AGRICULTURE'S ROLE IN ACHIEVING SUSTAINABLE DEVELOPMENT GOALS

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DISCUSSION TOPICS

1. Introduction:
   - Sustainable agriculture (development)
   - The SDGs
2. Roles of agriculture:
   - Identification
   - Connection with the SDGs
3. Indonesia (MOA) perspective, plan and actions
4. Closing notes

TOPIC 1. Introduction

Sustainable agriculture

- *Document CL 94/6 94th Session of the FAO Council ,1988):*
  - Sustainable development is the management and conservation of the natural resource base, and the orientation of technological and institutional change in such a manner as to ensure the attainment and continued satisfaction of human needs for present and future generations.
  - Such sustainable (agricultural) development conserves land, water, plant and animal genetic resources, is environmentally non-degrading, technically appropriate, economically viable and socially acceptable.
- **Alternatif definition:** Sustainable agriculture is the use of farming systems and practices which maintain or enhance
  1. The economic viability of agricultural production;
  2. The natural resource base (agroecosystem); and
  3. Socio-ecological systems which are influenced by agricultural activities.

Resilience of food production and agriculture systems and the sustainable use of biodiversity and genetic

17 SDGs


1 NO POVERTY
2 ZERO HUNGER
3 GOOD HEALTH AND WELL-BEING
4 QUALITY EDUCATION
5 GENDER EQUALITY
6 CLEAN WATER AND SANITATION
7 AFFORDABLE AND CLEAN ENERGY
8 DECENT WORK AND ECONOMIC GROWTH
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
10 REDUCED INEQUALITIES
11 SUSTAINABLE CITIES AND COMMUNITIES
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
13 CLIMATE ACTION
14 LIFE BELOW WATER
15 LIFE ON LAND
16 PEACE, JUSTICE AND STRONG INSTITUTIONS
17 PARTNERSHIPS FOR THE GOALS
SUSTAINABLE DEVELOPMENT GOALS

INDONESIA POSITION

- Committed to pursue the SDGs
- Implemented through intersectoral and participatory approach
- Coordinated by The Ministry of National Planning (Ibu Prof. Armida Alisjahbana was the champion)

TOPIC 2: The roles of Agriculture

SDG 2: End hunger, achieve food security and improved nutrition, and promote sustainable agriculture

2.1 by 2030 end hunger and ensure access by all people, in particular the poor and people in vulnerable situations including infants, to safe, nutritious and sufficient food all year round

2.2 by 2030 end all forms of malnutrition, including achieving by 2025 the internationally agreed targets on stunting and wasting in children under five years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women, and older persons

2.3 by 2030 double the agricultural productivity and the incomes of small-scale food producers, particularly women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets, and opportunities for value addition and non-farm employment

2.4 by 2030 ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters, and that progressively improve land and soil quality

2.5 by 2020 maintain genetic diversity of seeds, cultivated plants, farmed and domesticated animals and their related wild species, including through soundly managed and diversified seed and plant banks at national, regional and international levels, and ensure access to and fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge as internationally agreed

