



**មហាវិទ្យាល័យកសិកម្ម
និងកែច្នៃអាហារ**

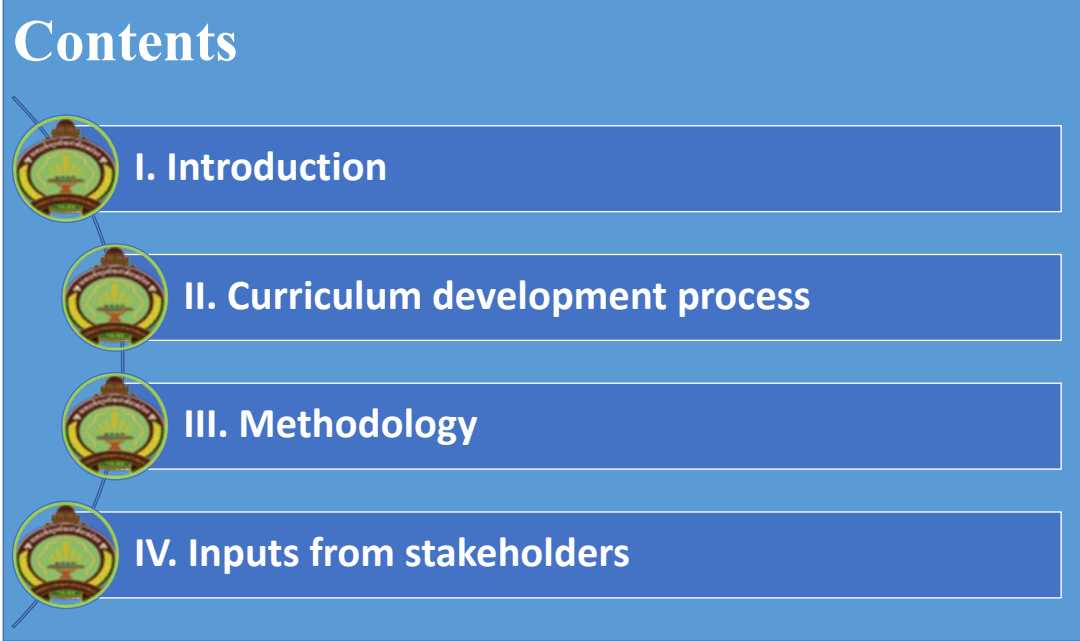
FACULTY OF AGRICULTURE
AND FOOD PROCESSING

Bachelor Degree
Agroecology

Feedback from Stakeholders

Ministry of Agriculture, Forestry and Fisheries | WORLD BANK | NUBB | THE UNIVERSITY OF SYDNEY

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- I. Introduction
- II. Curriculum development process
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- IV. Inputs from stakeholders

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I. Introduction

- Agriculture contributed around 60% of poverty reduction from 50% in 2007 to 21% in 2011 and it continued to do so by 44.7% to poverty reduction from 18.9% in 2012 to 9.4% in 2017” (World Bank’s Study as cited in Lao, 2019).
- Climate change (Increase temperature, pest, disease, drought, flooding and low productivity) are be concerned in agricultural sector of Cambodia (Peuo et al., 2020)
- Agricultural growth slowed down to below 2% in 2013-2014. At least 5% agricultural growth over the next 15 years is needed to keep real farm incomes growing (Eliste, 2019)
- For sustainable food, economy and the environment, it is necessary to understand and think about agroecology (FAO, 2018)
- Government Policy 2030, Develop the country as a green community and a high middle income country (4036 – 12475\$) (Royal of Cambodia, 2018)

