

**International Seminar on**

**« Value-added Processing of African Traditional Fermented Foods for Improved Quality and Food Safety »**

**Impact of Quality Approach  
Implementation (ISO / CEI 17025) in  
Laboratories on the Domestic Economy**



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# PLAN

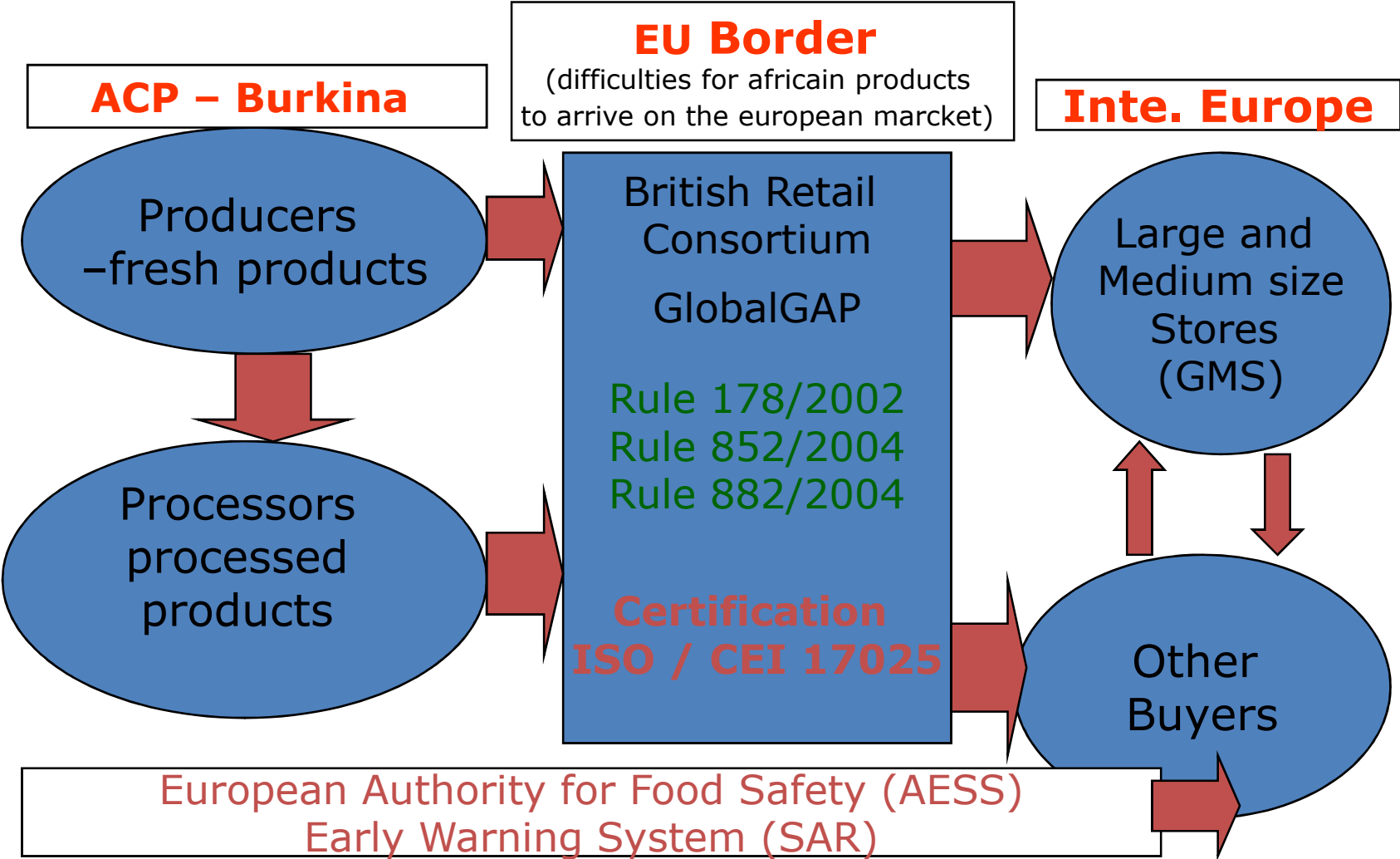
- **Introduction**
- **Economic Interest**
- **Implementation Methodology of the ISO/CEI 17025 standard in DTA laboratories**
- **Difficulties in applying the international standard**
- **Recommendations**



