SYNERGY OF CLIMATE CHANGE ADAPTATION, MITIGATION AND SUSTAINABLE DEVELOPMENT: LESSONS FROM VIETNAM

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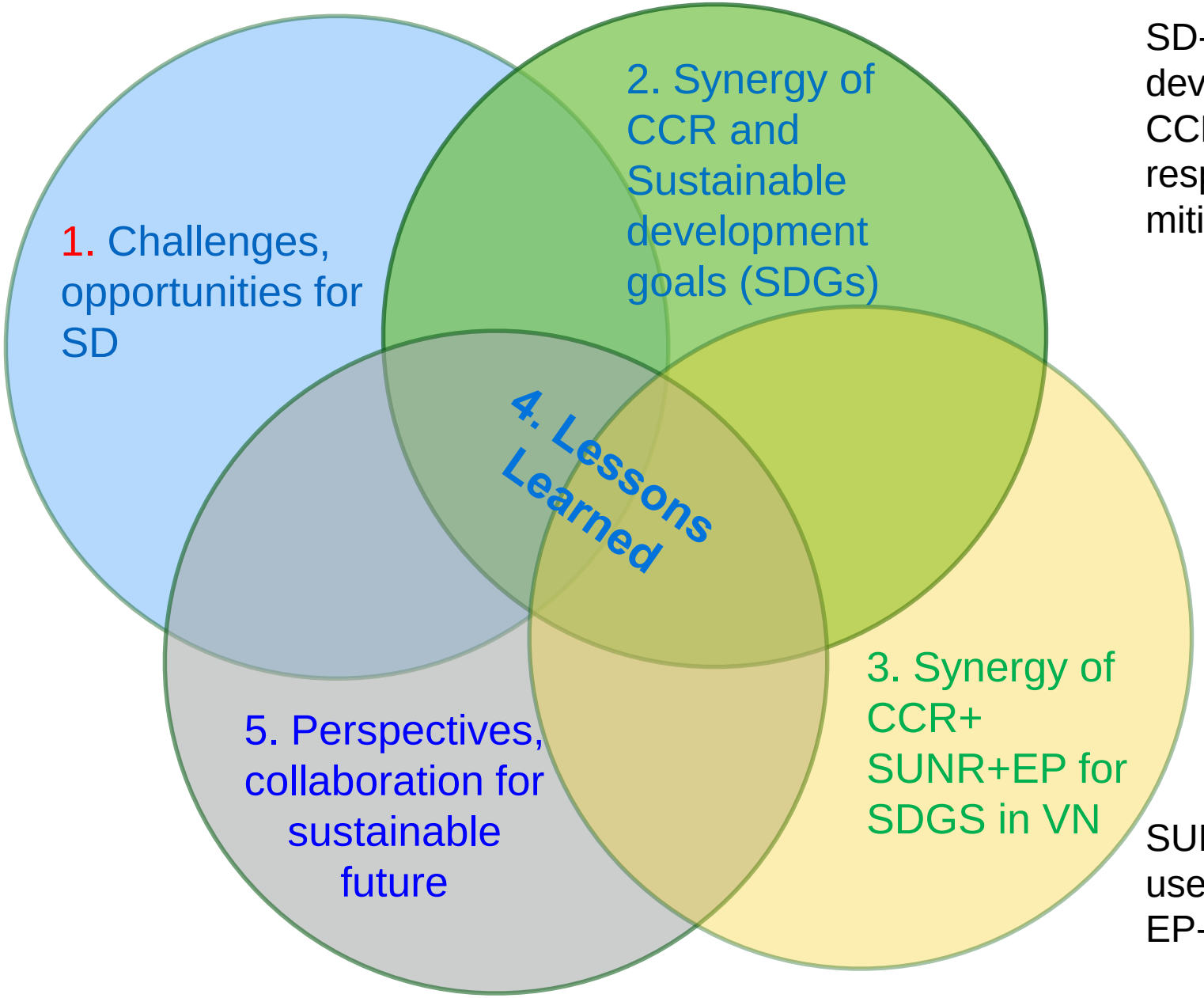
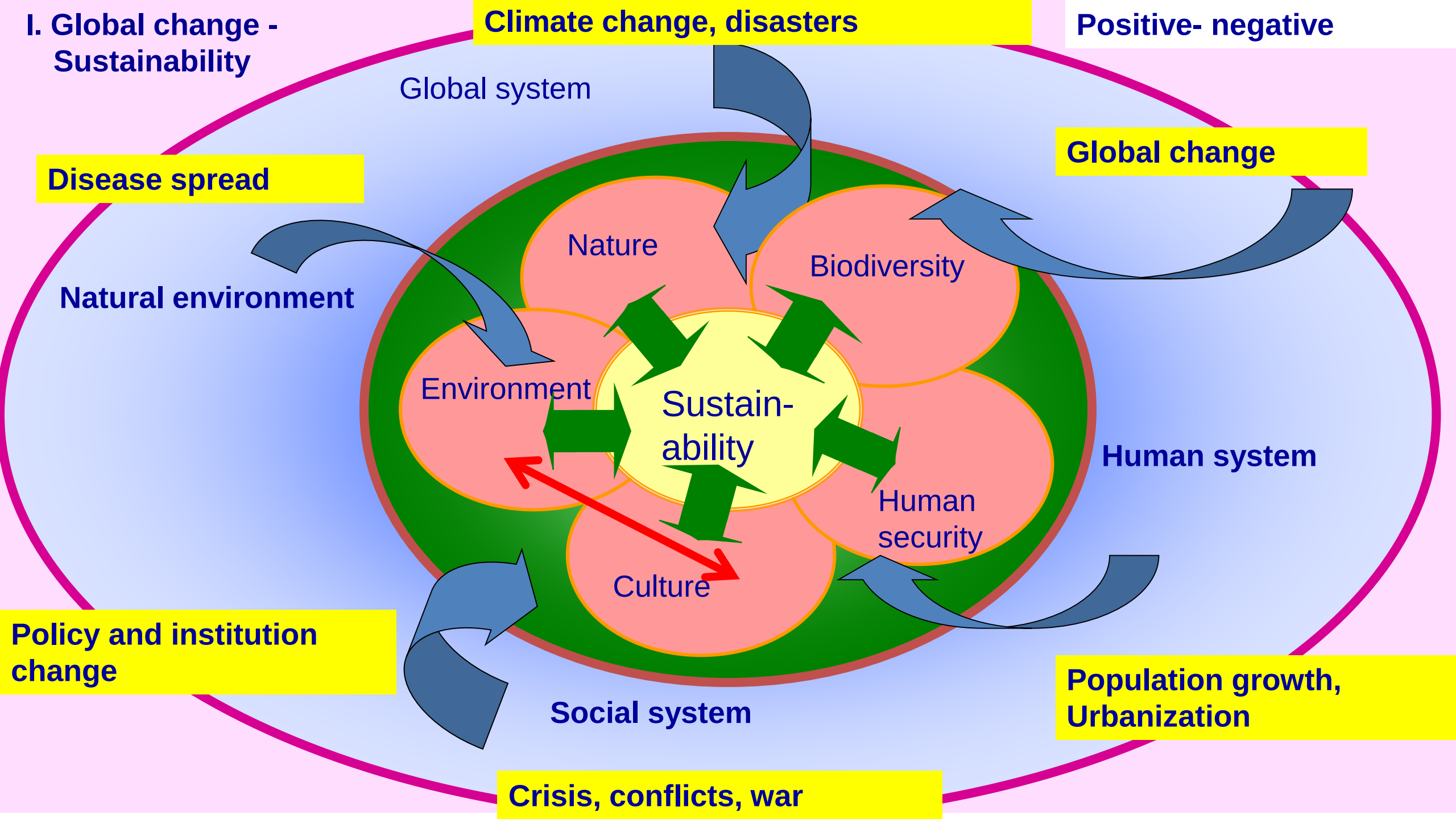


SD-sustainable development
CCR- climate change response (adaptation, mitigation)

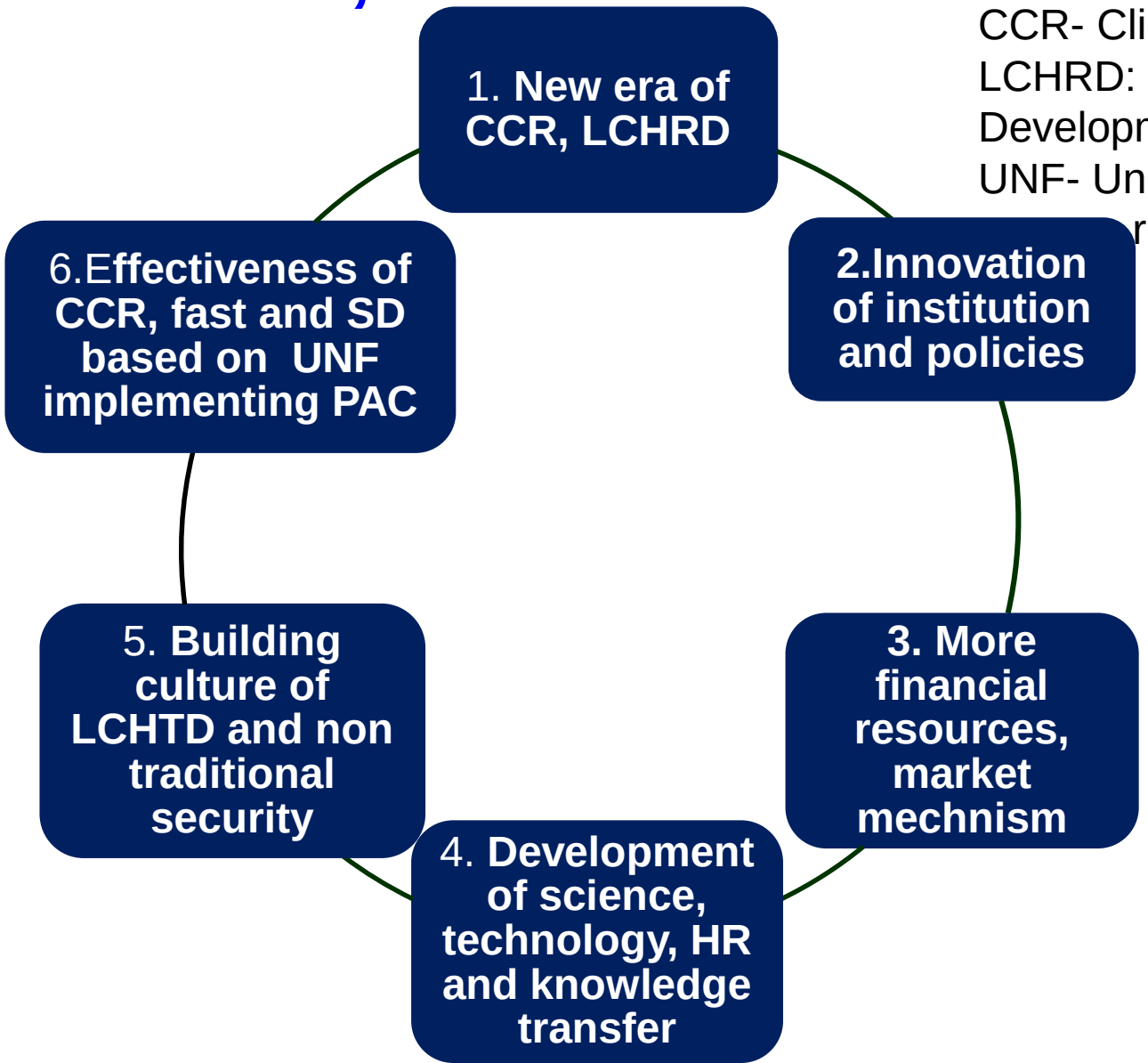
SUNR- sustainable use of natural resources
EP- environment protection

