain Council (EAGC) ..... Davine Minayo*  
 9:30 am Tea Break & Networking  
 10:00 am **Working Groups: Innovative Financing for PICS Supply Chain**  
**Actors ..... Facilitator: H. Agwara**  
*Presentations & Plenary Session*  
 12:30 pm **Wrap Up & Way Forward..... D. Baributsa & C. McKoin**  
 1:00 pm Formal Program Ends / Lunch & Networking

### Informal Networking Session

- 2:00 pm **Potential Partnerships Meetings (Individual PICS Actors and**  
**Financial Institutions) ..... Facilitators: D. Baributsa & J. Njiru**



## Resource Contacts

**Mr. Hezekiah Agwara**  
OGIVES Ltd, Kenya  
hezekiah.agwara@gmail.com

**Dr. Dieudonné Baributsa**  
PICS3 Project, Purdue University, USA  
dbaribut@purdue.edu

**Mrs. Carole Braund**  
PICS3 Project, Purdue University, USA  
cbraund@purdue.edu

**Ms. Caitlin Burton**  
Grameen Foundation, Uganda  
cburton@grameenfoundation.org

**Ms. Beth Collins**  
Catholic Relief Services, USA  
beth.collins@crs.org

**Mr. Suraj Devani**  
P.P.T.L., Tanzania  
suraj@pptl.biz

**Ms. Beatrice Githinji**  
Chase Bank, Kenya  
bgithinji@chasebank.co.ke

**Mr. Dominic Kinuthia**  
Financial Access & Trade Services  
dominic.kinuthia@factsafrica.com

**Mr. Prince Koveh**  
Simple Prince Enterprise, Ghana  
abotinereba@yahoo.com

**Ms. Davine Minayo**  
East African Grain Council, Kenya  
dminayo@eagc.org

**Ms. Charlene McKoin**  
Bill & Melinda Gates Foundation, USA  
charlene.mckoin@gatesfoundation.org

**Ms. Lunah Njeri**  
Bell Industries Ltd, Kenya  
lnjeri@bellindustrieskenya.com

**Mr. Phinius Nyaga**  
Ministry of Agriculture,  
Livestock & Forestry, Kenya  
phinnyaga@gmail.com

**Mr. Steve New**  
USAID-KAVES, Kenya  
snew@fintrac.com


**Ms. Jean Njiru**  
PICS3 Project (Kenya), Purdue University  
jeannjiru@gmail.com

**Ms. Sharon Olende**  
Umati Capital, Kenya  
sharon.olende@umaticapital.com

**Ms. Hedwig Siewertsen**  
AGRA, Kenya  
hsiewertsen@agra.org

**Mrs. Elinor Wanyama**  
Jonel Ltd, Uganda  
eawchem@yahoo.com

**Mr. Ibrahim Zanguina**  
Ets Husa's / Distributor, Niger  
zanguina\_ibrahim@yahoo.fr



PICS  
Supply Chain  
Actors



Manufacturers,  
Distributors  
&  
Vendors



# Purdue Improved Crop Storage Financial Access Workshop

## Bell Industries Ltd

DISTRIBUTOR/MANUFACTURER, KENYA

*Lunah Njeri (lnjeri@bellindustrieskenya.com)*

Bell Industries Ltd, BIL, was incorporated as a Limited Liability Company in 1991 to carry on the business of trading and dealing in agro and industrial chemicals, fertilizers, and other products. The company has seventeen full time employees. The PICS bag was included to the BIL product range in November of 2013. Since then the sales have grown from 3,500 in 2013, 69,000 in 2014 to 215,000 in 2015. Sales are projected to arrive at 1.2 million bags by the year 2019. To date, BIL's marketing activities has been through farmer education platforms in field days, National shows, Agricultural exhibitions and vernacular local radio stations. Adoption has largely been driven by partnering with non-governmental organizations and linking distributors to this organizations. The challenges experienced so far have been in affordability of credit to distributors, capacity to produce and hold stock in preparation of peak periods, logistics costs and efficiency, competition and imitations. There are opportunities for PICS bags through focus by governments and development partners on improving post-harvest losses. Financing solutions are also increasingly being presented to support businesses.



## Ecoplastic Ltd

MANUFACTURER/DISTRIBUTOR, RWANDA

*Wenceslas Habamungu (ecoplast.hw@gmail.com)*

Ecoplastic is a private company created in 2010 and involved in producing of recycled products including trash bags, packaging materials, sheeting used in agriculture and construction, and pots for nursery trees. Ecoplastic uses about 255,000 kg of various plastic raw material each year of which 30% is used to produce PICS bags. Ecoplastic launched the production of PICS bags in 2013 and carried out marketing activities to commercialize PICS bags in Rwanda and neighboring countries. Ecoplastic has the capacity to produce 16,000 bags per month. Quantities manufactured are 15,199 bags in 2013; 17,407 bags in 2014; and 70,013 bags in 2015. To commercialize PICS bags, Ecoplastic has implemented several activities including radio broadcasts, talk shows, demonstration for farmer's cooperatives/groups, and training for PICS bag vendors. To improve availability, Ecoplastic targeted agro-dealers and farmer's cooperatives/groups who were working with NGOs or projects such as CARANA, AMDO, IFDC and CRS.

