HỌC VIỆN NÔNG NGHIỆP VIỆT NAM

VIETNAM NATIONAL UNIVERSITY OF AGRICULTURE

Lancang-Mekong Cooperation Special Fund

CESRA

CENTER OF EXCELLENCE FOR SOIL RESEARCH IN ASIA

COUNTRY REPORT

The expert consultation and workshop on the development and implementation of soil doctor program in Lancang-Mekong Countries

Dr. Ngo Thanh Son

Dr. Nguyen Thu Ha

MSc. Vu Thanh Bien

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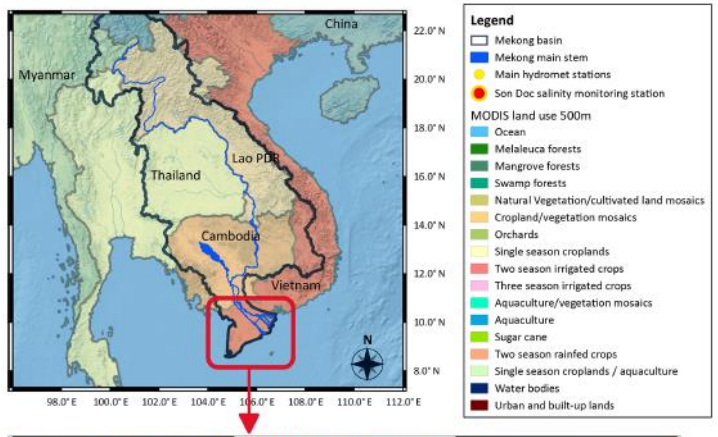
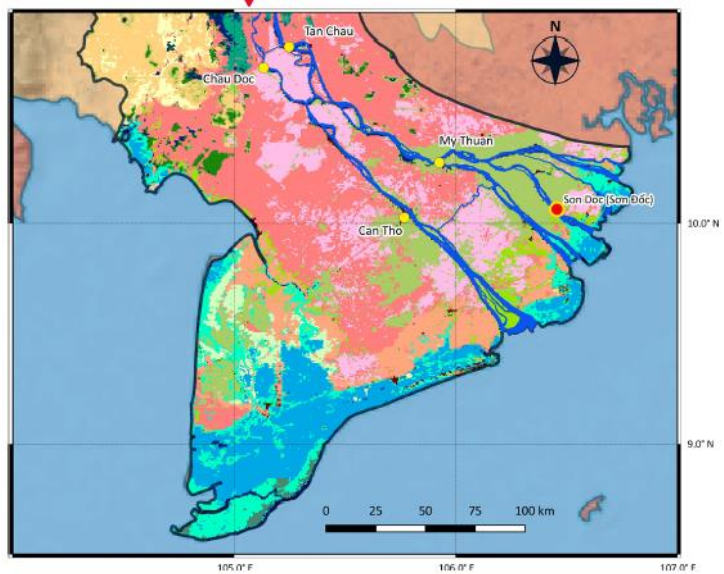
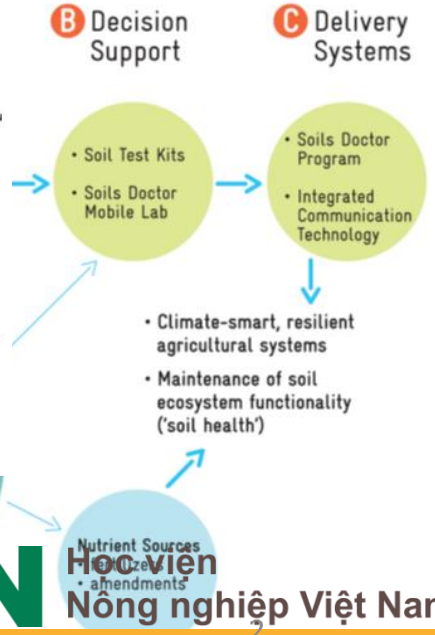
Langcang – Mekong of Vietnam