I. Global change - Sustainability

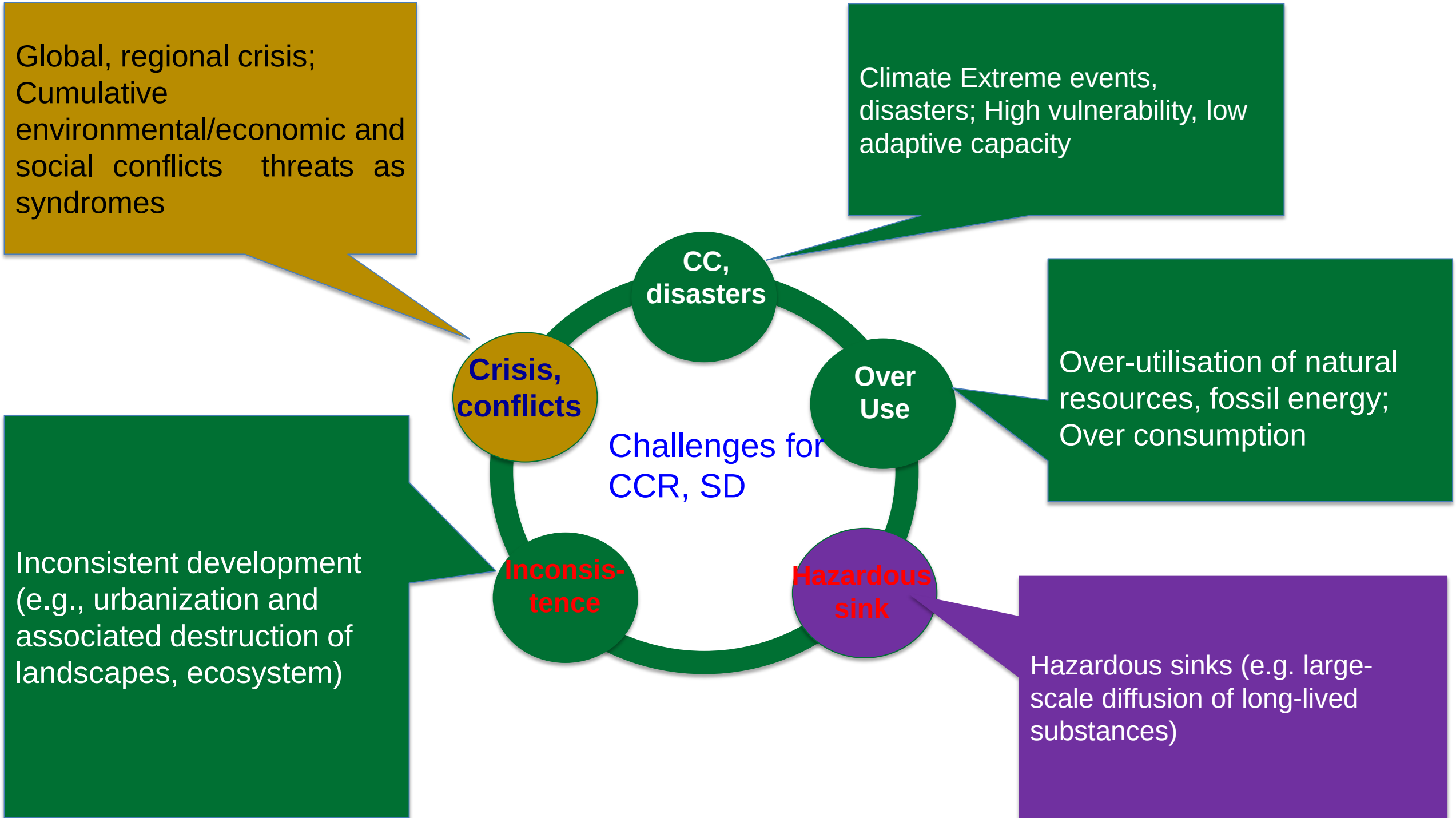


I. Global context of sustainable development (SD)

Opportunities for CCR, SD



PAC- Paris Agreement on climate
CCR- Climate change response
LCHRD: low carbon, highly resilient Development
UNF- United nations frameworks and resolutions


Global, regional crisis; Cumulative environmental/economic and social conflicts threats as syndromes
Climate Extreme events, disasters; High vulnerability, low adaptive capacity
CC, disasters
Crisis, conflicts
Over Use
Challenges for CCR, SD
Over-utilisation of natural resources, fossil energy; Over consumption
Inconsis-tence
Hazardous sink
Inconsistent development (e.g., urbanization and associated destruction of landscapes, ecosystem)
Hazardous sinks (e.g. large-scale diffusion of long-lived substances)

II. Synergy of climate change adaptation, mitigation and SD

Sustainable development goals (SDGs)

17 goals
169 targets
Indicators

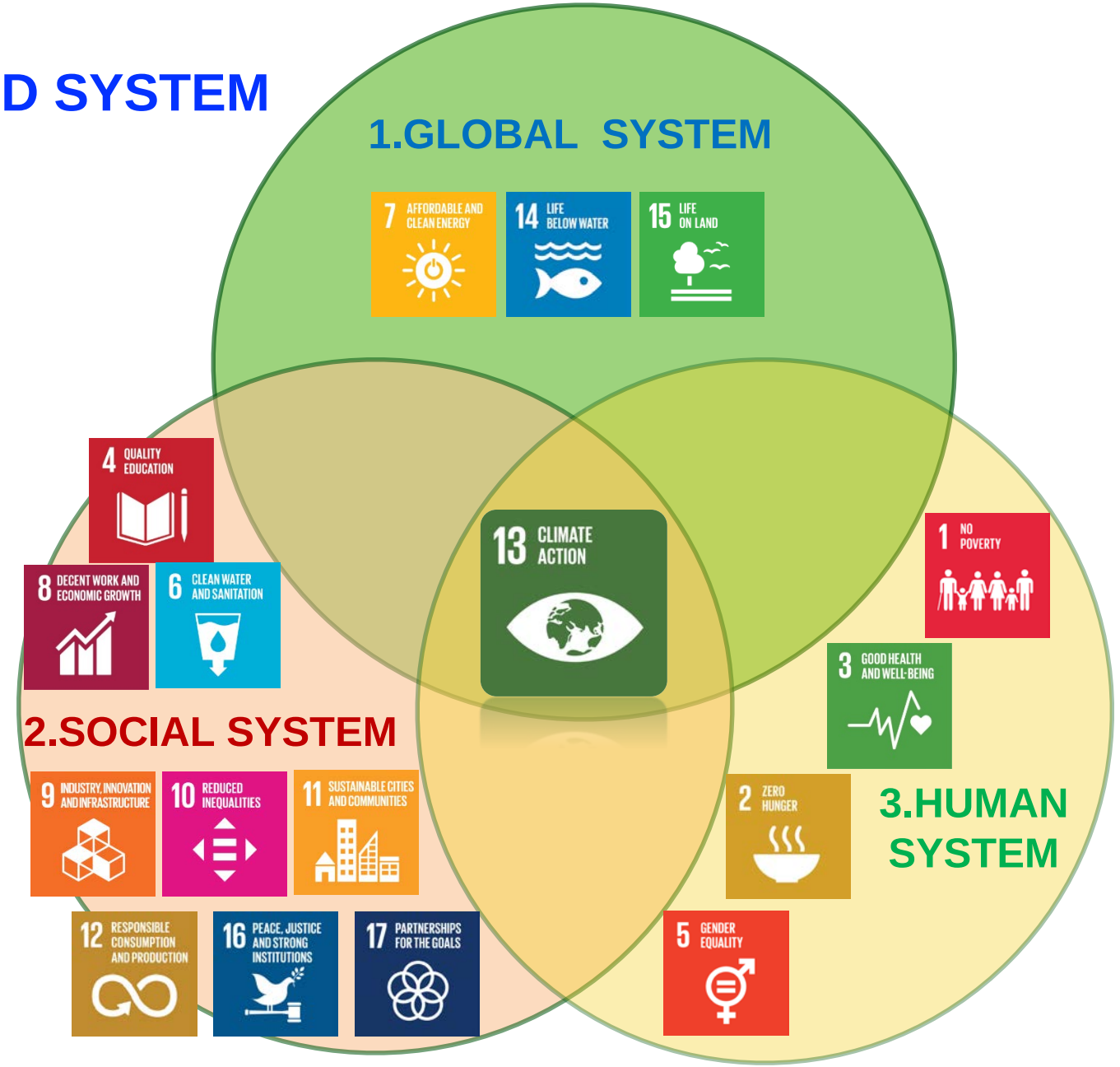
I) UNIVERSAL: apply to *every* nation … and every sector. Cities, businesses, schools, organizations, *all* are challenged to act

II) INTEGRATION: Goals are all inter-connected, in a system

III) TRANSFORMATION: achieving these Goals involves making very big, fundamental changes in how we live on Earth

II. Synergy of climate change adaptation, mitigation and SD

AN INTERGRAGED SYSTEM



II. Synergy of climate change adaptation, mitigation and SD

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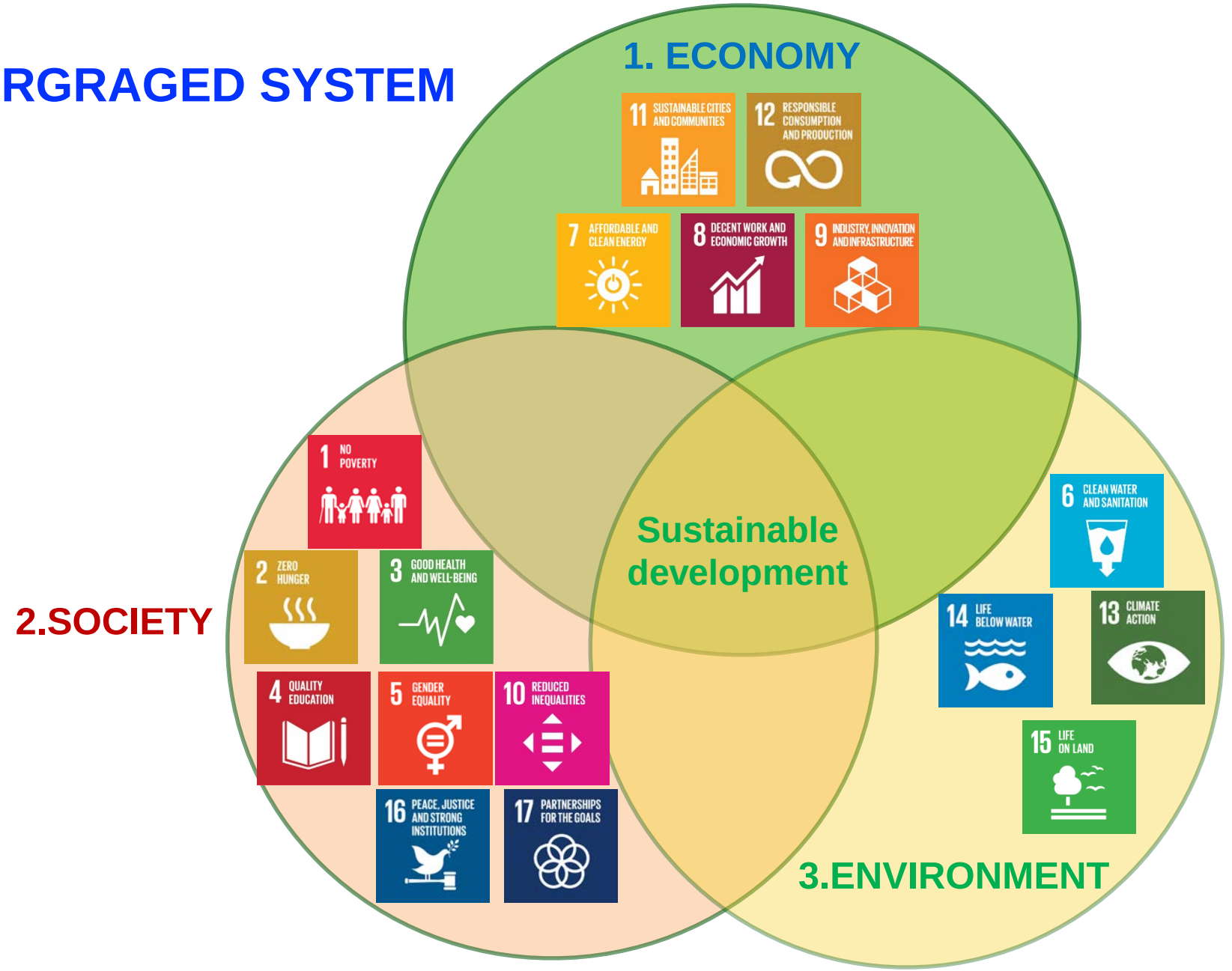

