



THE ROLE OF NAPS IN ACHIEVING ADAPTATION PRIORITIES FOR AGRICULTURE AND FISHERIES SECTORS IN VIETNAM

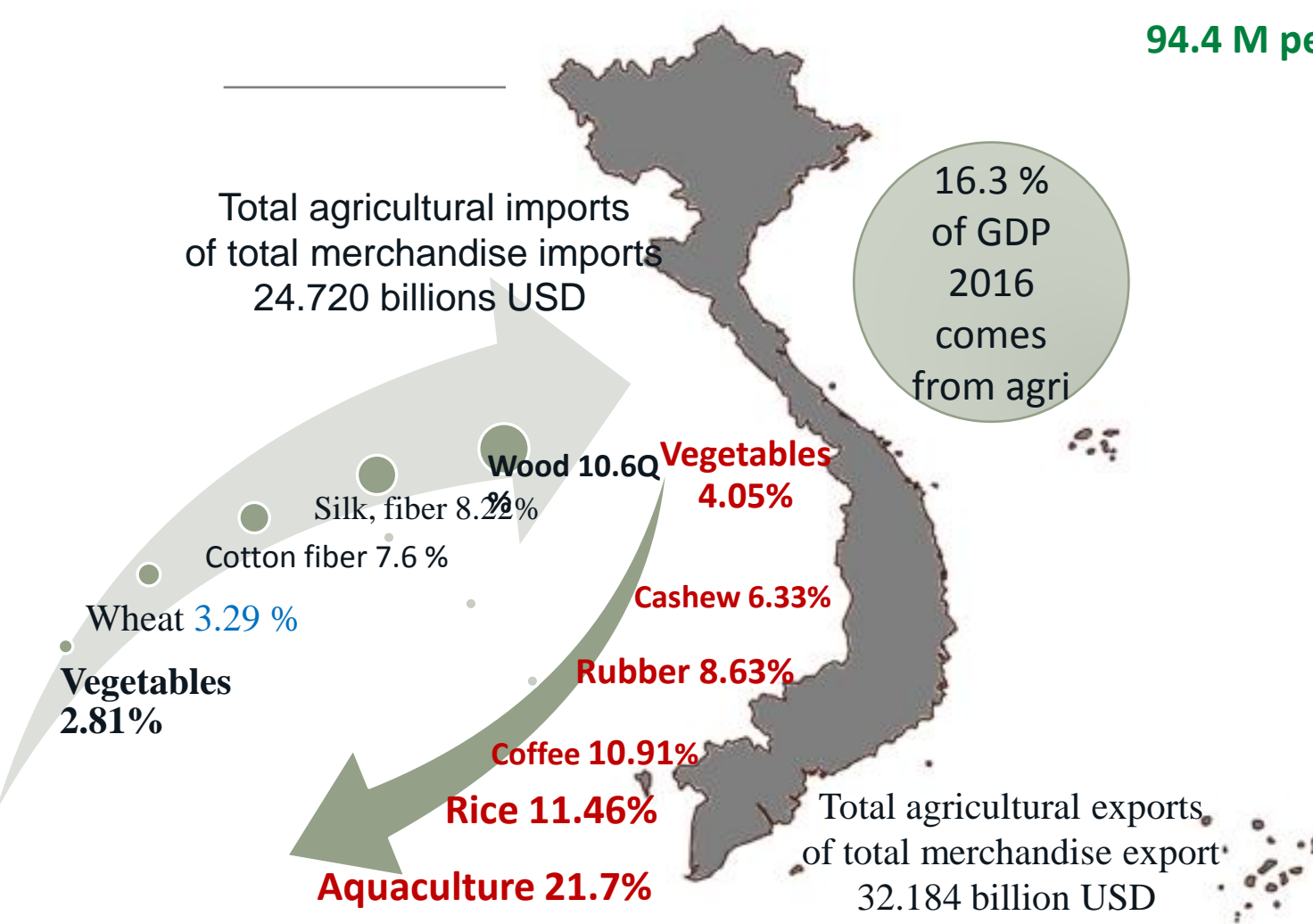
Tran Đại Nghĩa Vietnam
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- Key vulnerabilities/risks for agriculture and fisheries sectors
- Experiences and success stories
- Perspectives on how integrating agriculture into the NAP