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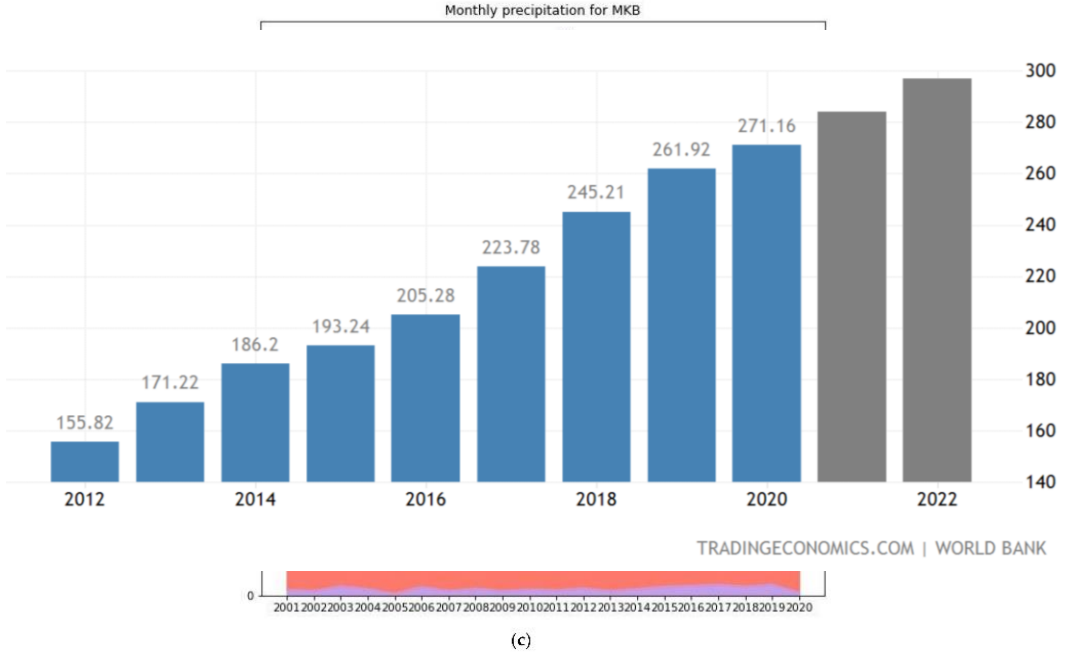
Introduction: Vietnam Profile

- Total area (main land) ~ 33 mil ha
- Population (2020) ~ 96 mil people
- Total rainfall of VN ~ 1900mm/year
- But varies spatially and in time, e.g. 75% of annual rainfall occurs during rainy season (Apr.-Oct.)
- GDP: ~285 Bil USD (2021)



