Poste harvest losses

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Introduction

-Senegal – 197 000 Km², 3.8 million of arable land of which 65% i.e 2.5 milllions are cultivated;

-Agriculture- employs > 60% of the population and one of the priority of the governement to implement the national emergence plan adressing the structural changes in the economy and growth , sociale protection, institutional governance, peace and security;

- Since the devaluation of CFA franc in 1994, the growth GDP – Building &Works sub-sector, telecommunications, chemical industries, tourism and trade, in liof agu and place agriculture which has more than half of employment- explain sustained poverty in rural area and peri-urban areas,

- The low productivity of the economy is mainly due to the low productivity of the agriculture resulting in recurrent food insecurity, high level of vulnerability or nutrition.
- Tendancy being reversed beteween 2012 -16 with 10.5% GDP contribution for agriculture – due main to more support and use of quality inputs inducing increase yields and production of the main crops.

Introduction

- **Effort are then made for improving agricultural productivity and market access**
- **Quantitative post harvest losses of 5% and 30% in 4 - 6 months of storage.**
- **Qualitative losses : physical, culinary and nutritional, aflatoxin**
- **Economic losses: revenu reduction for stakehholder.**
- **rodents, insects, fungi, abiotic etc.**
- **etc.**

Selected projects

Title	Objectives	Achievement/Activities
Sustainable reduction of harvest losses in feed future countries through technology & innovation that link farmers to markets: Focus Kenya & Senegal".	increase access to safe and nutritious foods along the value chains by improving the drying and storage capacity of smallholder farmers and expanding market opportunities through diversified processed products that address quality in the market and nutritional needs.	**Post-harvest practice profile** of farmers in maize is determined with: - average maize cob moisture at **harvest of 32-35%;** cobs being dried at home of **28-29%;** shelled grain being dried at home of **25-26%** and damaged kernel <1%. - drying problems i.e. **domestic livestock eating grains; lack of floor space for drying; termites, rodents, time kept watching for rain, contamination from dust, birds, spillage**, -storage problems due to insect damage, rodent and mold -response to insect infestation and mold spoilage included dry further and store, consume it anyway, feed to livestock, throw away, apply insecticide or sell it.

Selected projects

Title	Objectives	Achievement/Activities
Sustainable reduction of harvest losses in feed future countries through technology & innovation that link farmers to markets: Focus Kenya & Senegal”.	increase access to safe and nutritious foods along the value chains by improving the drying and storage capacity of smallholder farmers and expanding market opportunities through diversified processed products that address quality in the market and nutritional needs.	**Achievement** or **activities** included: **Simple moisture** determination method developed, development of low-cost drying technologies; testing of efficacy of hermetic storage bags such as PICS for moisture and pest control, quantitative assessment of market demand and drivers for instant food products, with and without nutritional enhancement; development and/or refinement of food products and processes to drive Senegal and Kenya markets; leveraging local agriculture commodities to produce nutritionally-enhanced food products and to create a sustainable market-led fortified processed grain foods; and establishment of effective dissemination platforms for food technologies. **Training** of **trainers** in good post-harvest practice to train 1500 farmers in Velingara county in October 2016 Testing a multipurpose solar dryer and hermetic storage technologies for smallholder farmers in Velingara and Kakamega

Selected projects

Title	Objectives	Achievement/Activities
Improvement of food security, food quality and revenues of poor actors of the groundnut value chain in West Africa through aflatoxin reduction aimed at improving the competitiveness of groundnut and byproducts in the groundnut in Burkina Faso, Ghana and Senegal	Improve food quality and actors revenus	-Contamination of groundnut and its derived product including byproducts showed higher level of aflatoxin at commercialization and processing stages
Evaluation of Purdue improved cowpea storage bags in Tivaoune and Kebemer counties (Senegal)	Demonstrate the efficacy of PICS bag to farmers	- At 1883 farmers sensitized or followed demonstration of PICS bags efficacy for cowpea storage . - Arround 10 000 farmers trained/demonstration PICS