Ecoplastic has the potential to sell 340,000 PICS bags per year but there are several constraints to reach these sales including: i) Lack of resources to create awareness and implement demonstrations across the country; ii) cost of raw materials is very high- raw material is purchased in small quantities hence increasing the cost of the product to farmers; and iii) limited efforts in promoting hermetic bags by extension services and development partners. Opportunities to expand the PICS market include: government and development partners interest in addressing postharvest storage losses, growing interest from farmers and others in chemical-free storage technologies, competitive PICS prices compared to competition, and demand from neighboring countries (Burundi and Eastern DR Congo) that is growing.

# Purdue Improved Crop Storage Financial Access Workshop

## Entreprise Husa'a DISTRIBUTOR, NIGER

*Ibrahim Zanguina (zanguina\_ibrahim@yahoo.fr)*

Husa'a is a private company created in 2010 to produce and commercialize quality seed in Niger. By signing a licensing agreement in 2010, Husa'a started to sell PICS bags and develop the distribution network. Husa'a tapped into its seed distribution network to develop the PICS bag supply chain at the regional and national levels. Introduced in Niger in 2007, PICS bags have been adopted by farmers largely due its efficacy and also effective awareness building efforts. Sales of PICS bags have significantly increased- going from 21,000 bags in 2009 to more than 100,000 in 2015.

As the national distributor, Husa'a need to raise the necessary working capital to make the technology available to farmers and other users in Niger. Hence, there is a need to work with financial institutions. Husa'a accessed credit in 2011 and 2012 (Banque Atlantique- \$80,000); 2013 (ASUSU, a Microfinance Institution); and in 2014 (Banque of Africa). The mobility between banks is due to the quality of services- time required to process loan applications, and high interest rates. Despite interest rates, Microfinance Institutions are more attractive because of the speed of service and the fact that they are less demanding.

With a production of 2 million tons of cowpea per year, the potential PICS market in Niger would be about 500,000 bags per year (if only a tenth of the production is stored in PICS bags and some bags are reused for a few years). Among the constraints to reach this potential markets are: (i) timely supply of bags to farmers. Availability of bags before harvest requires financial capacity to place orders even before the harvest; and (ii) stocking PICS bags on credit. Vendors buy goods on credit, hence the distributor must be well financed to front PICS bags to vendors on credit.

## Ephgen Trading PLC MANUFACTURER, ETHIOPIA

*Ephrem Negash Gebi (ephremn@yahoo.com)*

Ephgen Trading PLC is engaged in manufacturing and general import business. The company owns a polypropylene bag manufacturing plant located in Addis Ababa. Ephgen PP bags are distributed to seven regions in Ethiopia through its dedicated distributors. Its major geographic sales areas are Humera, Metema and Welega. The company has a manufacturing capacity of 20,000 bags per day per one shift. Ephgen at the moment is partnering with Eco plastic for the manufacturing of PICS inner liners. Eco plastic is a wholly plastic manufacturing plant and the sole importer of polyethylene raw materials in Ethiopia. Since PICS cooperation started in September 2015, Ephgen and its plastic partner Eco plastic have manufactured 55,000 bags and is expected to manufacture an additional 70,000 in the coming months.



## Farmers Service (u) Ltd

VENDOR, UGANDA

*Herbert Okello* ([farmers.service@yahoo.com](mailto:farmers.service@yahoo.com))

Farmers Service (u) Ltd, established in 2009, is an agro-input distributor, grain buyer, and extension service provider in Uganda. For the last seven years, Farmer's Service has grown from one distribution outlet in Northern Uganda (Lira) to several distribution points in the Country. The main distribution office is located in Container village Kampala. Farmer's Service works with a number of stockist, agents and over ten thousand farmers across the country. Currently Farmer's Service is working with partners such as CLUSA Uganda, Nile Breweries Ltd, IFDC, Pannar seeds (K) Ltd and Purdue University in promoting grain storage bags (PICS), and NAADS among others in the promotion of agriculture in Uganda. PICS bags are sold in all Farmers Service branches, and stockist across the country.

Over 1,000 PICS bags have been sold since July 2014. Although adoption of PICS technology is picking up rapidly, a number of challenges have been encountered in the supply chain such as insufficient training to PICS agents and farmers on the usage of PICS bags, lack of adequate finance to procure PICS bags from the suppliers and lack of coordination in the distribution channels. Awareness creation through radio talk shows, adverts and exhibition and training of various stakeholders can enhance sale of the PICS bags.



