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## Improvement of Farmers' Incomes through Improved Processing of Sorghum and Millets in West Africa

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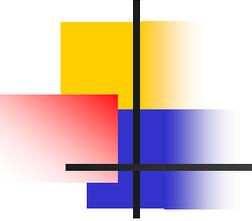
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# Improvement of farmers incomes through improved processing of sorghum and millets in West Africa

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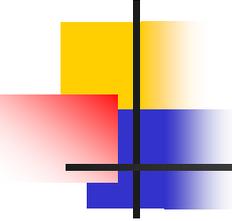
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## Background

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- Purdue University and ITA are very active in the USAID INTSORMIL CRSP Program for promoting the production and the consumption of millet and sorghum in West Africa
- Countries involved in this programme are : Burkina Faso, Mali, Niger, Nigeria and Sénégal

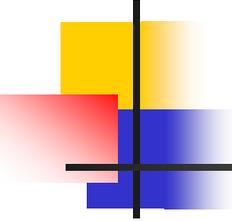


# Market-oriented objectives of the INTSORMIL Program on millet and sorghum in West Africa

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Objective 1: Increase the supply of high quality grain through the introduction of new production technologies at the farmer level in West Africa

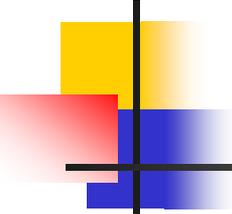
Objective 2: Contribute to the development of the processing sector through technologies improvement , more effective technology transfer to processors, and better links between processors and farmers



## Objective 1: Supply of high quality grain

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- The main identified conditions to facilitate the introduction of these new technologies for millet and sorghum production in West Africa are:
  - Creation of competitive, value-added products from millet and sorghum through introduction of improved processing technologies;
  - Payment of quality premiums to farmers by processors;
  - Establishment of contracts between processors and farmer's organization (very significant results has been obtained in Senegal through INTSORMIL projects in both farmer-processor linkages, and processing and marketing of millet and sorghum):



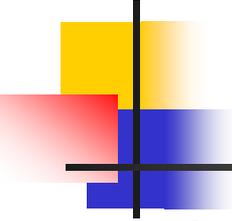
## Objective 2: Development of the processing sector Ongoing Strategies

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**The INTSORMIL strategy for Objective 2 is mainly based on a document developed in 2005-7 from an INTSORMIL West Africa regional working group: “Promoting Millet/Sorghum Processed Products for West African Urban Markets Using an **Incubation Approach**”**

**The keys words for this approach are market expansion and proactive creation of demand on Millet and Sorghum:**

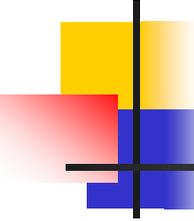
- Market expansion of millet and sorghum will:
  - positively affect the dynamics of local grain production
  - farmer’s and entrepreneur’s incomes
  - food security in the region through greater outlets for locally grown grain
  
- Creation of demand for these staple cereals in urban centers is key for their long-range viability



# Context of promotion of millet/sorghum processed products in West Africa

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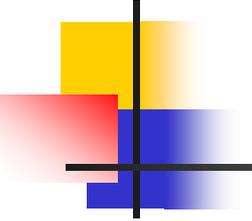
- In larger West African cities, there has been a gradual, but significant, shift in consumer preference from local processed grains to imported products both for practical and social reasons
- Regaining the losses in consumption share as well as increasing the demand of local cereals in urban diets requires:
  - Appropriate grain processing at low cost;
  - Desirable product quality;
  - Similar convenience to other alternatives like parboiled rice or wheat-based bread



# Considerations for suitable promotion of millet/sorghum processed products in West Africa

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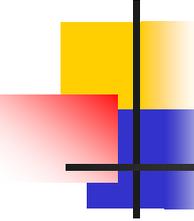
- Processors need to be able to charge prices sufficiently high to provide profits to farmers and to others in the supply chain
- High quality local products will also lead to exports, as is already beginning to occur in the region