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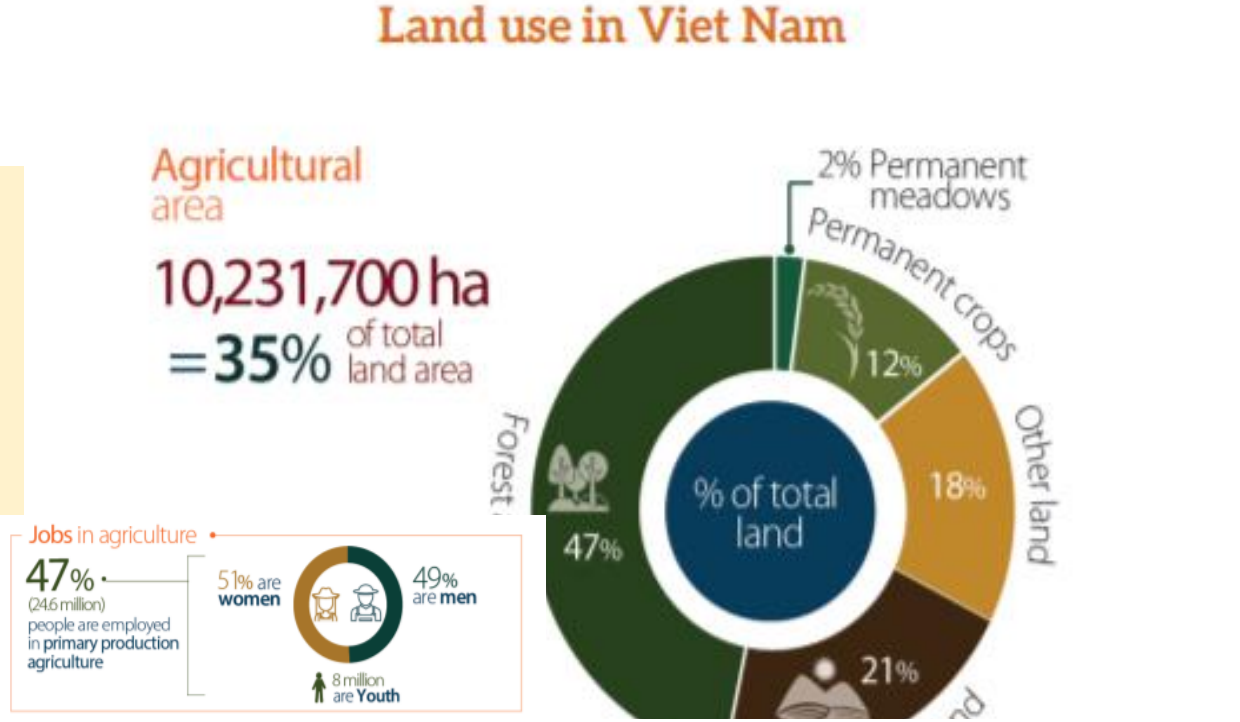