# Introduction

- The priority export products of Burkina Faso are : sesame, horticultural products (mango and French bean), shea butter, etc. to the European market
- A quality program for West African countries financed by the EU has been launched in 2008. This program has two components:
  - A WAEMU (West African Economic and Monetary Union) component
  - An ECOWAS (Economic Community of West African States) component
- This program concerns standardization, inspection and control / analysis system
- Two laboratories have been selected in Burkina Faso for an accompaniment in audit and metrology : IRSAT/DTA laboratories and the National Public Health Laboratory.
- The DANIDA project and this program allowed us initiating and developing quality approach in our laboratories

# Introduction : Quality Requirements - limiting factor for the export of products



Strict observance of export requirements

# Importance of the Government Commitment



## Government

(Necessary involvement of the Government )

Quality Approach according to ISO/CEI 17025

## Activities of laboratories

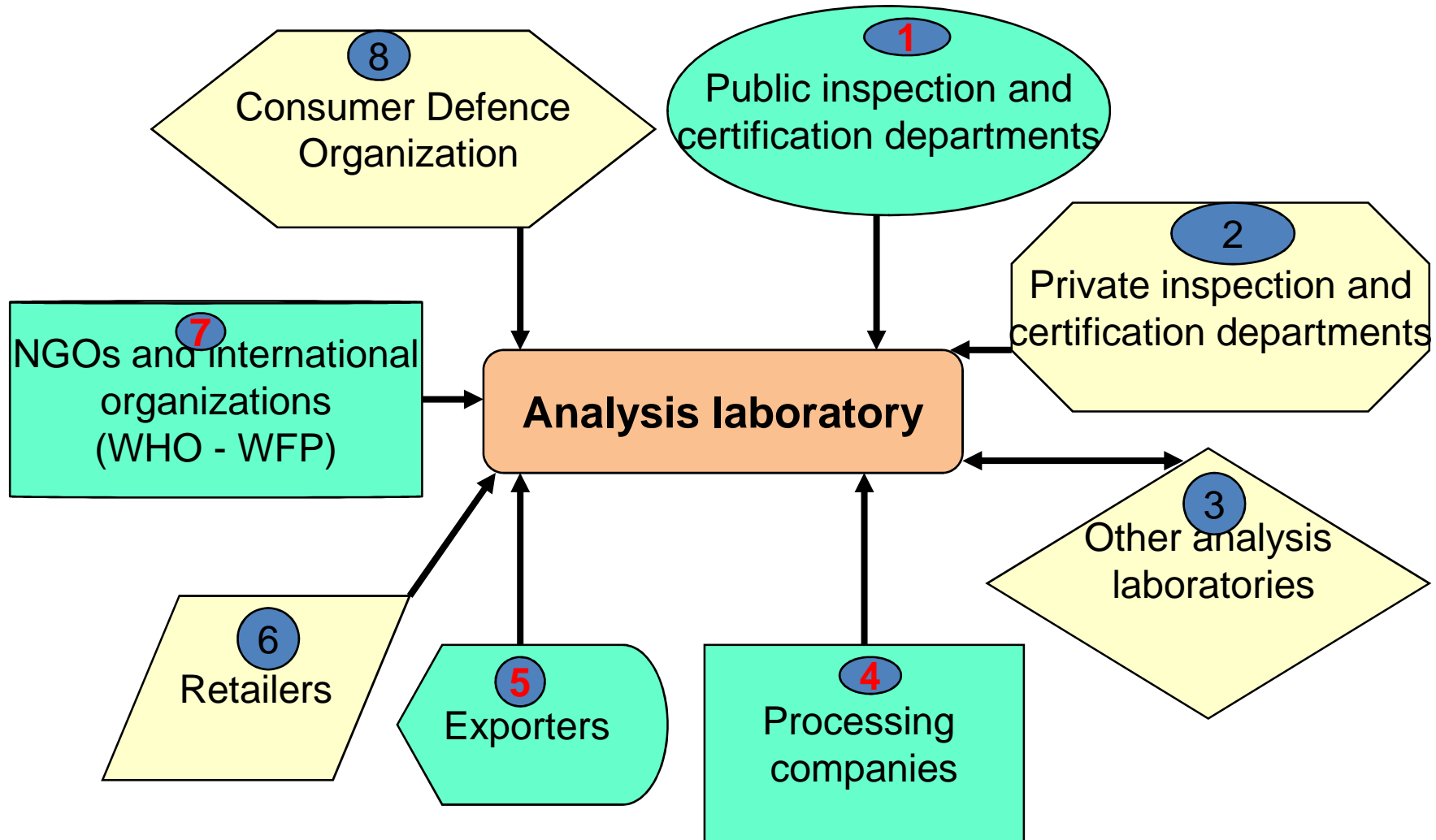
### Research

Difficulty for researchers to respect the process of quality management in the lab.