II. Synergy of climate change adaptation, mitigation and SD

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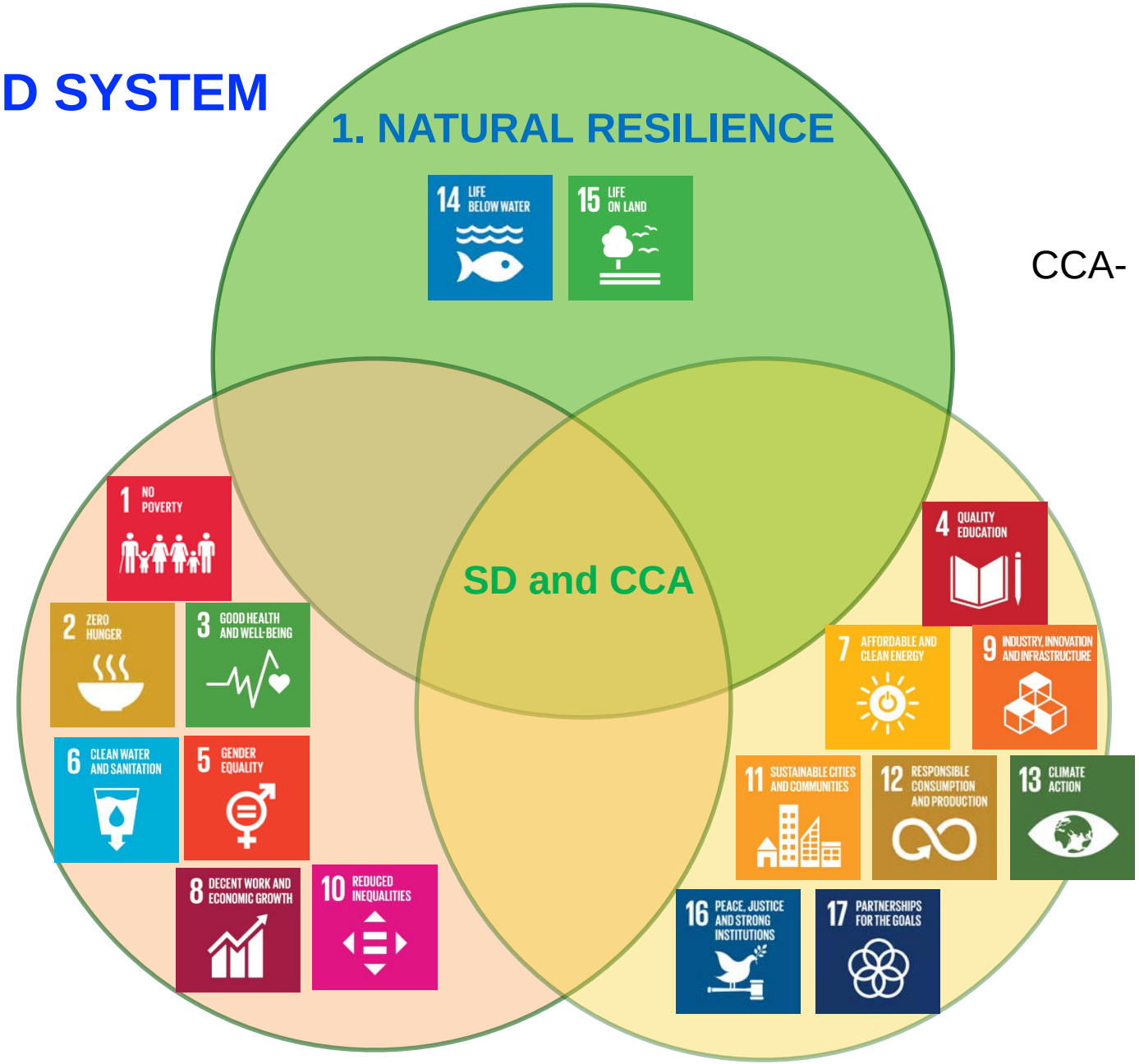
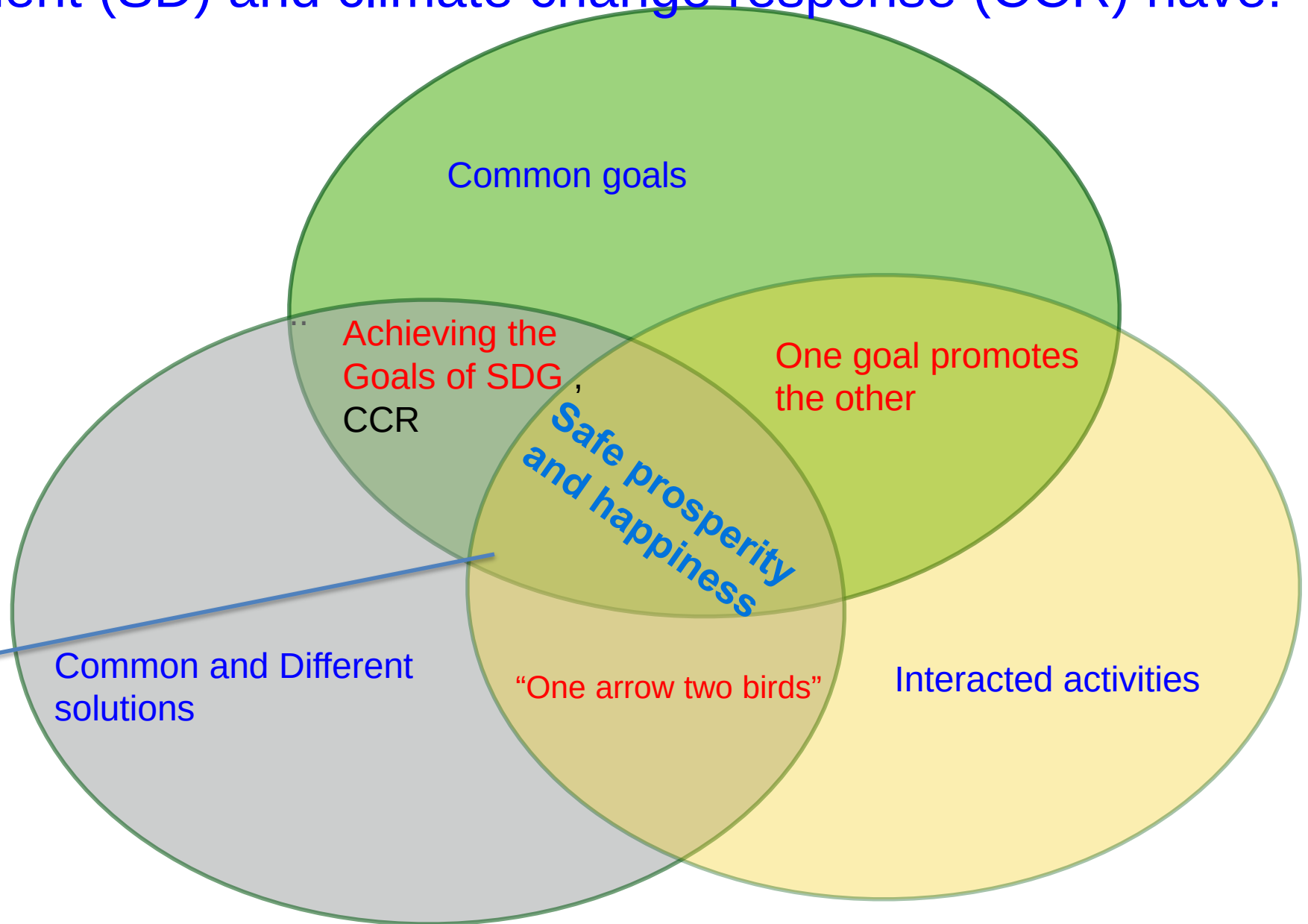


CCA- climate change adaptation

II. Synergy of climate change adaptation, mitigation and SD

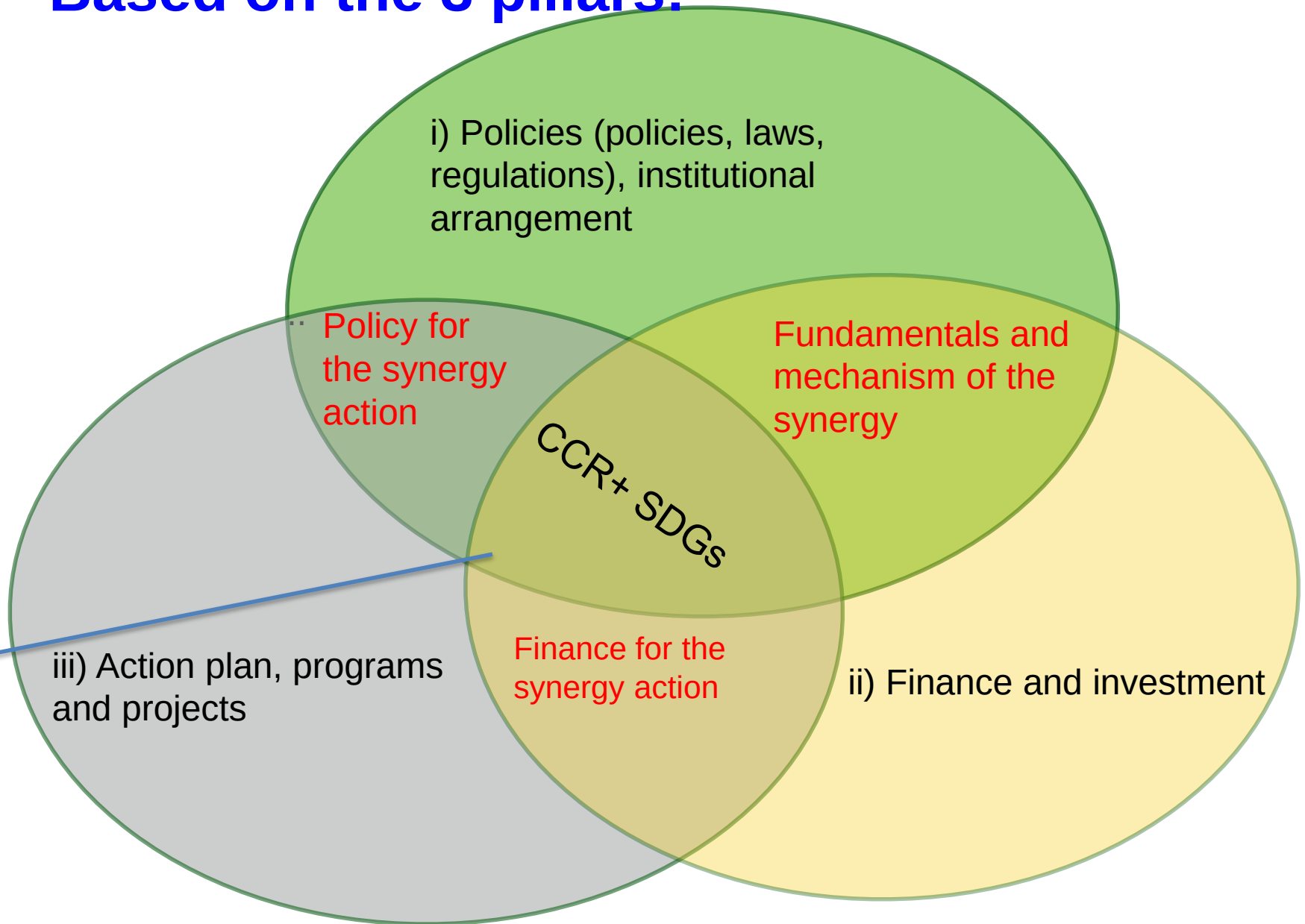
Sustainable development (SD) and climate change response (CCR) have:



Green Earth,
Safely prospective and happy World

II. Synergy of climate change adaptation, mitigation and SD

Based on the 3 pillars:



for Green Earth,
Safely prospective and happy World

II. Synergy of climate change adaptation, mitigation and SD

1.Adaptation : 1.1. Social resilience

Goal 8: Decent Work and Economic Growth

Goal 1: No Poverty; Goal 2: Zero Hunger

Goal 3: Good Health and Well-being

Goal 6: Clean Water and Sanitation

Goal 5: Gender Equality

•Goal 10: Reduced Inequalities

1.2.Natural resilience:

•Goal 14: Life Below Water; Goal 15: Life on Land

2.Mitigation: Goal 7: Affordable and Clean energy;

Goal 12: Responsible Consumption and Production

3. Transforming + integration

Goal 4: Quality Education; Goal 8:

Goal 9: Industry, Innovation and Infrastructure

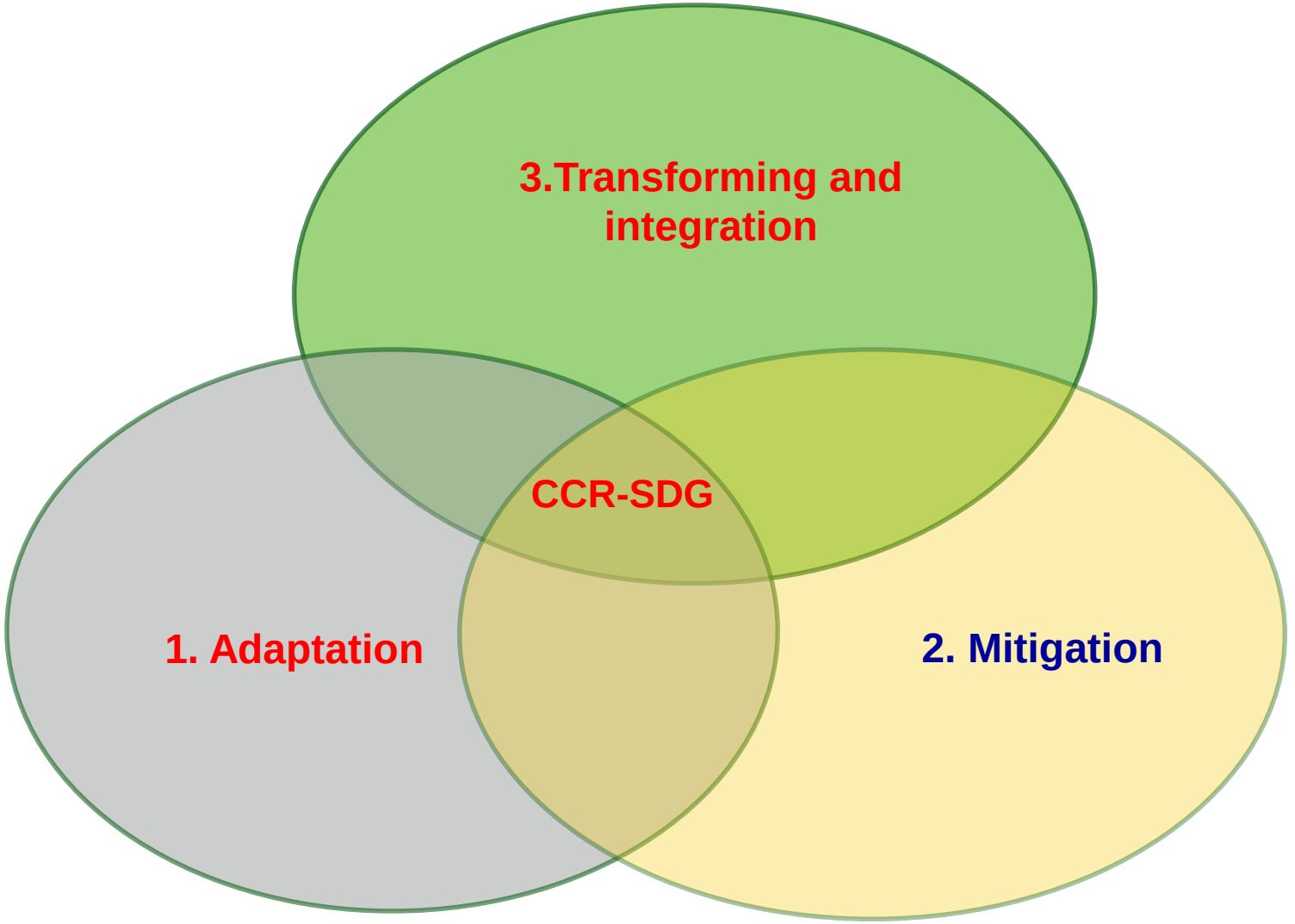
Goal 11: Sustainable Cities and Communities