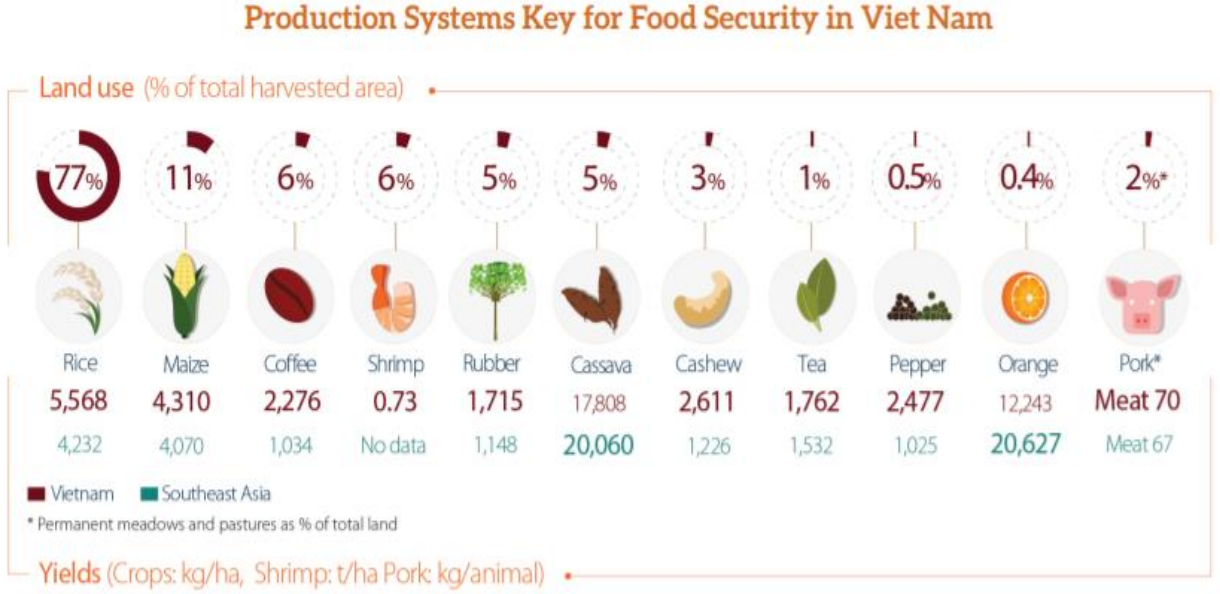
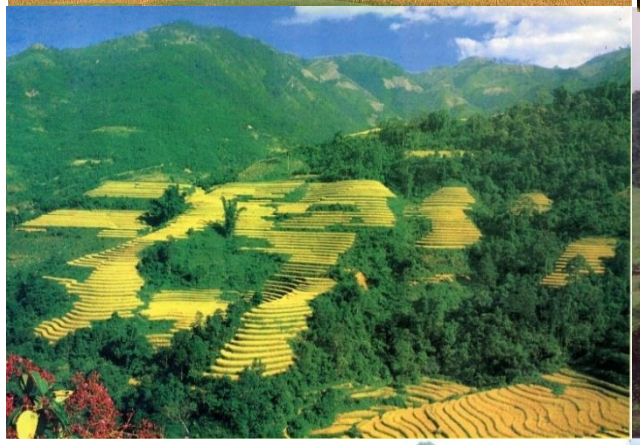
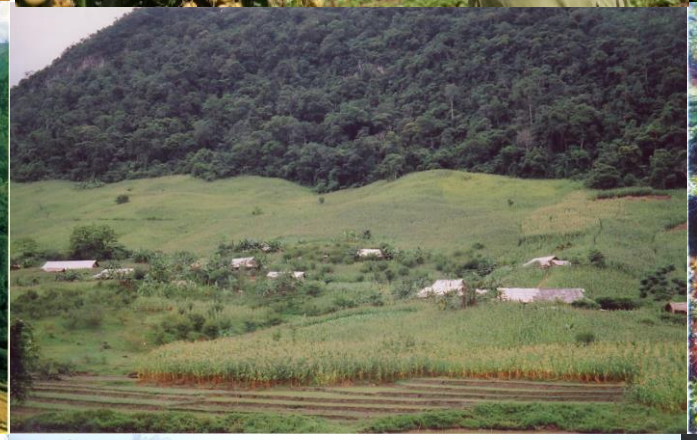




