Food and Agriculture Organization of the United Nations

GACSA
GLOBAL ALLIANCE FOR CLIMATE-SMART AGRICULTURE

Ipsard

# TOWARDS ADOPTING CSA PRACTICES AS EFFECTIVE ADAPTATION MEASURE AGAINST SEVERE IMPACTS OF CLIMATE CHANGE IN VIET NAM

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IPSARD

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# Introduction: CC impacts in agriculture of Vietnam

Impacts of prolonged cold spells in winter 2015-2016

Evergreen forest severely affected by snow and freezing conditions: 151,812 ha

Rice seedlings area: 8549 ha

Rice planted area: 10,249

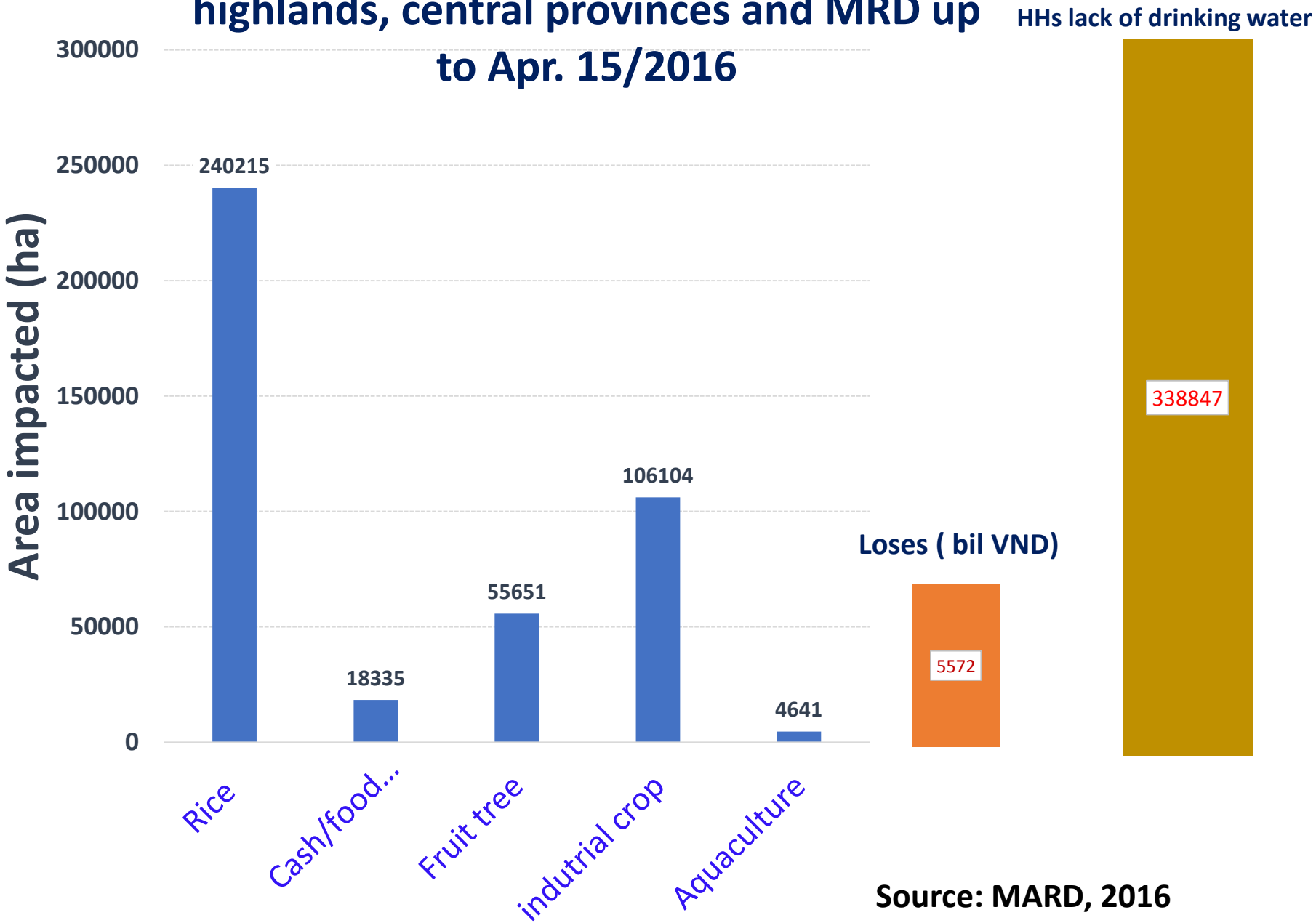
Other food crops: 19,295