## Idha Tujje Agencies

VENDOR, UGANDA

*Richard Isiko* ([richardkaingo@gmail.com](mailto:richardkaingo@gmail.com))

Idha Tujje Agencies Limited started as a small retail business dealing agricultural inputs in 2006. It was registered as a company in 2008. The business has gradually grown into a medium sized business and provides private agriculture extension services in addition to farm input sales. Idha Tujje has 21 staff members with a Diploma in agriculture as a minimum qualification and, 45 field support staff on short contract. Currently, Idha Tujje has operations in eight Districts in the eastern region of Uganda including PICS activities in Bugiri, Mbale, Sironko and Iganga; IFDC's activities in Iganga and Namutumba; and general input selling and distribution work in Inganga Namutumba Butaleja, Kaliro and Mayuge.

Idha Tujje works with a number of partners such as CLUSA Uganda and Purdue University to promote the Purdue Improved Crop Storage (PICS) bags; IFDC Uganda in mobilization, organizing farmers and promoting rice production and marketing; and a number of input distribution companies (seeds and chemical companies). Idha Tujje has sold 1,800 PICS bags in five months. Marketing strategies for PICS bags include demonstrations at village level, farmers' groups, clusters and cooperatives, and Agro input dealers. Schools, millers and big grain buyers are also targeted. Challenges include low profit margins leading to vendor's lack of interest in the business, sales volume is still low leading to high cost of selling the bags and counterfeits in the market. Support in accessing credit services to the supply chain can boost sales as well as increased promotional activities like demonstrations, radio talk shows, adverts and exhibitions. Presence of farmer organizations like farmers' groups, SACCOs, cooperatives and input dealers, and support from Government provide opportunities for PICS bags.



## **Jonel Ltd**

**VENDOR, UGANDA**

*Elinor Wanyama* ([eawchem@yahoo.com](mailto:eawchem@yahoo.com))

I was introduced to PICS bags by a friend and attended a workshop in August 2015. I concluded that it was a viable business because it addresses challenges of low incomes and food security especially for the rural populations. As a social worker driven by passion to improve livelihoods, I convinced my business partners to start distribution of the bags.

Jonel Ltd has over seven years experience in the distribution business for P&G products and had marketing strategies that could be adopted and customized to distribute PICS bags. The opportunities available to us included: experience in marketing, business contacts as well as contacts with rural communities, schools, prisons, farmers' associations and small holder farmers. Given that the bulk of Ugandan diets are grain based, there is a large variety of grains that can be stored in the bags.

Jonel Ltd's first batch of 200 bags was received in August 2015 were sold to schools. The second batch of 800 bags was received in October 2015 and the third batch of 1000 bags in December 2015- both sold to a farmers' association, prisons and small holder farmers.

The challenges experienced so far have been lack of credit to purchase the bags. It is not a fast moving good so money gets locked in the stock for a long time. The last season's yield was poor due to the El Nino rains leaving 411 bags in store. Small holder farmers and households complain that the bags are too big to store grain for domestic use. They require bags of 25 or 50 Kg and prefer to have the strings for tying the bags provided. FAO, WFP, and restaurants are our next target market to improve turnover.

## **Pee Pee (Tanzania) Ltd**

**MANUFACTURER, TANZANIA**

*Suraj Devani* ([suraj@pptl.biz](mailto:suraj@pptl.biz))

Pee Pee (Tanzania) Ltd (PPTL) is a manufacturer of woven packaging and sheets based in Tanga, Tanzania. Operations commenced in 1995 and during the last 21 years the company has expanded organically and offers a large variety of agricultural and industrial products. The company's product range includes bags to pack cement, sugar, fertilizer, chemicals, agricultural produce and tarpaulin sheeting. In 2014, PPTL was licensed by Purdue Research Foundation to distribute PICS bag in Tanzania. Since 2015, over 150,000 PICS bags have been distributed in Tanzania and the region. By end of February 2016, PPTL will complete its capacity enhancement project to increase its production capacity to 2 million PICS bags per annum. PPTL has adopted a multifaceted approach to commercialize the PICS technology with the support of PICS3 project.

Training has been carried out at various levels with close cooperation with governmental and non-governmental organizations. Regional training workshops have also been conducted for groups of potential vendors and end users. The company has also been using TV and Radio regionally and also exhibits at the regional agricultural shows. Electric power cuts and interruptions have been major bottle necks in controlling manufacturing costs and quality due to escalated waste and downtime. There is also no subsidy to the farmers on PICS bags whilst other farm inputs like fertilizers are benefiting subsidy instrument. Dealers and retailers often do not have adequate financial resources to invest in PICS bag business. PICS technology is well accepted as it has proved successful wherever it has been tried. It is also cost effective and easy to adopt for smallholder farmers compared to other hermetic technologies. The PICS bag forms an ideal solution to tackle the regional problems of post-harvest losses and allows chemical free storage. PPTL is proud to be associated with the PICS team and be part of the solution.



