Hub-and-Spoke Food Innovation System and key factors for success

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Goal

Our aim is to create successful Hub-and-Spoke food innovation systems, using food and nutrition-related technologies, to:

◦ Expand local markets; process technologies and formulation emphasis
◦ Support entrepreneurship, and women and youth capacity building and empowerment
◦ Improve nutrition – locally focused market-driven fortification; promotion through nutritional or health-related attributes in local foods
◦ Create scale-up model
Central Food Innovation Center at INRAN
- Food processing technologies
- R&D
- Women association
- Detailed training – processing/nutrition
- Staff – food technologists, economist, nutritionist, communication specialists

Rural Food Innovation Centers
- Basic food processing technologies
- Women associations
- Detailed training – processing/nutrition
- Establishment of rural markets
- Market access for smallholder farmers
- Sustainable aspect

Hub-Spoke Food Innovation Model
Diffusion out to remote villages

NIAMEY IC

Rurafood Innovation Centers
- Lebda, B. Faso
- Tera, Niger
- Falwell, Niger
- Sherkin Haoussa, Maradi, Niger
- Gadan Iya, Maradi, Niger

NIAMEY, Niger

Tera IC
Main Pillars

- Central “Hub” food innovation center
- Rural “Spoke” food processing and innovation centers
- Communication between Hub and Spoke Teams
- Data collection and documentation
Central “Hub” Food Innovation Center

Food innovation center that backs-up the sub-center “Spokes” in rural and urban areas

Essential requirements:

- Support by an institution
- Personnel – food scientists/technologists, equipment engineer/mechanic
  - Over 50% time to project
- Value-chain and identification of products with market potential
- Processing equipment – the entire line to make high-quality commercial products
- Urban processors group linked with Hub
  - Participate in product testing and promotion
  - Provide guidance and backstopping to rural processors
Central “Hub” Food Innovation Center

Essential requirements:

◦ Training staff with expertise in:
  ◦ Processing
  ◦ Food safety and sanitation
  ◦ Packaging and labeling
  ◦ Equipment maintenance
  ◦ Business skills (management, marketing, distribution, bookkeeping)

◦ Research and Development (R&D) function
◦ Business plan development
Rural Spoke food processing and innovation centers

Essential requirements:

◆ Creation of women/youth associations/groups
  ◦ Linkage to local farmer organizations, and with access to improved varieties
◆ Support by community authorities (e.g. chief, mayor) and families
◆ Hub to give full responsibility and leadership in operation to rural women’s association (groups)
  ◦ Establishment of contract of partnership (MOU) between Hub institution and women’s association for operational funding
◆ Access to commodity production site
◆ Business plan development
Other requirements

Communication between Hub and Spoke Teams

- Transportation to exchange information and technologies
- Information and communication technologies (ICT) (e.g. WhatsApp, email, etc.)
  - Urban-urban
  - Urban-rural
  - Rural-rural
- Periodic follow-up and monitoring of on-going activities

Data collection and documentation
Expected outcomes

Gain market access for smallholder farmers
  ◦ Establish rural markets for processed foods

Improve nutritional status
  ◦ Process nutritionally-enhanced foods that children want to eat, and with varieties farmers want to grow

Women and youth empowerment
  ◦ Gain in knowledge
  ◦ Creativity enhancement

Driver for adoption of new value-chain crop varieties
  ◦ Rural and urban and rural

Business development – social and private entrepreneurship development
  ◦ Continuous training and technical support

Increase income

Improve livelihoods
Entrepreneurism
Rural

Women sell and establish rural markets

High quality products draw repeat buyers and contracts

Associations make profit (E.g., Falwel site, 2017, ~$1000) on annual sales of ~$2500

In ~4-5 years, documented to have involved 500 rural women in Niger, 100 in Burkina Faso

Approximate cost per rural IC ~$15-20,000
Transformative at the rural level

Lebda, Burkina Faso

40 women in processor association

2016 – 250,000 FCFA in savings

“We see in the coming 10 years,... there will be no more farming activities, ..... processing and marketing of grain products”

(through translation)

Falwel, Niger

Daily service to 100 households

Highest production and sales

Originally came from a small idea to work in rural communities, and has grown organically. Today, women and youth are empowered and are expanding the activities themselves

Rural women associations are taking it on their own to train women from surrounding villages/communities, and even financing their travel

In Gadan Iya, Niger, proceeds from processing first went to purchase each woman participant (16) a goat

The women recognize and express openly the change and impact that have started to happen in their lives as a result of the Incubation Center approach, and are not shy to express it
Transformative at the rural level

Farmers often are processors
They use improved varieties directly into products
Sustainable – driven by markets, government supported
Through small investment, high and sustainable impact in rural communities
Urban – benefiting individual entrepreneurs
Rural - transforming communities, spreads benefit

Nutrition – children of women in the association are strong and healthy, and they prefer their products to those given at Health Centers

In Sherkin Haussa, Niger, women bought a bicycle for a husband, who was reluctant for his wife to go everyday to the processing center, and he now sells the products surrounding villages for the women’s association

Innovation – in Tera, Niger, women took an almost forgotten traditional fermented millet pasta product, and with help of the INRAN IC, it is now commercialized
Acknowledgement of funding and support in-kind