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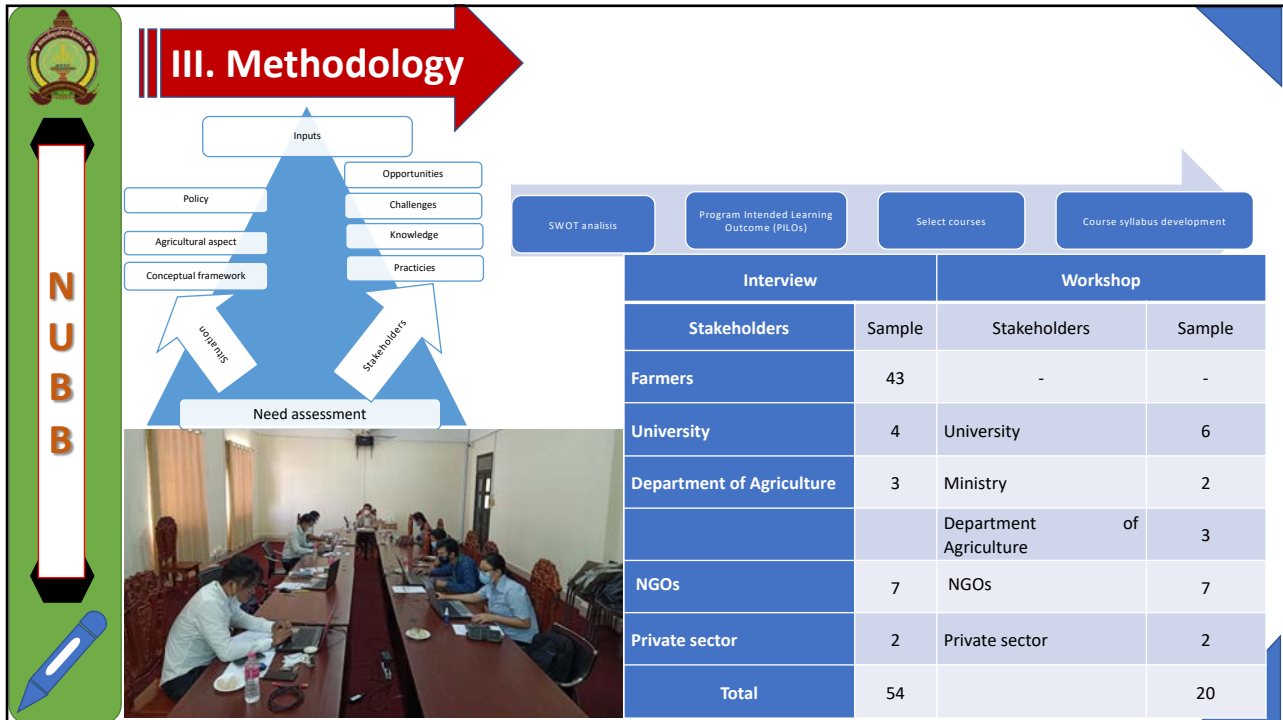
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II. Curriculum development process

