

Market Access through Competency Based Education and Training in Horticulture (MACBETH)

Introduction to the WTO STDF-Supported MACBETH Project

Market Access through Competency Based Education and Training in Horticulture

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Global Markets Demand Produce Meeting High Standards for Safety and Quality

Traditional Markets

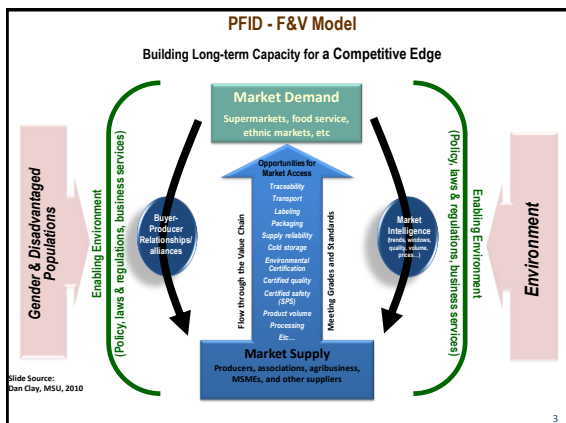
“Wet Markets”

Exports to “less discriminating” markets

“Business as Usual” is acceptable for now, but this is a low-value market segment that will decline over the next decade

Global Markets

- Organized Retail
- Hotels, Foodservice
- Exports to Countries with High-Value Markets
- Tremendous pressure to improve quality and safety standards in order to participate in this more lucrative and growing market segment







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Challenge: Smallholder access to global markets

The Dilemma:

Global food industry:

- Safe, quality product
- More efficiently and at lower cost.
- Want to work with smallholder producers.

Small and medium producers/suppliers:

- Excluded from high value markets.
- Lack the capacity to meet rigorous safety and quality standards.
- Large volumes are a challenge.

Development Objectives:

- Value chain development for quality fruits and vegetables
- Market development





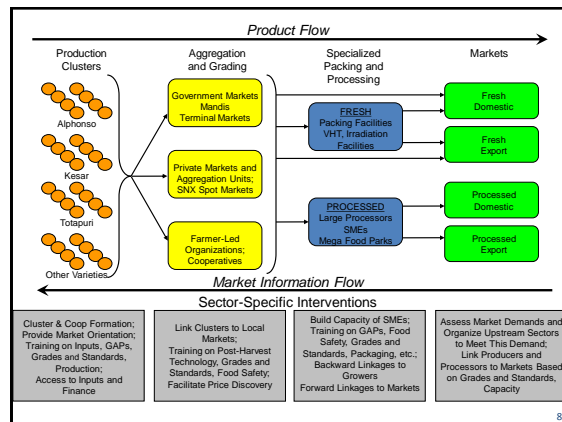
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USAID PFID-F&V – Partnerships for Food Industry Development-Fruits and Vegetables

Development of products and services to pave the way for more advantageous market linkages for the small/medium F&V producer.

Examples

- Intelligence on market trends and directions
- Training activities (workshops and field training)
- Assessments (horticulture sector, market assessments, etc)
- Building private sector partnerships between farmers and markets







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The MACBETH Project

Two-year project started in January 2011

Capacity development to improve compliance with food safety and SPS requirements

- General training curricula for fresh and processed horticulture value chains
- Localized materials for 2 selected horticulture value chains
- Dissemination of training materials using internet-based technology and blended learning in addition to traditional face-to-face instruction.
- Develop linkages of participating farmers and processors with higher-value market opportunities
- Both export and domestic





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The MACBETH Project

Why focus on fruits and vegetables?

- High demand and trade volumes in the international marketplace, as consumers increasingly expect year-round supply of high-quality and safe products.
- Significant problems with regard to food safety and other SPS measures
 - Pesticide residues
 - Microbial pathogens
 - Phytosanitary concerns

Why focus on Vietnam and Thailand?