## Simple Prince Enterprise

DISTRIBUTOR, GHANA

*Prince Koveh* ([abotinereba@yahoo.com](mailto:abotinereba@yahoo.com))

Simple Prince Enterprise is a small but thriving agribusiness enterprise located in the North Eastern Capital of Ghana. Established in 1994 and it specializes in the marketing and distribution of a wide range of agri-inputs including herbicides, pesticides, assorted fertilizers, woven sacks, seeds and protective clothing. On the average, the business sells 65,120 litres of herbicides, 10,250 bags of fertilizers, 3 metric tons of improved seeds and 626 kg of fungicides. The Enterprise prides itself as the leading distributor of PICS bags in Ghana. Since acquiring its license from Purdue University in 2010, Enterprise has distributed 110,000 bags. Our marketing strategy is anchored on (i) recruiting large scale regional dealers and end users such as Ganorma Agro Chemicals and Antika Company Ltd, and (ii) building a wide network of district/community based input dealers to take the bags to the doorstep of small holder farmers, grain merchants, boarding schools and other end users. Our sales strategy is small margins and increased volumes for profitability. However, we achieve on the average 30% of our estimated 100,000 bags p/a owing to low adoption of technology arising from limited access to affordable credit, inadequate media advertising, delicate nature of bags, cost of bags and unwillingness by vendors to invest in a relatively new product. More investments combined with intensification of media awareness, market demonstrations, and an aggressive vendor recruitment program will boost sales.



## Financial Institutions & Development Partners



## Acumen East Africa

KENYA

*Kimathi Ikiao* ([kikiao@acumen.org](mailto:kikiao@acumen.org))

Acumen's mission is to change the way the world tackles poverty. In our investments, we focus on innovative solutions that enable the provision of vital goods and services and have a large social impact. We are currently focusing on the Agriculture and Renewable Energy sectors in East Africa.

In the agricultural sector, we focus on initiatives targeted at the small-holder farmer. We invest in early stage companies that are disruptively innovative and our investment amounts are typically in the range of \$ 250,000 to \$ 3 million.

Our agricultural investments span innovations across the E.A. region and provide solutions around hybrid seed varieties, access to financing for smallholder farmers, mobile-technologies that ensure farmers receive fair pay for their crops, and more. Some of the companies we have invested in are Juhudi Kilimo, Virtual City, KZ Noir and GADC.



## The Africa Enterprise Challenge Fund

KENYA

*Rose Ndungu* ([rose.ndungu@aecfafrica.org](mailto:rose.ndungu@aecfafrica.org))

The Africa Enterprise Challenge Fund (AECF) is a US \$244m fund, backed by some of the biggest names in development finance and hosted by the Alliance for a Green Revolution in Africa (AGRA) and is managed by KPMG International Development Advisory Services.

The AECF runs competitions open only to for-profit-companies for business ideas that will take place in Africa but with a clear focus on Sub-Saharan Africa. These private sector investments are supported through grants and interest free loans, from a minimum of US \$250,000 to a maximum of US \$1.5m per project on a matching funds basis (Applicants must provide matching funds at least equal to, or greater than, the amount of funds requested from the AECF).

The purpose of the AECF is to make agribusiness, renewable energy, rural finance and information market systems work better for the poor in rural areas in Africa. Proposals must be seeking to accelerate pro-poor growth in Africa - increase employment, livelihood opportunities and income and reducing poverty.

## Alliance for the Green Revolution in Africa

KENYA

*Hedwig Siewertsen* ([hsiewertsen@agra.org](mailto:hsiewertsen@agra.org))

The Alliance for a Green Revolution in Africa (AGRA) is a not-for-profit organization working with African governments, other donors, NGOs, the private sector and African farmers to significantly and sustainably improve the productivity and incomes of resource poor smallholder farmers in Africa. Since 2006, AGRA has worked on improving soils, seeds, farmers' organizations and access to markets. In all aspects of the agricultural cycle, financial services are crucial for success: Credit to buy improved inputs, insurance against weather hazards, leasing for acquiring equipment and warehouses, equity investments to grow seed and fertilizer companies, guarantee funds to enhance agricultural lending and warehouse receipt and supply chain financing to bridge the gap between harvest and sales.

AGRA has been active along the entire financial value chain as technical advisor, provider of guarantee funds, grant maker and investor in equity funds. AGRA's partners in Financial Inclusion include donors like MasterCard Foundation and IFAD, banks such as Equity Bank and KCB and equity funds like the African Seed Investment Fund. The major challenge in smallholder finance is the (perceived) high cost and high risk of services delivery. AGRA sees the emerging digital highway as an opportunity for financial services providers to decrease cost of reaching farmers by using mobile money to transact and to reduce risk as more data on smallholder farmers become available for analysis and rating purposes. The Financial Inclusion for Smallholder Farmers in Africa project implemented by AGRA, promotes the development and implementation of such digital financial solutions.