Introduction

Context of agriculture sector (2016)

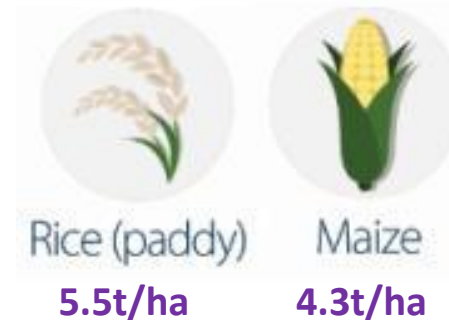


94.4 M people  69% of farmers are smallholders

 66% of pop. live in rural areas

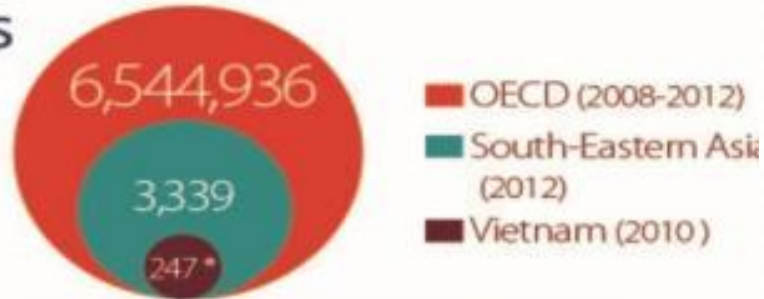
 41.9% are employed in agriculture

Key crop yield



Greenhouse Gas Emissions

Total emissions