Goal 16: Peace, Justice and Strong Institutions

Goals 14, 15; Goal 17: Partnerships for the Goals

Goal 13: Climate Action

Climate change response (CCR) for SDG



Environmental sustainability/performance and SDGs

Environmental sustainability, performance	*Issues/Indicator*	*Achieving SDGs*
Environmental health	Health Impacts (Environmental Risk Exposure)	SDG 3
	Air quality	SDG3
	Water and sanitation/water quality)	SDG3 6
	Waste recycling and reuse, Level of 3R+E (waste energy)	SDG 6, 8, 9,11,12
Ecosystem vitality	Water resources/ quantity, access	SDG 3,6
	Forest area as a percent of land, change in forest cover	SDG 11, 13, 14,15
	Biodiversity (Terrestrial and marine protected areas)	SDG 11, 13, 14,15
	Climate energy (CO2 emissions per kWh), clean energy	SDG7, 11,13,

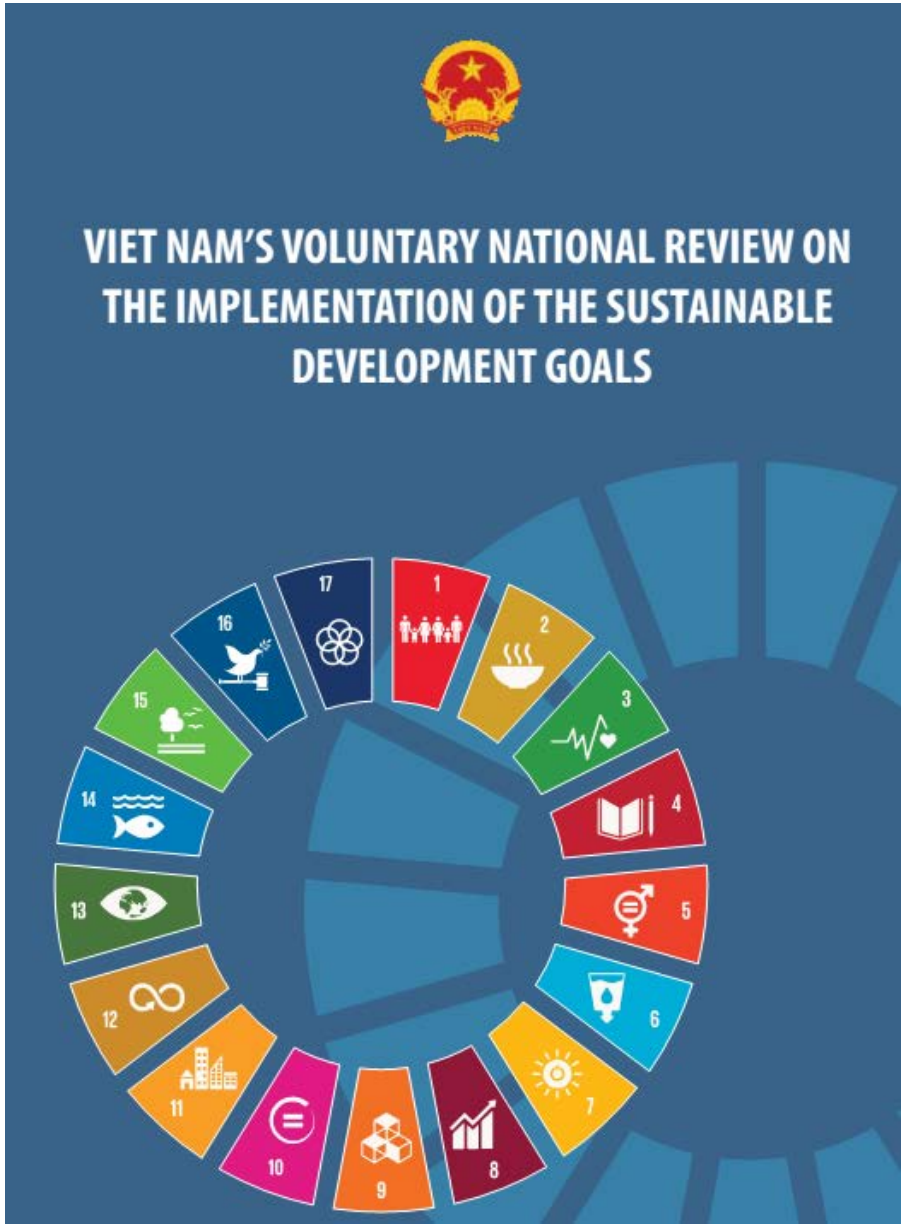
III. Synergy of climate change adaptation, mitigation and SD in Vietnam

Objectives: increasing peace, prosperity, democracy, equality and sustainability of VN through:

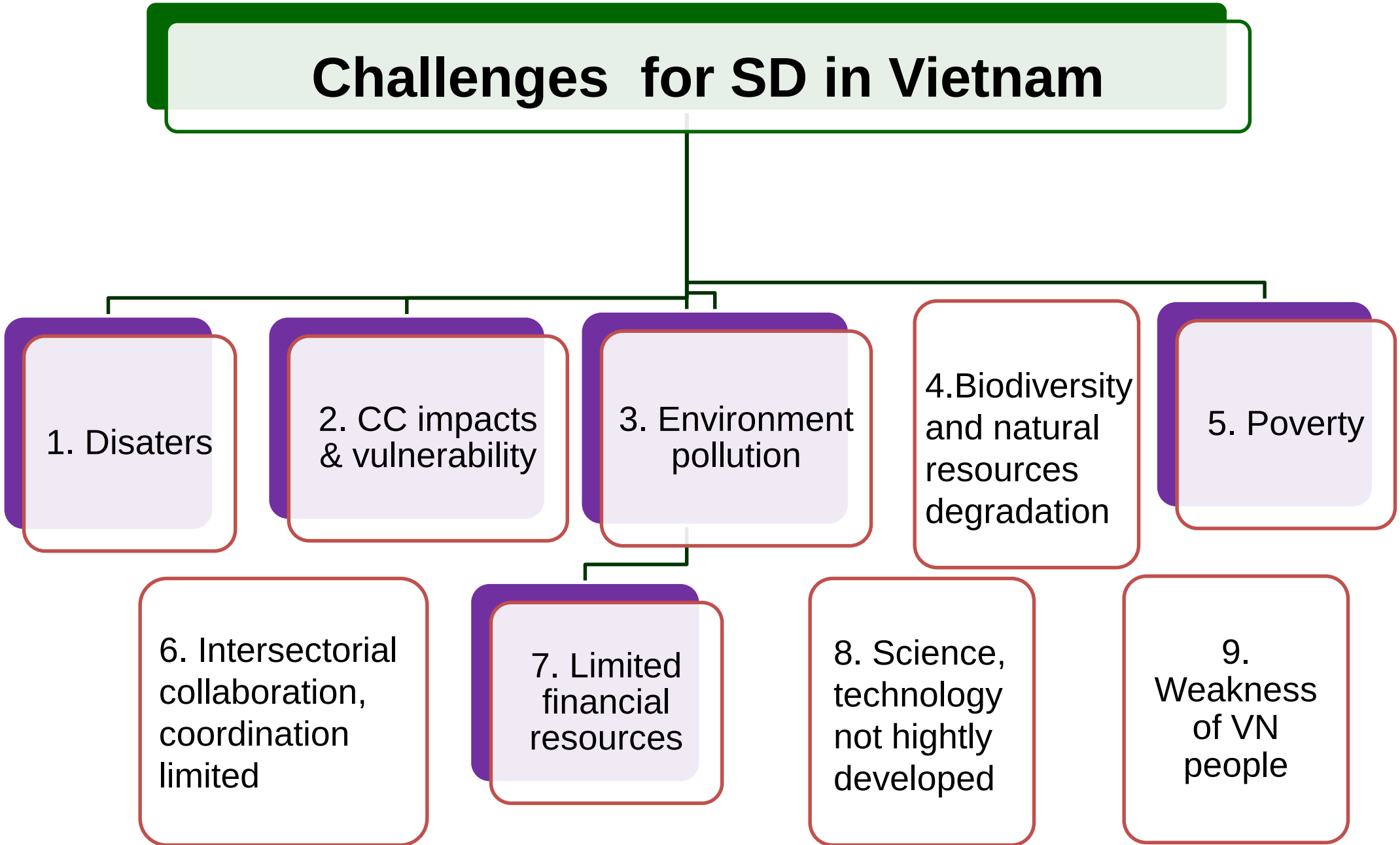
Sustainable economy + Social progress+ Environment and ecosystem protection + Sustainable use and management of natural resources + Proactive CCR

Solutions:

1. Policy and institution innovation
2. Action plan: national, ministerial, provincial levels
3. Propaganda, education for increasing awareness on SDGs, Action plan; increasing capacity, high quality human resource development
4. Implementing SDG criteria and roadmap
5. Integrating SDGs into development policy, strategy, plans of national, ministerial, provincial levels
6. Monitoring, assessing, reporting progress of SDGs achieving, including SDG database
7. Development of science and technology and knowledge transfer
8. Mobilizing financial resources for implementing SDGs.
9. International, regional, national, regional collaboration

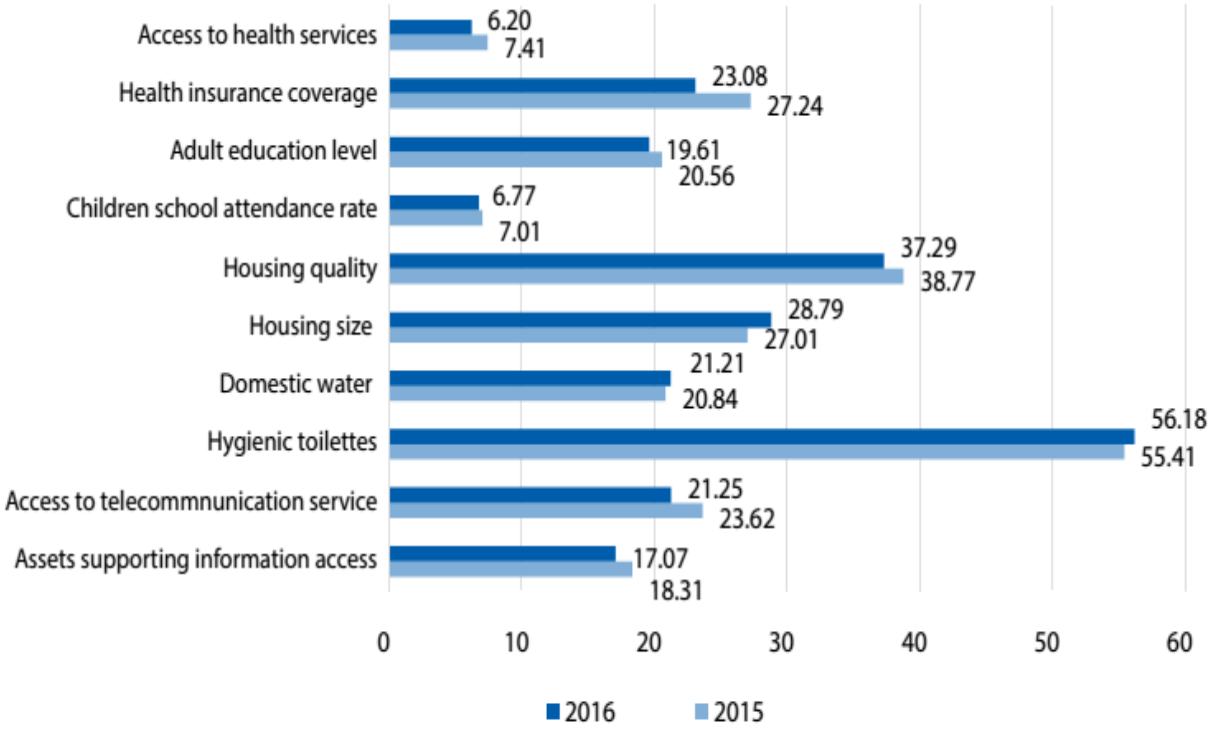


III. Synergy of climate change adaptation, mitigation and SD in Vietnam



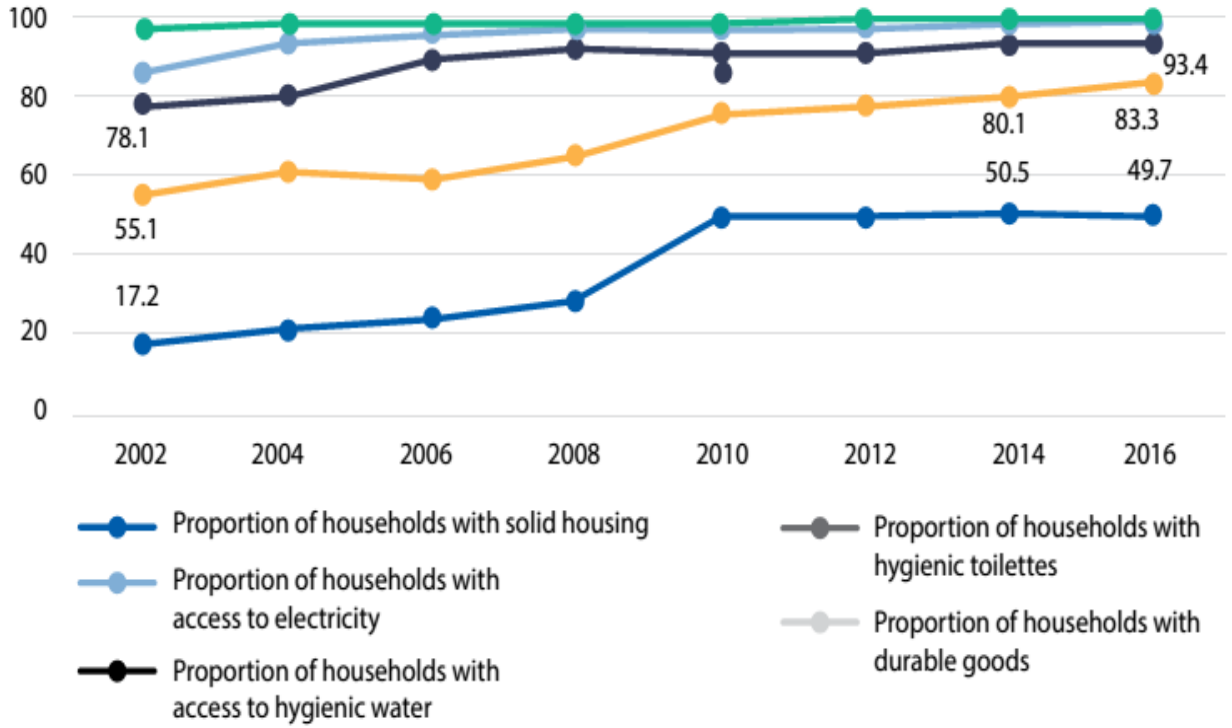
III. Synergy of climate change adaptation, mitigation and SD in Vietnam