Overview of land use in Vietnam: Upland land use





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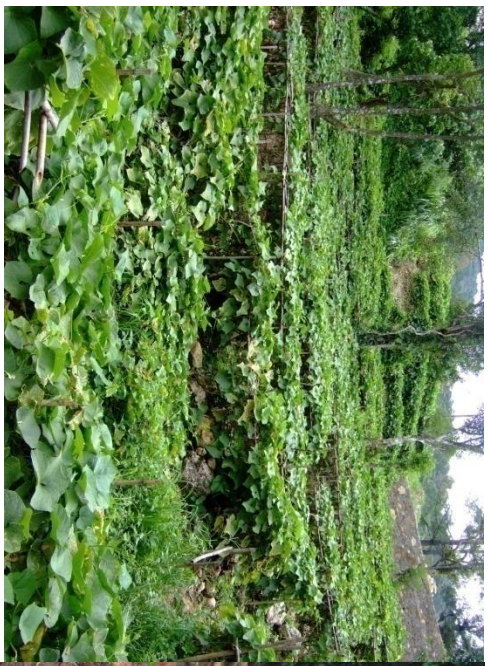
Highland land use : Industry-Fruit trees



Land use on the Deltas: annual crops







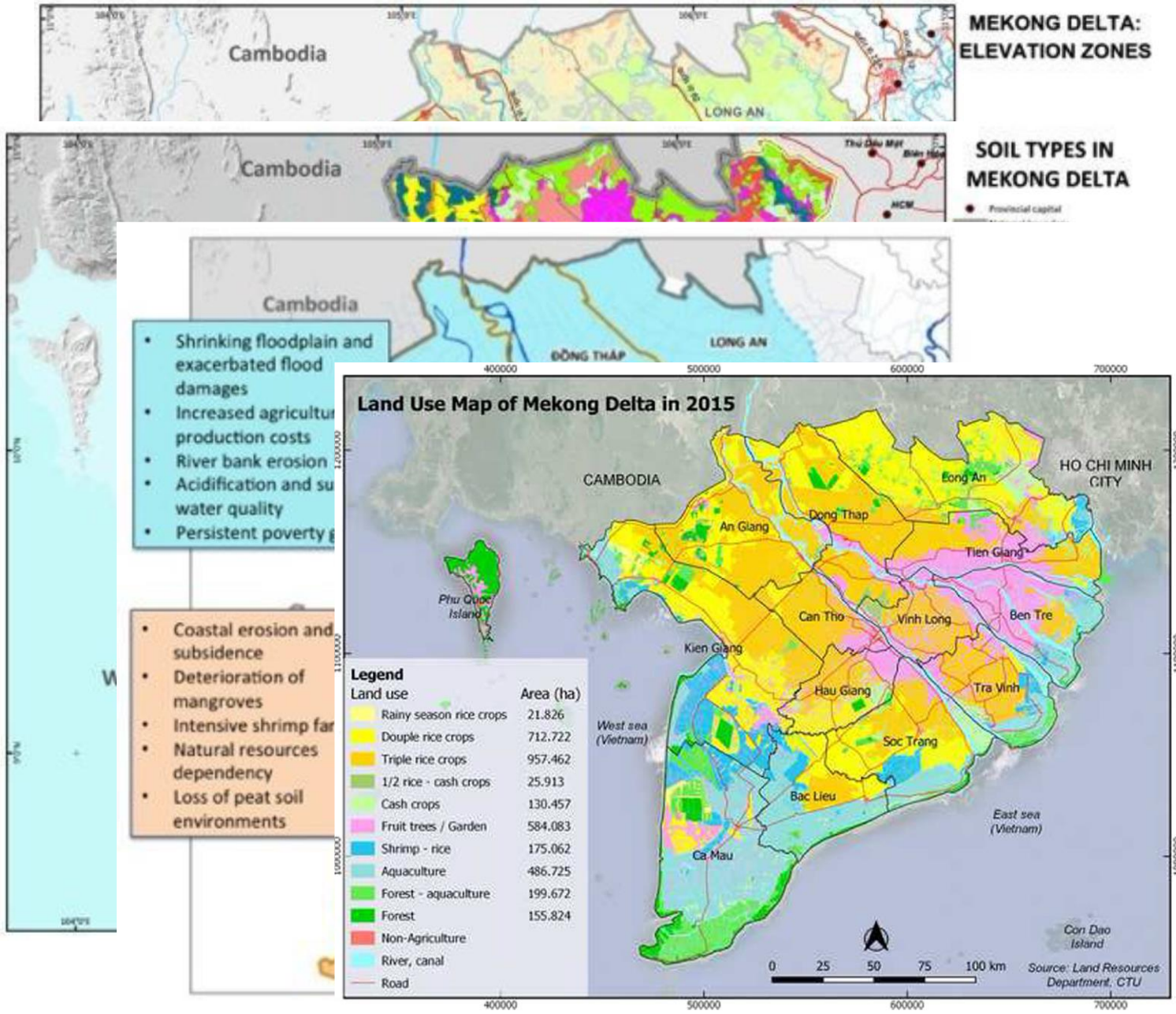

Land use on the degraded soil

Land use on saline soils

Land use on the sandy soils

Mekong Delta in Vietnam

- Mekong Delta covers approximately 40,000km$_2$ in southern Vietnam, accounting for 12% of the country's total area
- **Soil:** four main soil types (alluvium, acid sulphate, saline and peat soils)
- **Climate**: humid tropics, mean monthly temperatures (25 –29oC) and seasonal rainfall (1200 – 2300 mm) **Water resources** can be divided in to three parts: upper delta, middle delta, coastal delta
- **Land use: Rice cultivation(40% to Aquaculture (10% to 22%)**