Mt CO₂e



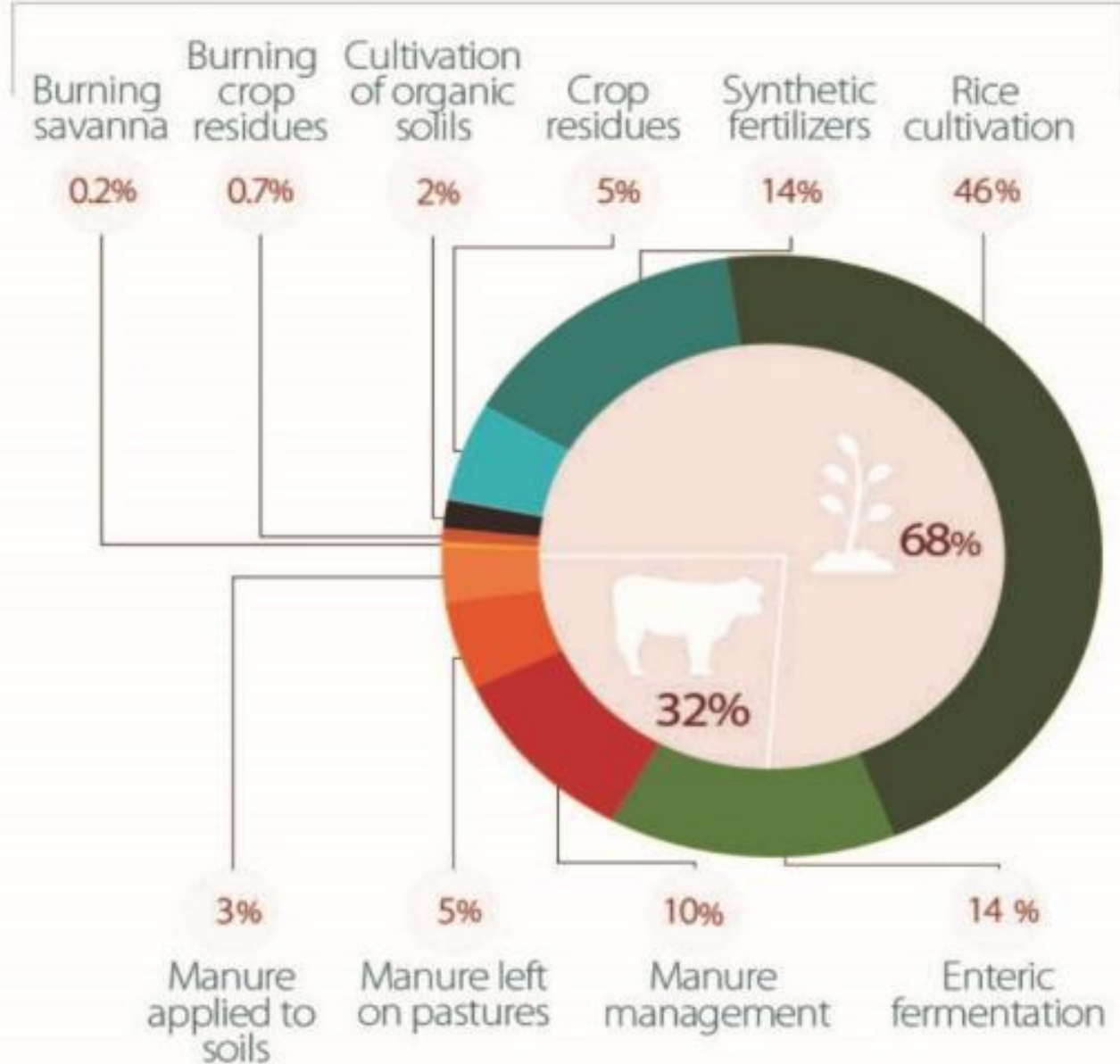
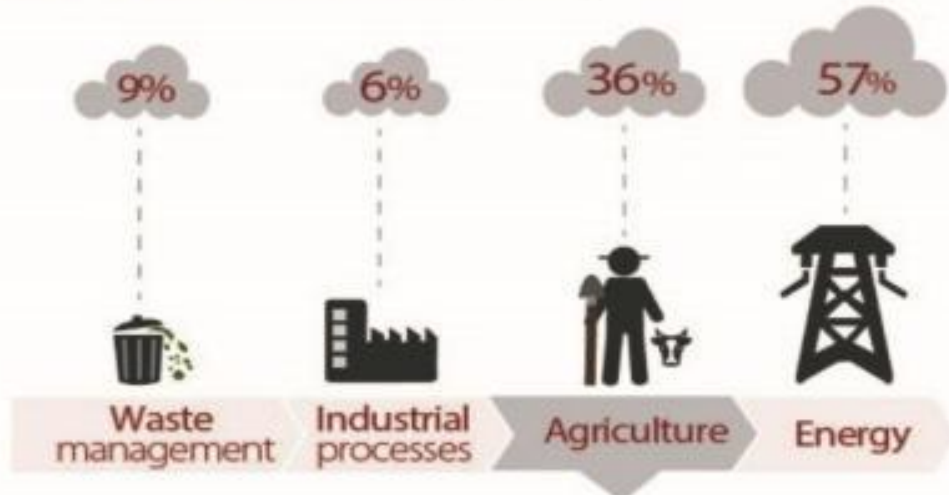
Emission intensity
0.3 tCO₂e / Million \$ GDP

Emissions from deforestation
19,218 MtCO₂e

Emissions off-set
137 MtCO₂e

* Includes emissions from land use change and forestry

Sectoral emissions (2014)



