



*UNIVERSITE CHEIKH ANTA DIOP DE DAKAR*  
*Centre d'Etudes et de Recherche sur les Energies Renouvelables*  
*(UCAD - CERER)*



# Standards and Labels for clean Cooking Solutions

Prof. Issakha Youm

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# Outline of the Presentation

- Introduction: Why standards and labels? Definitions
- Examples of standards and quality assurance approaches relevant for Western Africa
- Components of quality assurance
  - Stove type quality
  - Stove production quality
  - Fuel quality
- Relevant actors
- Questions / Discussions

# Standards and Labels - Definitions

- Why standards, why labels? ->To enhance the quality of cooking equipment ! ????
- **Standard** : definition of characteristics of a product; laid down in a document of reference, established by consensus and approved by a recognized body (example ISO)
- **Label**: A piece of paper, polymer, or other material affixed to a product, which indicates information about this product, for example the degree to which a set of inherent characteristics fulfills the requirements of a standard
- **Quality** of a product means in practice that the product meets end-user expectations in terms of performance, functionality, reliability and affordability

# Validity and range of different types of Standards

- **Universal Minimum Standard:** Criteria laid down in laws or governmental decrees, to be applied to **ALL** products of a certain type, controlled by independent accredited organization.
- Example: Cars in Europe. There is no car allowed that does not correspond to these criteria. A logo/ label is not necessary. Objective: To avoid the existence of products of low (dangerous) quality.
- **Official Logo for a Standard of Extraordinary Quality:** Criteria laid down in laws or governmental decrees, controlled by independent accredited organization, to be applied only to a certain part of a product group.
- Example: The EU logo and guidelines for organic farming. The main objective is to make organic products easier to be identified by the consumers. A logo is indispensable in this concept.
- **Brand, Trademark:** Criteria laid down in internal rules by a company, to be applied to ALL products of a certain type, controlled by the company itself.
- Example Coca Cola. Objective: Marketing advantage for products of the one company.

# Application of standards and labels in the stove market

- In the next future it will not be possible to forbid or ban traditional stoves. -> A universal minimum standard is not enforceable.
- Some stove producing companies have their own brands and might be able to establish those as well known stove brands in a market. -> A public intervention is not imperative.
- -> Standards and labels supported by public institutions defining “efficient stoves” in contrast to not efficient ones might be appropriate to enhance the share of high quality stoves in the market.

# Which type of Standard?

## Performance Standard or Technical Specification?

- A Standard can be defined as a specific performance of a stove type in terms of fuel consumption, the durability of stoves, emissions and safety, convenience of use. -> Performance standards
- A Standard can be defined by describing a stove type's dimensions, properties of materials to be used, or some aspects of the producing technology to be applied. -> Technical specifications.

# Example for a Performance Standard

- **The Global Alliance for Clean Cookstoves (GACC)** promotes the development of International Standards for cooking stoves.
- An International Workshop Agreement, that is base for the to development of ISO Standards for cookstoves, defines:
  - Tiers for performance standards on fuel consumption, CO and PM emissions, indoor air quality (IAQ) and safety parameters



Testing protocols to measure these performance parameters: WBT, Safety Test

# International Workshop Agreement

- Stakeholders directly participate developing the IWA and do not have to go through a national delegation
- An IWA can be produced swiftly
- The IWA carries the ISO brand
- IWA's can be precursors to International Standards



## *Progression of IWA to ISO Standard*



# Example: Quality Assurance approaches in West Africa

- Some years ago CILSS/UEMOA developed a mechanism for cook-stoves labeling.
- The proposed approach includes :
  - Accreditation of qualified laboratories to perform WBT, CCT, KPT and safety tests
  - Awarding of quality label to producers, providers or developers
  - The « Cahier de charges d'utilisation du Label » contains a model contract for the use of this label stipulated by CILSS / UEMOA.
- It does NOT define minimum performance standards or tiers
- *Which obstacles slowed down the realization of this plan?*

# Implementation and enforcement of standards and labels

- A standard has to be defined and imposed. By whom?
- A standard has to be controlled. By whom?
- To enforce the accomplishment of a standard, sanctions have to threaten and have to be imposed. Who has the power and the will to impose sanctions?