Industrial crops: 1617 ha

Numbers of cattle died: 13325 heads

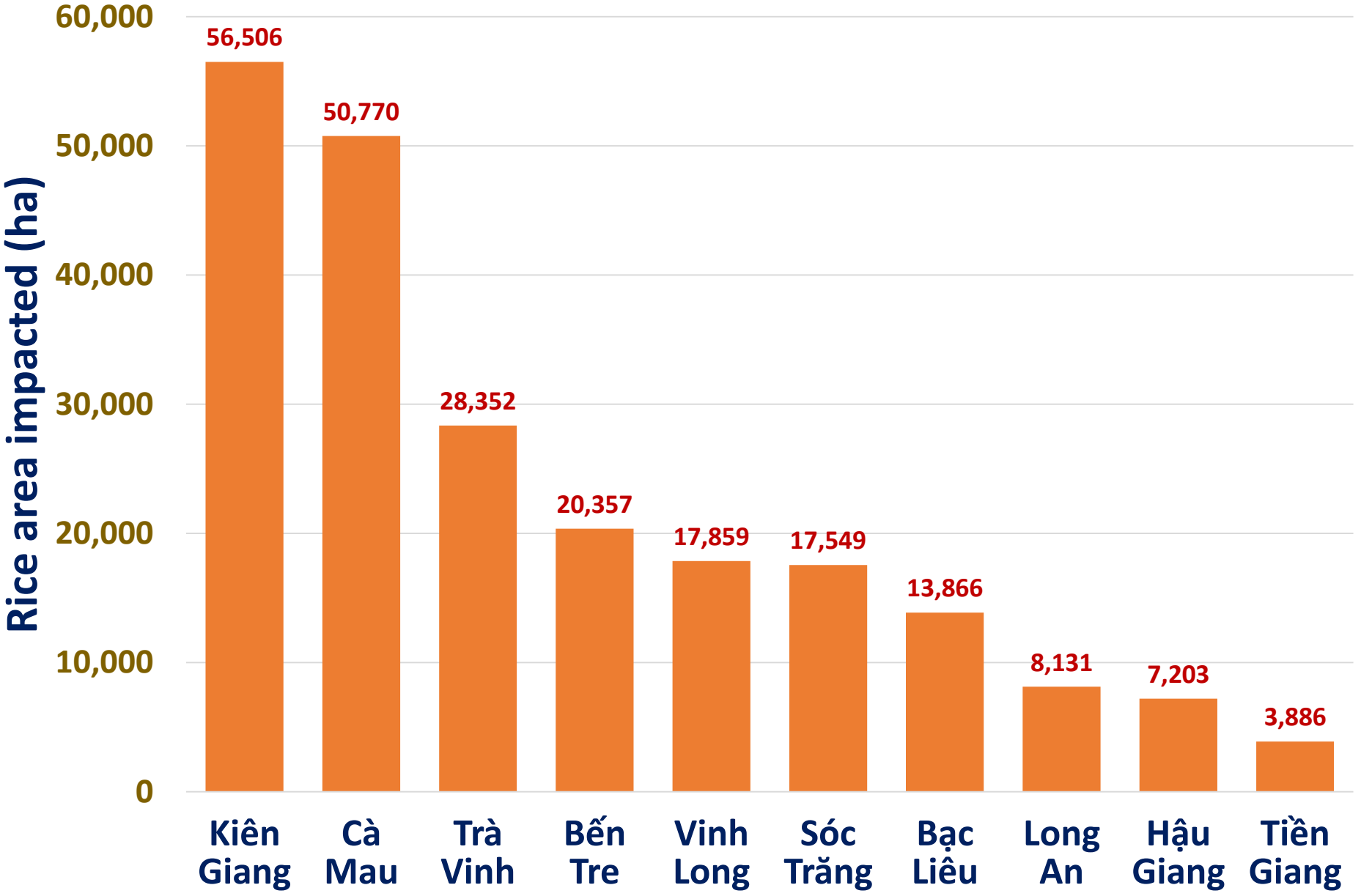
Poultry death counted: 44272

# Impacts of drought and salinity in Central highlands, central provinces and MRD up to Apr. 15/2016




Source: MARD, 2016

# Rice area impacted by severe drought and salinity




Source: MARD, 2016

# CC impacts and emergency needs

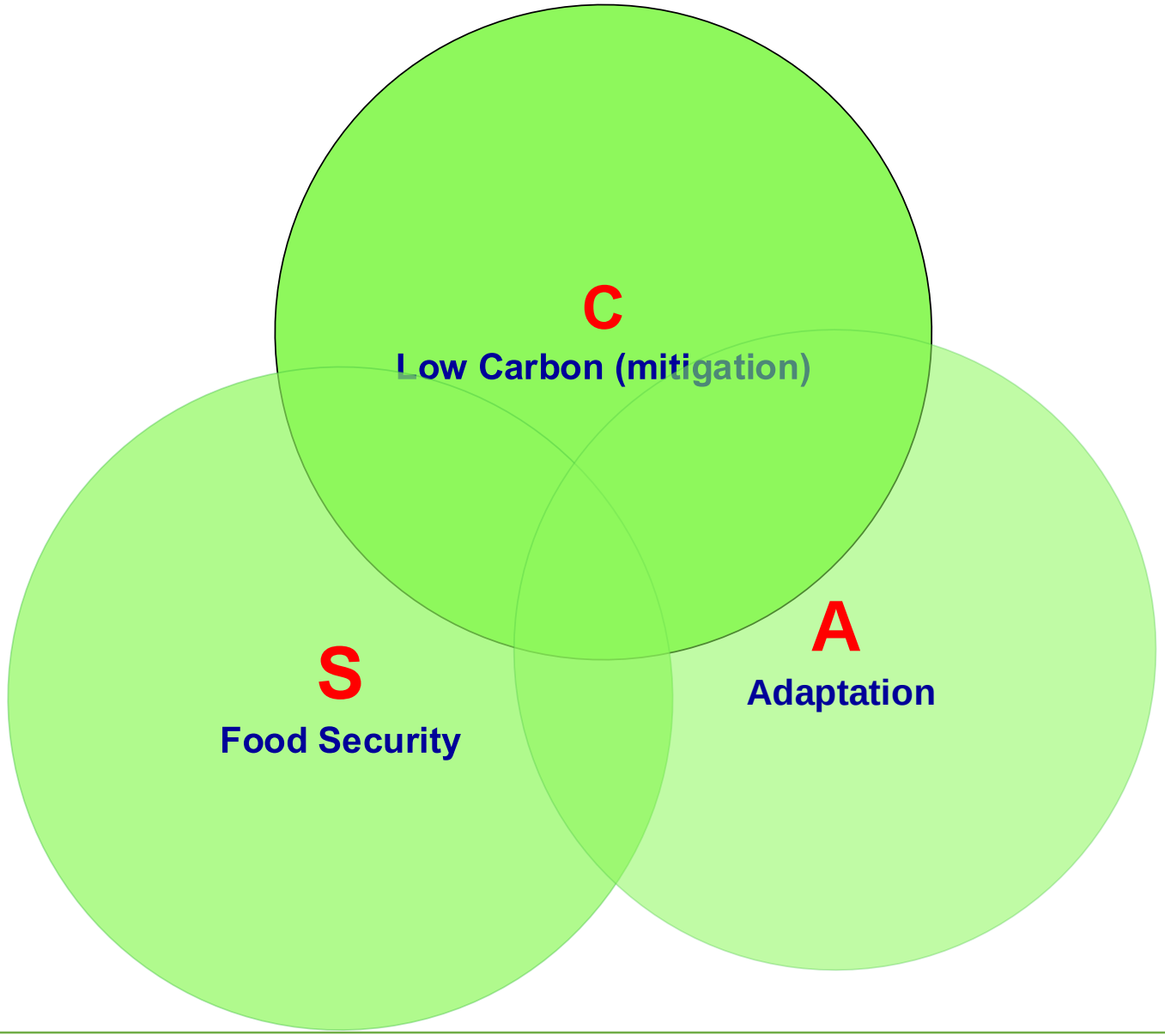
- Threaten food security to 1.1 million people in the impacted areas
- Causing malnutrition problem to children (27,500) and women (39,000)
- Disease spread threatens to 400,000 people
- Losing livelihood sources to 1,75 million people