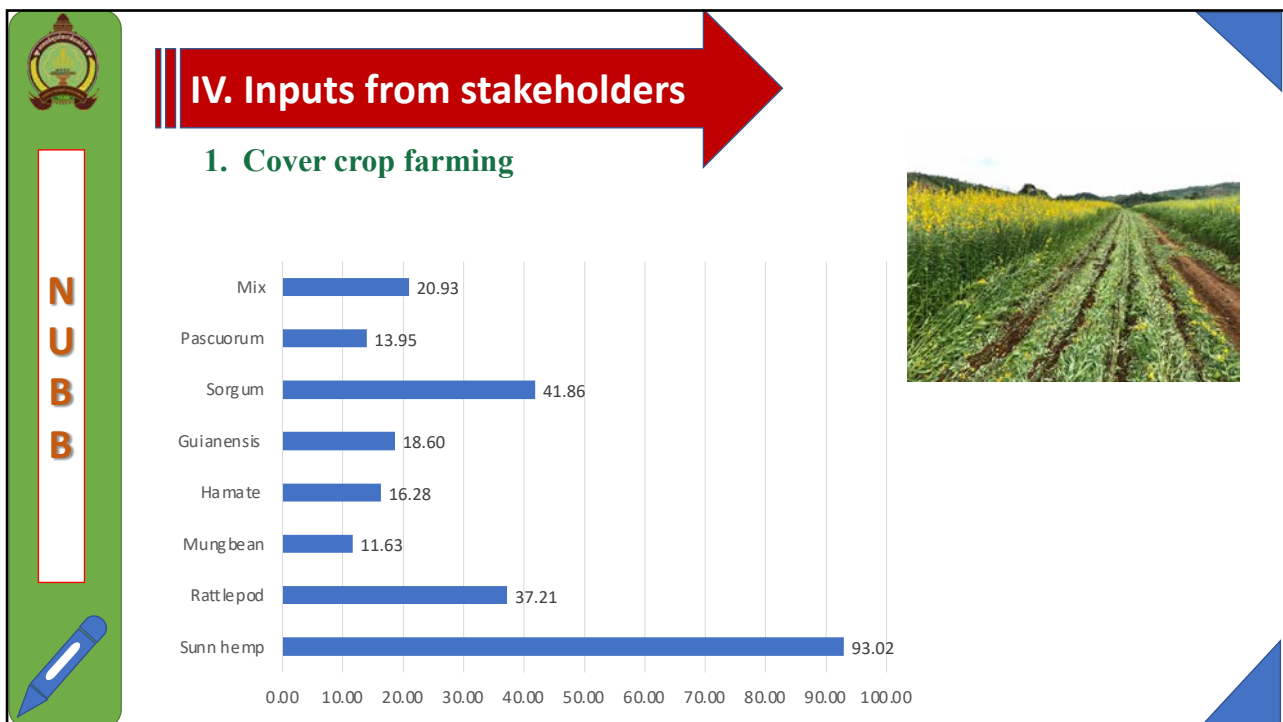
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graph TD
    A[Establish a committee / technical curriculum development] --> B[Program Objectives  
- Policy  
- Vision and Mission  
- Needs of stakeholders]
    B --> C[Graduate Qualifications]
    C --> D[Program Indented Learning Outcome (PILOs)]
    D --> E[Program Indented Learning Outcome (PILOs)]
    E --> F[Select courses to support (PILOs)]
    F --> G[Course Outline]
    G --> H[Select handbooks]
    H --> I[Curriculum Implementation]
    I --> J[Curriculum evaluation]
  