SDG 1: End poverty in all its forms everywhere



Source: MOLISA, National Office for Poverty Reduction

Multi-Dimensional Poverty Deprivations at National Level (%)



Source: GSO, VHLSS 2002-2014, estimate 2016

Access to basic living conditions (%)

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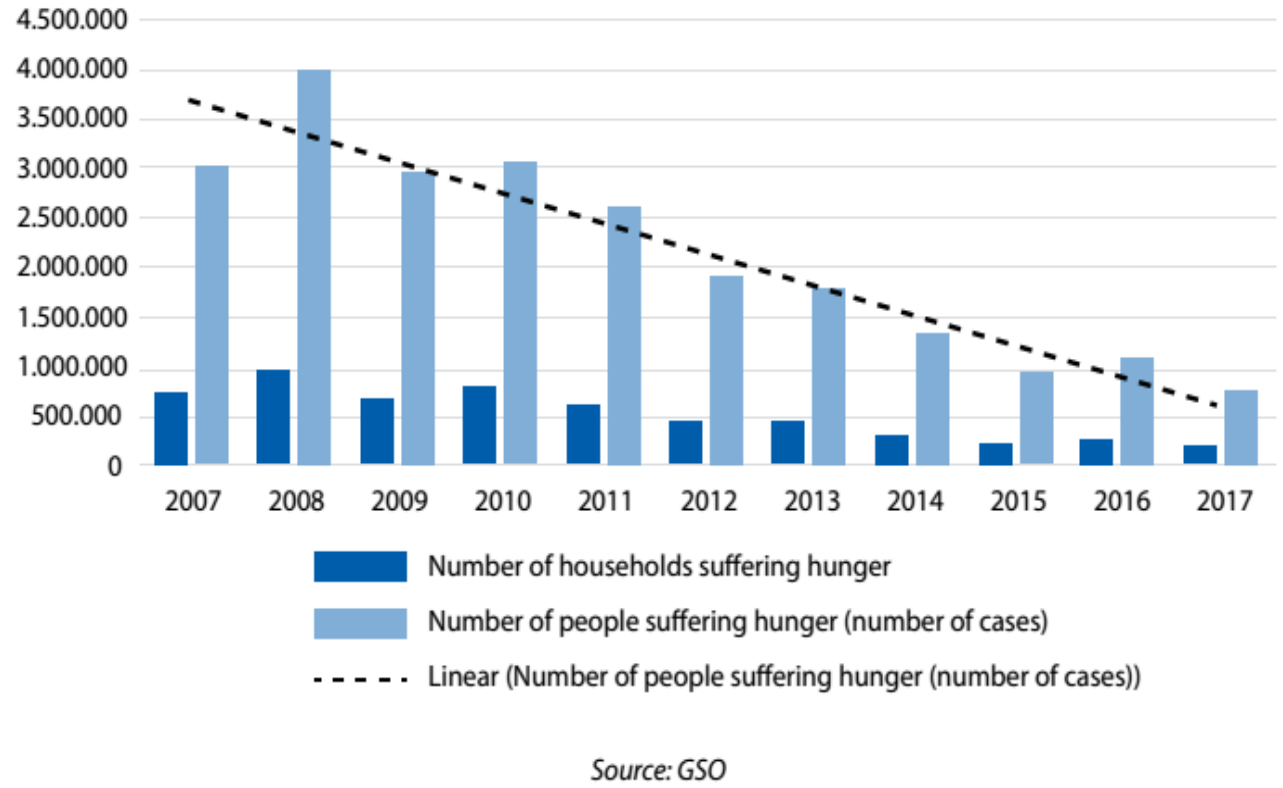
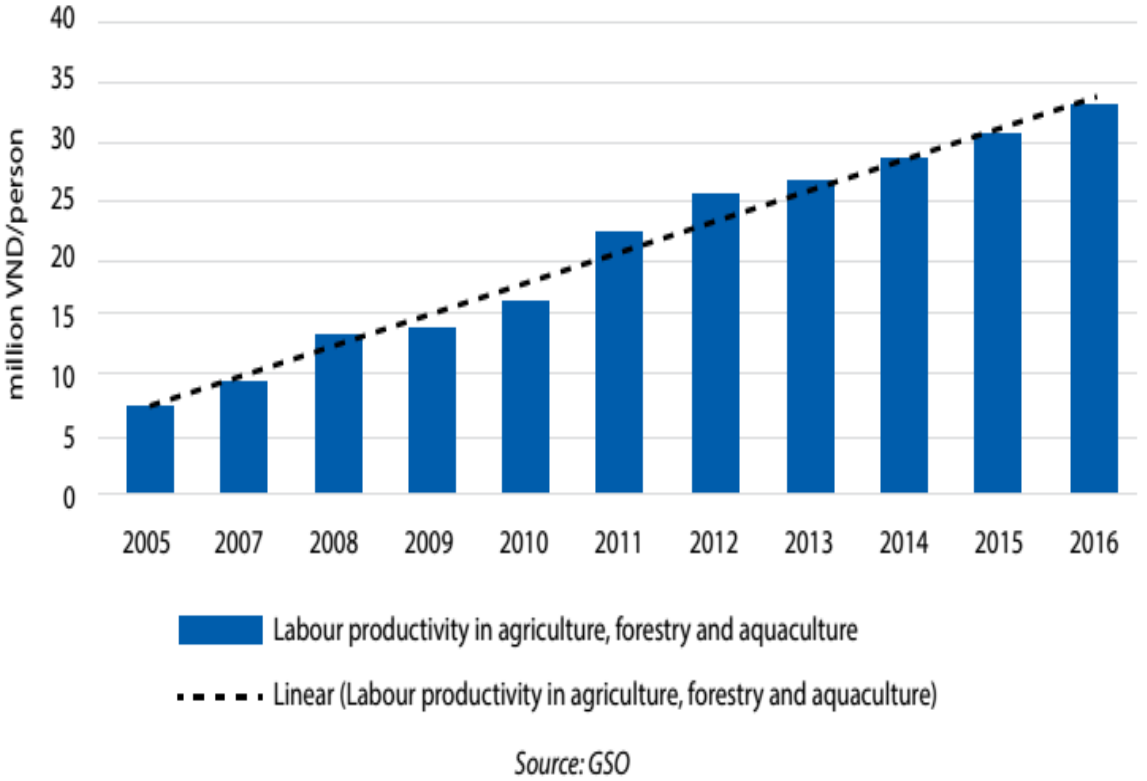
SDG 2: End hunger, ensure food security, improve nutrition and promote sustainable agricultural development



Source: GSO

Number of households and people suffering hunger



Source: GSO

Social labour productivity in agriculture, forestry and fisheries (million VND/person)

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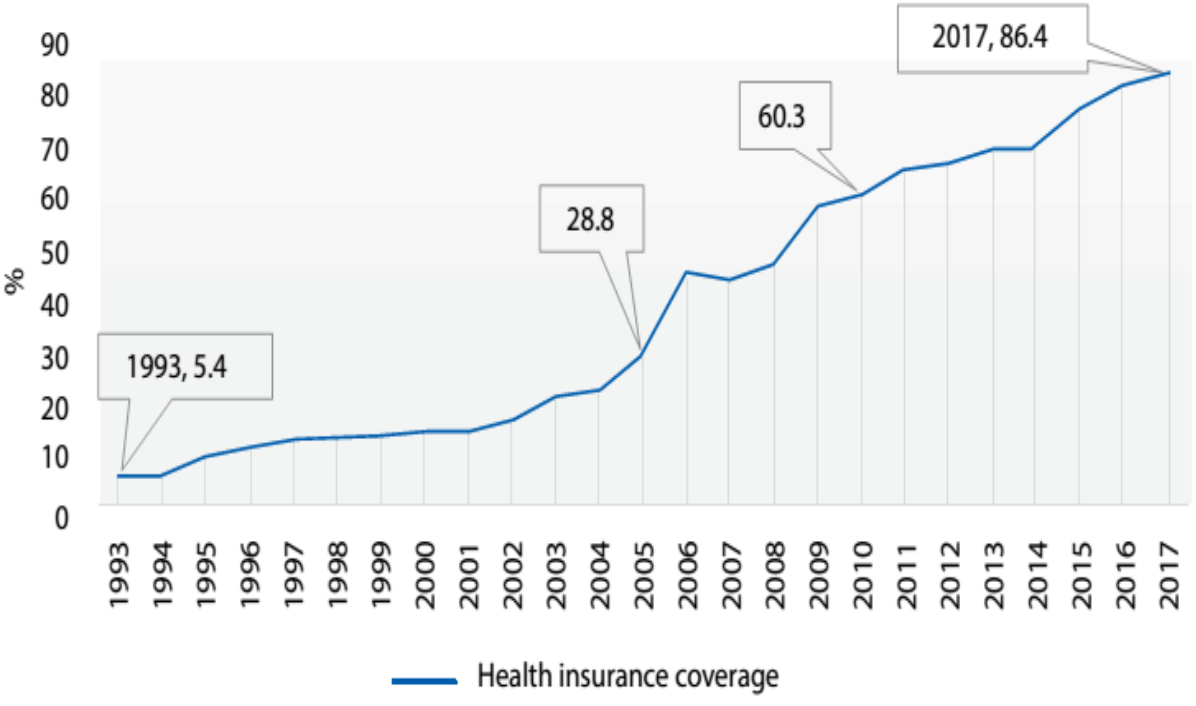
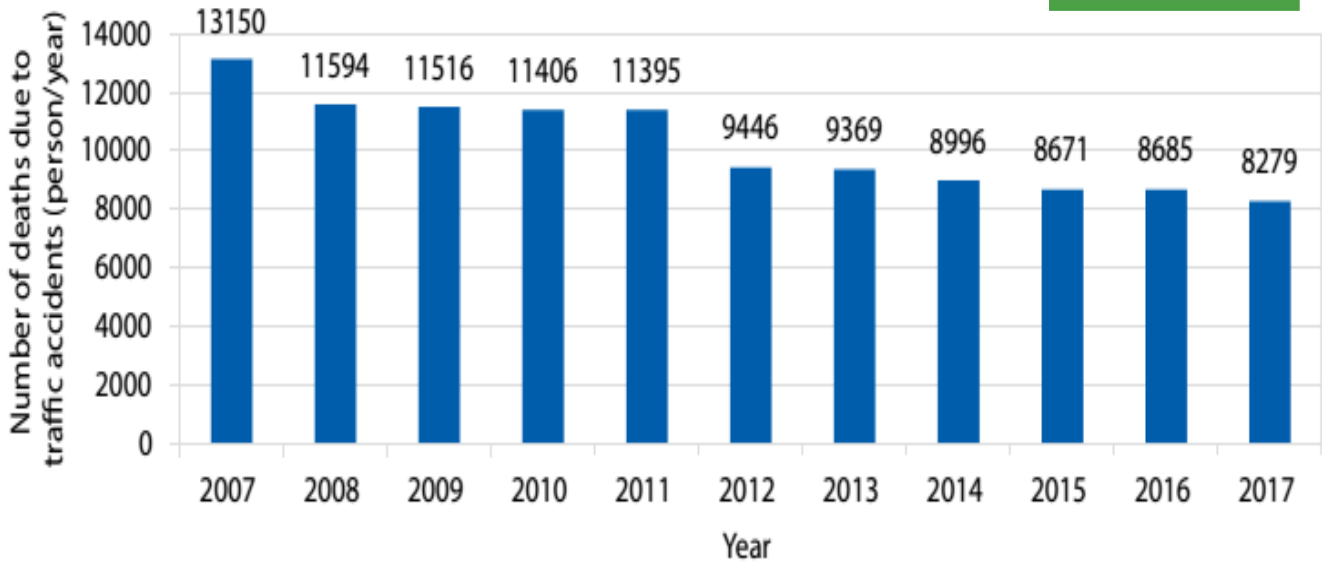
SDG 3: Ensure healthy lives and promote well-being for all at all ages



Source: Viet Nam Social Insurance and MOH[19]

Percentage of population with health insurance (%)