## Catholic Relief Services

USA

*Beth Collins* ([beth.collins@crs.org](mailto:beth.collins@crs.org))

Catholic Relief Services (CRS) carries out the commitment of the Bishops of the United States to assist the poor and vulnerable overseas. CRS programs currently serve 100 million of the poor in over 90 countries within the main sectors of agricultural livelihoods, health and emergency response. CRS' Impact Investing initiative seeks to increase the sustainability and scalability of this program impact through direct or facilitated investments in mission aligned enterprises, including within agricultural value chains. In addition to its investment activities, CRS is focused on developing multi-tiered education programs related to impact investing for CRS staff and local partners, and advocating for a focus on the base of the pyramid within the impact investing sector.





## Chase Bank

KENYA

*Beatrice Githinji* ([bgithinji@chasebank.co.ke](mailto:bgithinji@chasebank.co.ke))

Chase Bank has strategically chosen to focus on a number of primary value chains within the agricultural sector in Kenya and these are Dairy, Horticulture, Tea, Cereals and Livestock (Poultry, Beef and Pig). This has been based on the potential for both social impact as well as profitability for the bank. For instance, Horticulture and Tea are some of the largest export earners in Kenya. The bank has segmented its agribusiness customers into Micro, SME and Corporate to ensure that we provide optimal service to agri customers in the chosen sectors. We have gone further to define the approach in terms of relationship management, approach to lending and delivery channels to effectively serve the different segments.

Loans include crop finance and input finance- Long term Loan, Warehouse Receipt Finance, Agri Asset Finance (purchase tractors, farm implements, equipment, green houses) and Agri Invoice Discounting. Challenges include (i) poor record keeping by the borrowers, (ii) Weather related risks as crop insurance is expensive for most of the primary producers, (iii) Insufficient collateral to secure the loans, (iv) Lack of data (production, marketing etc.) in some of the value chains to form a bench mark during loan reviews, (v) Market access: Political interference in some markets, and (vi) Lack of or poor drying and storage facilities thus farmers incur high postharvest losses leading to low income causing loan defaults. Agricultural commodities are also sold at low prices during harvesting due to market over supply.

## East Africa Grain Council

KENYA

*Davine Minayo* ([dminayo@eagc.org](mailto:dminayo@eagc.org))

Eastern Africa Grain Council (EAGC) has been implementing the Warehouse Receipting System (WRS) which is a trading model that allows depositors (farmers or traders) to store their grain in certified warehouses. While waiting for prices to go up, the depositors can use their grain as collateral for obtaining loans from participating banks. The minimum quantity for the issuance of a warehouse receipt is 10 metric tons for maize and wheat, and 5 metric tons for pulses. In order to have participation of all stakeholders, EAGC works with both large and small scale farmers. The large and medium scale farmers would normally get the receipt on their own but for the small scale farmer, they would have to aggregate their grain, take the grain to the warehouse and be issued with a Warehouse Receipt with the name of the group. The distribution of loan advanced, if the group decides to get the WRS facility is then done based of the grin contribution by the individual farmers.

Currently, four banks (Equity bank, Chase bank, Unaitas SACCO and Rafiki Micro finance bank) are working with EAGC on financing the farmers. To date a total of Ksh 450 million has been advanced on the strength of warehouse receipts. In order to get the participation of all stakeholders in this financing model, EAGC has done the following: (i) Training of the key staff involved in lending on how Warehouse Receipt System works to enable them to develop the appropriate products; (ii) Signing of tripartite agreements with the banks and the warehouses in the absence of a warehouse receipt regulatory framework; and (iii) Constant awareness creation to financial institutions on the opportunities for financing in the grain sector.

## Financial Access Commerce & Trade Services

### KENYA

*Elizabeth Okunda Kabui* ([elizabeth.okunda@factsafrica.com](mailto:elizabeth.okunda@factsafrica.com))

Financial Access Commerce & Trade Services (FACTS) is a finance company, currently with operations in Kenya and Uganda. FACTS has grown as a spinoff from the Dutch supported program, Finance for Agriculture (f4a), executed by Financial Access East Africa. Our business is to provide entrepreneurs with the working capital they need to grow their businesses, through innovative Supply Chain Finance solutions.

Our financing model focuses on unlocking the monetary value in receivables/invoices ensuring that the suppliers and entrepreneurs don't have to wait for the 30, 60, 90 days trade terms to access their money. We are committed to creating meaningful change on how to provide entrepreneurs with the working capital that they direly need for their operations. FACTS works with businesses across all sectors of the economy, with a special focus on Food and Agriculture sectors, initially, but also provides funding to businesses in other sectors.