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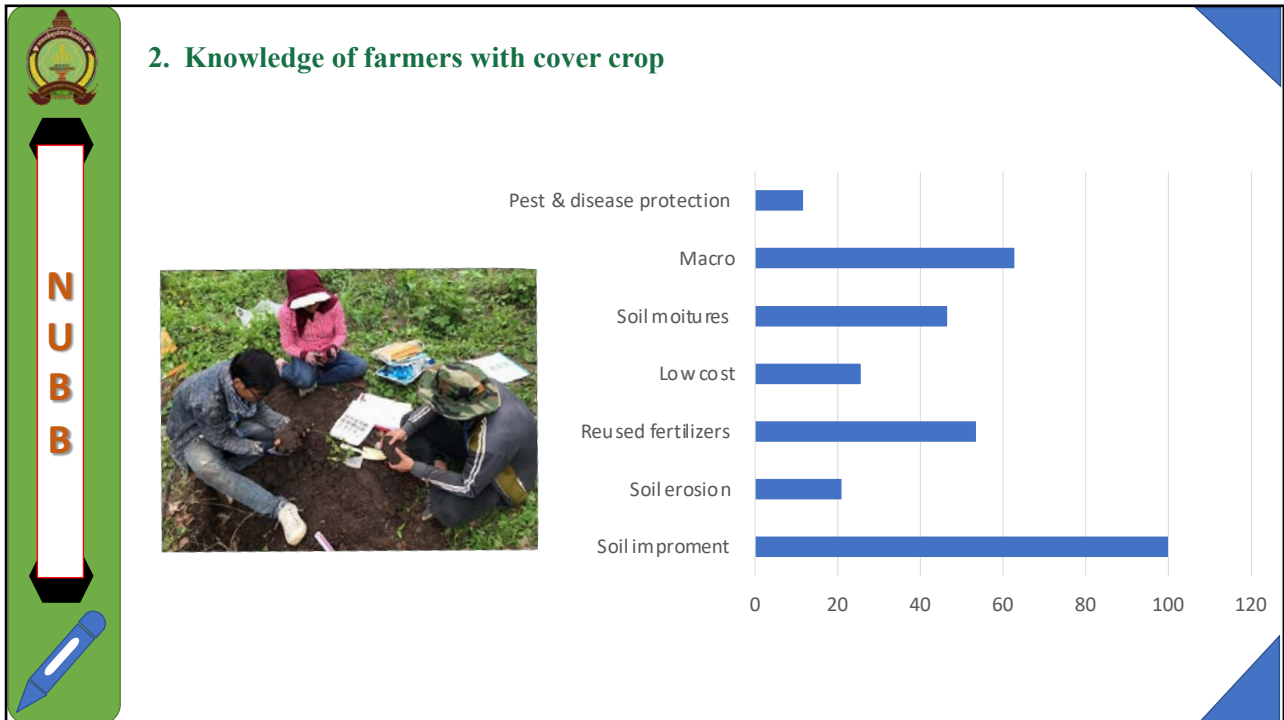
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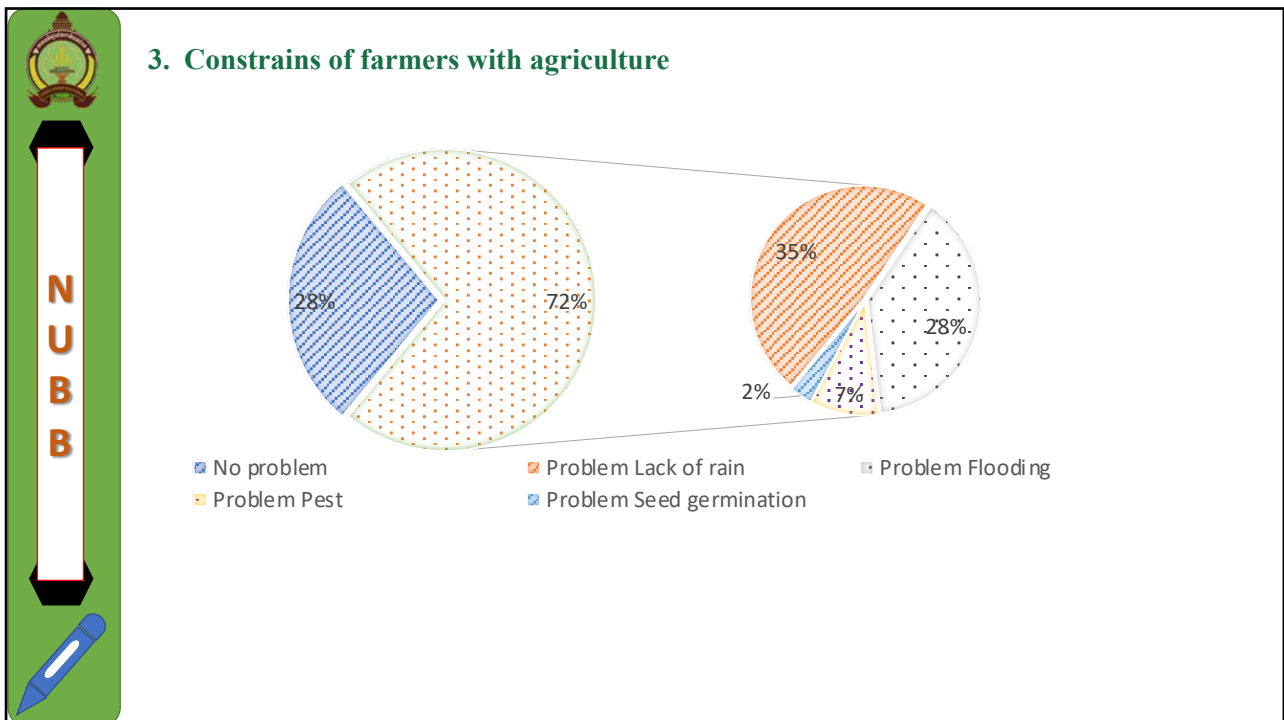
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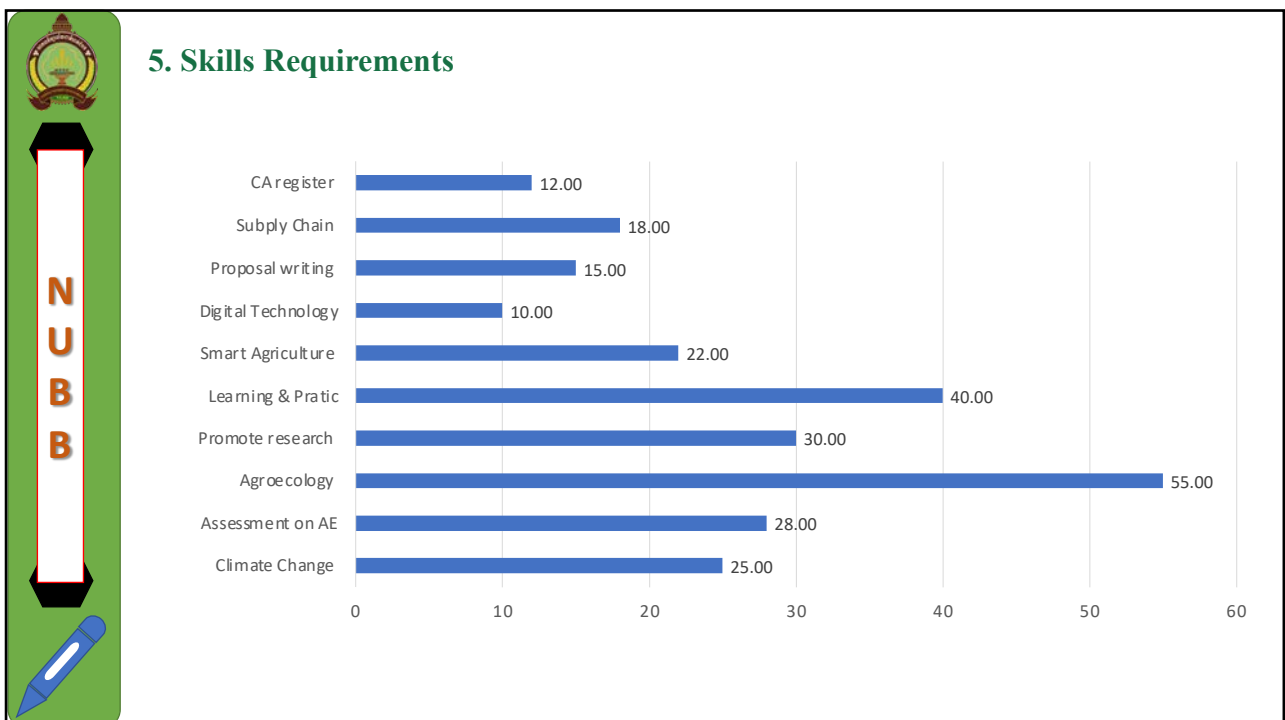