Need for a support of:

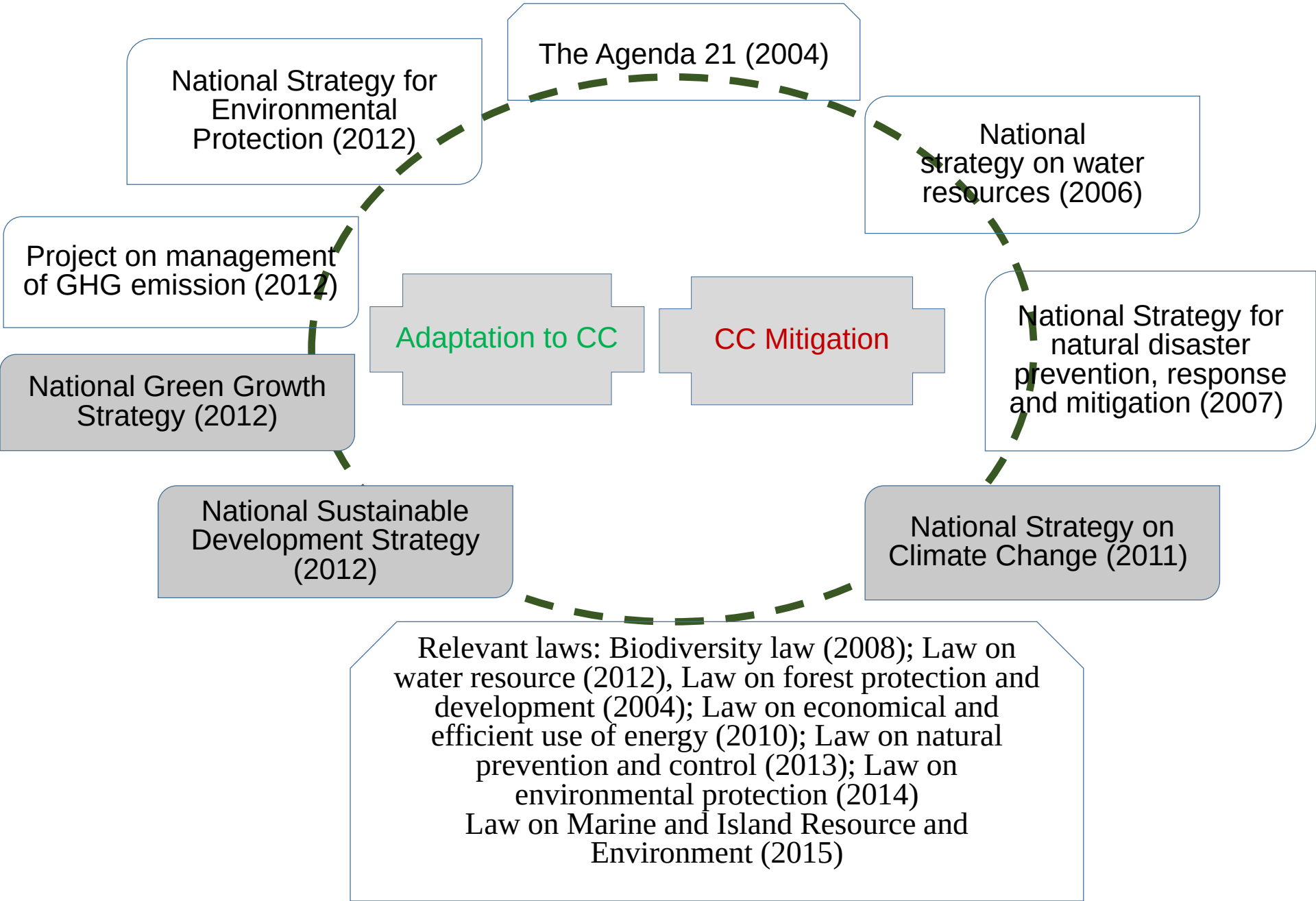
1. Emergency support of $48.5 million USD
2. ODA for responding to drought, salinity to central HLs, central provinces and MRD
3. Support for improvement of institutional capacity in responding to drought and salinity intrusion