Our main product offering:

**Supplier Financing:** This is an Early Payment program (Reverse factoring) where a Buyer works together with FACTS to avail early payments to the suppliers without them having to wait for 30, 60, 90 day credit terms.

**Distributor Financing:** This is a Late Payment program where a Processor/Seller and a number of selected Distributors work together with FACTS as the financing entity. FACTS will assist Sellers to extend longer payment terms to Distributors and off-takers, by factoring invoices that have been authenticated and approved to meet the Sellers objective of receiving timely payment for delivered goods.

More information on [www.factsafrica.com](http://www.factsafrica.com)

## Grameen Foundation

### UGANDA

*Caitlin Burton* ([cburton@grameenfoundation.org](mailto:cburton@grameenfoundation.org))

Grameen Foundation is a non-profit dedicated to helping the world's poor address their own unique needs. For nearly two decades Grameen has designed and delivered market-leading solutions that help financial and agricultural sector stakeholders to sustainably serve the poor, and to tap the growing commercial opportunity in reaching this customer segment. In recent years Grameen has developed demand-driven financial products and cost-effective service delivery models on behalf of international institutions like Barclays Bank, MTN, Airtel, and MasterCard as well as local financial providers such as the Pride Microfinance and Centenary Bank in Uganda, and Jamii Bora Bank in Kenya.

Some examples in the agricultural finance space include: - eWarehouse: Working with SMEP Microfinance Bank in Kenya, Grameen Foundation created a model for delivering post-harvest financing to smallholder maize farmers, using their harvest as collateral. Smallholders realized a 56% net price increase at sale time during their first participating harvest in the eWarehouse program. Together with Muboni, a private Kenyan microfinance institution, Grameen Foundation designed a 100% mobile-based agricultural loan product, called Kilimo Booster (Agricultural Booster), that connects farmers to the credit and financial skills needed to change the way they farm and increase productivity and competitiveness. Kilimo Booster provides asset financing, working capital, start-up capital for new ventures, and value-added services to its customers, alongside customized, flexible terms that help smallholders in diverse value chains to diversify their enterprises, expand existing farms, and venture into new farming activities.

## Kenya Agricultural Value Chain Enterprises Project

KENYA

*Steve New* ([snew@fintrac.com](mailto:snew@fintrac.com))

The Kenya Agricultural Value Chain Enterprises project (KAVES) is a five-year project funded by the USAID as part of Feed the Future, the U.S. Government's global hunger and food security initiative to enhance food security and improve nutrition by increasing incomes of farm families, and improving nutritional behaviors, especially of women and children. Studies by KAVES show that adopting labor-saving technologies is key to transforming smallholder productivity and competitiveness in Kenya. To enable farmers to meet market demand and increase incomes, KAVES seeks to accelerate dissemination and uptake of technologies with massive potential for adoption by smallholders, including self-propelled cultivators, maize shellers, solar-powered water pumps, silage bags and hermetic bags for grain storage among others.

KAVES approach in financial inclusion and improved access to credit includes financial literacy trainings, facilitate linkages between farmer groups and financial institutions and work with these institutions to develop credit products appropriate for smallholders, equipment and input suppliers and SMEs offering support services. Farmers need access to credit to adopt technologies to maximize productivity, and pioneering companies need credit to scale-up product distribution to impact large numbers of farmers. The challenge remains the perceived risks and high cost of lending to the agricultural sector but farmers will invest in new products if they see an advantage in terms of greater production, better markets or reduced production costs. KAVES is working to unlock the credit block presented by conventional lending practices and replicate recent commercialization successes on a much larger scale.

## The MasterCard Foundation Fund for Rural Prosperity

KENYA

*Rose Ndungu* ([rose.ndugu@aecafrica.org](mailto:rose.ndugu@aecafrica.org))

The MasterCard Foundation Fund for Rural Prosperity is a \$50 Million challenge fund established by The MasterCard Foundation. The goal of the Fund is to transform lives by creating financial inclusion to at least one million people in Africa. The fund aims to do this by supporting financial service providers or institutions with new and/or existing scalable innovative financial products, services or delivery platforms that have the ability and capacity to transform the lives of smallholder farmers in Sub-Saharan Africa. The Fund has two categories of competitions:

**Innovation:** A total of US\$15 million to support new products, services or processes that increase access to finance for the rural poor. US\$6.9 million was awarded in the first Innovation Competition.

**Scaling:** A total of US\$35 million to support scaling up the most promising ideas or pilots that have the potential to drive financial inclusion for smallholder farmers in new geographic areas. Companies receiving support in the first Scaling Competition will be announced in April, 2016.