4. Need from stakeholders

- More and more project sponsors and implementers
- System and Agricultural Commodity standards
- Sustainable farming
- Smart farming
- Problem solving skill
- Project management
- Team work



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5. Feedback from stakeholders from workshop

5.1 Royal University of Agriculture (RUA)

Challenges and Opportunities

- Currently needs: more and more project sponsors and implementers
- Less expertise or deeply understand in this area
- Not actual encouragement from institution to work on this area yet



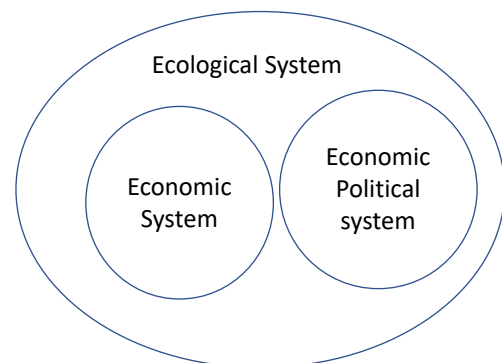
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5.2 Royal University of PhnomPhen (RUPP)

Needs and Challenges

- The number of students enroll in field of natural resources management and agricultural related field still limited.
- The students enroll more in economic and community development.
- Idea: to link community services, teaching and research.
- Limited link with practice due to limited resources.