## Basic to the Incubation Approach

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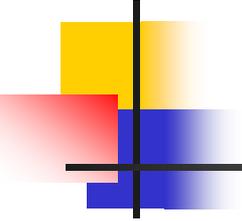
- Just as multi-national food companies must spend time and capital to develop technologies for products and markets, the same applies to the West African Sahelian region - ***entrepreneurs require technical backstopping to create successful businesses***
- This describes the history of ITA's role in millet processing businesses in Senegal, and effort done in this framework by some other countries
- Technologies and products now exist such that entrepreneurs can develop profitable businesses based on millet and sorghum



# Global Objective of the incubation approach

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- Develop and expand markets for high quality processed millet and sorghum products in urbanized areas of the West Africa Sahelian region (Senegal, Mali, Niger, Burkina Faso and Nigeria)

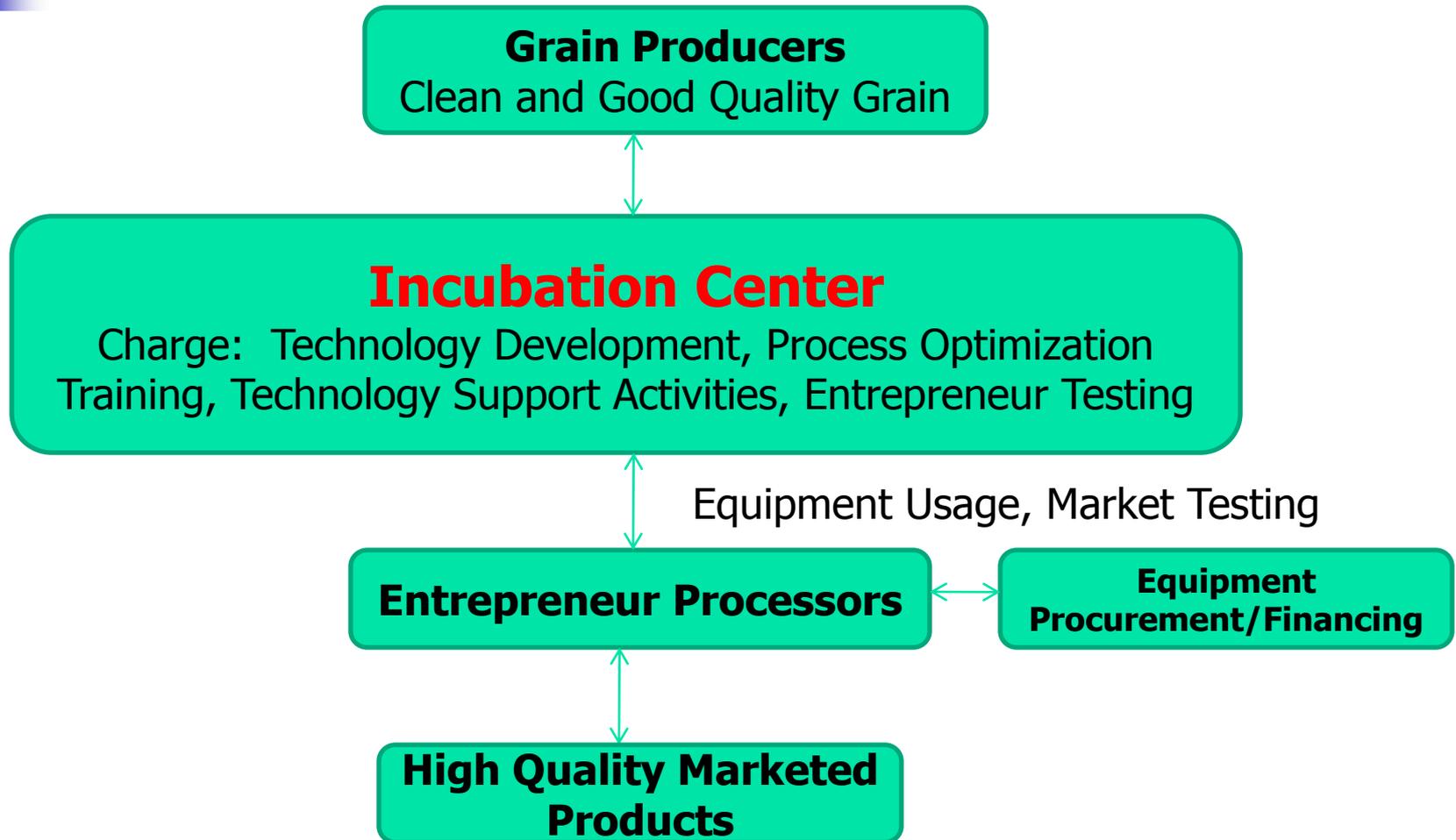


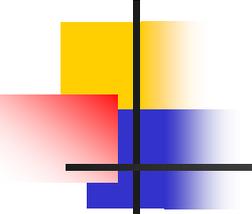
# Objective of the Incubation Concept

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- Provide entrepreneurs with expertise and facilities to nurture and grow food processing enterprises
  - Contains complete processing lines, appropriate in cost and level of technology
  - Detailed training and usage
  - Test markets
  - Continuous feedback and improvement of products
  - Technical backstopping
  - Work with entrepreneur to obtain funding

# Incubation Center Technology -Driven Process Development





## A case study : ITA Incubation Center – millet/maize couscous

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- The ITA Incubation Center on millet/maize couscous has been set with the financial support of two programs:
  - West African Agricultural Productivity Programme (a World Bank Programme)
  - INTSORMIL Program (USAID)
- Purpose - development of new concepts of economic millet/maize couscous processing prepared from semolina instead of flour, as is traditionally used

# Millet couscous line set for incubation in ITA (equipment locally built in Senegal)



Dryer

Agglomerator



Steam cooker



Dried Couscous crusher

# Traditional method of millet couscous preparation

Fine millet flour (Time-consuming preparation)

Time-consuming manual granulation

Steam cooking

Drying at open air

Dried couscous





# Approach for the development the new economic millet couscous

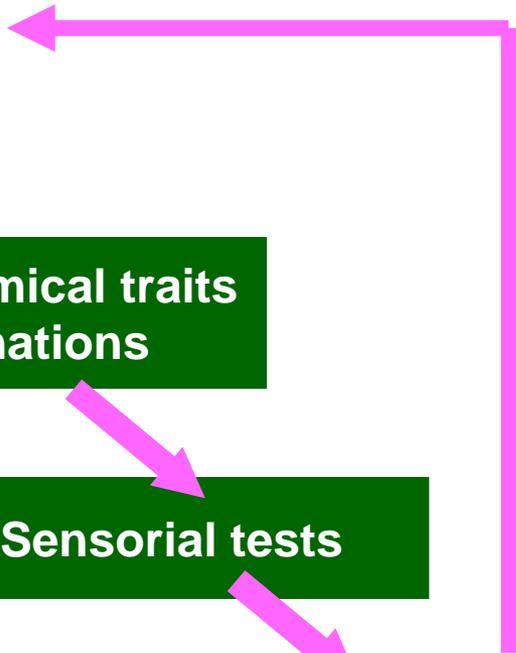
Millet semolina particle sizes  
(semolina more easy to granulate)



Physicochemical traits  
determinations

Sensorial tests

Focus and market tests



## New couscous products



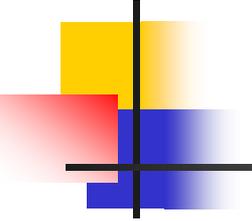
# Focus tests on the new economic couscous



# Transfer of the new couscous technology to entrepreneurs

- Entrepreneurs to be hosted for an incubation at ITA :
  - by producing economic couscous for both millet and maize INTSORMIL Program (USAID)
  - with their new packaging design ↗

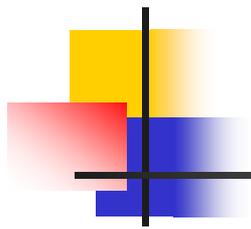




## Conclusion

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- with this outreach, it is now possible for big scale production of millet and sorghum couscous to use available equipments for wheat couscous without any adaptation
- Incubation seems to be a real approach to bring potential entrepreneurs in food processing activities based on local African products



**THANK FOR YOUR KIND ATTENTION**