The latest Innovation Competition launched on 1 February 2016 and will close on 28 March 2016. The competition will be accepting applications to be implemented in one or more of the 24 eligible countries: Burundi, Benin, Burkina Faso, Cameroon, Côte d'Ivoire, Djibouti, DRC, Ethiopia, Gambia, Ghana, Kenya, Liberia, Madagascar, Malawi, Mali, Mozambique, Niger, Rwanda, Senegal, Sierra Leone, Tanzania, Togo, Uganda and Zambia.

The 8 Scaling Competition countries of focus for The MasterCard Foundation Fund for Rural Prosperity are: Côte d'Ivoire, Ghana, Kenya, Mozambique, Senegal, Tanzania, Uganda and Zambia.



## Open Capital Advisors

KENYA

*David Loew* ([dloew@opencapitaladvisors.com](mailto:dloew@opencapitaladvisors.com))

Open Capital supports high-potential enterprises as they look to grow and scale. We help our clients prioritize alternative strategies, improve operations, build talent, and raise capital typically between \$50,000 - \$5 million. We are a pure intermediary, so we are not a source of funds, but rather help our clients create forward-looking projections that can be defended, negotiate term sheets, and provide support during due diligence through disbursement. Over the last 5 years, we have engaged in more than 140 projects across Kenya, Uganda, Tanzania, Rwanda, Ethiopia, South Sudan, Mozambique, Madagascar, Malawi, South Africa, Zambia and Zimbabwe. Our full-time team of 36 is based in Nairobi and our senior team brings experience from The Boston Consulting Group, IFC, McKinsey, Credit Suisse and Citigroup.



## Shayashone Consultancy

ETHIOPIA

*Yared Sertse* ([yared.d.sertse@gmail.com](mailto:yared.d.sertse@gmail.com))

Shayashone (SSC) is a corporate and development consultancy in the areas of agricultural value chains, human resource and investment. Shayashone has worked with several partners including Dow Chemicals, Gates Foundation, Food and Agricultural Organization (FAO), Wageningen University, Purdue University, ICCO and SNV/Agriterra. To implement its activities, Shayashone collaborates with farmers' cooperative unions and state governments. Since 2014, Shayashone has worked with local plastic manufacturers to initiate the production of PICS bags in Ethiopia. In addition, Shayashone has worked with other supply chain actors including NGOs (CRS and Sasakawa Global 2000) and agrodealers to create market and develop the PICS bag supply chain.

For the last two years, Shayashone has recruited three national distributors and over 80 vendors who are currently selling PICS bag to farmers. The response from Government agencies, development agencies and other users is really promising. Finding a reliable manufacturer to ensure continuous production was the entry level bottleneck. Also, distributors and vendors are still skeptical to place large orders from manufacturers to serve upcoming demands because the awareness level is still in its infant stage. In some parts of the country price has been mentioned as one of the challenges in marketing activity. The demand is expected to grow during the next harvest season given the scale-up in marketing activities.

## Umati Capital

KENYA

*Patrick Huang* ([patrick.huang@umaticapital.com](mailto:patrick.huang@umaticapital.com))

Umati Capital (UCAP) is a non-bank financial intermediary guided by our mission: access to capital should be guided by transparent access to information. We provide working capital financing enabled by technology to growing enterprises who supply to larger entities in Kenya, the region, and overseas. With Umati Capital's financing and technology solution, our clients can: (i) Pay their suppliers immediately; (ii) Gain quick access to non-collateralized, affordable working capital; and (iii) Free up cash to expand their business. Umati Capital accelerates the growth of our agribusiness clients with our core solution as well as access to our extensive partner network for market linkages, capacity building, and qualified service providers.



## United Nations Women Eastern and Southern Africa Regional Office

KENYA

*Asa Torkelsson* ([asa.torkelsson@unwomen.org](mailto:asa.torkelsson@unwomen.org))

UN Women Eastern and Southern Africa Regional Office (ESARO) is the United Nations organization dedicated to gender equality and the empowerment of women. The Eastern and Southern Africa Regional Office covers the ESA region.

Agriculture is the largest sector of the economies in Eastern and Southern Africa; it employs the majority of the workforce. Agriculture is a key for women's economic empowerment and is a central sector for ESARO's initiatives to promote women's economic empowerment. Women farmers struggle in particular with lack of access to agricultural inputs, updated technology and lack financial services. UN Women's Economic Empowerment (WEE) programme works to contribute to ensuring women, especially the poorest and most excluded, are economically empowered and benefit from development.

