Indicator 10 “Price and supply of a national food basket” - **Social** pillar

KWABENA OTU-DANQUAH
ENERGY COMMISSION, GHANA

DBB Forum Berlin

29 MAY, 2013
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)

- Indicator 10.4: [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)

<table>
<thead>
<tr>
<th>USEFULNESS</th>
<th>AVAILABILITY</th>
<th>QUALITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>The degree to which the data fit the indicator</td>
<td>Sufficiency of the data available</td>
<td>Sufficiency of data quality</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>
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