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Bioenergy and Food
Security Projects

The GBEP Sustainability Indicators and Work in Southeast Asia

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Overview

1. Introduction to GBEP
2. GBEP Sustainability Indicators
3. GBEP- Lessons Learned

Presentation contents



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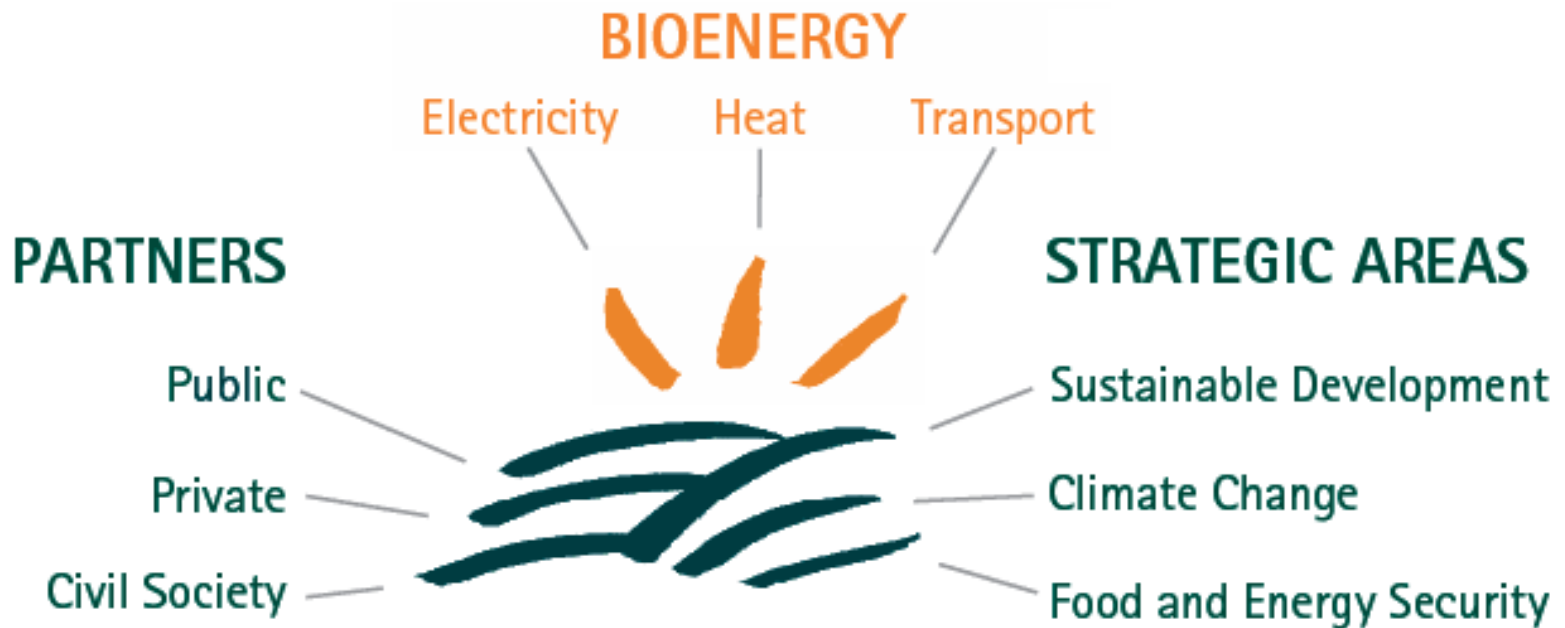
Introduction to GBEP

FAO Regional Office for Asia and the Pacific





THE GLOBAL BIOENERGY PARTNERSHIP



GBEP PARTNERS AND OBSERVERS



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37 Partners (23 governments – 14 organizations)
38 Observers (26 governments – 12 organizations)





GBEP PROGRAMME OF WORK

GBEP is a forum where **voluntary cooperation** works towards consensus amongst its partners in the areas of the **sustainable development of bioenergy** and its contribution to **climate change mitigation**.