- Major producers of fruit and vegetable products
- Increasingly engaged in exports
- History of rejections due to food safety and SPS concerns





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Selected products for Vietnam market

Purple sweet potato (Binh tan, Vinh Long)



Red onion (Vinh Chau, Soc Trang)



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Reasons for the product selection

- Large surface area of cultivation
- High yield
- Unstable price
- Market is dominated by Chinese buyers



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Selection of Value Chains - Considerations

- Production capacity
- Strong marketing potential – both domestic and exports
- Produce that is high-quality and meets consumer expectations
- Opportunities for value-added processing
- History of food safety or SPS problems

The Food Safety Knowledge Network: A Global Competency-Based Program to Improve Knowledge and Skills of Food Safety Professionals

The key to producing safe food for consumers is ensuring appropriate knowledge and skills of the individuals who are responsible for food safety



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The Food Safety Knowledge Network

Aims to achieve these OVERALL OBJECTIVES:

1. Develop internationally recognized competences in relation to food safety for individuals at all levels and in all sectors of the food supply chain.
2. Promote knowledge transfer within the food safety community.

BY

Harmonizing existing technical food safety training schemes through the development of the competencies of food safety professionals, recognized by international stakeholders, both from the public and the private sectors.

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FSKN Scope

- International
- Applicable to all types of food.
- Initial focus on competence of individuals working in the food manufacturing sector who are responsible for food safety in their companies.
- Current focus on primary production of fruit and vegetable products.
- Ultimately – will expand to cover all sectors in the food supply chain.
- Localization activities with respect to language, culture and requirements of specific value chains.

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Benefits of FSKN

- Facilitates the production of safer food
- Transfers knowledge throughout the supply chain
- Enables career development, education and enhanced mobility for food safety professionals
- Enhances the competitiveness of small-scale producers and manufacturers
- Enables improved access to higher value markets (both domestic and export) for companies in emerging economies
- Achieves pragmatic cost reductions through the elimination of corrective actions and more efficient assessment of compliance
- For corporate buyers, secures the supplier base in terms of legality and food safety with improved product conformity

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GFSI Global Markets Protocols and the Food Safety Knowledge Network (FSKN)

- ▶ Global Markets Protocols
 - ▶ Focus on competence of the **company**
- ▶ FSKN
 - ▶ Focus on competence of the **individuals** responsible for managing food safety

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The GFSI Global Markets Project: Objectives

- **Development of voluntary food safety requirements:**
 - Food safety requirements (Basic and Intermediate Level)
 - Protocol and guidance for implementation and assessments
- **Drive the continuous improvement process**
 - Facilitating market access locally
 - Create mutual acceptance along the supply chain
 - Mentoring of suppliers

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GFSI Global Markets Protocol – Basic Level for Food Manufacture

<ul style="list-style-type: none"> ▪ Group A: Food Safety Systems <ul style="list-style-type: none"> ▪ Specifications ▪ Traceability ▪ Incident Management ▪ Control of Non-conforming Product ▪ Corrective Actions 	B A S I C L E V E L
<ul style="list-style-type: none"> ▪ Group B: Good Manufacturing Practices <ul style="list-style-type: none"> ▪ Personal Hygiene ▪ Facility Environment ▪ Pest Control ▪ Product Contamination Control ▪ Cleaning and Disinfection ▪ Water Quality 	
<ul style="list-style-type: none"> ▪ Group C: Control of Food Hazards <ul style="list-style-type: none"> ▪ Control of Food Hazards General ▪ Control of Food Hazards Specific ▪ Control of Food Allergens 	

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GFSI Global Markets Protocol – Intermediate Level for Food Manufacture