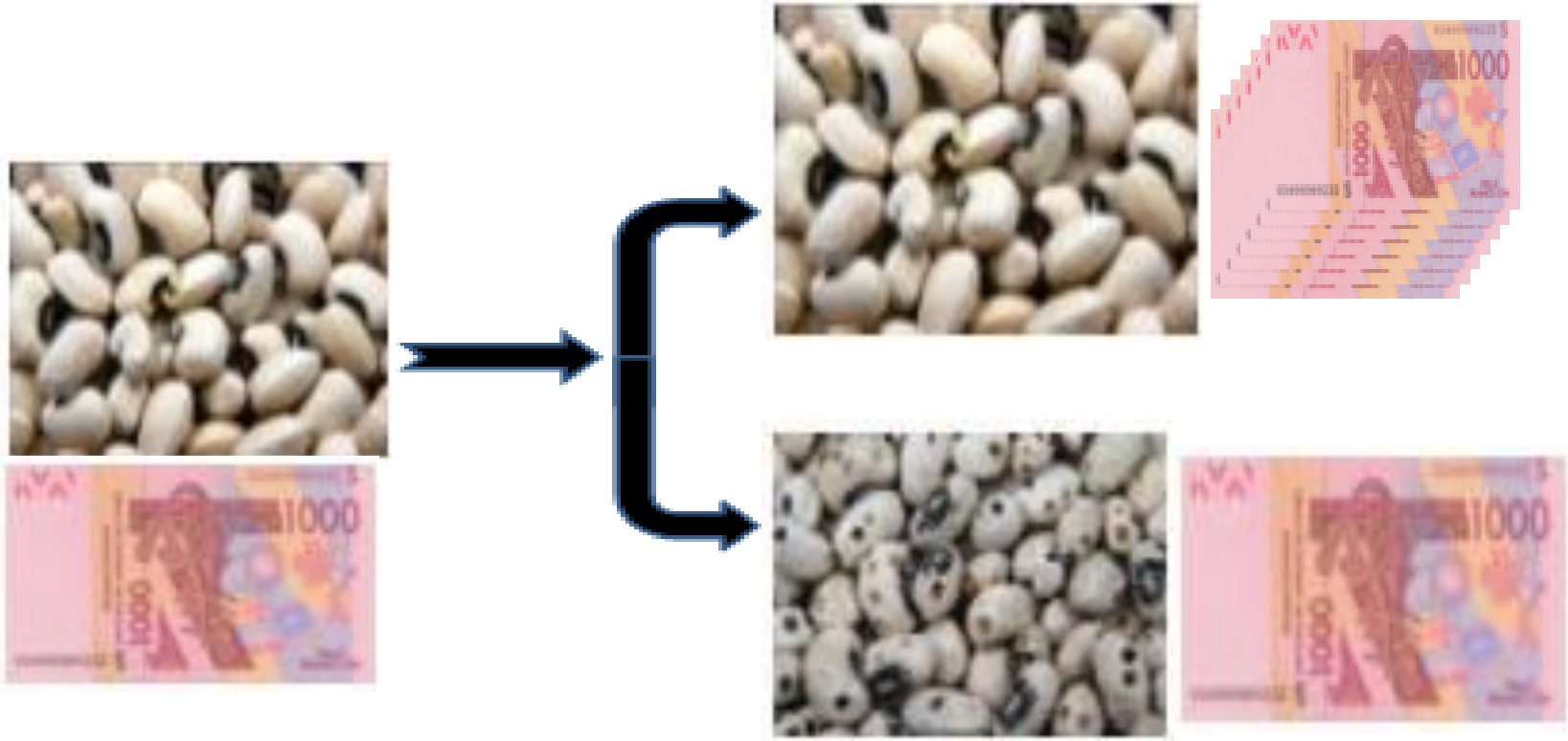
SUCCESS IN USING PICS BAGS

• Importance of cowpea

Seeds for human and animal comsumption;
Sales of cowpea and byproducts as source of income especially for women processors: like "**akara**", "**beignets**", la « **flour for children**", "**thiakri**", le "**thiéré**", le « **cowpea coffee**", « **cowpea mouraké** " etc.
Cowpea improve the food security and nutrition of consumers proteinsThe «meat of the poor».