**Source: MARD, updated 26,04 2016**

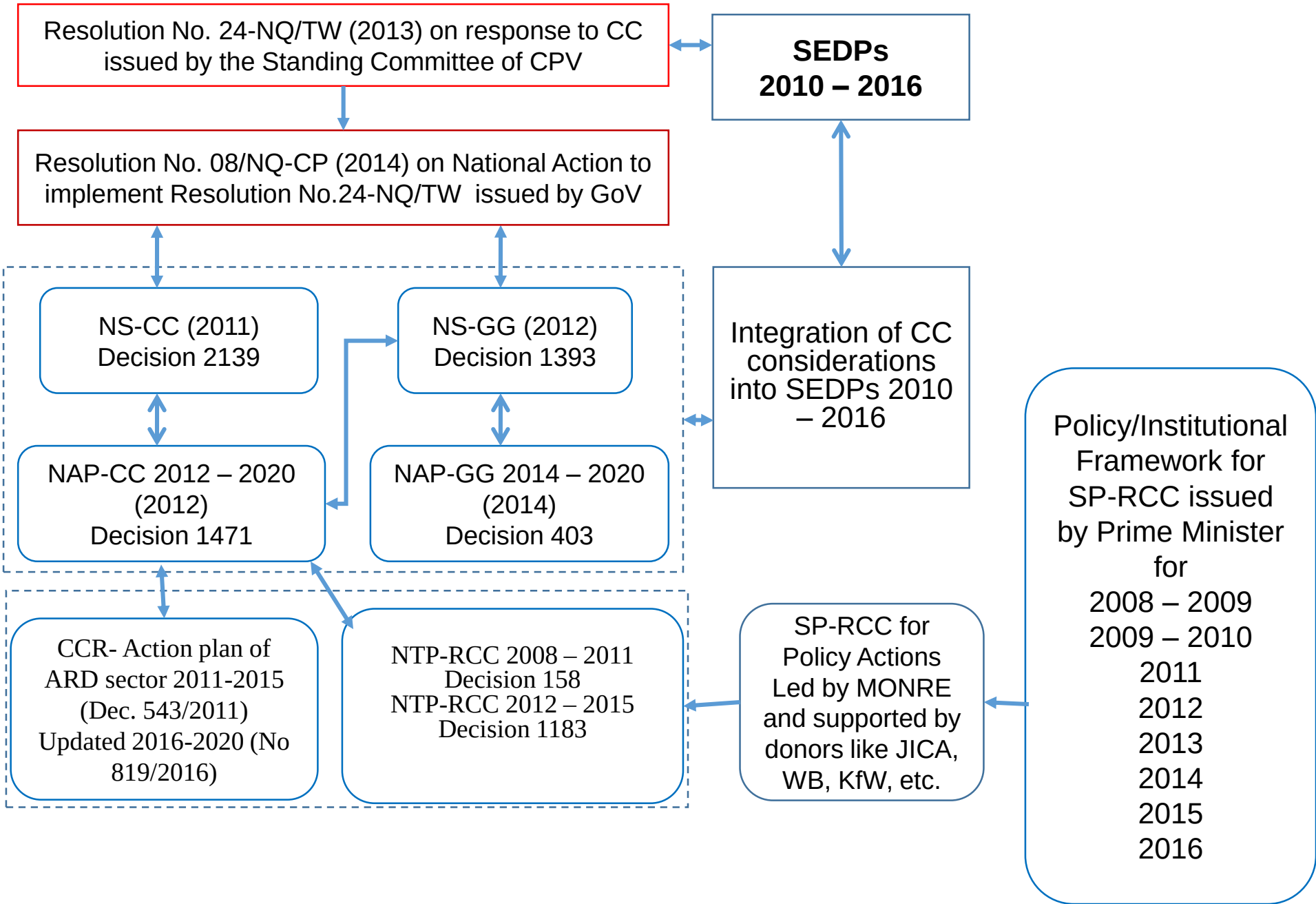
# CSA IN SUSTAINABLE DEVELOPMENT



# CSA enabling policy environment



# CSA enabling policy environment



# Policy landscape

- Recognized the importance of the inter-linkage between CC adaptation, sustainable development and shift a low-carbon economy-agriculture
- Numerous climate change adaptation and disaster risk management measures have been implemented at national, subnational, local level.
- The main adaptation measures proposed in AP-RCC of ARD (2016-2020): CSA, EbA and combining structural/non-structural measures

# Main challenges and gaps identified

- Legal framework of integrated CSA practices as main CC adaptation measures into policies faced some drawbacks and limitations (lack of concrete policies on CC; unbalanced policies (focus more on disaster prevention/mitigation than sustainable, non-structural adaptation measures (CSA)
- Vague links between currently existing CSA practices/model and mitigation
- The CSA concept is quite new and less perceived by policy makers and scientists as well as less imparted to businesses and communities
- CSA framework is now under developing at national level
- Adaptation cost keeps increasing and far from what the country could provide.