### Analyses for the private sector

Analysis requested mainly for export products (mango, sesame, cashew, shea nuts and butter)

# Customers of IRSAT / DTA analysis laboratories



**Demand assessment in customers' analyses**

# Introduction

- So far, the only customers of laboratories for African Traditional fermented foods are internal customers
- African Traditional fermented products are mainly for domestic consumption; they are therefore subject to a poor :
  - intervention from inspection services on these products
  - analysis demand by the private sector
  - export capacity
- Research is carried out on fermented products
- analyses and control are conducted on export products

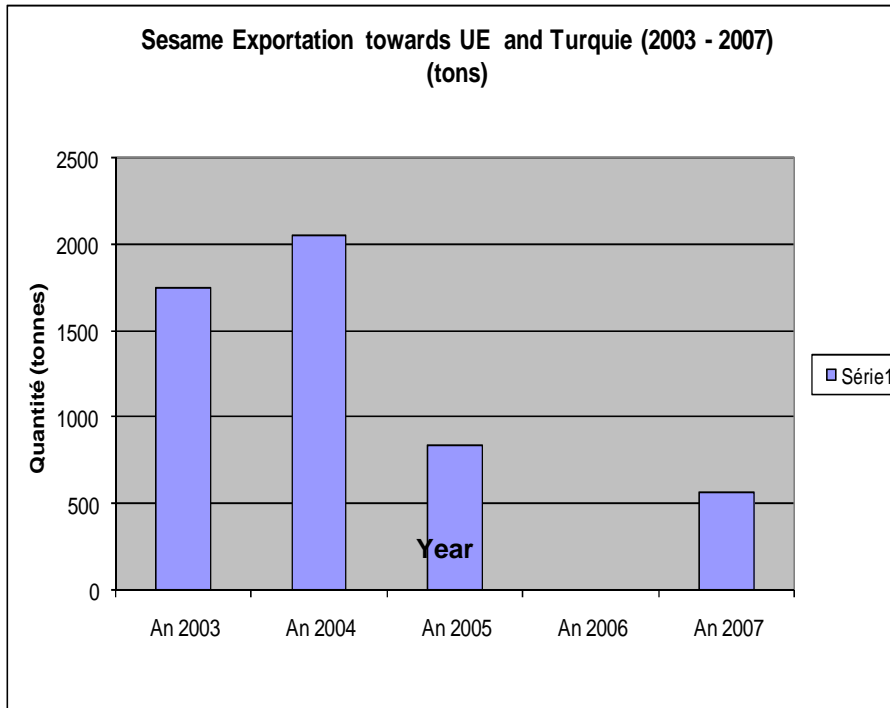
# **Economic interest of quality approach implementation in laboratories**