Source: National Traffic Safety Committee

Deaths caused by traffic accidents in Viet Nam in 2007-2017

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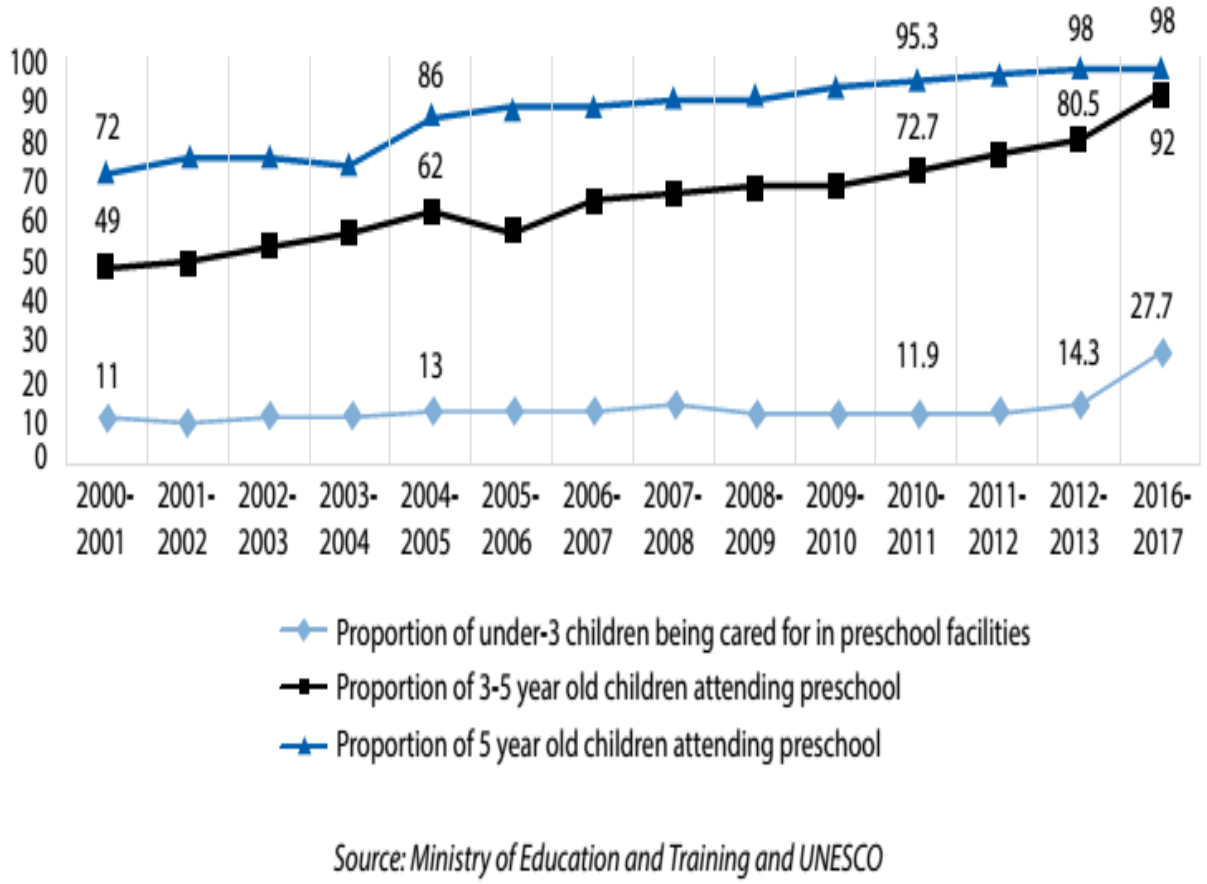
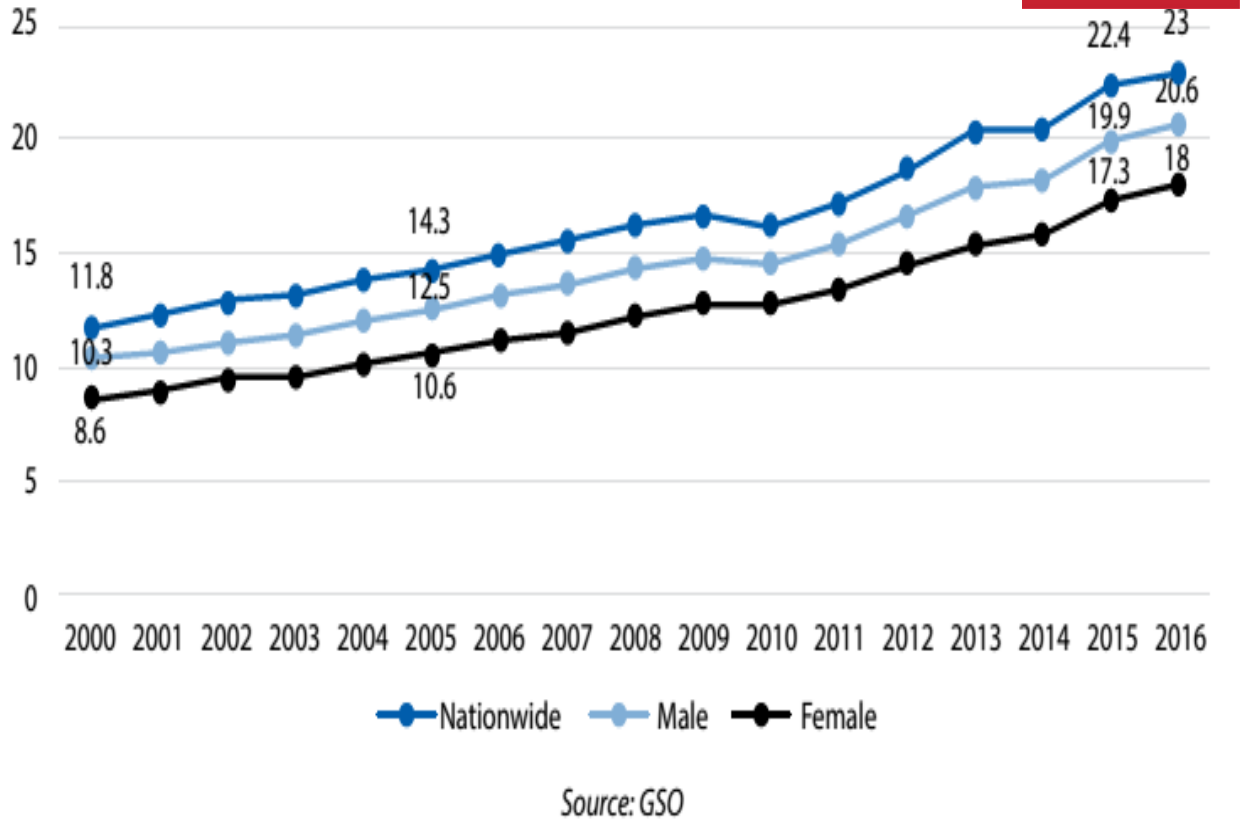
SDG 4: Ensure inclusive and equitable quality education and promote life-long learning opportunities for all



Source: Ministry of Education and Training and UNESCO

Enrolment rate at kindergarten facilities (%)



Source: GSO

The proportion of labourers receiving training (%)

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SDG 5: Achieve gender quality; empower and create enabling opportunities for women and girls

Table 1. Workforce disaggregated by sex and rural-urban location (per-cent)

	2012	2013	2014	2015	2016	II/2017
Aggregated	76.76	77.52	77.51	77.41	76.75	75.89
Men	81.25	82.07	82.12	82.44	81.66	80.84
Women	72.53	73.23	73.19	72.69	72.13	71.18
Urban	69.98	70.32	70.17	70.93	70.29	69.86
Rural	80.15	81.10	81.28	80.78	80.23	79.13

Source: Calculations from Labour-Employment survey, 2012-second quarter 2017

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SDG 6: Ensure availability and sustainable management of water and sanitation for all

Table 2. Present status of concentrated water supply works

No	Region	Number of works	Present status of concentrated water supply works			
			Sustainable (per-cent)	Average (per-cent)	Ineffective (per-cent)	Unoperated (per-cent)
	Total	**16,342**	**33.5**	**37.8**	**16.7**	**12.0**
1	Northern Moutainous Area	7,184	25.7	40.5	19.6	14.2
2	Red River Delta	802	55.0	26.9	6.8	11.3
3	North Central Area	1,308	15.3	48.0	29.7	7.0
4	South Central Area	1,360	17.4	35.7	28.0	19.0
5	Highlands	1,268	22.2	32.7	14.7	30.5
6	South East Area	278	50.2	26.4	17.2	6.2
7	Mekong Delta	4,141	56.4	35.1	6.3	2.2

Source: Ministry of Agriculture and Rural Development, 2017

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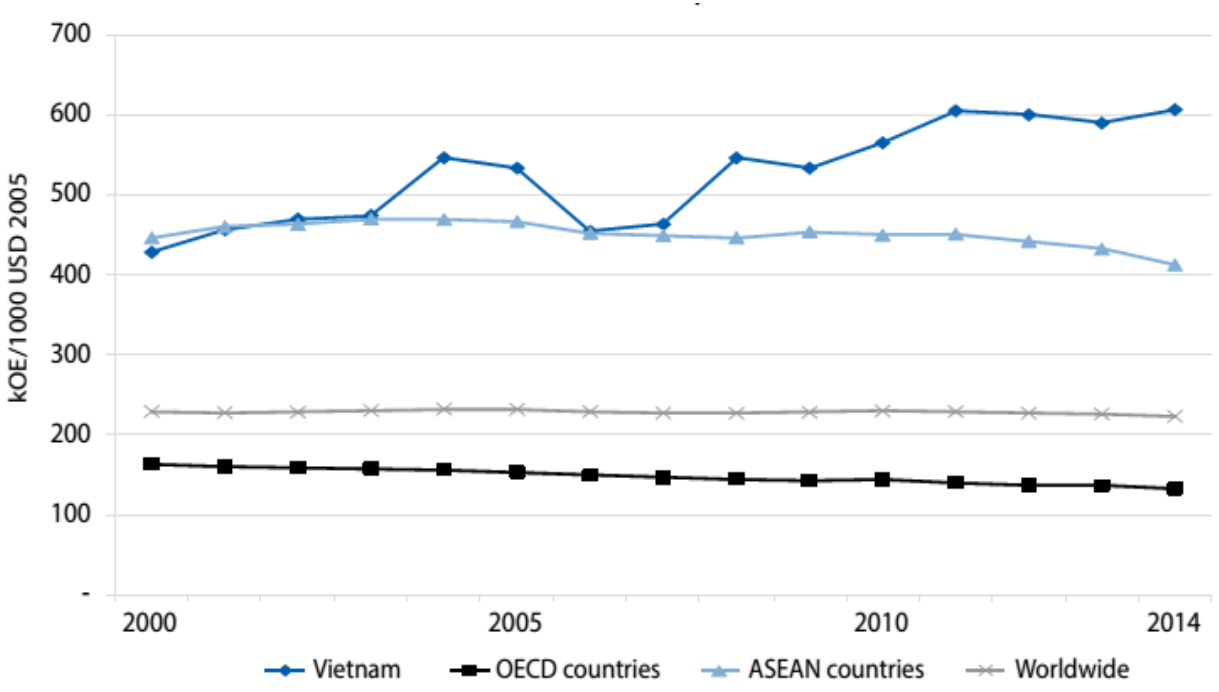
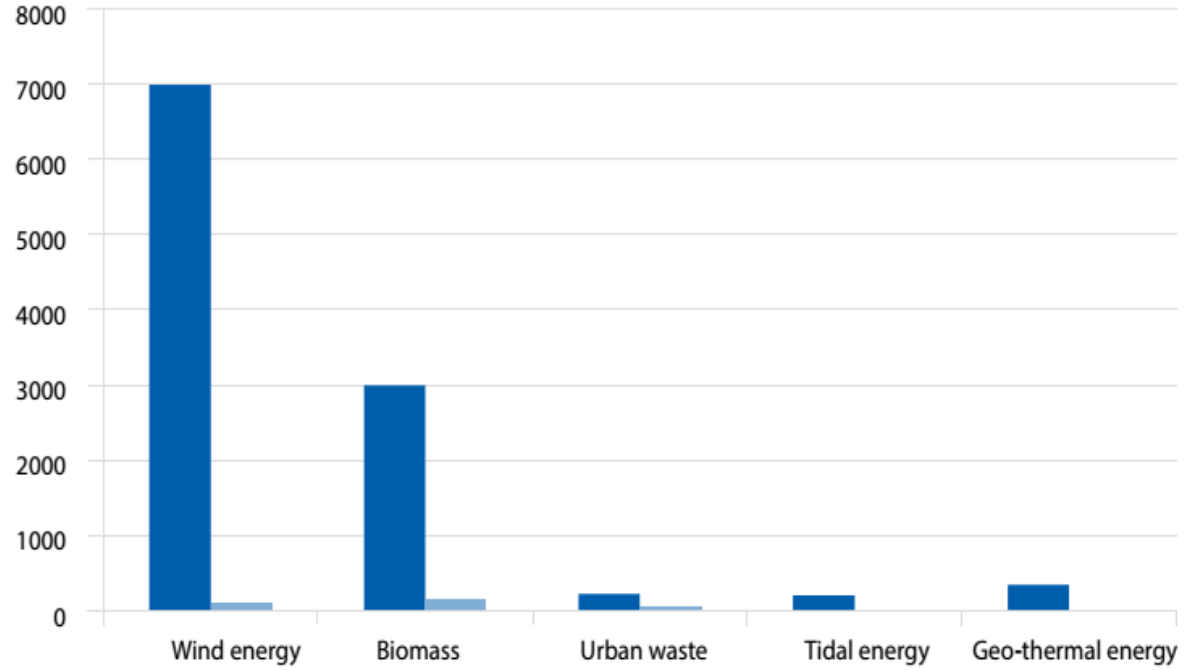
SDG 7: Ensure access to sustainable, reliable and affordable energy for all



Source: Viet Nam Energy Association (VEA)

Energy use intensity of Viet Nam and other countries in 2000-2014 (koE/1000 USD GDP in 2005)



Source: Electricity Regulatory Authority of Viet Nam, MOIT (ERAV)

Potential to develop some types of renewable energy in Viet Nam (MW)