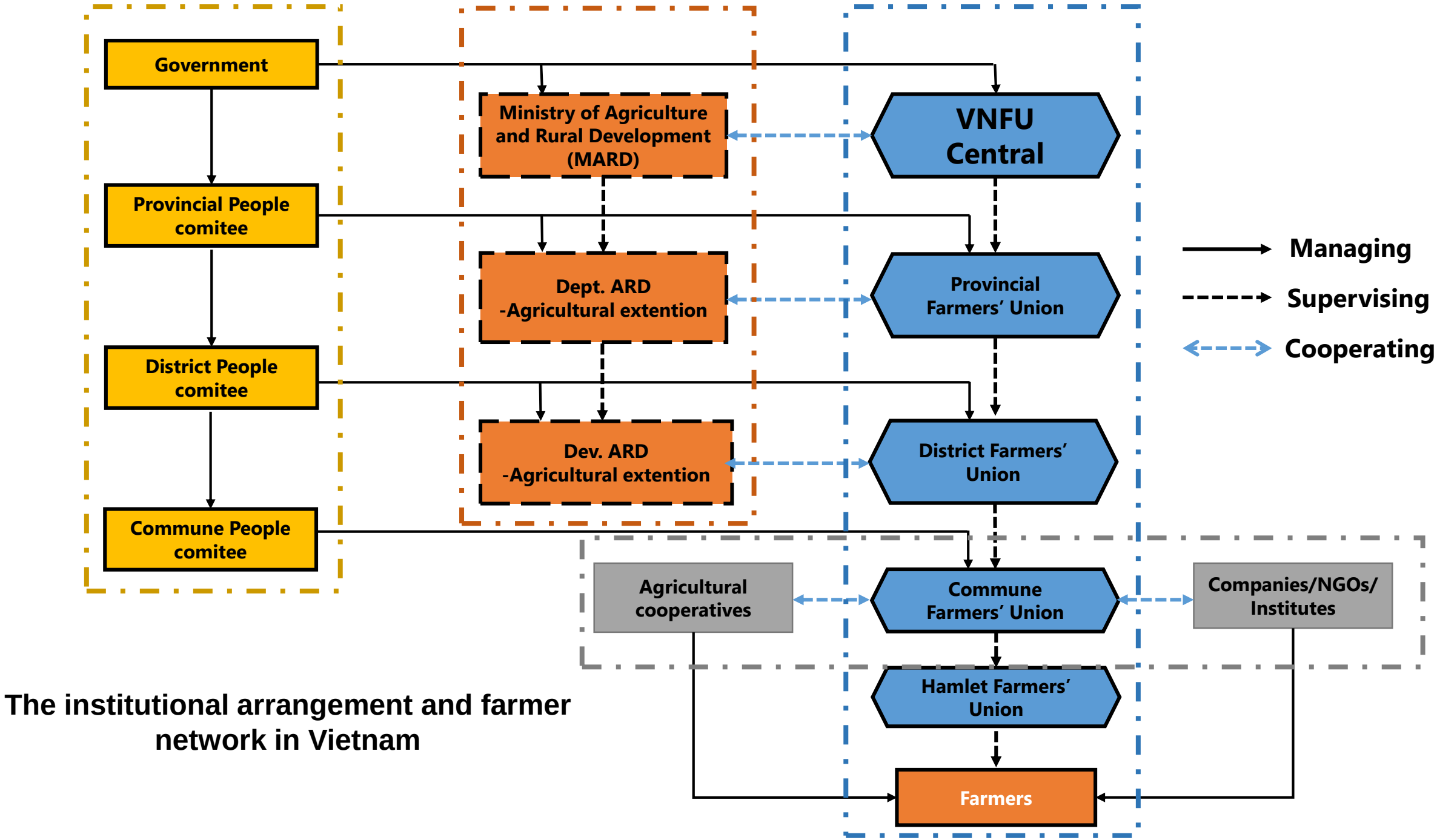





Overview of land use models in Mekong Delta

Existing problems unsustainable agriculture in MRD, Vietnam

1. Flood protection: dyke raising to enable triple instead of double crop rice take room from the Mekong River
2. Salinity is occurring already during dry seasons, giving rise to significant crop losses
3. Water quality and water supply: high salinity and potential aluminium contamination, insufficient water supply
4. Ecosystems preservation in the delta
5. Climate change: increase temperature and rainfall variability
6. Land subsidence and groundwater extraction
7. Upstream developments
8. Cost of agricultural inputs and price of agricultural products
9. Low awareness of farmers