# Challenges and gaps

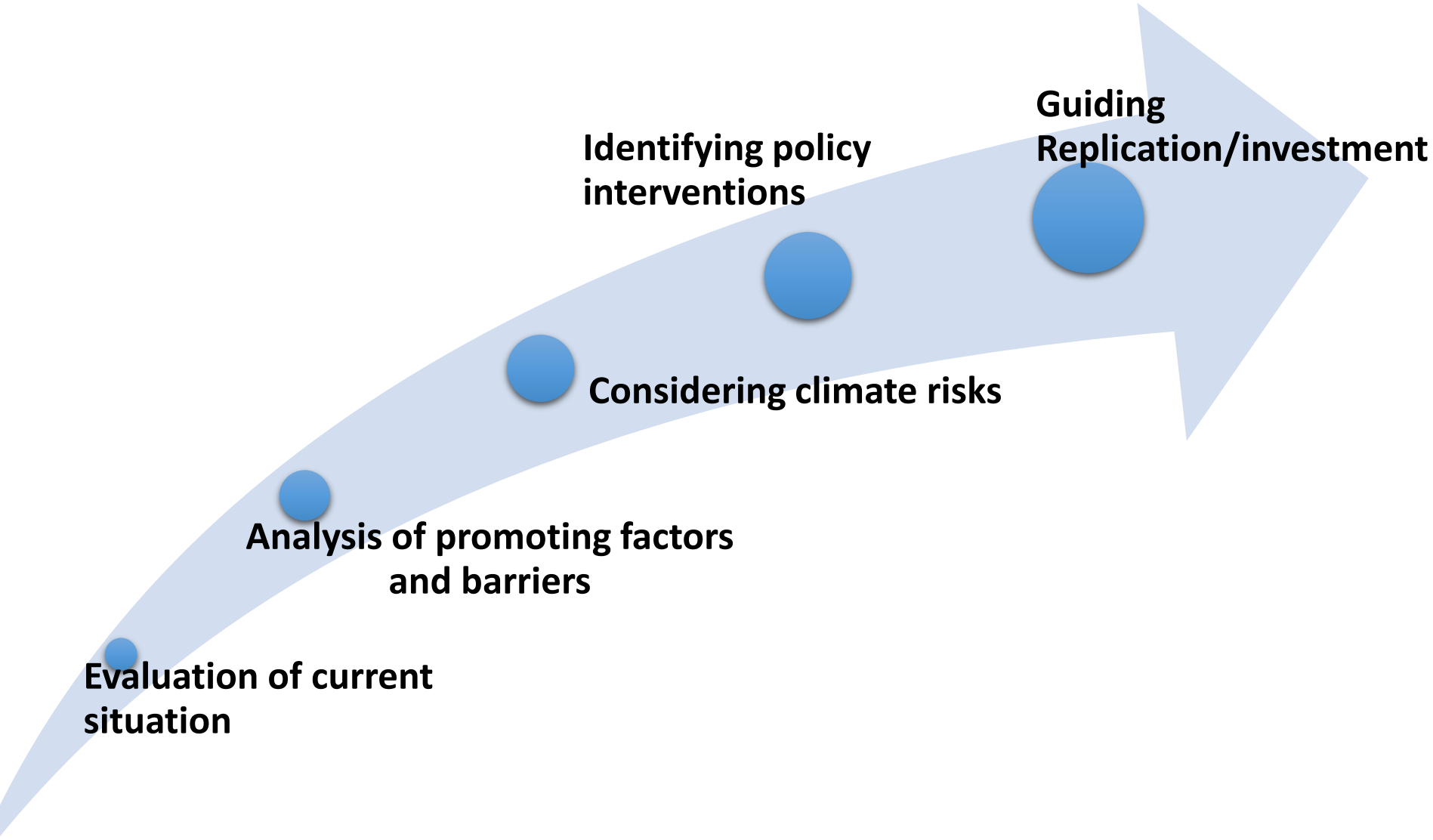
- The majority of CC adaptation funds have been directed towards improving the climate resilience of high-cost, large-scale infrastructure projects **(**sustainable infrastructure 63%). The cost of adaptation keeps increasing and is estimated to exceed 3-5% of GDP by 2030 (INDC).

- Cost to move from a BAU to a LED is 0.2 GDP (WB. 2014)~ $ US 400 millions in 2015 (excluding additional cost of adaptation)

# Opportunities to overcome

- Mobilizing both international climate finance and national development finance to scale up adaptation measures and CSA and Ecological based adaptation are considered as key CC adaptation measures in agriculture (already 2 international donors calling workshops for emergency supports).
- Encourages and creates favorable conditions for private sector investment in climate change adaptation activities, including approaches to make value chains more sustainable in the face of climate change effects, and applying feasible CSA practices/models to developing agricultural value chains.

# Addressing the challenges



# CSA PRIORITIZATION FRAMEWORK

## PHASE 1:
*Initial assessment of CSA options*

- Set objectives and scope of study
- Identify ongoing and promising practices related to scope
- Select indicators of interest and assess expected outcomes of practice implementation
- Weight CSA pillars

**Results**

**Ranked long list of CSA practices**

## PHASE 2:
*Workshop #1 Identification of top CSA options*

- Validate objectives and indicators
- Visualize trade-offs between practices
- Document opportunities and barriers to adoption and ability to overcome them.