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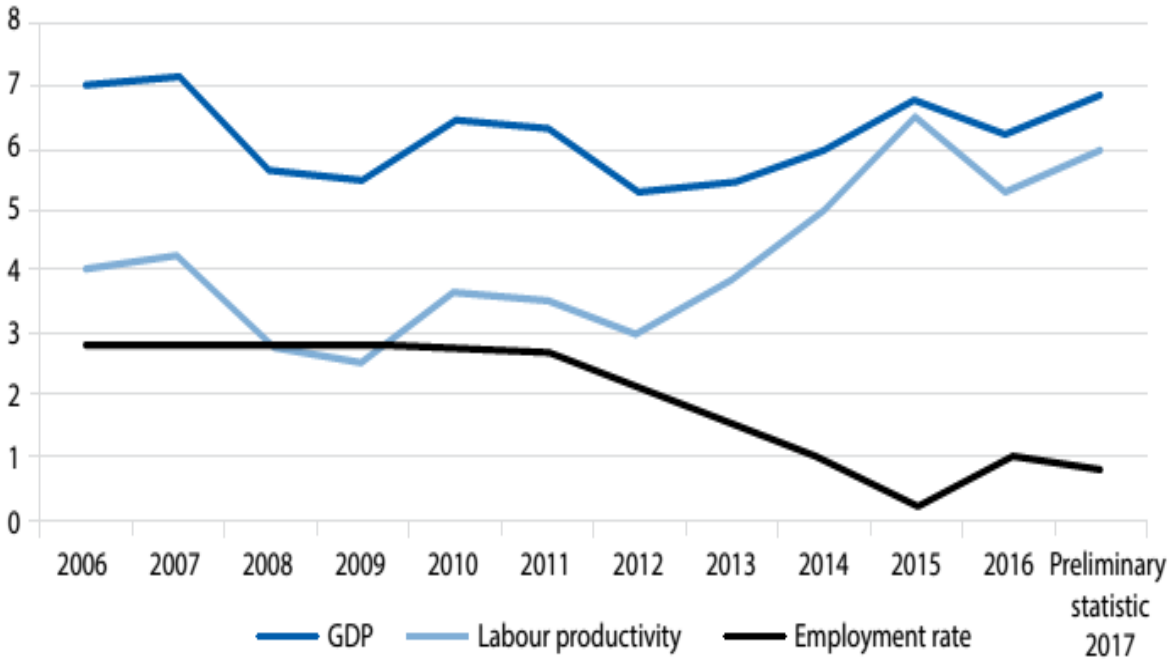
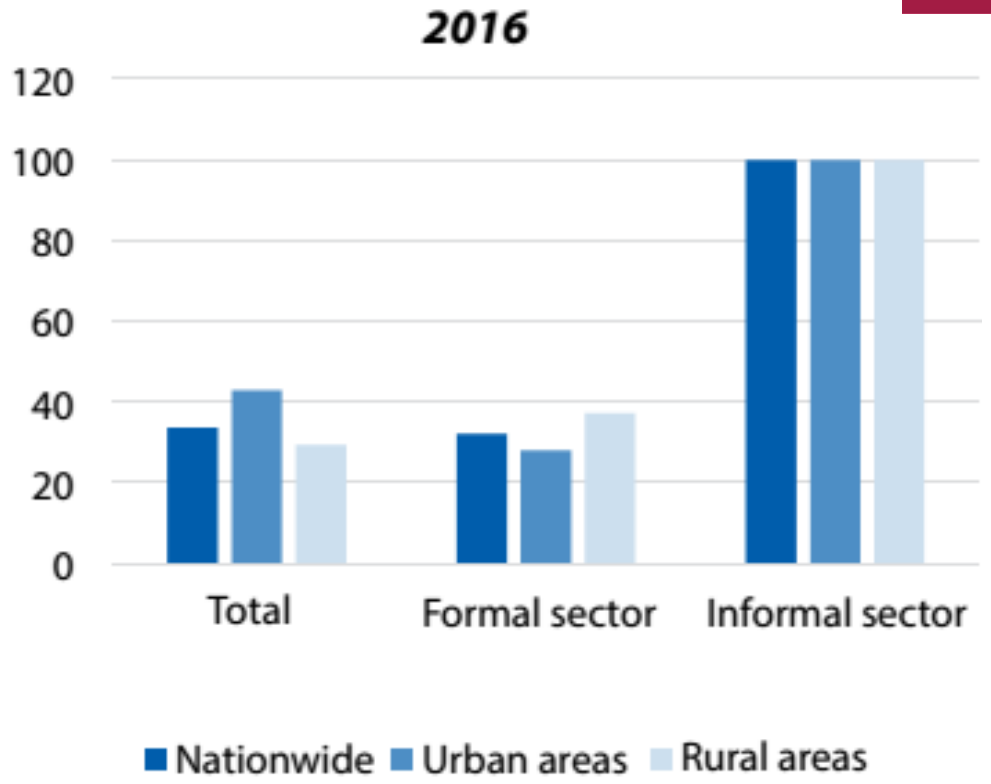
SDG 8: Ensure sustained, inclusive and sustainable economic growth; full and productive employment and decent work for all



Source: Calculation based on GSO data

Annual growth in GDP, labour productivity and number of employed workers, 2006-2017 (%)



Proportion of workers in informal employment (%)

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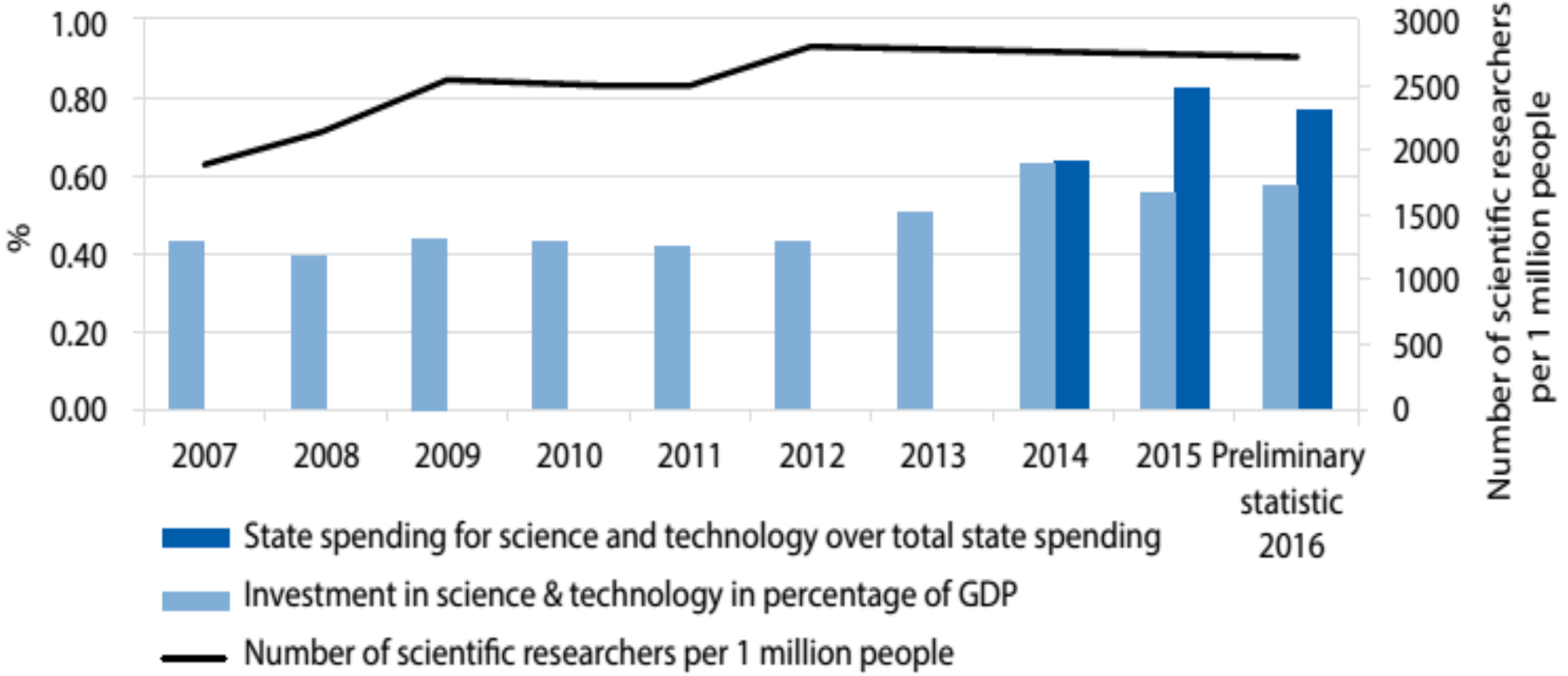
SDG 9: Build resilient infrastructure; promote inclusive and sustainable industrialization; and foster renovation



Source: Calculations based on data from GSO website

Proportion of spending on science and technology (%) and number of science and technology staff/1 million people

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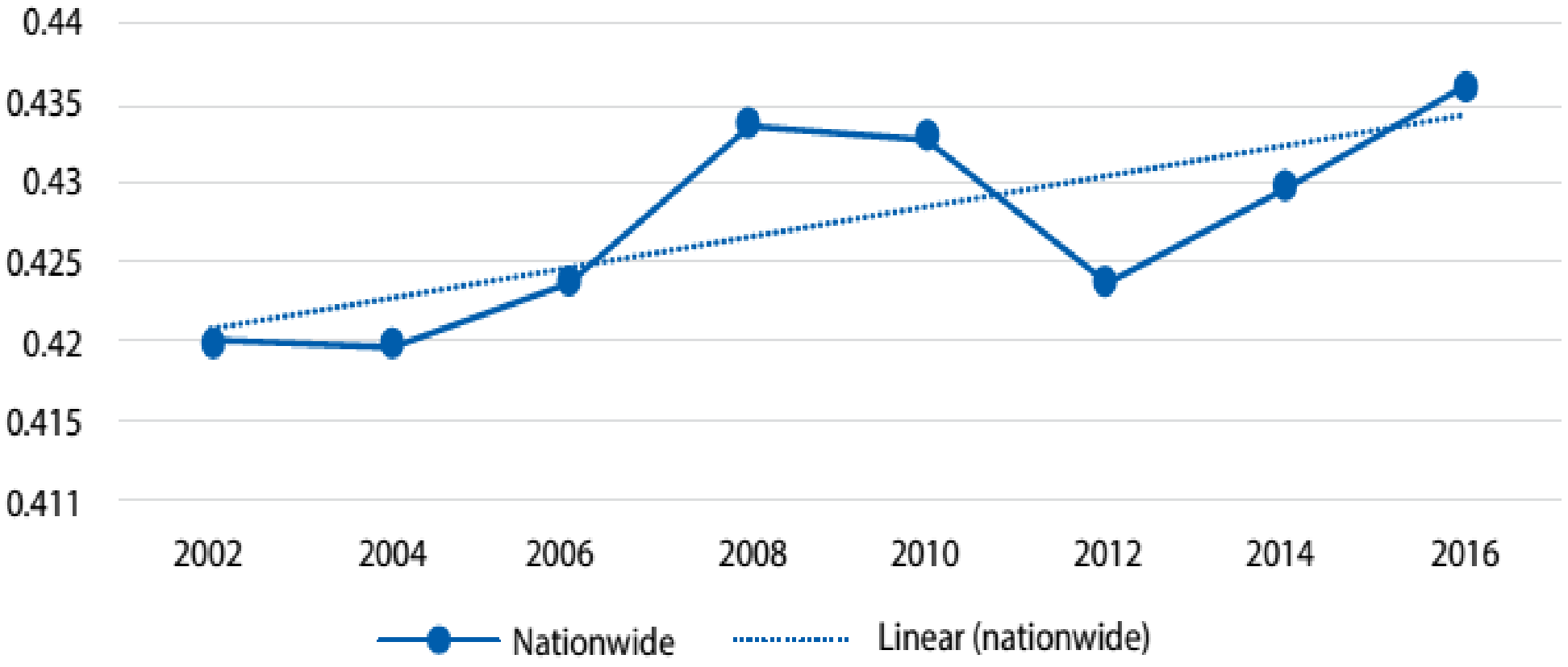
SDG 10: Reduce inequalities



Source: GSO, 2016

Income distribution inequality coefficient (GINI coefficient)

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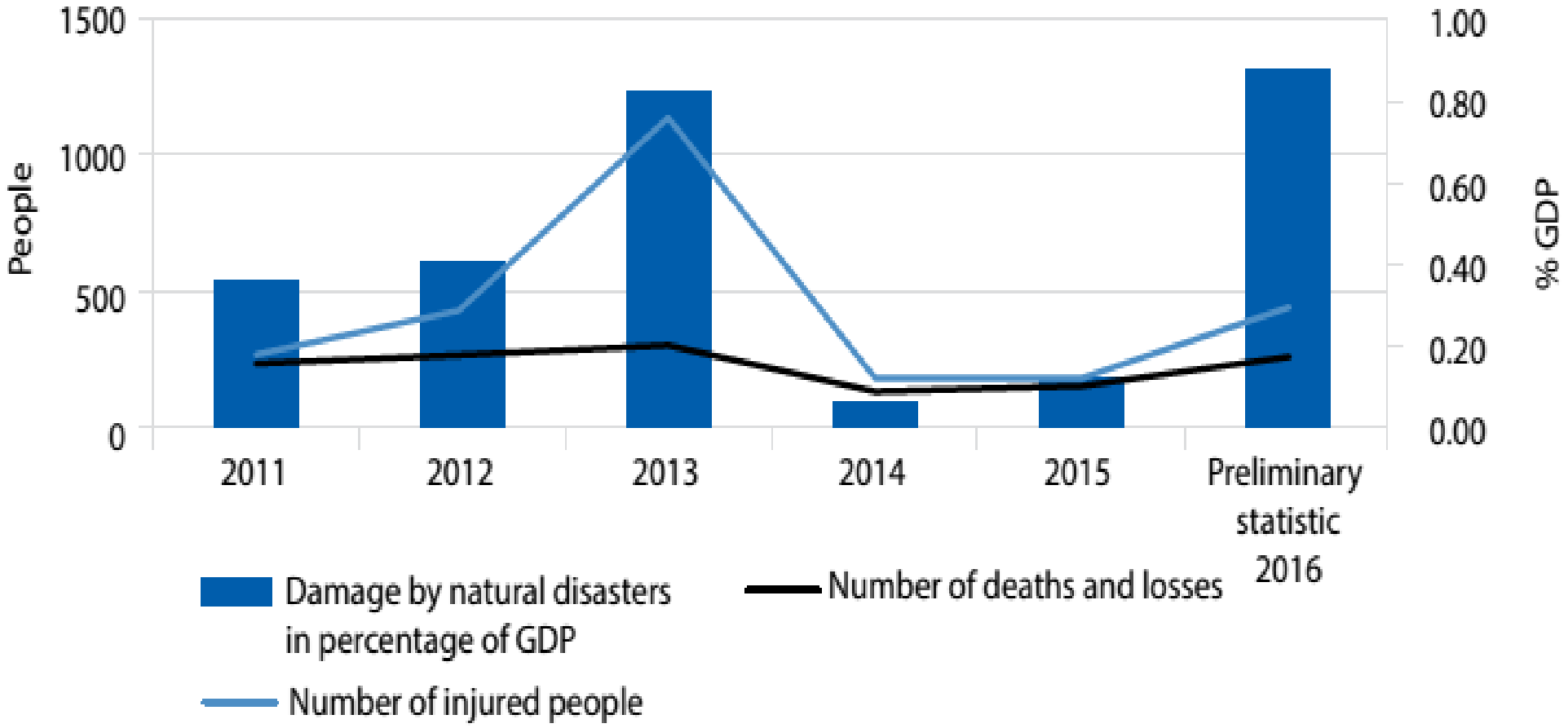
SDG 11: Promote sustainable and resilient urban and rural development; ensure safe living and working environments; ensure reasonable distribution of population and work force by region