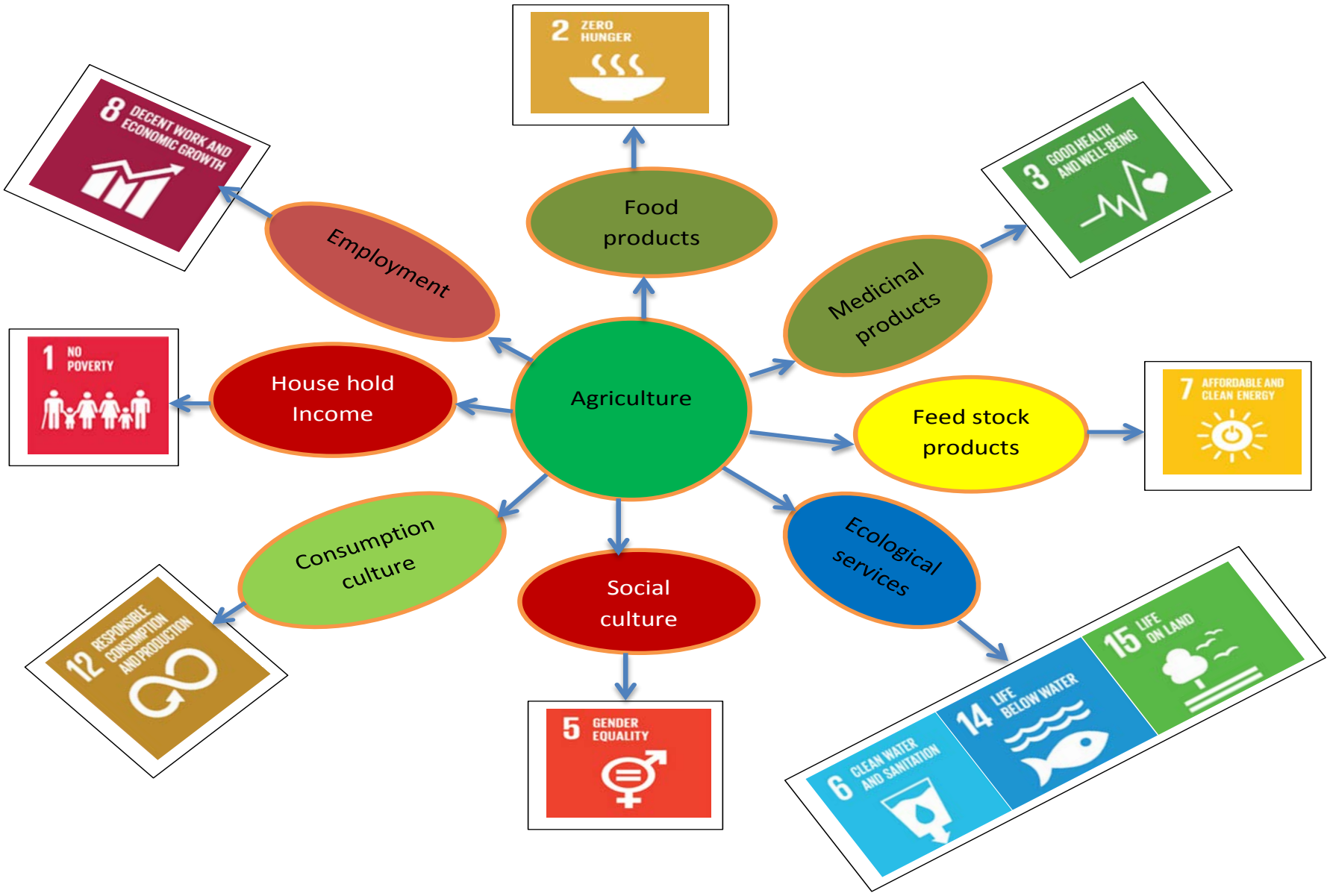
SDG2: The most directly related to agriculture

- Specifically states the role of agriculture:
  - Promote sustainable agriculture
  - Resilience of food production systems and the sustainable use of biodiversity and genetic resources.
- Address the crucial roles in enhancing food security:
  - Access dimension of food security,
  - All forms of malnutrition
  - Productivity and incomes of small-scale food producers
- Address Roles in acheving other SDG targets: rural poverty, land tenure, water resources governance, food losses and waste, oceans and aquatic resources, forests, mountains, biodiversity and land and soils

THE ROLES OF (SUSTAINABLE) AGRICULTURE

- Direct roles:
  1. Food production:
  2. Medicinal materials productions
  3. Feed stock production
  4. Ecological services
  5. Employment creation
  6. Income creation
  7. Consumption culture
  8. Indigenous culture: moral economy, preserving nature, etc
- Indirect roles:
  1. Macroeconomic economic growth
  2. Economic resilience (stability):
  3. Enabling transformation (industrialization, urbanization)

ROLES SUSTAINABLE AGRICULTURE IN ACHIEVING SDGs



TOPIC 3: Indonesia (MOA) perspective, plan and actions

MoA Policy Direction

- Achieving food sovereignty: SDG 2
- Increasing farmers welfare: SDG 1
- Supporting economic transformation:
  - Promote industrialization for high value addition:
    - Provision of feed stock for manufacturing
    - Promoting bioenergy production
  - Increase competitiveness: Healthy trade balance
  - Price stabilization: Managing the volatile food prices
- Through promoting sustainable agriculture

CONSISTENT WITH THE SDGs

THE APPROACH

Sustainable Agriculture-(Agro)Bioindustry:

- Basic characteristic: circular economy or closed bio-geo-physical-chemical cycle
- Basic components:
  1. (Intensive) ecological farming
  2. Ecological biorefinery
- Territorial approach: Integrated ecological farming-ecological (agro)biorefinery within a territory