<ul style="list-style-type: none"> ▪ Group A: Food Safety Management Requirements <ul style="list-style-type: none"> ▪ Management Responsibility ▪ Document Control ▪ Procedures ▪ Complaint Handling ▪ Control of Measuring and Monitoring Devices ▪ Product Analysis ▪ Supplier Qualification and Approval ▪ Supplier Performance Monitoring ▪ Training 	I N T E R M E D I A T E L E V E L
<ul style="list-style-type: none"> ▪ Group B: Good Manufacturing Practices <ul style="list-style-type: none"> ▪ Facility Layout, Product Flow and Equipment ▪ Facility and Equipment Maintenance ▪ Staff Facilities ▪ Waste Management ▪ Transport and Storage 	
<ul style="list-style-type: none"> ▪ Group C: Control of Food Hazards <ul style="list-style-type: none"> ▪ HACCP (8 Modules) ▪ Food Defense 	

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Development of Competency Frameworks for Individuals, Training and Assessment Tools

- **Competency Frameworks** developed by an FSKN Technical Working Group consisting of members from industry, academia, and international agencies.
 - Established framework of 89 competencies in 13 areas for Basic Level – Food Manufacture
- **Training Modules** for each of the areas covered under the requirements for food manufacture were developed by international food safety experts.
- **Assessment Tools** developed to determine baseline knowledge and skills of participants in training programs and improvement in knowledge conferred by training.

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FSKN Activities (Sept 2009 – present)

Basic Level for Food Manufacture

- ▶ **India:** Face-to-face training program on Basic Level for food manufacture. Conducted digital capture of training modules for subsequent online pilots.
- ▶ **India:** eLearning pilot conducted for suppliers to METRO Cash and Carry in India.
- ▶ **Egypt:** Face-to-face training program for METRO C&C (Makro) suppliers in partnership with UNIDO (Arabic translation).
- ▶ **China:** Face-to-face training program for Coca-Cola bottlers and suppliers (Chinese translation).
- ▶ **India:** Distance education pilot conducted for Tata Tea.
- ▶ **Ukraine:** Face-to-face training program for METRO C&C Ukraine fresh meat suppliers in partnership with IFC (Ukrainian translation).
- ▶ **Vietnam:** Face-to-face training program for farmers and food manufacturers (Vietnamese translation)
- ▶ Ongoing company-led pilots in several countries (e.g. Chile and Mexico [Spanish Translations completed], Malaysia)
- ▶ Additional translations/localization activities ongoing

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FSKN Activities

Intermediate Level for Food Manufacture

- ▶ **Egypt:** Initial development of training modules for Intermediate Level for a Face-to-face training program for METRO C&C (Makro) suppliers in partnership with UNIDO (Arabic translation).
- ▶ **India:** Refinement of training materials and conduct of face-to-face train-the-trainer program on Intermediate Level for 106 delegates. These delegates indicated they would train >3,500 persons in the coming months. Conducted digital capture of training modules for production and dissemination on the FSKN web site.
- ▶ **Ukraine:** Face-to-face training program for METRO C&C Ukraine planned in partnership with IFC (Ukrainian translation).
- ▶ Company-led pilots beginning in several countries

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FSKN Chennai Pilot – September 2009

- Pre and Post Workshop Assessments used to:
 - Assess baseline knowledge and skills
 - Assess efficacy of training modules (via improved knowledge)
- Overall Results – **19.3% increase** in assessment scores (post – assessment versus pre-assessment)



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makro

Pilot Program – METRO Egypt (makro) Conducted in collaboration with UNIDO

- ▶ November 2009 – January 2010 – 36 participants
- ▶ Translation of FSKN materials to Arabic
- ▶ Overall results demonstrated an improvement in scores from 59.7% correct on the pre-assessments to 69.5% correct on the post-assessments (a **16.3% increase in performance**).
- ▶ In addition to FSKN training for food professionals, the Egypt pilot also tested the GFSI Global Markets Company Protocol for Basic Level for Food Manufacture. This approach ultimately will enable us to correlate company performance with knowledge of their food safety managers.

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FSKN Materials

- Shared as open educational resources under Creative Commons license
 - Users are free to utilize and adapt materials, provided they give attribution to the source and share the resulting derivative materials under similar license.
- FSKN Web Sites:
 - <http://www.fskntraining.org/>
 - <http://www.foodsafetyknowledgenetwork.org/>

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