**Results**

**Short list of piority (top) CSA practices (5-10)**

## PHASE 3:
*Calculation of costs & benefits of top CSA options*

- Collect data on costs & benefits of practices
- Calculate cost-benefit or cost-effectiveness of each top option
- Identify synergies between top options

**Results**

**Analysis / valuation of top options**

**Ranked short list of practices based on CBA**

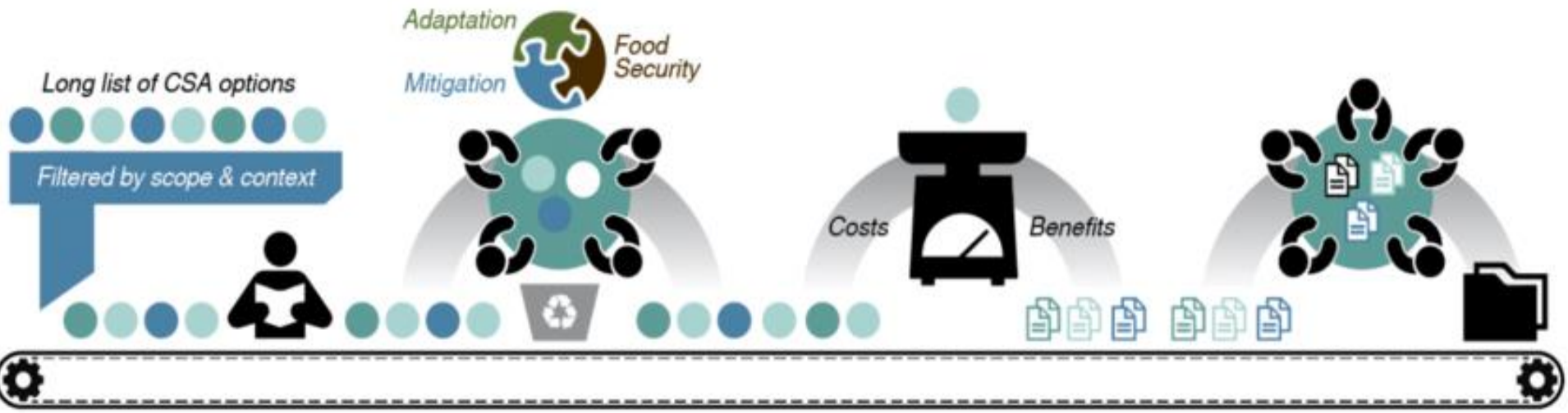
## PHASE 4:
*Workshop #2 Portfolio development*

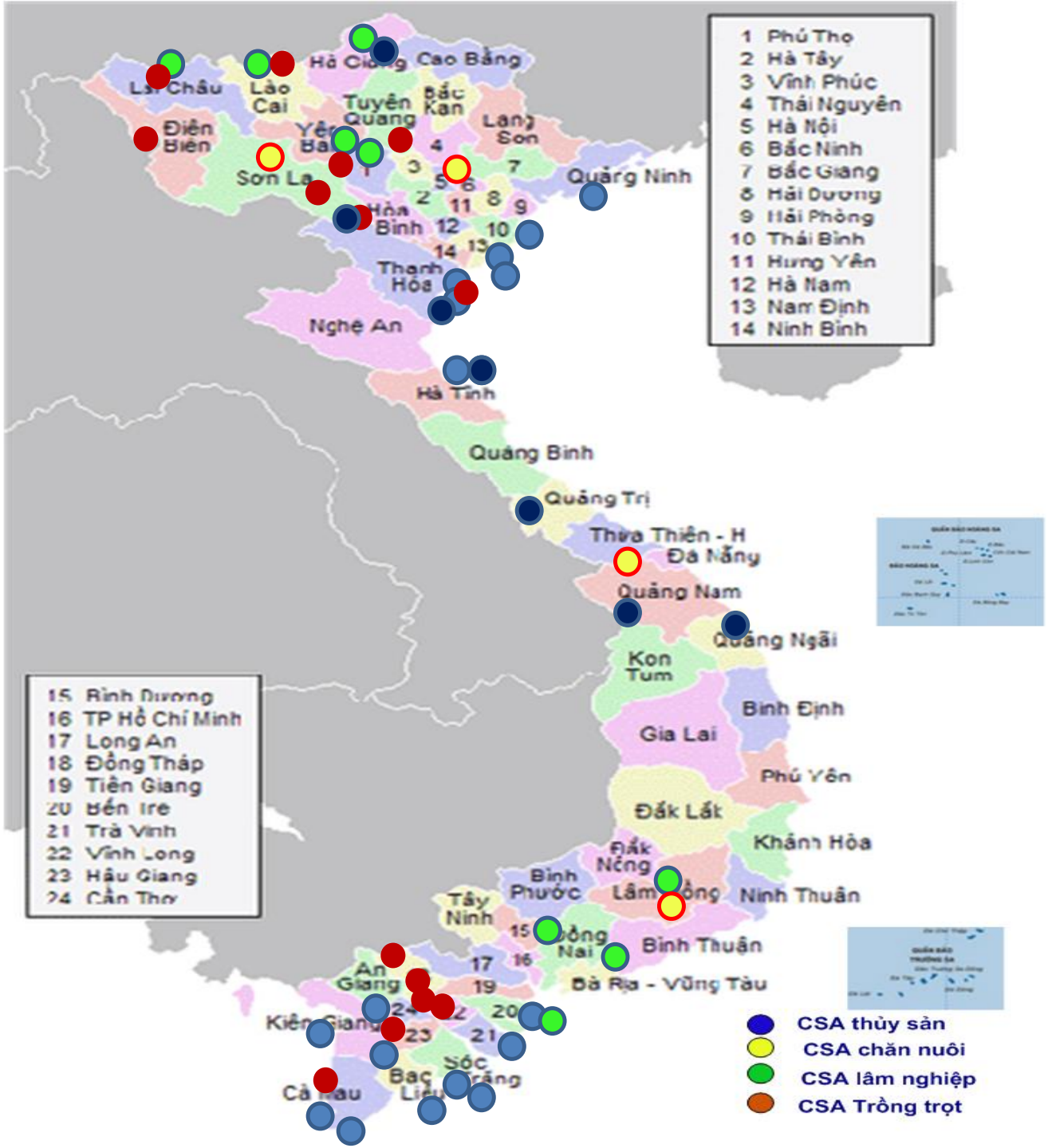
- Review results of cost-benefit analysis of top options
- Visualize and discuss rankings of top practices (examination of trade-offs)
- Create portfolios of priority CSA practices
- Calculate aggregate benefits