# Implementation of standards: Who defines the standard?

- International Donors, Implementation Agencies often have defined their own standards. For example certain stove types or for example GIZ: savings of 40% against traditional stove.
- National Bureau of Standards: defines minimum quality stove types
- Private Entrepreneurs: develop high performance products

# Implementation of standards: Who controls the parameters of the standard?

- Performance parameters of stove types are to be tested in a laboratory or in the field by a scientific organization. Example CERER in Senegal or IRSAT in Burkina Faso
- The production quality , if the produced stoves meet the specifications is to be controlled by an implementing agency, an independent body or a producer's organization.

# Components of performance standards

## 1) Parameters for stove type quality

- **Cooking power**
  - Time to boil water
  - Thermal efficiency
- **Fuel consumption**
  - Quantity of fuel consumed for a given task
- **Emissions**
  - Quantity of health endangering toxic emissions?
  - Quantity and type of climate relevant GHG emissions?
- **Durability**
  - Expected lifetime?
  - Up to which point of decay a stove can be considered as an improved stove?
- **Stove Security**
  - Sharp Edges and Points, Stability, Cookstove Tipping
  - Surface Temperature and Heat Transmission to Surroundings
- **Convenience**
  - Is the stove appropriate to the usual tasks in an average household?



# Components of quality assurance

## 2) Testing the stove type quality in the Laboratory

- **Laboratory:**
  - **WBT, CCT for fuel consumption**  
Standard methods of several Institutes
  - **WBT with emission testing**  
CERER has set up a Laboratory Emission Measurements System (LEMS)
  - **Security protocol**  
Methodology available, however rarely used
  - **Durability test**  
Methodology is being developed



# Components of quality assurance

## 3) Testing the stove type quality in the household

- **Monitoring in the households**

- **Fuel consumption: KPT**

- Standard methodology

- **Indoor Air pollution**

- First approaches with appropriate equipment  
(IAP meter)

- **Durability**

- Methodology for systematic monitoring has to be developed

- **Convenience / acceptance**

- Standard methodology: acceptance tests



# Components of quality assurance

## 4) Stove production quality

- **Parameters**

- Are all stoves conform with the approved stove type: measures, material, tolerances?
- Are all the produced stoves of the same quality?

- **Methods to test and insure the stove production quality**

- Adequate training of the producers, providing tools for quality management
- Control of the produced stoves
- Certification of products or producers
- Labeling



# Ensuring Quality of All Stoves

- CERER does quality control of stoves produced by artisans on behalf of GIZ.  
All the producers are visited regularly, get training, support in form of tools.



Winrock/USEPA Benin KPT Workshop  
July 2013

# Other components of quality assurance

- -> Need for fuel quality standards ?

Fuel type and source can have more impact on the emissions and the environmental impact than the stove type:

- Sustainable source ?
- Minimum product quality in terms of heat value and low Emissions
- Is fuel standardization a realistic option?



# Relevant Actors?

- **Improving the quality of stove types, Development of better stove types**
  - Research Organization: Stove testing, recommendations for stove improvement
  - Bureau of Standards: defines minimum quality stove types
  - International Donors: may define minimum quality for their projects
  - Private Entrepreneurs: develop high performance products
- **Monitoring and Management of stove production quality**
  - Project implementing organizations: training of producers, quality monitoring
  - Quality Label: Who acts? Producer organizations? Governmental organizations? Research institutions? Project implementing organization?
  - Private Entrepreneurs: guarantee a high quality of their products as a marketing argument

# Pertinent Questions / Suggestions for discussion

- Do we need common international standards or local, national ones?
- Does it make sense to fix absolute minimum standards (GACC)? Or is it more realistic to focus on improvement rates (40% GIZ)
- Who is really able and willing to impose standards, including sanctions?
- Emission testing is interesting. However, it leads to testing procedures far from reality.
- Life time of improved stoves?
- Quality <-> Price and affordability
- Organization of a quality management system:
  - Which criteria?
  - Powerful actors?



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# Thank you for your attention

- Professeur Issakha YOUM  
Centre d'Etudes et de Recherches sur les Energies Renouvelables (CERER)  
Université Cheikh Anta DIOP de Dakar, Dakar-Fann (Sénégal)  
Tél :(+221) 33 832 10 53  
Fax: (+221) 33 832 10 53  
[issakha.youm@ucad.edu.sn](mailto:issakha.youm@ucad.edu.sn)