The institutional arrangement and farmer network in Vietnam

Lessons learned in sustainable land management models

(i) Soil quality improvement;
(ii) cassava yields are higher
(iii) Additional income from cowpea
(iv) Increase farmers' awareness in sustainable agriculture practices

Cassava- Cowpea Intercropping

Story of L'amant café:

A model of cooperation between businesses and farmers

Model: Gather **many farming households** together, a **standard cultivating procedure, export.**

Famers: Practice the cultivating process (**organic farming**, **protecting soil resources and maintaining biodiversity)**

Enterprise: buy products, process and export (EVFTA agreement, ect.)

Rice sector restructuring in Mekong Delta

Consultation of the mission with officials of DARD, Long An province

Conversion of rice farm to red dragon fruit farm

Conversion of rice farm into durian tree farm in Truong Cong Y Hamlet

Use of spray irrigation system, straw and stubble to cover roots of newly-grown durians

Proposed adaptation options

1. Applying the acid sulphate and saline tolerance rice varieties with short growth duration .

2. Apply the 3 reductions, 3 gains or 1 Must-Do 5 Reductions approach.

3. For rainfed and saline area, apply 2 rice – 1 cash crop model.

4. In the area with high level of saline intrusion, introduce brackish water shrimp culture and fruit trees (i.e., coconut).

5. Construction of a storage reservoir is recommended during dry season.

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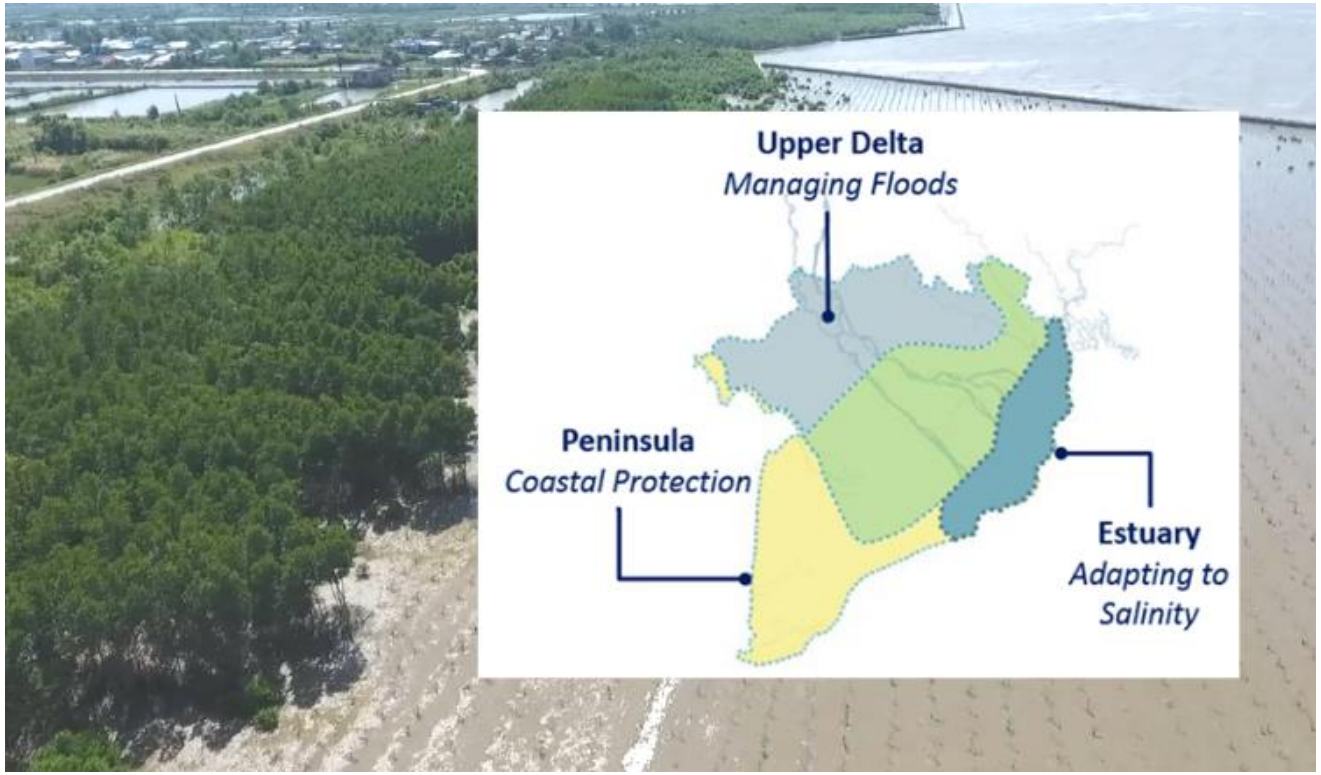
Solution of social-propaganda advised the community

