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 Eclósio

 LOUVAIN
COOPERATION

AGROECOLOGY & SUSTAINABLE FOOD SYSTEMS:

AN OVERVIEW FROM A LOCAL CONTEXT

CONTENT

1. Overview
2. Agroecology (AE) Practices in Cambodia
3. AE Impacts
4. AE Constraints
5. Agricultural Production



1. OVERVIEW

- ▶ AE is a key part of the global response to the climate instability, which offers unique approaches to meeting significant increases in our food needs of the future.
- ▶ AE is an integrated approach that simultaneously applies ecological and social concepts and principles to the design and management of food and agricultural systems.
- ▶ Many integrated approaches could be adapted to local contexts.



2. AGROECOLOGY PRACTICES IN CAMBODIA

- ▶ Organic Agriculture
- ▶ Conservation Agriculture
- ▶ Integrated Pest Management (IPM)
- ▶ Integrated Farming
- ▶ Agroforestry
- ▶ System of Rice Intensification (SRI)
- ▶ Rice-fish culture...



3. AGROECOLOGICAL IMPACTS

SECTION 3: THE POLITICS OF KNOWLEDGE

TABLE 1: CATEGORIES OF IMPACTS IN AGROECOLOGICAL SYSTEMS
CENTRO LATINOAMERICANO DE INVESTIGACIONES AGROECOLOGICAS (CELIA)

ENVIRONMENT	<p>BIODIVERSITY</p> <ul style="list-style-type: none"> Ecological restoration of degraded landscapes Wildlife conservation and enhancement Conservation and enhancement of beneficial fauna and flora for agriculture Recovery and conservation of native seeds Promotion of ecosystem services (carbon sequestration, pollination, biological pest control, etc.) <p>LAND/SOILS</p> <ul style="list-style-type: none"> Soil regeneration and conservation Protection against degradation (erosion, contamination, etc.) Improvement of soil quality and fertility (increase of organic matter and biological activity, etc.) <p>WATER</p> <ul style="list-style-type: none"> Water conservation and efficient use Water harvesting and reuse Water quality improvement <p>PLANT HEALTH</p> <ul style="list-style-type: none"> Reduced disease incidence and damage Increased biological control of pathogens by antagonists Lower insect pest populations and less crop damage Increased presence of natural enemies for biological control of pests Less use of chemical or organic pesticides (botanical, microbial, etc.) Weed suppression, less use of herbicides <p>PRODUCTIVITY</p> <ul style="list-style-type: none"> Increasing total farm production Stabilization of specific crop yields Over production in polycultures (LER)
RESILIENCE	<ul style="list-style-type: none"> Adaptation to climate change Increased resilience to climate change Socioeconomic and health/nutrition
NUTRITION	<ul style="list-style-type: none"> More diverse production with higher nutritional output Increased dietary diversity

SECTION 3: THE POLITICS OF KNOWLEDGE

CATEGORIES OF IMPACTS OF AGROECOLOGICAL SYSTEMS

NUTRITION	<ul style="list-style-type: none"> Increased access of rural households to diverse and healthy foods Contribution to urban food security
HUMAN HEALTH	<ul style="list-style-type: none"> Less exposure to agrotoxins Increased immunity derived from higher consumption of vegetables and fruits Lower incidence of diseases Better development (growth and lack of deficiencies) of children
SOCIAL	<ul style="list-style-type: none"> Greater community cohesion Increased cooperation and solidarity Increased capacity-building Alliances with consumer groups Increased participation and empowerment of youth and women
ECONOMIC	<ul style="list-style-type: none"> Reduced technological dependence Lower production costs Participation in alternative markets Access to fair prices in local/regional markets Reduced indebtedness Employment generation Improved income
CULTURAL	<ul style="list-style-type: none"> Maintain elements of traditional agriculture Use of traditional knowledge and practices Greater territorial rootedness Pride in cultural identity

ECONOMIC

- Reduced technological dependence
- Lower production costs
- Participation in alternative markets
- Access to fair prices in local/regional markets
- Reduced indebtedness
- Employment generation
- Improved income

4. WILL AE PERFORM WELL IN CAMBODIAN CONTEXT?

- ▶ Increasing population – total population was estimated to be approximately **17 million** in 2021 (The World Bank, 2022), and it is estimated to increase to **20 million** in 2030 (The UN, 2022);
- ▶ Increasing agricultural land – total agricultural land in 2020 was **57,890 sq.km** (The World Bank, 2022);
- ▶ Most farmers are small-scale with low technical adaptation;
- ▶ High seasonal migration rate;