**Results**

**CSA Investment Portfolios**

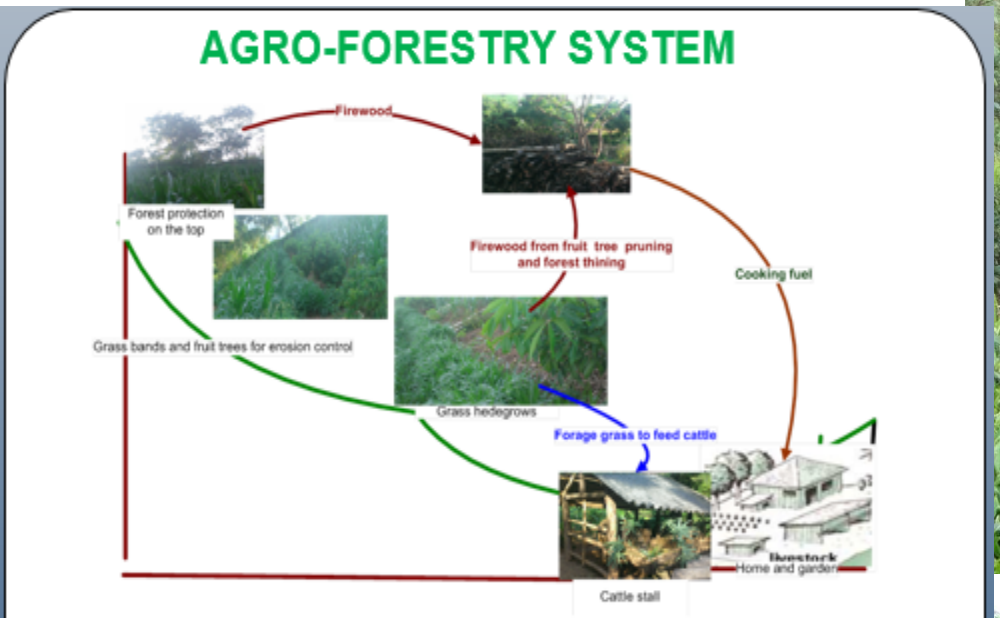
**Implementation strategy based on identified opportunities & constraints**




1 Phú Thọ
2 Hà Tây
3 Vĩnh Phúc
4 Thái Nguyên
5 Hà Nội
6 Bắc Ninh
7 Bắc Giang
8 Hải Dương
9 Hải Phòng
10 Thái Bình
11 Hưng Yên
12 Hà Nam
13 Nam Định
14 Ninh Bình
15 Bình Dương
16 TP Hồ Chí Minh
17 Long An
18 Đồng Tháp
19 Tiền Giang
20 Bến Tre
21 Trà Vinh
22 Vĩnh Long
23 Hậu Giang
24 Cần Thơ
Lai Châu
Điện Biên
Lào Cai
Hà Giang
Cao Bằng
Tuyên Quang
Bắc Kạn
Lạng Sơn
Quảng Ninh
Sơn La
Hòa Bình
Thanh Hóa
Nghệ An
Hà Tĩnh
Quảng Bình
Quảng Trị
Thừa Thiên - H
Đà Nẵng
Quảng Nam
Quảng Ngãi
Kon Tum
Bình Định
Gia Lai
Phú Yên
Đắk Lắk
Khánh Hòa
Đắk Nông
Bình Phước
Lâm Đồng
Ninh Thuận
Tây Ninh
Đồng Nai
Bình Thuận
Bà Rịa - Vũng Tàu
An Giang
Kiên Giang
Sóc Trăng
Bạc Liêu
Cà Mau
CSA thủy sản
CSA chăn nuôi
CSA lâm nghiệp
CSA Trồng trọt

# Agro-forestry, industrial tree/short-term crops

VAAS, 2012




- Agro-forestry system on slopping land areas of Northern mountainous region and Central provinces with annual food crops intercropped with forest, fruit or industrial trees. The systems diverse farmers' income, control soil erosion, improve ecosystem and environment and contributing to GHG emission and carbon sequestration.
- A large potential for expanding in slopping land areas of Vietnam (2/3 of Vietnam's natural area are upland and mountainous lands)

*(IPSARD & Department of Crop Production-MARD 2015)*

# Converting to less water usage production to cope with prolong drought condition in central provinces

## ECOLOGICAL SHRIMP-MANGROVE FOREST

The ecological shrimp-mangrove forest system in coastal provinces to increase sustainably farmers' income, protect environment, biodiversity and reducing GHG emission:

- Organic farming products can fetch premium prices for high food safety standards
- More than 180,000 ha have been practiced
- Protect and maintain environmental resources ecosystems;
- Reduce GHG emission, adapt to climate change and ensure sustainable livelihood for coastal communities.