Agro-ecology is suitable discipline for Cambodia to have ecological friendly agriculture



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5.3 UNIVERSITY OF HENG SAMRIN THBONGKMUM(USHT)

Opportunity and Challenges

- Create the program to improve income generation link with curriculum program
- Low investment program and cooperative
- Agricultural land is more eroded and degraded



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5.4 NATIONAL MEANCHEY UNIVERSITY (NMU)

Challenges

- Not enough lecturers (Veterinarians and Agricultural machinery)
- laboratory equipment is limited
- Lack of laboratory staff and technicians
- Reorganize the laboratory
- Dean and some teachers do not fulfill their roles and responsibilities
- Teachers are not paid overtime




Development plan

- Develop curriculum to meet market needs
- Strengthen staff and teacher management
- Set up the laboratory on a regular basis
- Develop the capacity of teachers to be qualified
- Arrange internships for students
- Enhancing national and international relations
- Outreach for students to learn agricultural skills
- Develop research projects and encourage lecturers to research



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5.5 SVAY RIENG UNIVERSITY (SRU)

Challenges


- Climate change (drought & Flooding)
- Farmers low education
- Lack of labor to support small household in agriculture
- Input cost is high, but low productivity
- Marketing not stable
- Post-harvest techniques are still limited
- Crop product quality does not meet market standards
- Agricultural value chain are not yet good
- Use more pesticides and chemical fertilizers

Development plan

- Increase agricultural productivity, agricultural diversification, competition and agricultural commercialization
- Improve management and development of land, forest and fishery resources
- To contribute to agricultural growth (3-5% per year)




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5.6 INSTITUTE OF TECHNOLOGY OF CAMBODIA (ITC)


Need

- Sustainable farming
- Smart farming
- Problem solving skill
- Project management
- Team work



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5.7 SiemReap Provincial Department of Agriculture Forestry and Fishery

Challenges

- Soil degradation (Sand and low fertilizer)
- Some areas are still burning after harvest
- Climate change (floods, droughts, increase pests, diseases & temperature)
- Fertilizers and pesticides on agricultural not allow technical
- Lack of irrigation water system, especially in the dry season
- Lack of waste management from livestock farms
- Deforestation for agriculture farming
- Some aquaculture conservation areas have very shallow depths in the dry season

Development plan

- Improve agricultural productivity,
- Improve Agricultural Value Chain
- Integrated Pest Control (IPM)
- Promote agricultural crop diversification (crop rotation, cropping system,
- System and Agricultural Commodity standards
- Research and apply new techniques to adapted with climate change
- Investigate and find illegal pesticides that affect environmental health
- Strengthen rubber plantation community (instead of forest)

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5.8 Battambang Provincial department of Agriculture Forestry & Fisheries

Challenges

- Veterinary agencies are declining
- New infectious diseases from neighboring countries (new diseases never encountered, lack of vaccines and medicines)
- Stakeholders, a small number of breeders do not yet understand the rules and regulations.

Development plan

- Promote new agricultural techniques that are resistant to climate change.
- Promote agricultural value chain.
- Continue to promote cooperation between the public, private, producers or communities and development partners.
- Collaborate to promote Good Agricultural Practices (GAP).

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5.9 Pailin Provincial department of Agriculture Forestry & Fisheries

Challenges

- Inputs cost are high and low productivity
- Agricultural Value Chain not well
- Climate Change and technical are be concerned
- Yield of Maize cassava are decline over years
- System and Agricultural Commodity standards are limited



Development plan

- Promote new agricultural techniques that are resistant to climate change
- Promote agricultural value chain
- Continue to promote cooperation between the public, private, producers or communities and development partners
- Promote Good Agricultural Practices (GAP)
- Promote rubber trees (long-term crops) and annual crops through agricultural diversification to improve environment
- Promote cattle farming
- Encourage investment in agricultural processing factories on longan and mango