Disaster-caused damage in Viet Nam in 2016

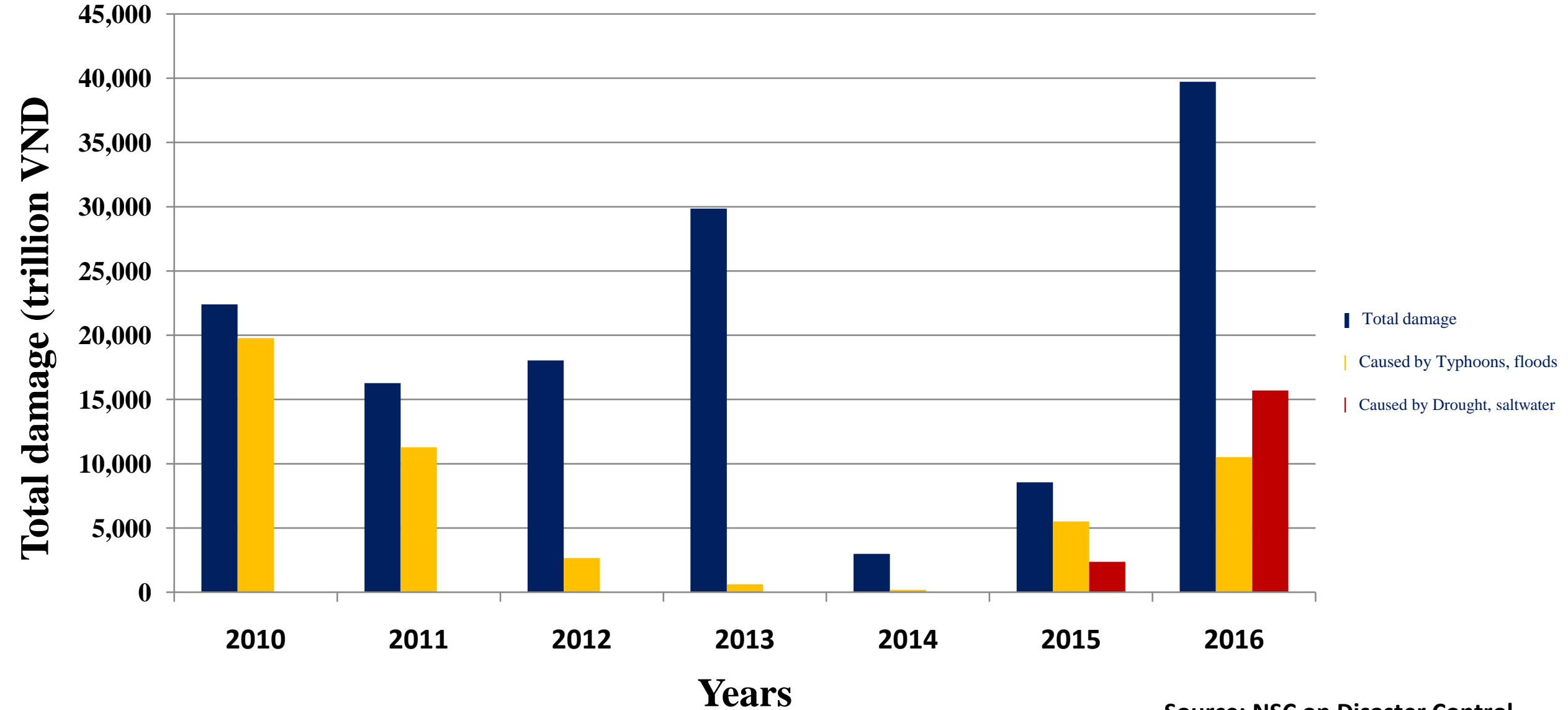
- Heavy damage to 700,000 ha of rice and crops, 400,000 ha of fruit trees and sunk 1,410 fishing boats;
- Total damage estimated at 39 trillion VND, or 1.7 billion USD, equivalent to 0.88% GDP (MARD report);
- Lost rice production about 800,000 tons (MOIT);
- Threatening food security of 1.1 million people living in affected areas;
- 18 provinces declared disaster emergency;
- Affecting the livelihoods of 1.75 million people.