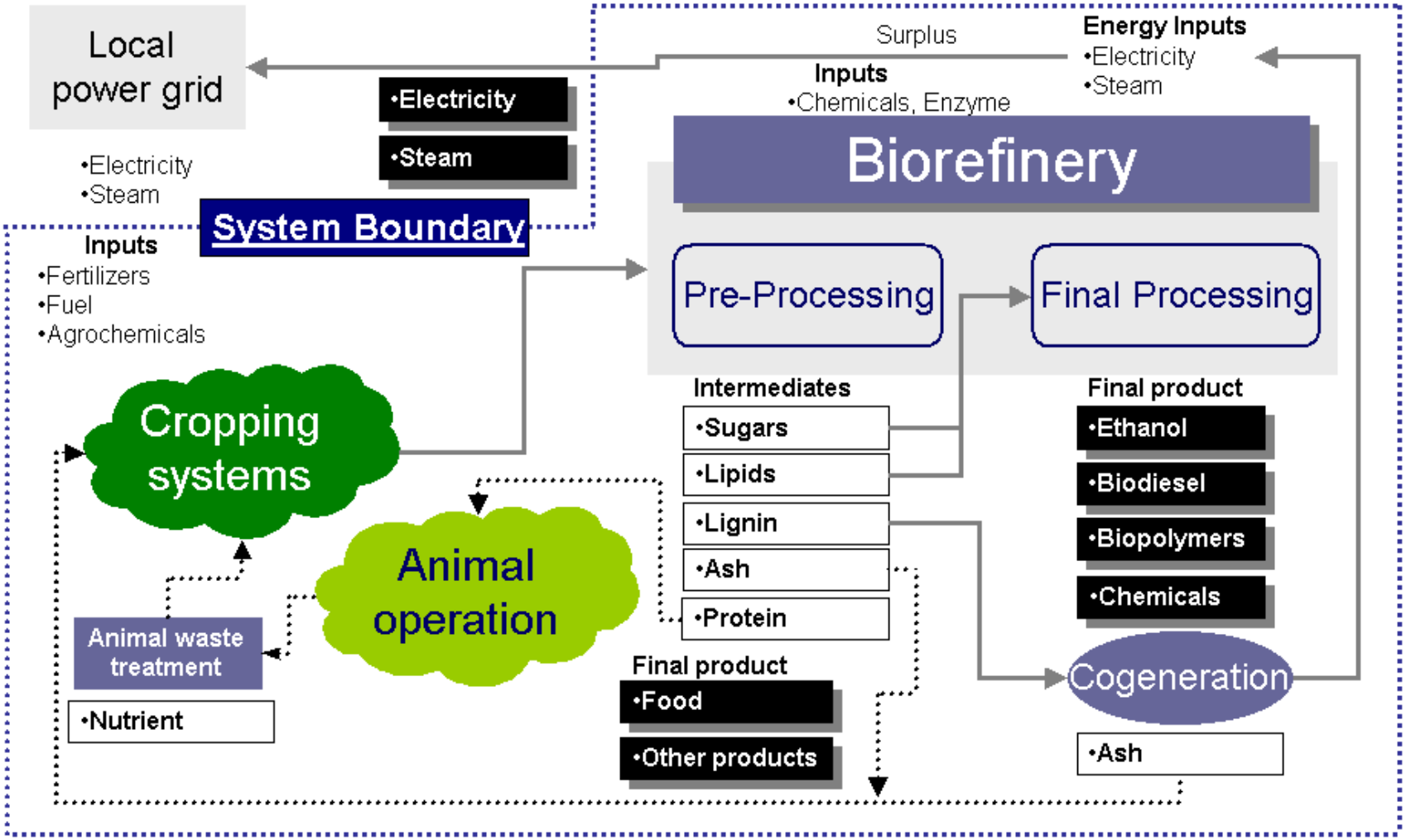
HOW DO WE DO IT?