- **Constrains**

- Significant post-harvest loss in a short time of storage if not appropriate



- **Constrains –Infestation**

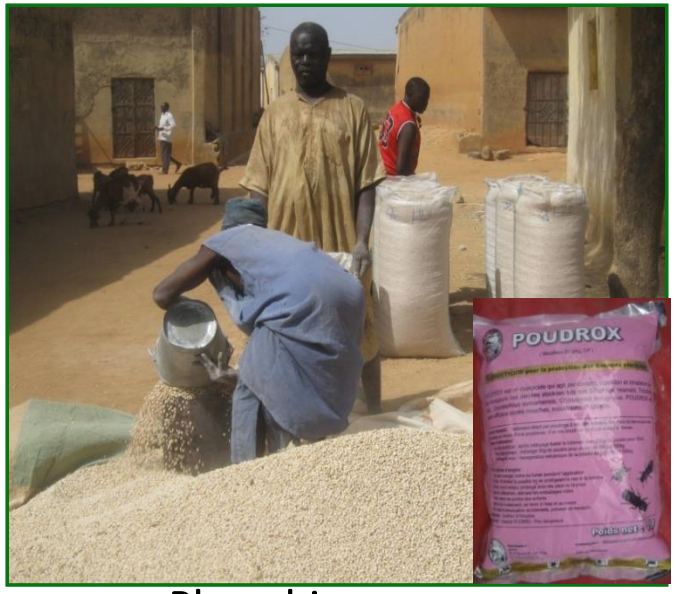
New harvest, 3-5% infeste in field

5-6 months, later, 80-100% infestation

Traditional solutions

ash

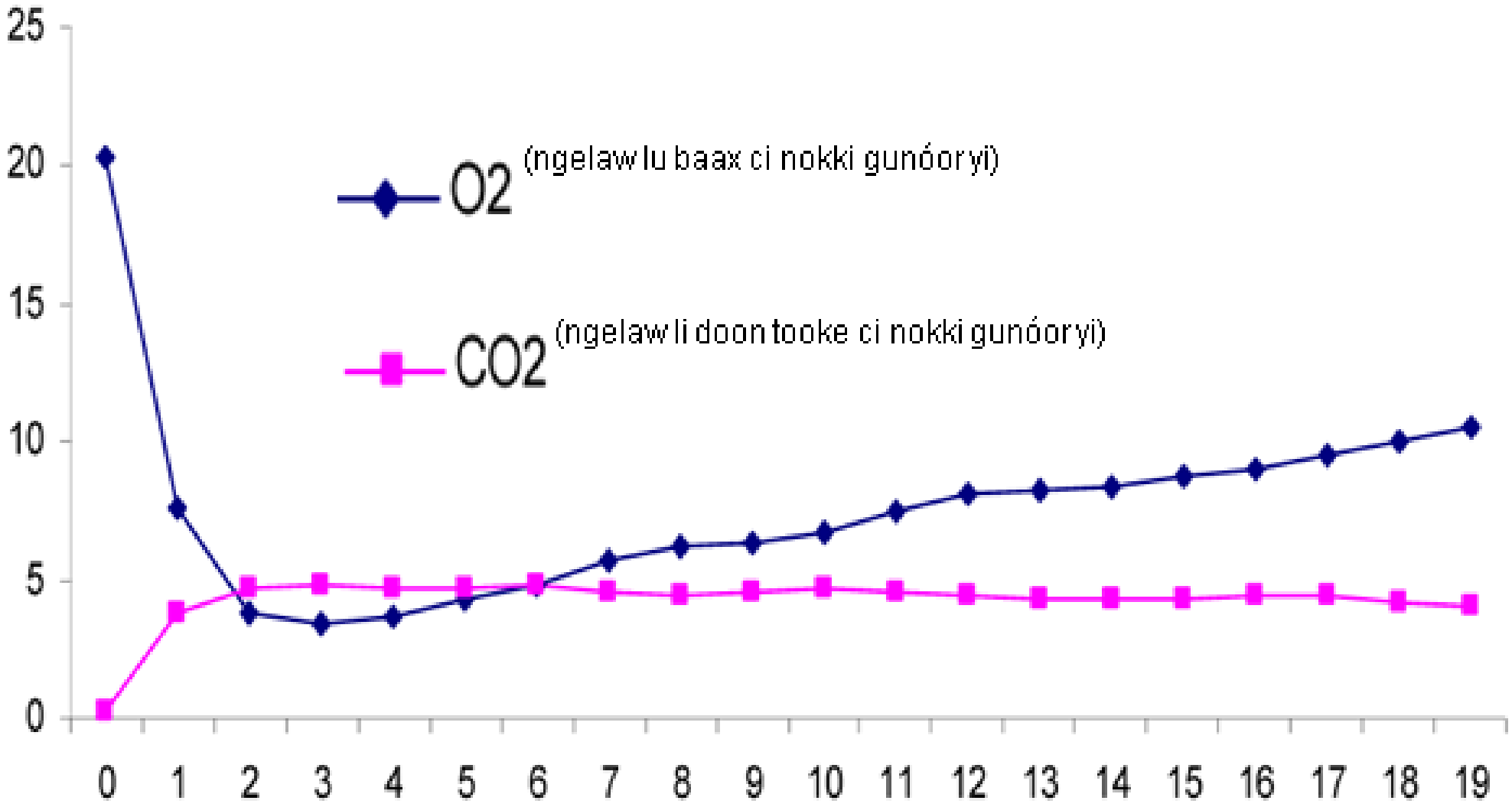
Barrels



Phosphin

Earthenware Jar, Jerry can..