VULNERABILITY

CC vulnerability to agriculture & Fishery

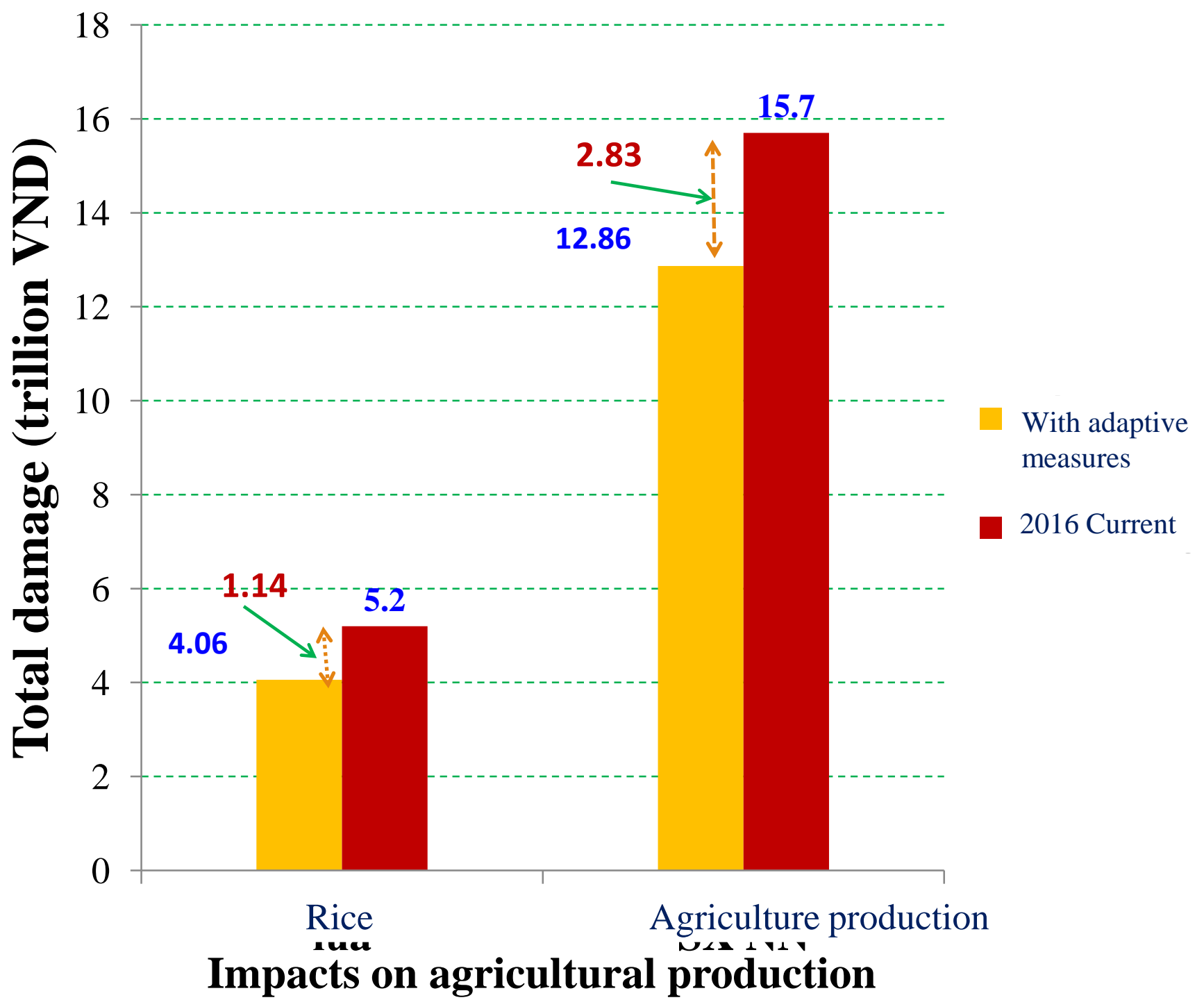
Types of CC damage	Frequency	Percentage of affected households 2011-2015 (%)			Level of damage (1-5)		
		Crops	Livestock	Aquaculture	Crops	Livestock	Aquaculture
Typhoons	2.25	28.91	1.49	10.75	3.12	2.67	2.64
Drought	2.27	29.55	1.79	14.93	3.19	2.60	3.28
Flooding	2.25	32.24	2.39	3.88	3.29	2.25	3.73
Extreme hot sunny	2.92	28.36	5.07	20.30	3.22	2.35	3.18
Off-season rains	2.73	28.13	1.79	16.12	3.17	2.43	3.39
Saltwater intrusion	1.33	5.07	0.60	2.99	2.33	3.00	2.67
Land erosion along rivers/shore	1.31	3.28	0.30	2.99	2.80	3.00	2.67
Water shortage	1.50	11.04	1.19	4.48	3.18	3.33	2.83
Cyclones	2.01	16.72	1.49	2.69	2.92	3.00	1.65
Average					3.02	2.73	2.89