## Economic interest of quality approach implementation in laboratories

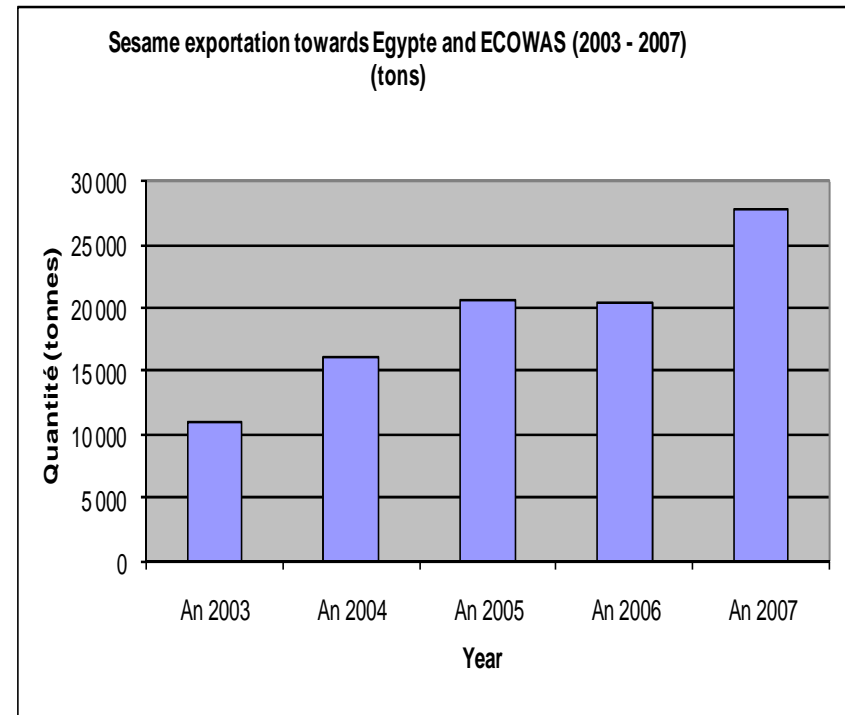
**Example :** Sesame is the second export product commodity after cotton

- In 2004 the country exported 2,000 tons to these countries (1.5 M \$ USA)
- During the 2005 / 2006 campaign, Burkina Faso almost did not export sesame to European Union countries because the product was contaminated by *Salmonella spp.*
- The State of Burkina Faso has been officially informed by the European Union
- The laboratory that conducted the analysis in Burkina Faso on the sesame was not competent (accredited for the analytical work)
- This experience made the Government understand the importance of product analysis by accredited laboratories

# Economic interest of quality approach implementation in laboratories

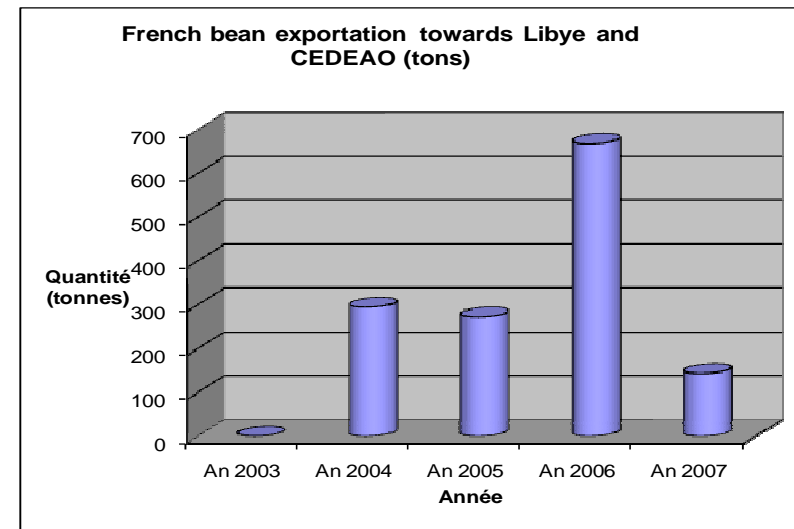
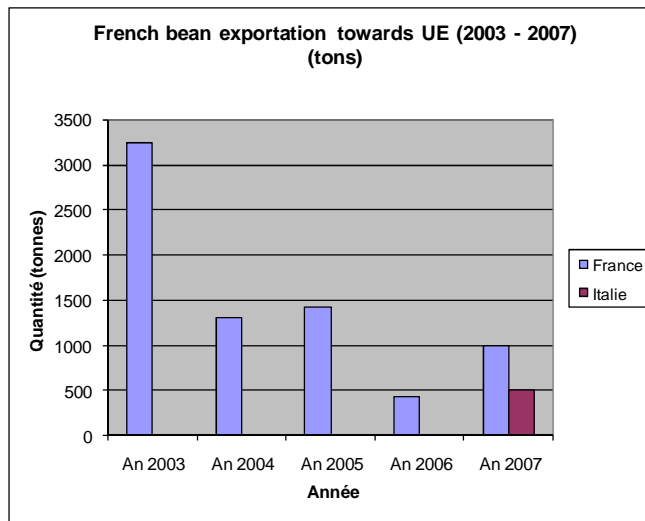