- Strengthening the communication, advising the community on the harmful effects of extreme weather events due to the effects of climate change.
- Develop appropriate land protection and suitable land use models with the participatory of farmers: Field design, crop restructuring, use of appropriate varieties,
- Training, transferring of technical advances to communities on the field: Soil erosion control techniques like afforestation, contour planting, terrace planting, integrated agroforestry models, integrated farming and husbandry models.

Constrain and Challenge in Adopt

- Climate change and environment degradation
- Lack knowledge and skills on the production and management. In need of training for soildoctor
- Fragmented and scattered agriculture production caused problems in applying large scale technology and practices (i.e., planting, harvesting, land leveling, etc.).Cost of agricultural inputs and price of agricultural products
- Lack of market information and market forecast (i.e., quantity, variety, price, quality, processing requirement, and potential market).
- Policy to attract investment from private sector in agriculture, and establish an information exchange platform to update information on market issues (i.e., demand, quality, amount, price, and potential buyers)
- Farmers have limited access to services and finance
- Linkage between production and consumption is weak
- Low product quality and unsafety food, and less competition

For Mekong Delta Farmers, Agriculture Diversification is the Key to sustainable development



- Upper sub-region will develop diversified agriculture, focusing on rice and tra fish, on a sustainable basis.
- Middle sub-region, horticulture will be the focus in an aim to develop the country's largest fruit growing area.
- Coastal sub-region will develop agriculture based mainly on saline and brackish water and promote its advantage for aquaculture; develop an agro-forestry system towards ecology, organic agriculture and ecotourism
- Delta will continue to reduce its rice growing area, increase areas of fruit and aquaculture, and develop breeding animals with advanced techniques and on a large-scale. (rice restructuring)

Project of rice restructuring in Mekong River Delta from 2020 to 2025, orientation to 2030

(i) 2020 - 2025, the country will **maintain about 7 million ha of rice land**; convert 700-800 thousand ha in poorly-cultivated paddy areas or to other crops or combine aquaculture.

(ii) Mekong River Delta: **freshwater alluvium**, promoting strength of two rice crops/year, and **rotation of 2 rice crops – annual crops** where conditions are appropriate. The coastal zone is suitable for the production of **high-quality rice or organic rice in the structure of shrimp - rice**.

(iii) **Conversion of low-yielding rice areas to other crops or aquaculture**, reduction of Spring-Summer rice fields and third rice crops (Autumn-Winter crop) where the conditions are not satisfactory.

Project of rice restructuring in Mekong River Delta, from 2020 to 2025, orientation to 2030

(iii) Ensuring **profit for rice growers** in the rice production area from 30% of total revenue or more.

(iv) **Reducing greenhouse gas** emissions by 10% by 2020 and 20% by 2030

(v) **Developing enterprises** in the specialized cultivation areas on consumer products. In non-specialized cultivation areas, it is necessary to increase the scale, accumulation of land; support with seeds, techniques, support in organizing cooperatives and links with enterprises.

(vi) Supporting large enterprises associated in production **involving farmers in key material areas**; identifying target markets, attracting big customers, brands, connecting directly with the retail system.

Thank you for your attention!

Email: ntson.hua@gmail.com