- Prepare a white book: **Master Plan for Agricultural Development 2015-2045**
- Building the foundation: **Research and development**
- Action programs

Master Plan for Agricultural Development 2015-2045

- Outlines the concept of sustainable agriculture (agro) bio industry
- National and agricultural development paradigm and strategies:
  - ✓ Agricultural positioning in the national economic transformation
  - ✓ Agriculture for development paradigm
  - ✓ Development of sustainable agriculture-bioindustry
- Basis for medium term development plan
- A tool for mainstreaming the sustainable agriculture-bioindustry perspective :
  - ✓ A reference for agricultural students
  - ✓ General public reference

Conceptual Design Of the Integrated Agriculture Bio-industry



RESEARCH AND DEVELOPMENT PROGRAMS (1)

- Breeding: i.e.
  - ✓ Climate adaptive (water tolerant) varieties
  - ✓ Energy dedicated varieties
- Agro climate and water management: i.e.
  - ✓ Climate forecasting capability
  - ✓ Planting calendar
  - ✓ Water harvesting and saving technologies
- Fertilizer and soil management: i.e.
  - ✓ Organic fertilizer processing technologies
  - ✓ Minimum tillage technologies

RESEARCH AND DEVELOPMENT PROGRAMS (2)

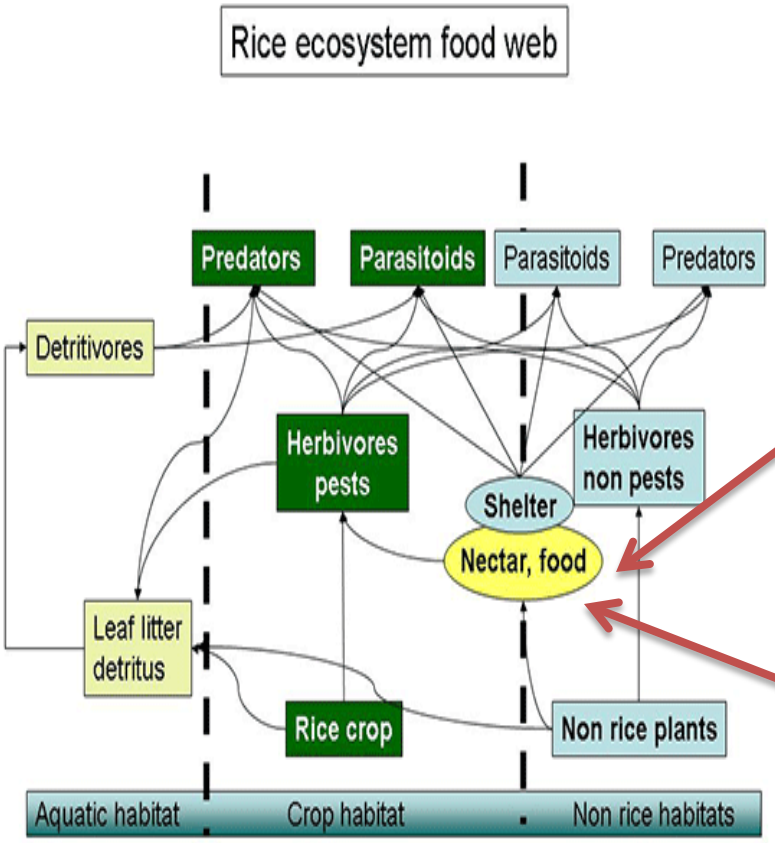
- Agronomy: i.e.
  - ✓ Ecological engineering farming practices
  - ✓ Local specific integrated crop-livestock-energy-aquaculture farming system
  - ✓ Mixed and sequential cropping pattern
  - ✓ Conservation farming systems
- Biomass processing (agro-bio refinery)
  - ✓ Agro -bio energy processing
  - ✓ Agro-bio product processing
- Integrated agriculture-bio industry
  - ✓ Commercial plat demonstration
  - ✓ Cluster pilot demonstration area

ON-GOING ACTION PROGRAMS: Examples

- Climate smart agriculture:
- Pilot model development of Sustainable integrated agriculture bioindustry: 33 provinces
- Science and techno park development program
- Promotion of integrated crop livestock systems
- Organic Farming Village program: at least 1,000 villages by 2019

Small Rice Farming Example: Ecological Engineering Pest Control

Rice farming with refugia



Best practice large company: Great Giant Pine Apple , Lampung

A. Energy & Environmental Sustainability Programs

- Utilization of waste treatment to capture biogas as source of renewable energy
- CDM project as a part of company role to reduce green house gas emission
- Energy audit to control energy consumption
- Controlling and evaluating of corporate practice to meet or comply with environmental legislation and requirements
- Chemical & hazardous waste management
- ISO 14001 implementation, PROPER, AMDAL, ISO 50001
- Carbon footprint