Disaster-caused damage in recent years (current price of 2016)



Source: NSC on Disaster Control

Damage by drought/saltwater intrusion in 2016 and impacts of adaptive measures in loss mitigation



EXPERIENCES AND SUCCESS STORIES

Coping with prolong drought condition in central provinces



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)



Convertible models of rice - upland crops



According to the Central South Coastal zone conversion Scheme (2013 – 2015) rice cultivation area switching to other crops was around 48,500 ha and 56,000 ha upto 2020 in the period 2016 – 2020: reduce 100% CH₄



SRI, AWD, 1M5Rs of 30% to total country rice area that could have the mitigation capacity from 15-45%

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)



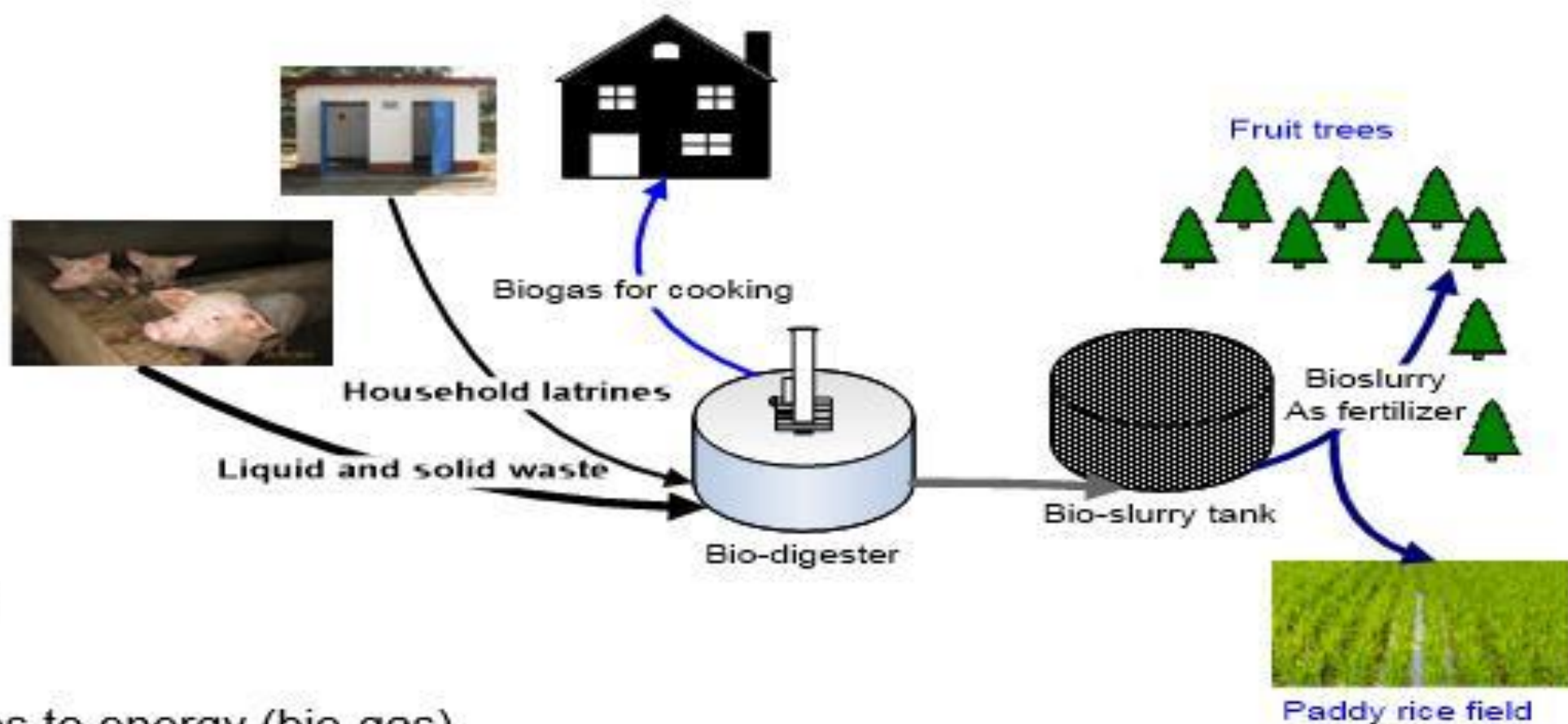
Direct value: farmers' income 33,9 mil vnd/ha/year (~US\$ 1,600)