Decreasing exports of sesame from 2003 to 2007



Increasing exports to ECOWAS countries since 2003

# Economic interest of quality approach implementation in laboratories



-Decrease of French bean exports to European Union countries

-Increase of French bean exports to Libya and ECOWAS countries

# Economic interest of quality approach implementation in laboratories


## Regulatory Requirements

- **Of the European Union**

- Strict requirements and control at the entry of EU countries;
- Important economic losses on sesame and French bean for lack of strict and reliable control
- To date, one notes a regular increase of analysis requests on sesame

- **Of ECOWAS countries**

- Less strict requirements and control
- Regular increase of exports to these countries without much difficulties related to the quality of products
- One notes a poor analysis demand on the products exported to ECOWAS countries



**Implementation Methodology of  
ISO/CEI 17025 Standards in  
DTA Laboratories**



# **ISO / CEI 17025 Standards:**

- **General requirements concerning the competence of calibration and essay laboratories**
- **Standard developed by ISO / CEI for assessing the conformity of calibration and essay laboratories**
  - **1999 : first edition**
  - **2005 : second edition**
- **The standard includes two chapters (prescriptions) :**
  - **quality management**
  - **Technical prescriptions**



# Methodology

1. System of reference used for the approach : ISO/CEI 17025
2. Training of laboratory officers (financed by DANIDA)
3. Training of the laboratory scientific and technical staff (financed by DANIDA)
4. Definition of the quality approach implementation strategies for external (private sector ) and internal (research works) customers
5. Definition and assignment of responsibilities : quality coordinator, Quality officer, officer in charge of metrology, scientific and technical officer for every space and substitutes



# Methodology

6. Establishing the quality system

7. Procurement of standards and processing of the aspects related to metrology and reference standard managements

8. Assessment of the conformity :

8.1. two internal audits per year

8.2. two external audits per year from the starting of the system's implementation in the laboratory

8.3. one external audit as soon as the system has been relatively mastered by the staff

9. Standardization requests of the parameters submitted to standardization (2009)

10. Further involvement of authorities (Directeur and CNRST Delegate-General)

**Difficulties in implementing  
the international standard  
After 5 years**

**Main difficulties**



# Difficulties in implementing the international standard

## Chapter 4 : quality management



ISO /CEI 17025	Difficulties of implementation	Solutions
<p><b>4.1. Organization</b></p> <p>-Meeting customers' needs</p>	<p>Poor professionalism of customers Needs not clearly identified by customers</p>	<p>Organization of sensitization workshops for laboratories customers</p>
<p><b>4.2. Quality system</b></p> <p>-Letter of policy from the management : commitment,</p>	<p>At which level this letter of policy must be done when there are a Head of Department, a Director and a Delegate-General?</p>	<p>Letter of policy done by IRSAT Manager</p>



# Difficulties in implementing the international standard

## Chapter 4 : quality management

ISO /CEI 17025	Difficulties of implementation	Solutions
<p><b>4.6. Purchase of services and supplies</b></p>	<p>Government rules focus on the price and the only criterion for the standard is the quality of purchases and supplies</p>	<p>Issue being addressed by WAEMU and ECOWAS (harmonization of regulations related to the management of laboratories)</p>
<p><b>4.8. Claims</b></p>	<p>Few claims considering customers' poor professionalism level</p>	<p>Conducting satisfaction surveys by the laboratory towards customers</p>

# Difficulties in implementing the international standard



## Chapter 5 : Technical prescriptions

ISO /CEI 17025	Difficulties of implementation	Solutions
5.4. Assessment of measurement uncertainty	Poor capacity of the staff to assess measurement uncertainty	Training of the quality officer and the officer in charge of standard managements
5.5. Maintenance of equipments	Poor local capacity for ensuring maintenance / calibration of equipments	Issue being addressed at WAEMU and ECOWAS level
5.5. Traceability of mesuring	Connection of standards to the International System of units (SI)	Issue being addressed at WAEMU and ECOWAS level

# Conclusion / Recommendations

- Necessity of the government, WAEMU and ECOWAS commitment
- The implementation of the quality approach in laboratories (ISO 17025) improves the management of laboratories
- People in charge of these laboratories of WAEMU and ECOWAS countries must take an active part in the implementation of the quality program in view of harmonizing the laws specific and adapted to the management of laboratories



**Thank you for your attention**