# 4TH MEETING OF THE GBEP WORKING GROUP ON CAPACITY BUILDING FOR SUSTAINABLE BIOENERGY (WGCB) BERLIN, 29 MAY 2013

## Indicator 10 "Price and supply of a national food basket" - Social pillar


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# OUTLINE

Description of Indicator 10

Selection of Crop

Data Gathered

Assessment of Data

Methodologies used to collect indicator's data in Ghana

Assessment of Proposed Baseline Values

Conclusion

# DESCRIPTION OF INDICATOR 10

Effects of bioenergy use and domestic production on the price and supply of a food basket, which is a nationally-defined collection of representative foodstuffs, including main staple crops measured at the national, regional, and/or household level

- **changes in demand for foodstuffs for food, feed, and fibre**
- **changes in the import and export of foodstuffs**
- **changes in agricultural production due to weather conditions**
- **the impact of price volatility and price inflation of foodstuffs on the national, regional, and/or household welfare level, as nationally determined**

# SELECTION OF CROP

- SCOPE (feedstocks; crops; geography) and WHY
  - Maize and sorghum
  - National: because changes in food production and prices are often reported within the national context coupled with pilot status and duration...

- Rationale for Selection of maize and sorghum
  - Staple status
  - Potential feedstocks for the production of bioethanol aside cassava and sugar cane**

# DATA GATHERED

## ❑ Maize

- **Indicator 10.1: [N.A] [fill in unit] changes in demand for foodstuffs for food, feed, and fibre**

- **Indicator 10.2: [34,333] [tonnes] changes in import and export of foodstuffs (SRID-MoFA, 2009)**

- **Indicator 10.3: [1,683,984 [tonnes] changes in agricultural production due to weather conditions (SRID-MoFA, 2011)**

- **<u>Indicator 10.4:</u> [64.9] [GHS/0.1 tonne](SRID, 2011) impact of price volatility and price inflation of foodstuffs**

# DATA GATHERED

## ❑ Sorghum

- **Indicator 10.1: [N.A] [fill in unit]changes in demand For foodstuffs for food, feed, and fibre**

- **Indicator 10.2: [1] [tonne] changes in import and export of foodstuffs (SRID, 2009)**

- **Indicator 10.3: [287,069] [tonnes] changes in Agricultural (SRID, 2011)**

- **Indicator 10.4: [83.17] [GHS/0.109 tonnes] (SRID, 2011) impact of price volatility and price inflation of foodstuffs**

# ASSESSMENT OF DATA

- Indicator is relevant for Ghana as it is directly related to food security

- Overall assessment on a scale of 1 to 10 (1 very bad; 10 very perfect)

| USEFULNESS | AVAILABILITY | QUALITY |
|---|---|---|
| The degree to which the data fit the indicator | Sufficiency of the data available | Sufficiency of data quality |
| 3 | 3 | 3 |

# METHODOLOGIES USED TO COLLECT INDICATOR'S DATA IN GHANA

- **Methodologies used to collect indicator's data in Ghana are not fully in line GBEP methodology**

- **GBEP methodology consists of two main steps**

✓ Step 1: Determine the relevant food basket(s) and its components;

✓ Step 2: Assessing the links between bioenergy use and domestic production and changes in the supply and/or prices of relevant components of food basket(s)

- **Tier I: "Preliminary indication"** of changes in the price and/or supply of the food basket(s) and of its components in the context of bioenergy developments;
- **Tier II: "Causal descriptive assessment"** of the role of bioenergy in the observed changes in price and/or supply;
- **Tier III: "Quantitative assessment"** using approaches such as time-series techniques and Computable General Equilibrium (CGE) or Partial Equilibrium (PE) modelling.

# METHODOLOGIES USED TO COLLECT INDICATOR'S DATA IN GHANA

- ✓ **The keeping of records on the import and export of maize and sorghum**
- ✓ **Survey of food production in all the ten regions of Ghana using representative sample of farmers**
- ✓ **Monthly market surveys on prices of major food crops in major market centres**

- ➢ **Thus, Step 1 of the GBEP methodology has therefore been followed to a great extend.**
- ➢ **However, step 2 of GBEP methodology has not been followed.**

- **Paucity of required data**

- ✓ **Energy costs and their impact on agricultural production and distribution**
- ✓ **shares of main staple crops used for food, feed, fibre and fuel**
- ✓ **household income and expenditure by crop**

# ASSESSMENT OF PROPOSED BASELINE VALUES

## ❑Maize

- **Indicator 10.1: [1,080,056] [tonnes] changes in demand for foodstuffs for food, feed, and fibre**

- **Indicator 10.2: [419,944] [tonnes] changes in import and export of foodstuffs**

- **Indicator 10.3: [1,500,000] [tonnes] changes in agricultural production due to weather conditions**

## ❑Sorghum

- **Indicator 10.1: [123,294 ] [tonnes] changes in demand for foodstuffs for food, feed, and fibre**
- **Indicator 10.2: [287,671] [tonnes] changes in import and export of foodstuffs**
- **Indicator 10.3: [300,000] [tonnes] changes in agricultural production due to weather conditions**

➢ **These baseline values have been proposed based on the per capita consumption of maize and sorghum in Ghana. According to the SRID-MOFA (2009):**

✓ **per capita consumption of maize and sorghum in Ghana is 43.8kg and 5kg per annum respectively**

- ✓ Total consumption of maize per annum in Ghana: 24,658,823 * 43.8kg =108,0056,447.4kg

- ✓ 108,0056,447.4kg converted to tonne = 1,080,056.4474 tonnes consumption per annum (demand for foodstuffs for sub-indicator 10.1)

- Total consumption of sorghum per annum in Ghana: 24,658,823 *5kg =123,294,115kg

- 123,294,115kg converted to tonne = 123,294.115 tonnes consumption per annum (demand for foodstuffs for sub-indicator 10.1)

# CONCLUSION

- ✓ **Baseline figure for sub-indicator 10.2: proposed baseline for sub-indicator 10.3 minus proposed baseline value for sub-indicator 10.1**
- ✓ **Thus, the baseline for sub-indicator 10.2 is proposed because, it is surplus to the nation, and can either be exported or used for bioenergy production**

# THANK YOU