Within the WEE programme, ESARO identified "Up-scaling rural women technologies" as a key area of its work. Innovative technologies will be needed to achieve sustainable agricultural productivity, value addition and profitable market outlets and hereby rural development. The WEE programme's work with rural technology upscaling started with the interagency initiative: Sharefair for Rural Women's Technologies, held in 2014 in Nairobi, where multiple stakeholders from different sectors discussed solutions to upscaling rural technology innovations. After the Sharefair, WEE programme, has been working with addressing this women's access to agricultural technologies curating an Alliance for Women's Technologies ([www.empowerwomen.org/cop/awit](http://www.empowerwomen.org/cop/awit)). Understanding women's needs, aspirations and wider context in connection to post-harvest is central to successful upscaling of new technologies. UN Women Regional Office has contributed to an edutainment TV-show with a wide audience to increase knowledge on new agricultural and post-harvest technologies and has prepared a policy brief on reducing taxation on post-harvest bags.



## World Food Programme

UGANDA

Jeremy Mak ([jeremy.mak@wfp.org](mailto:jeremy.mak@wfp.org))

The World Food Programme (WFP) is the world's largest humanitarian agency working to end hunger. In Uganda, beyond providing emergency food aid, WFP is also focusing on increasing smallholder farmers' skills to eliminate post-harvest losses, with the goal of increasing food security and income generating potential. Due to poor post-harvest practices and the lack of modern storage technology, farmers are losing a significant portion of their crops every year due to insects, pests, mold, and moisture. As part of WFP's Uganda's Zero Food Loss Initiative, farmers receive trainings on improved ways to better harvest, thresh, dry, and store crops. They also have the option of purchasing subsidized drying and storage equipment. In 2015, WFP served 40,000 farmers, with the goal of reaching 60,000 additional farmers in 2016. Except hermetic bags, many of the storage options WFP is offering to farmers are not currently available on the market. WFP is introducing new products (plastic and metal silos), and will phase out subsidies so that commercial entities provide training and post-harvest equipment to farmers on the open market.

## Additional Resources

Visit the PICS3 website at:

<https://www.entm.purdue.edu/PICS3/>

See instructional videos and more on our YouTube channel:

Google: "Purdue Improved Crop Storage (PICS3) YouTube"

Or type <https://www.youtube.com/channel/UCeM0TjP8ilrEbhD-NuVOszZA> into your browser.

Like us on Facebook!

Search for "PICS3 Project"

Or type: <https://www.facebook.com/PICS-3-Project-474553959343821/> into your browser.

PICS Publications available at:

<https://www.entm.purdue.edu/PICS2/publications.php>

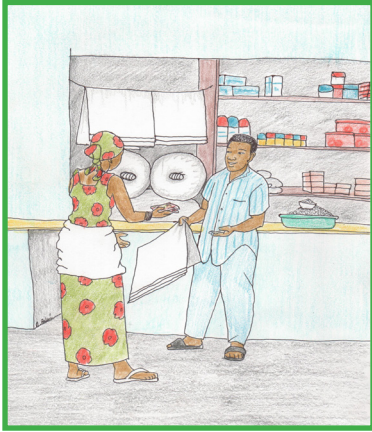
Hermetic Storage Special Issue:

<http://www.sciencedirect.com/science/journal/0022474X/58>





# PICS Bags: Chemical-free Crop Storage



Buy PICS bags from approved vendors.



Check the two inner liners for holes or tears (don't use defective liners)



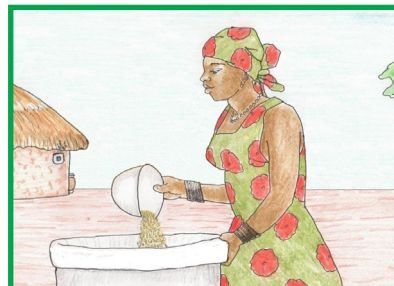
Insert the two liners into the woven bag. Fold over the tops of all three bags together



Make sure the grain you are storing is dry and clean (has no debris)



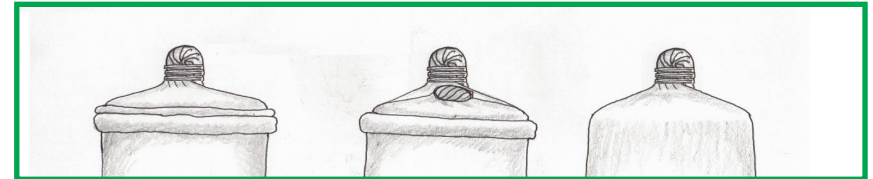
Pour a small amount of grain into the first liner, then fit it inside the second liner



Fill the bag with grain while shaking gently to avoid air pockets; make sure a lip remains for tying



Pack the grain tightly to remove air then twist the lip gently. Fold it over and tie using a string or cord. Tie each of the three bags separately.



Step 1:  
Inner Bag First

Step 2:  
Middle Bag Next

Step 3:  
Outer Bag Last

**PICS**  
Purdue Improved Crop Storage

## Recommendations

Don't store PICS bags in direct sunlight or extreme heat

Use elevated platforms to keep the bags off the ground

Don't pile PICS bags against walls to facilitate stock inspections

Don't store PICS bags in the same area with heavily infested grain



# Countries with PICS Activities