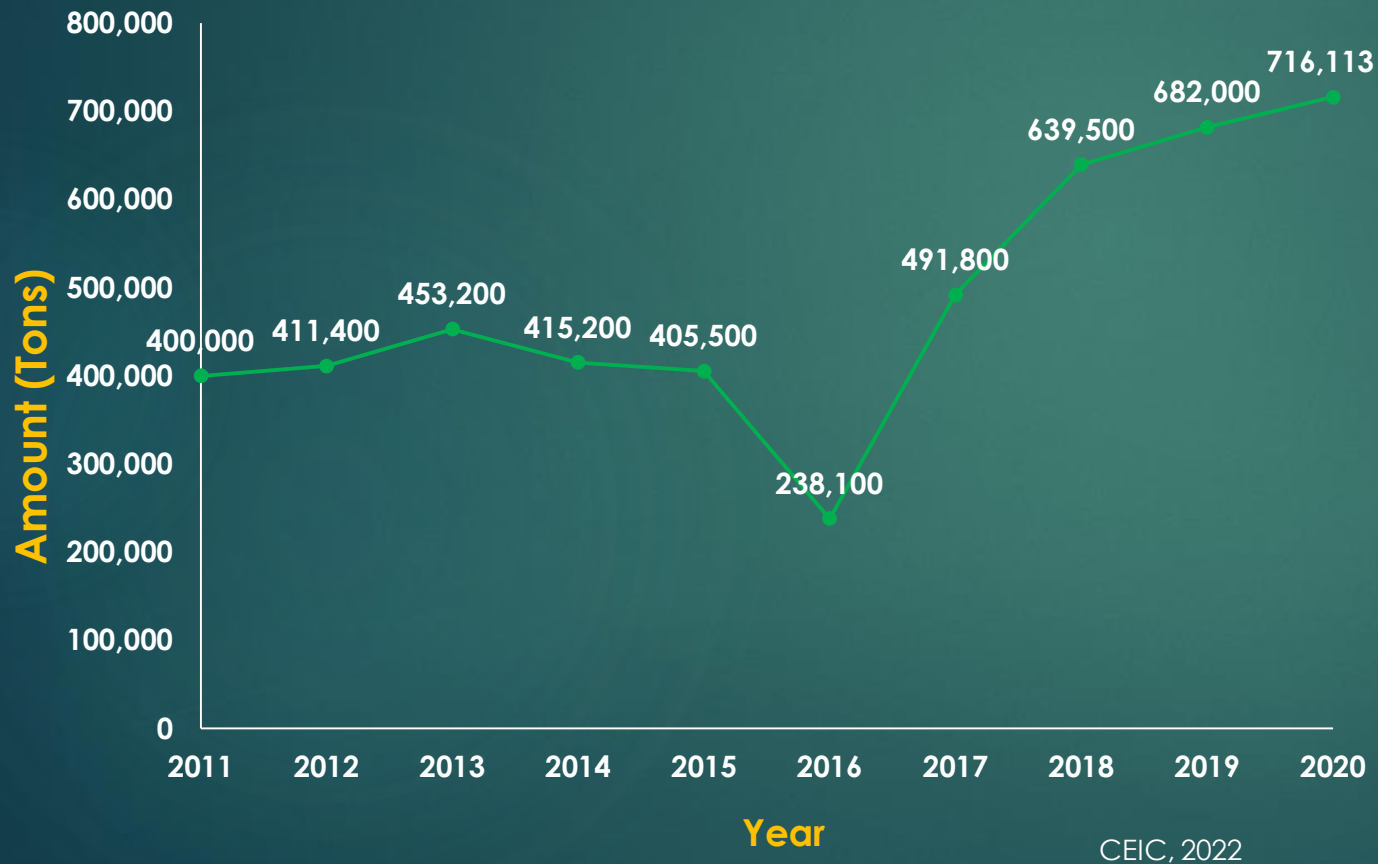
4. WILL AE DO GREAT IN CAMBODIAN CONTEXT?

- ▶ Susceptible-to-climate-change agriculture;
- ▶ Limited access to markets and poorly developed fair trade channels;
- ▶ Limited participation and recognition;
- ▶ Fragmented promotion movement;
- ▶ Low access to finance...