*(VIFEP- Green Growth Workshop by VFD, IPSARD 2015)*

**Coping with degradation of coastal forest and land slides/erosion**

## RICE - AQUACULTURE SYSTEM

Rice - aquaculture system (rice-pawn, rice fish) in Red River Delta and Mekong River Delta

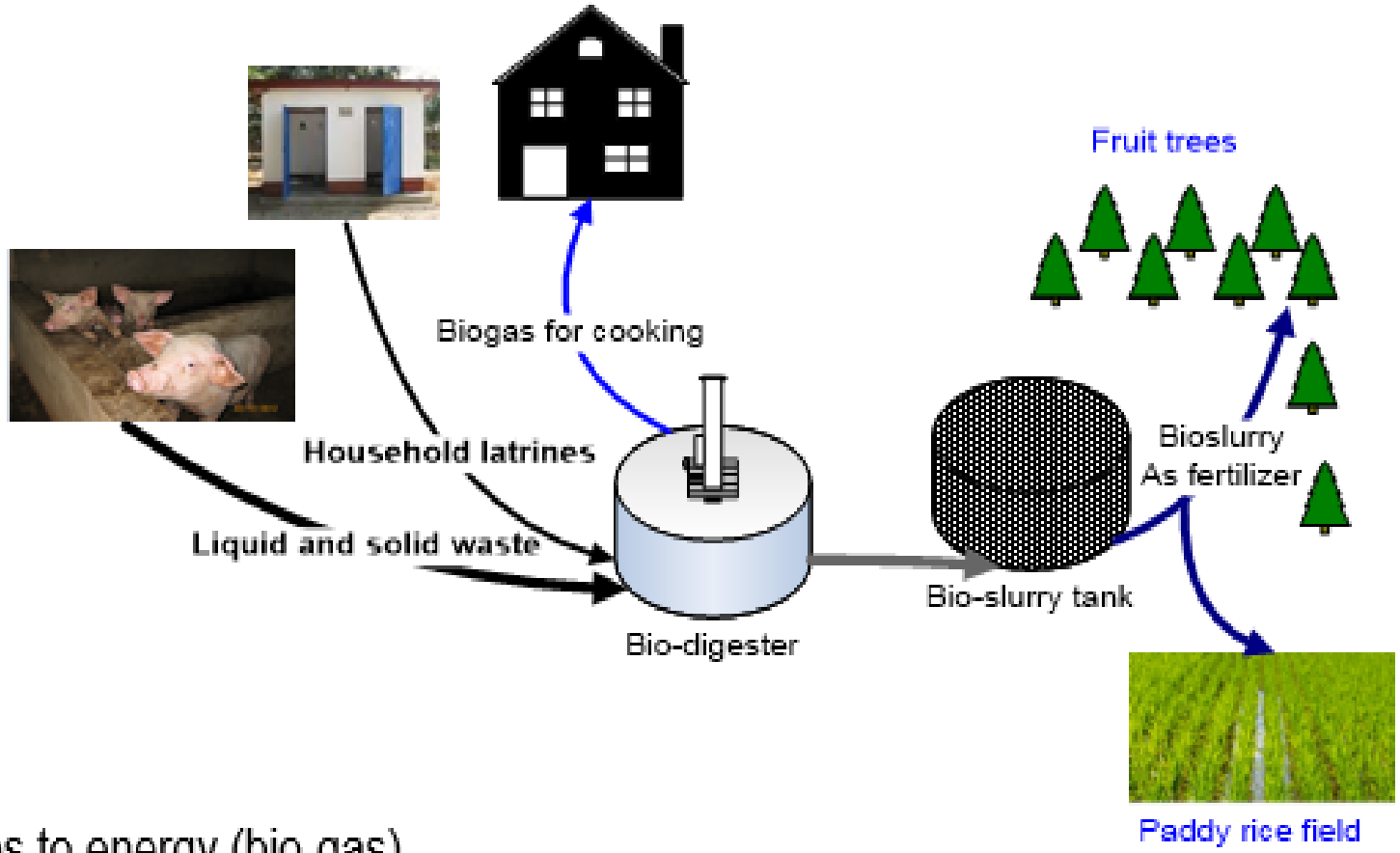
- 680.000 ha practiced in 2014 in Mekong River Delta
- Increase productivity and economic efficiency/unit area and protect the environment
- Increase income for farmers, quality and value for fish and rice

*(VIFEP- Green Growth Workshop by VFD, IPSARD 2015)*

# Coping with salinity intrusion problem in coastal area

# HOUSEHOLD PIG PRODUCTION

Household pig production with bio-digester for waste treatments with mains features:
- Biogas for domestic use (households)
- Reduce energy uses, better waste management




- Converting wastes to energy (bio-gas)
- Bio-slurry can be used as fertilizer for crops and mixed in composting with crop residues
- More than 350,000 bio-digesters installed
- 2012: 500,733 GS-VER registered, the second issuance of 779,924 GS-VERs in 2014.
- GHG emission reduction up to 40%.

*(IPSARD & Department of Livestock Husbandry-MARD 2015)*

# Key priorities for adaptation measures in agriculture

- Change/shift cropping patterns and schedules, develop and use seed varieties resistant to climate change conditions in different ecological zones (more than 10 different rice varieties, shrimp, etc.
- Select, upgrade and modernize crop and livestock production techniques which increase resilience and may also minimize GHG emissions as co-benefit.
- Utilize good agricultural practices in crop cultivation such as: fertilizer and pesticide saving measures; water saving measures; minimizing time for land preparation, intercropping of cash crops (coffee, pepper, rubber etc.) with leguminous trees, fruit trees etc.; scaled-up CSA practices such as agro-forestry, mangrove forest-aquaculture, rice-fish/shrimp etc.

# Key priorities and needs for adaptation measures in agriculture

- Finalize production standards and regulations to ensure that complete value chains from agriculture production to waste management, increase resilience to CC effects.
- Apply GAP in livestock production to improve feed utilization coefficients, reduce GHG emissions and cost; link animal husbandry practices with the feed processing industry and treatment of animal waste; and produce bio-gas.
- Establish mechanisms for technology transfer and promote technology development at the national level, including the development of indigenous knowledge based technologies.
- Apply climate finance to support implementation and scaling up of adaptation actions in the agricultural sector.
- Develop a national unified CSA framework

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# THANK YOU!