Indirect income: Coastal protection value about 18.1 million/ha/year; value of carbon storage and sequestration at 4.3 million CO_{2-e}/ha/year (VAFS, 2012).

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)

Drought resistant measures



CCA structured measures

Canal bank enforcement and
sedimentation removal



Irrigation system development



PERPECTIVES ON INTEGRATING NAP

Collecting available literatures

- GACSA country case study
- CIAT: CSA prioritization and country profile
- Winrock: CSA stocktaking
- MARD programs/project
- Other INGOs (SNV, SRD, GIZ, ICRAF etc.)

Desk reviews and stocktaking

Stocktaking and data analysis

Structure adaptation measures:
- Irrigation systems
- Disaster prevention
- Other infrastructure measures

Non-structure adaptation measures:
- Climate/weather stress resistant varieties (plants, animal including aquatic animals)
- Production management (crop, livestock, aquaculture, agro-forestry)
- CSAs
- Resource managements (landscape, water etc.)
- Cross cutting measures (gender inclusion, community participation etc.)

Data consolidation/synthesize

VA results (exposure, sensitivity & adaptation capacity) & Indices) from VA team

Stocktaking results
CCA measure prioritization
Gap/coordination/challenge analysis
Potential key measures for M&E
Costs and potential finance mechanisms for implementation