5. DOMESTIC AGRICULTURAL PRODUCTION

Domestic Vegetable Production

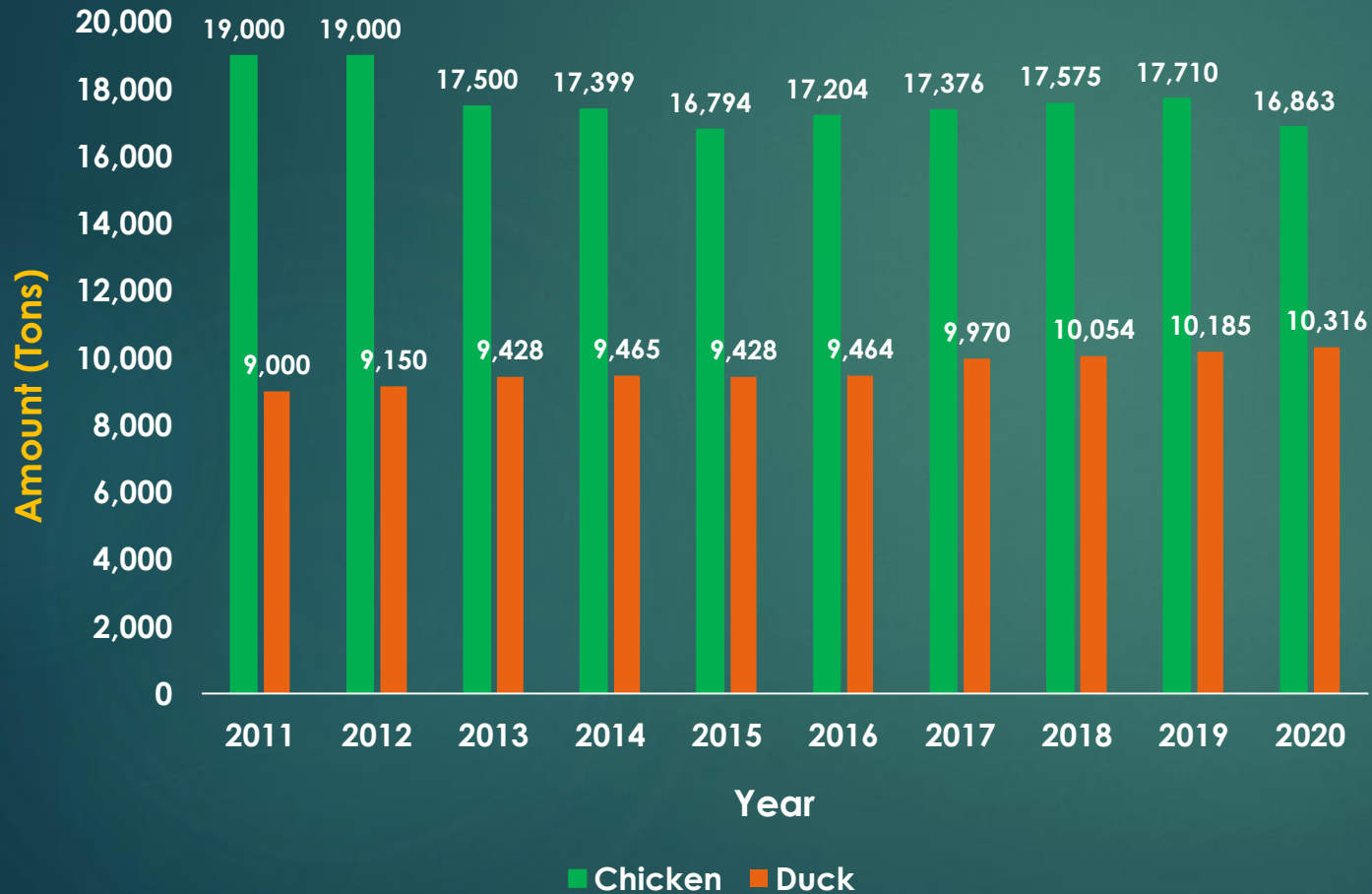


Vegetables

- ▶ Domestic vegetable production was estimated to **716,000 tons** in 2020 with an average annual increase of 5 or 6% since 2018 (CEIC, 2022).
- ▶ Vegetable consumption is estimated to **1,000,000 tons** in 2019 (WFP, 2020), and it is expected to increase every year.
- ▶ Cambodia imports around **32%** of vegetables from other countries.