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5.10 Ministry of Agriculture Forestry & Fisheries

Challenges


- Productivity and Marketing
- Infrastructure and Logistics
- Agricultural Technology and Research Innovation
- Loss of biodiversity
- Human Resources



Development plan

- Boost rice production, horticulture and industrial crops
- Promote rubber production
- Promote animal welfare and animal production
- Promote fisheries resource management and aquaculture development
- Promote the management and development of forest and wildlife resources


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5.11 Ministry of Environments

Challenges

- Salty in the rice fields
- Climate change
- Lack of irrigation system
- System and Agricultural Commodity standards
- Agricultural waste management
- Deforestation for farming



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5.12 Professional for Fair Development (GRET)

Challenge

- Lack of AE products market and value support from consumers
- Limited number of farmers adopting AE techniques
- Limit of promotion and awareness raising to consumers at national level) + limited recognition of the PGS to certify the quality of the products
- Competition with imported products at lower cost than local products






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5.13 MADDOX JOLIE-PITT FOUNDATION

Challenges


- Source of water from Stung Sangke revers
- Natural Resources(Diversity, Wildlife ...)
- Fertile soil for crops - agriculture, agro-industry
- Eco-tourism




Development plan

- Farmers use more chemical fertilizers than organic fertilizers, which damages soil and water quality, especially Stung Sangke water
- Land grabbing and deforestation, wildlife hunting
- Erosion into rivers, which degrades soil and water quality, makes rivers and streams shallower and more prone to flooding.
- Simultaneous and repetitive cropping
- Market demand


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5.14 Agrisud International cambodia



Challenge

Aro-environment:

- Climate change (Increase drought, floods, pests)
- Erosion of ecosystems (Fertilizer is declines , Pesticide herbicide and chimecal fertilizers ...)
- Lack of techniques to resilience with climate change (Vegetable crops, fruit trees)

Socio-Economic:

- Markets of vegetables, fruits and meat are affected by imports from neighboring countries
- Management of Agricultural production is still limited
- Structure and management of farmer groups / farming communities remains low
- Decreased cultivated area (due to expansion of urbanization)

Development plan

1. Provide technical support to smallholder farmers on agricultural value chain to solve problems
 - Strengthen agricultural production by adapting to climate change
 - Conservation on natural resources: water sources, forests, landscapes, biodiversity, land erosion ...
 - Promote supply chain to better meet demand
2. Implement agroecology with stakeholders for sustainable agriculture and food systems

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5.15 Caritas CAMBODIA

Challenges

- a lack of resources for young farmers in production and farming communities
- High production expenses in comparison to selling prices, particularly for organic vegetables grown by farmers
- Farmer production planning is not yet good enough to respond between producers and purchasers.
- Chemicals used in irrigation in his area have an impact on his organic vegetable output.



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5.16 GREENMAN AGRO MOBILIZER Co., Ltd.

Challenges

- Capital budget is still limited
- Need students with electronic skills
- Need agricultural machinery skills



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S STRENGTHS	W WEAKNESSES	O OPPORTUNITIES	T THREATS
<ul style="list-style-type: none"> Land size for agricultural are large 70% are farmers do farming and living at countryside Stockholder (NGOs) have been basic on Agroecology 	<ul style="list-style-type: none"> Farmers/stakeholders do not know which variety is suitable for their specific agroecological conditions Agriculture low productivity Limit of technology & technical Low natural resources management Input cost higher neighbor county Agricultural machinery is still limited System and Agricultural Commodity standards is limited 	<ul style="list-style-type: none"> Potential for Agri-tourism and ecology tourism Potential with agricultural Gap or Organic Potential for agro-business Policy support with Agroecology HEIP project and UHK assist to development curriculum 	<ul style="list-style-type: none"> Climate Change (increase in pest, disease, flooding and drought) Limited applied research and development and transfer of new techniques to farmers Soil nutrient depletion and a yield decline over time lack of material processing and depend on market Thai and Vietnam traders for export

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Agroecology

Practical
Q & A



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