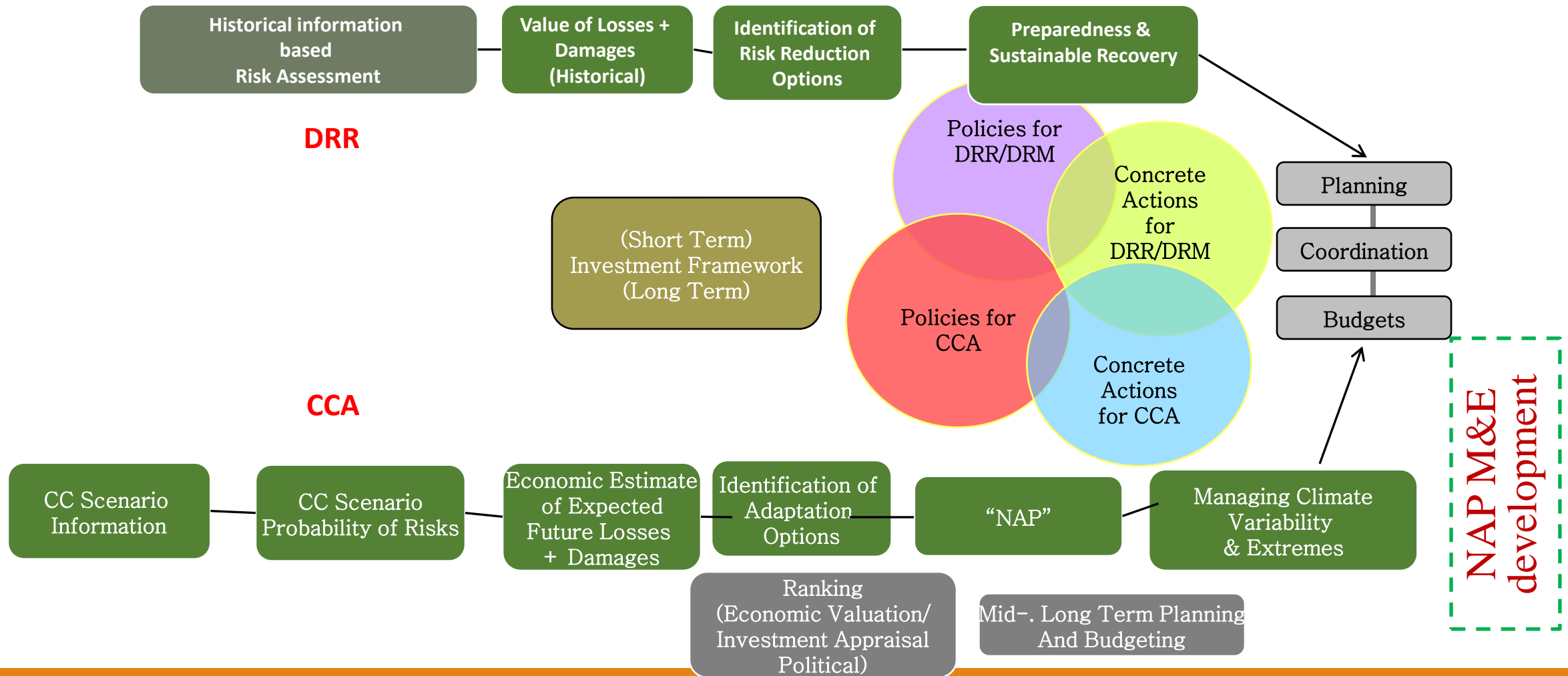
Round table consultation meetings

Finalization

- A road-map and provisional prioritization CCAs
- Inputs relevant to the agriculture for the wider NAP process

DEC. 2053/2016 ON PLAN TO IMPLEMENT PARIS AGREEMENT

Integrated DRR and CCA approaches to decision-making



The key ingredients and barriers

- Legal framework of integrated 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 CCA practices/model and mitigation & even food security
- The accuracy of climate information and limited accessibility to early warning climate information of farmers
- The majority of CC adaptation funds have been directed towards improving the climate resilience of high-cost, large-scale infrastructure projects (sustainable infrastructure 63%).
- Adaptation cost keeps increasing, is estimated to exceed 3-5% of GDP by 2030 and far from what the country could provide (only 4/ 22 CCA tasks having fund budgeted)

NAP-Ag strategies

- Change/shift cropping patterns and schedules, develop and use seed varieties tolerant/resistant to climate change conditions in different ecological zones (Different rice varieties, shrimp, etc.)
- Select, upgrade and modernize crop and livestock production techniques which increase resilience and may also mitigate 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.

NAP-Ag strategies (cont.)

- Harmonize production standards and regulations to ensure that complete value chains from agriculture production to waste management, increase resilience to CC effects.
- 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 or other 3Rs (reduce, reuse and recycle).
- Development of early warning climate information to farmers
- Establish mechanisms for technology transfer and promote technology development at the national level, including the development of indigenous knowledge based technologies.
- Develop a national unified NAP-Ag that is mainstreamed in national policy framework and balancing between structured and non-structured measures in investment (as tasks assigned (22/68) in Dec. 2053/2016)