5. DOMESTIC AGRICULTURAL PRODUCTION (CONT.)

Poultry Production



FAOSTAT, 2022

Poultry

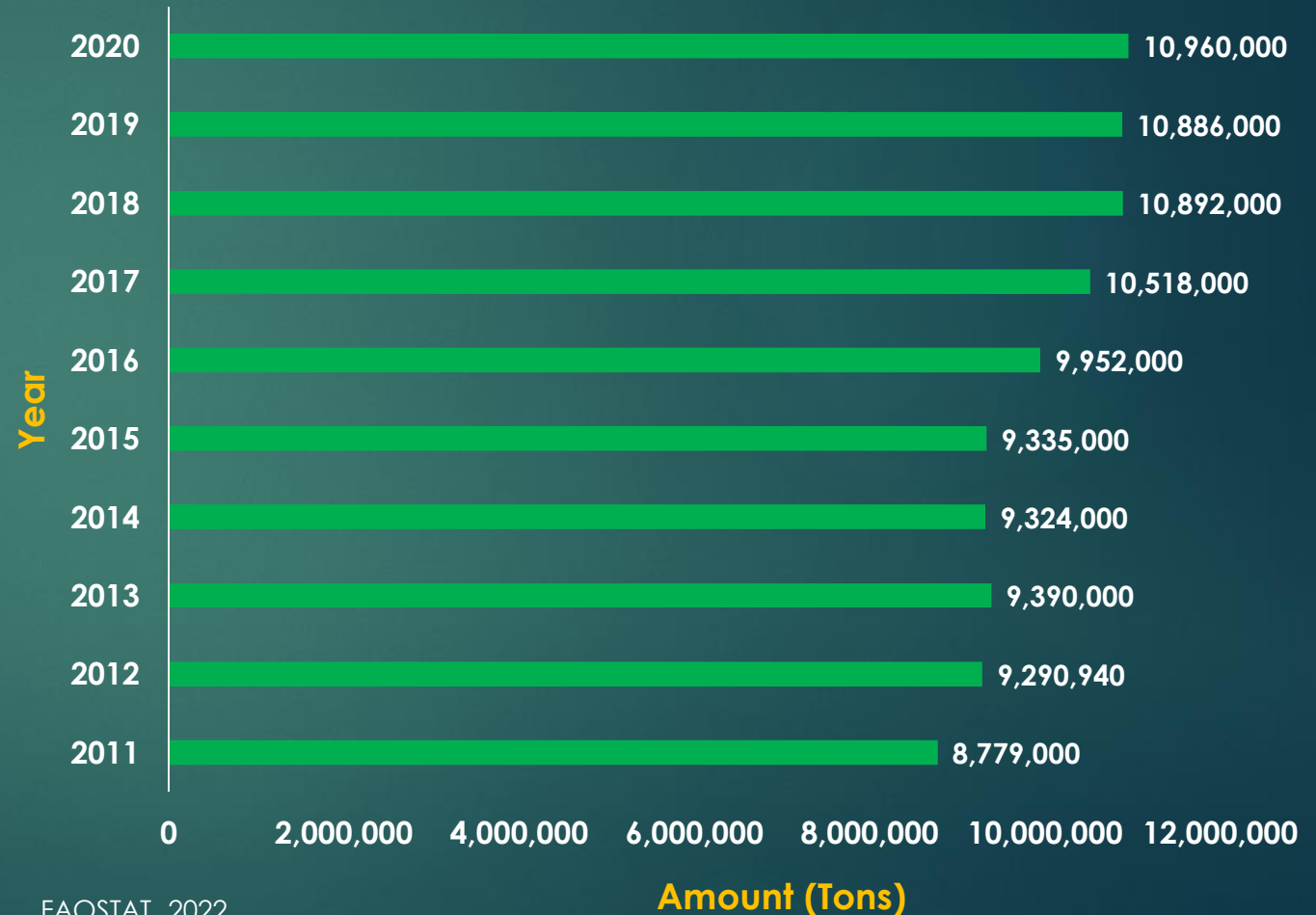
- ▶ Poultry meat mean consumption per capita reached **2.15 kg** in 2019.
- ▶ The total annual consumption was estimated to be approximately **35,446 Tons**, while the production quantity stood at **27,895 tons**, leading to 21% of poultry being imported.
- ▶ Most production practices are subsistent.

5. DOMESTIC AGRICULTURAL PRODUCTION (CONT.)

Rice

- ▶ Paddy production in Cambodia has increased from **8 million tons** in 2012 to **10.9 million tons** in 2020.
- ▶ Rice accounts for over **70%** of Cambodia's agricultural cropped areas and about **50%** of the agriculture sector output.
- ▶ Most rice productions are intensive practices for commercial purposes.

Domestic Paddy Production



MAIN QUESTIONS TO ADDRESS

1

Can agroecology sustainably feed a growing population in Cambodia?

2

Could it be economically viable?



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THANK YOU