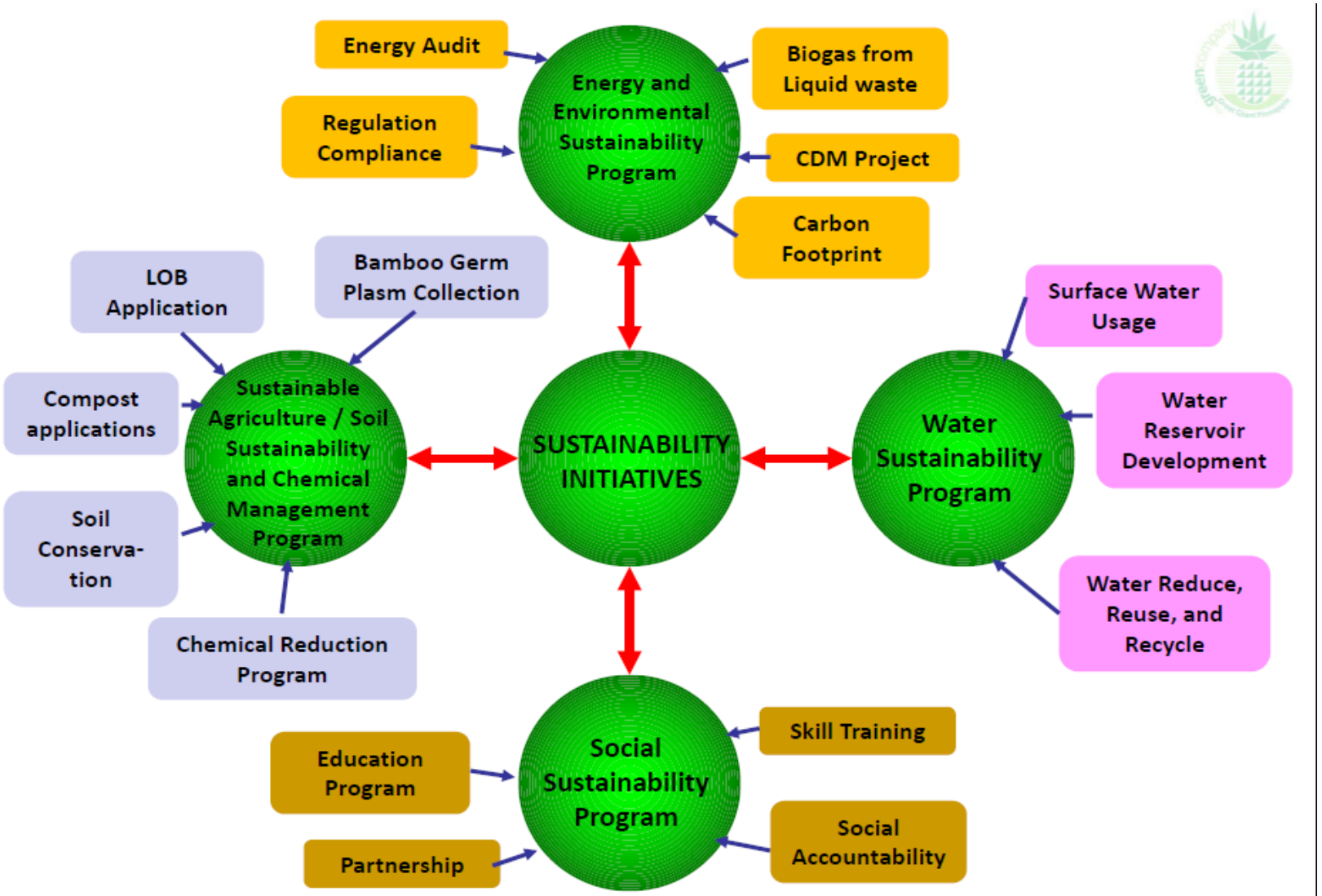
B. Sustainable Agriculture / Soil Sustainability Programs

- Bio-liquid Fertilizer
- Vermicompost
- Humic Acid
- Soil conservation
- Bamboo germ plasm collection

C. Water Sustainability Programs

- Reservoir development for water storage to replace some of deep wells (utilization of surface water)
- Water management : study of water quality and audit of water consumption (3R : reduce, reuse, recycle)
- Water conservation to improve water reserve and water biota

Best practice example: Integrated corporation



THANK YOU VERY MUCH