GBEP's main priorities:

- 1. Piloting the GBEP Common methodological framework on GHG emission reduction measurement from the use of bioenergy** (Task Force on GHG Methodologies);
- 2. Facilitating the sustainable development of bioenergy** (Task Force on Sustainability);
- 3. Facilitating Capacity Building for Sustainable Bioenergy** (Working Group on Capacity Building for Sustainable Bioenergy);





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GBEP Sustainability Indicators

FAO Regional Office for Asia and the Pacific



24 SUSTAINABILITY INDICATORS

PILLARS		
Environmental	Social	Economic
INDICATORS		
1. Life-cycle GHG emissions	9. Allocation and tenure of land for new bioenergy production	17. Productivity
2. Soil quality	10. Price and supply of a national food basket	18. Net energy balance
3. Harvest levels of wood resources	11. Change in income	19. Gross value added
4. Emissions of non-GHG air pollutants, including air toxics	12. Jobs in the bioenergy sector	20. Change in consumption of fossil fuels and traditional use of biomass
5. Water use and efficiency	13. Change in unpaid time spent by women and children collecting biomass	21. Training and re-qualification of the workforce
6. Water quality	14. Bioenergy used to expand access to modern energy services	22. Energy diversity
7. Biological diversity in the landscape	15. Change in mortality and burden of disease attributable to indoor smoke	23. Infrastructure and logistics for distribution of bioenergy
8. Land use and land-use change related to bioenergy feedstock production	16. Incidence of occupational injury, illness and fatalities	24. Capacity and flexibility of use of bioenergy

INDICATOR 10: PRICE AND SUPPLY OF A NATIONAL FOOD BASKET



Indicator 10 Price and supply of a national food basket

Description:

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, taking into consideration:

- 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;
- changes in agricultural costs from petroleum and other energy prices; and
- the impact of price volatility and price inflation of foodstuffs on the national, regional, and/or household welfare level, as nationally determined.

Measurement unit(s):

Tonnes; USD; national currencies; and percentage



3. INDICATOR 10: Indonesia

FAOSTAT Food Balance Sheet data

	Crop	KCal/Day/ Capita	Percentage of total daily Kcal intake
1	Rice	1259	47.6
2	Maize	259	9.8
3	Vegetable oils	221	8.4
4	Wheat	151	5.7
5	Cassava	126	4.8
6	Sugar	124	4.7
7	Fruits	87	3.3
8	Coconuts	76	2.9
9	Meat	62	2.3
10	Groundnuts	52	2.0
	Grand Total	2646	100

TRIAN DAN
ESIA TENTANG
ASYARAKAT.

*Decree of Ministry of Industry
and Trade of the Republic of
Indonesia: 115/MPP/Kep/2/1998*