• Principles of the triple bagging technology

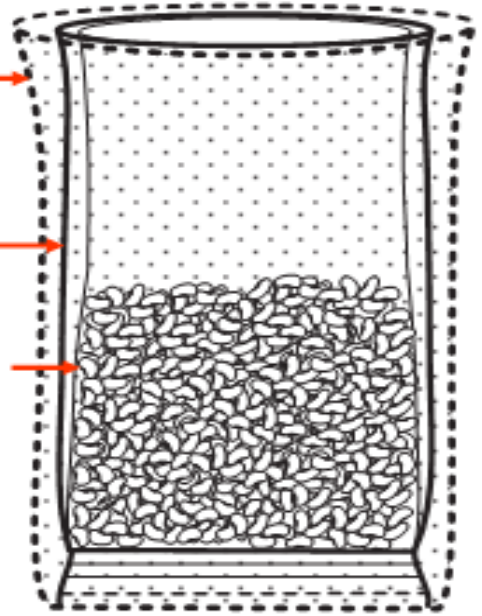


• Composition the"PICS" bags

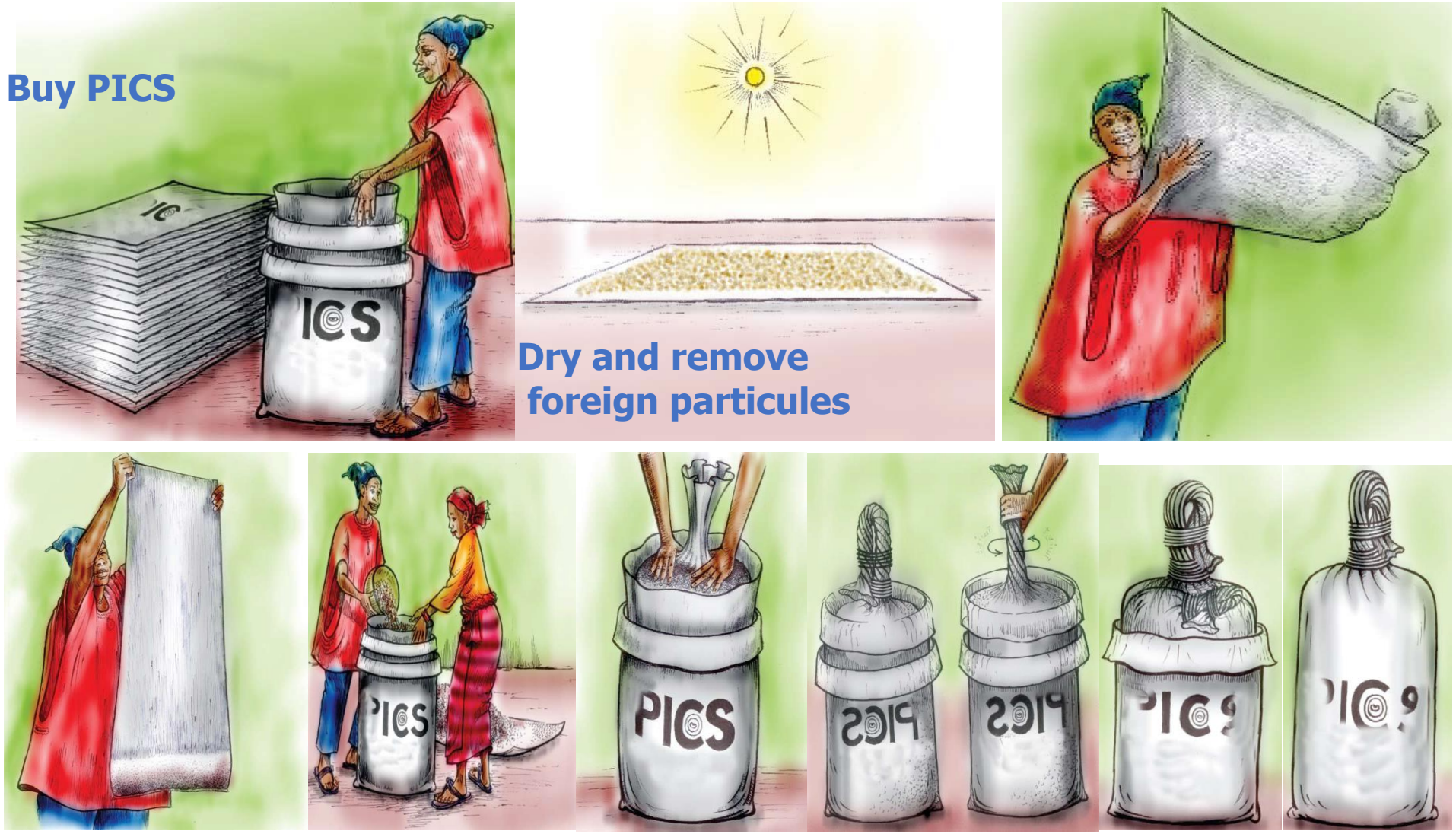
Ordinary woven polypropylwn bag

"HDPE80µ"

"HDPE80µ"



• Summary on the use "PICS« bags



Benefits

Example :

Item	Quantity	Price ($)	Amount ($)
Produce - harvest	1000	2	?
Storage 4-6mois	1kg	4	-
Technology (sacs of 100)		2	?
Sacs	? sac	1000	?
Net benefit	100kg		?
Technologie benefice	-	-	?

Benefits

Example :

Item	Quantity	Price($)	Montant (fcfa)
Produce - harvest	1000kg	2	1000x2 = 2 000 (1)
Storage 4-6mois -price	1kg	4	-
Technology (sacs) of100kg		4	1000x4 =4 000 (2)
bags	10 bags	2	2x10 =20 (3)
Net benefit			(2)-(3) = 3 280(4)
Technology Benefit	-	-	(4)-(1) = 1 280

SupplyTechnologie Triple- ensachage

COFISAC/Industry → NGO Wholesalers → Semi wholsales → Retailors

Conclusion

The reduction of post harvest loss in the different agricultural value chains required

-the use of best pre and post harvest practices including in particular the « **D.I.C.E** » concept i.e. **D**ry grain to less than 13% moisture, **I**nspect (for leaks, cracks) **C**lean (warehouses and surroundings) and **E**xamin (stored bags regularly),

- Investment in the development of infrastructures et equipment for drying and storage,
- Organization of actors around innovation platforms
- Massive training and sensitizing of actors of the production and post harvest

Merci de votre attention