1a. National Food Basket

1. Rice

2. Sugar

3. Cooking oil & butter

4. Meat

5. Eggs

6. Milk

7. Maize

8. Kerosene

9. Salt

INDICATOR 10: Indonesia



Methodological approach

Step 1: Determine relevant food basket

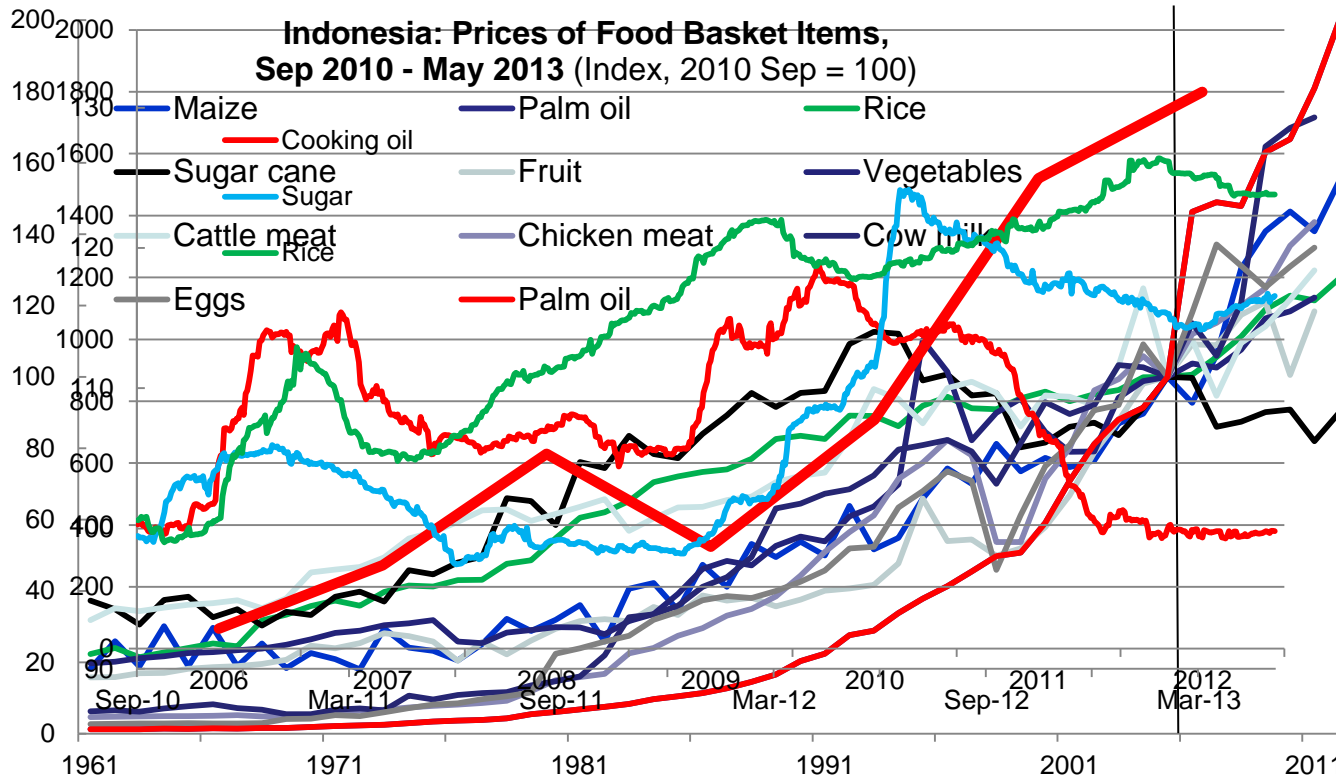
Step 2: Links between bioenergy use/production and changes in supply/
prices of relevant components of food basket(s)

- Tier I: «Preliminary indication»
- Tier II: «Causal Descriptive Assessment»
- Tier III: «Quantitative Assessment»



3. INDICATOR 10: TIER I

Figure 10.3 Biodiesel production in Indonesia from 2006 to 2012 (in Million liters).
Indonesia: Agriculture Production, 1961-2012
 (Index, 2005=100)





INDICATOR 10: Indonesia

Results for the Indonesia case study:

From 2007 to 2012 biodiesel production in Indonesia has not shown major impacts on price and supply of food basket components:

- Domestic prices of rice, wheat and coarse grain remained relatively **unchanged with regard to biodiesel production**;
- Domestic prices of vegetable oil increased by **1.1% as a consequence of biodiesel production**





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GBEP - Lessons Learned



LESSONS LEARNED



Institutional and stakeholder mapping

1. **All** the ministries, agencies, private sector organizations, civil society representatives and academics with a stake in bioenergy around the same table;
2. Critical that the **right** individuals are present **consistently** and that they play an active role throughout the process;
3. Important to understand relationships between different institutions, including potential barriers to **data sharing** and work towards the overcome of these barriers through adequate discussions and agreements;



LESSONS LEARNED

Establishment of multi-stakeholder task force (and allocation and fulfillment of roles)

1. **Changeover of staff** in ministries and industry associations has been a difficulty;
2. Data sharing difficulty: sharing information with **all** stakeholders regularly;
3. **Roles and agreed steps** should be formally recorded with agreed minutes;
4. **Official Letters of Agreement** may be required to gain access to primary information from producers





LESSONS LEARNED

Practicality of the GBEP Indicators

1. *The GBEP indicators and overall approach are suitable for the majority of the contexts studied;*
2. *They provide a useful structure for organizing research and debate;*
3. *Methodological guidance for some indicators needs significant revision and agreement among the stakeholders;*
4. *A participatory approach is required in order to produce the full spectrum monitoring of bioenergy sustainability in the country and share the benefits of this assessment;*
5. *The indicators with the implemented methodologies could be taken to the level of a platform (software) that automatically updates the values each year;*
6. *Sharing of lessons learned and experiences among the GBEP indicator projects around the world is necessary for GBEP to learn how to better adapt these indicators to different national circumstances as well as to understand if methodological adjustments are necessary .*

CONCLUSIONS

Measured over time, the indicators will show progress towards or away from a sustainable development path as determined nationally.

The GBEP Sustainability Indicators provide a benchmark for policy effectiveness.

The GBEP Indicators can help monitor policies, while BEFS can help develop sustainable bioenergy policies.





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Thank you