Source: GSO

Damage caused by natural disasters in 2011-2016

III. Synergy of climate change adaptation, mitigation and SD in Vietnam

SDG 12: Ensure sustainable consumption and production patterns

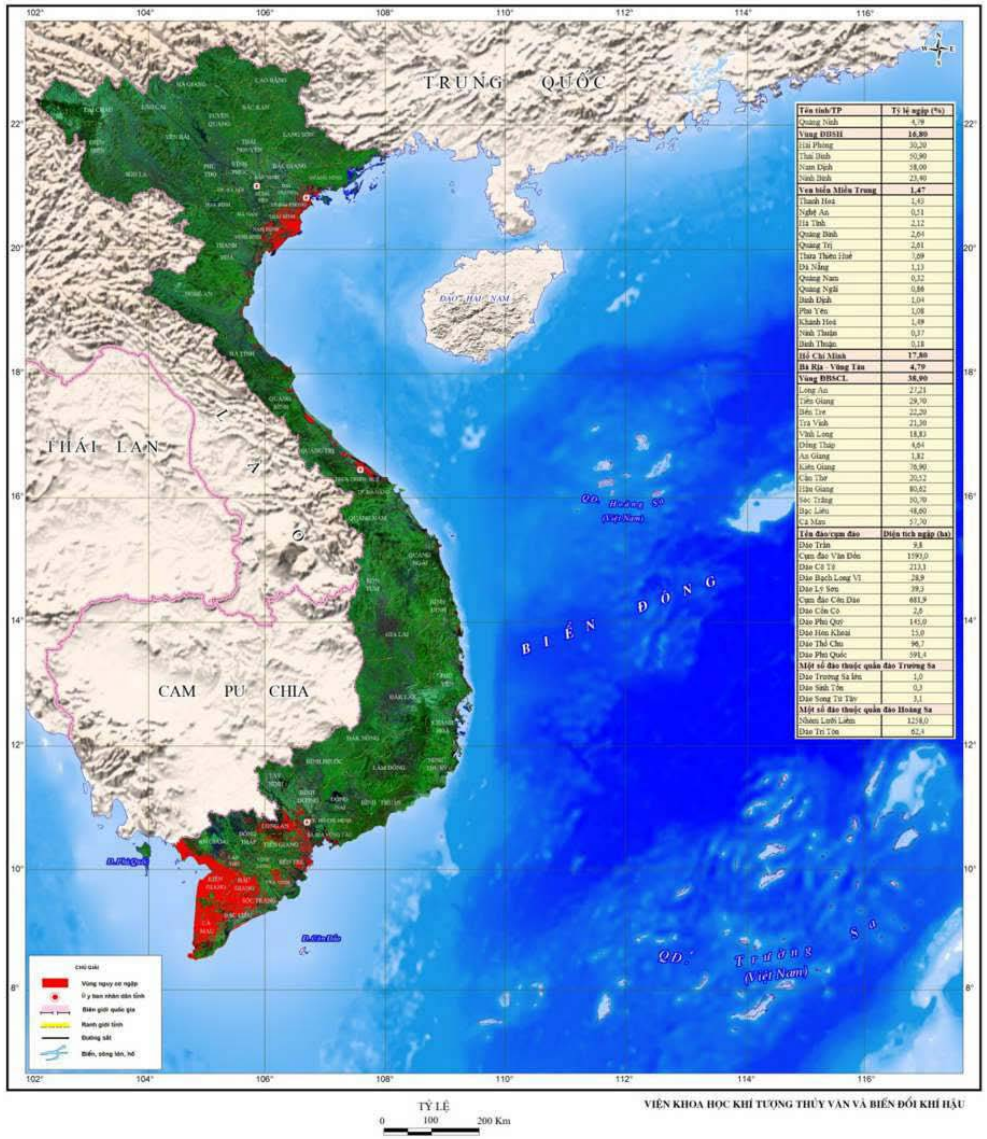
Results of the Strategy on Cleaner Industrial Production

Indicators	Target of the Strategy		Implemented in 2015
	During 2010-15	During 2016-20	
Percentage of industrial production units aware of CP application benefits (per-cent)	50	90	55
Percentage of industrial production units applying CP and able to cut down the consumption of energy, fuel and raw materials per product unit (per-cent)	25	50	24
Percentage of DOITs having full-time cadres fully capable of providing guidance and advice on CP application (per-cent)	70	90	73

Source: Viet Nam Cleaner Production Centre

III. Synergy of climate change adaptation, mitigation and SD in Vietnam

SDG 13: Respond in a timely and effective manner to climate change and natural disasters



Disasters

- Highly vulnerable areas: Red river delta, Mekong delta, Riverine estuaries of Central area

(MONRE, 2016)

III. Synergy of climate change adaptation, mitigation and SD in Vietnam

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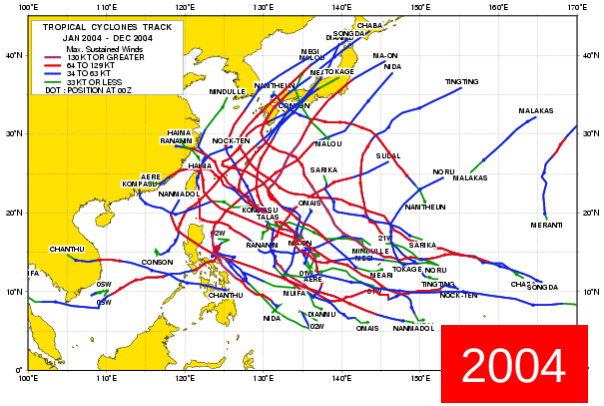
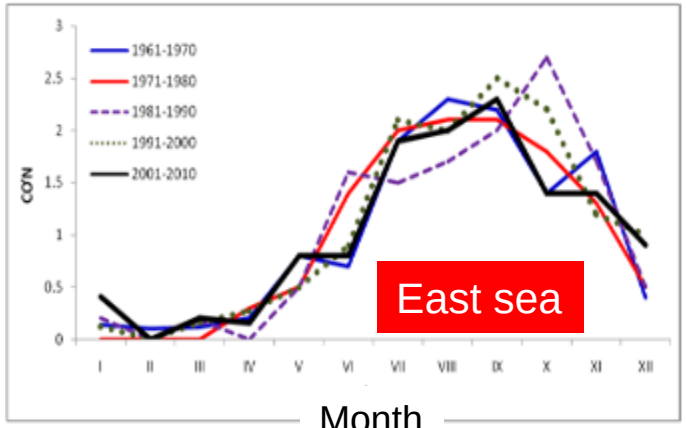
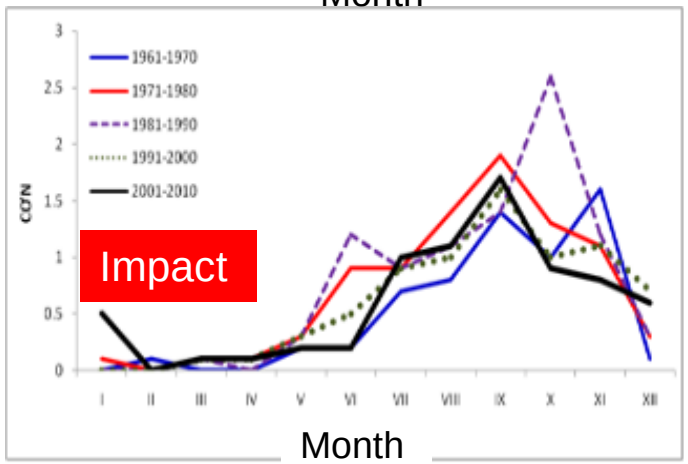






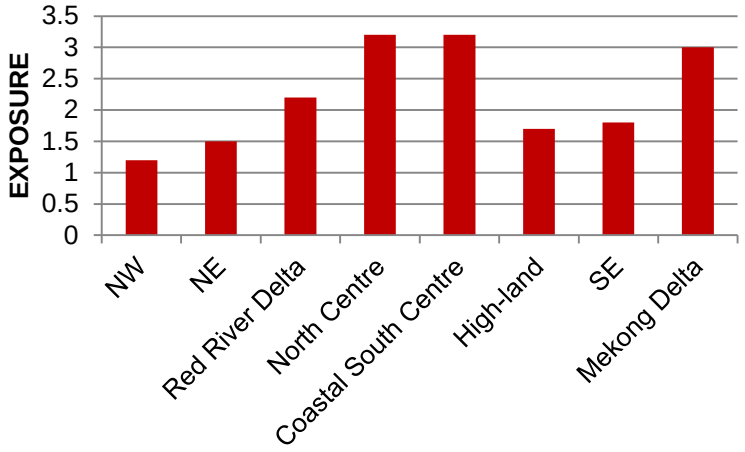
Typhoons

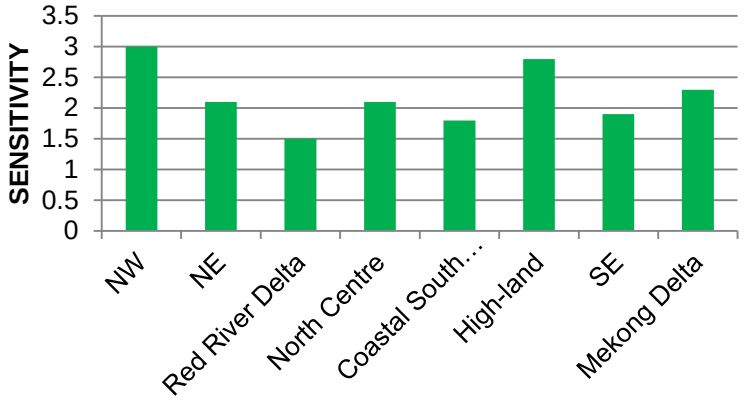
- Frequency: unclear trend
- Number of strong typhoons increases
- Typhoon season is later than usual and direction shifts to southern

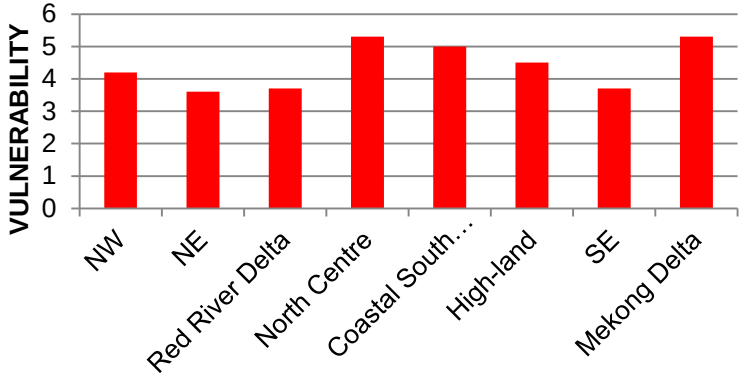
III. Synergy of climate change adaptation, mitigation and SD in Vietnam

Vulnerability to climate change

	NW	NE	Red River Delta	North Centre	Coastal South Centre	High-land	SE	Mekong Delta
EXPOSURE								
Typhoon	1	3	4	4	4	2	2	3
Floods	1	1	4	4	4	2	2	4
Saline intrusion	0	0	1	2	2	0	1	4
SLR	0	0	2	2	2	0	3	4
Landslides	3	3	1	3	3	2	1	1
Drought	2	2	1	4	4	4	2	2
MEAN	1,2	1,5	2,2	3,2	3,2	1,7	1,8	3,0
SENSITIVITY								
Poverty	4	3	2	4	2	4	1	2
Economy	4	4	2	4	3	4	2	2
Education	4	3	1	2	2	2	1	3
Health and hygiene	4	1	2	1	1	1	1	3
Ethnic	4	3	0	1	1	4	1	2
Women & children	4	3	1	2	3	3	1	2
Migration	0	0	2	2	1	4	4	1
Urban households	0	0	2	1	1	0	4	3
MEAN	3,0	2,1	1,5	2,1	1,8	2,8	1,9	2,3
TOTAL	4,2	3,6	3,7	5,3	5,0	4,5	3,7	5,3







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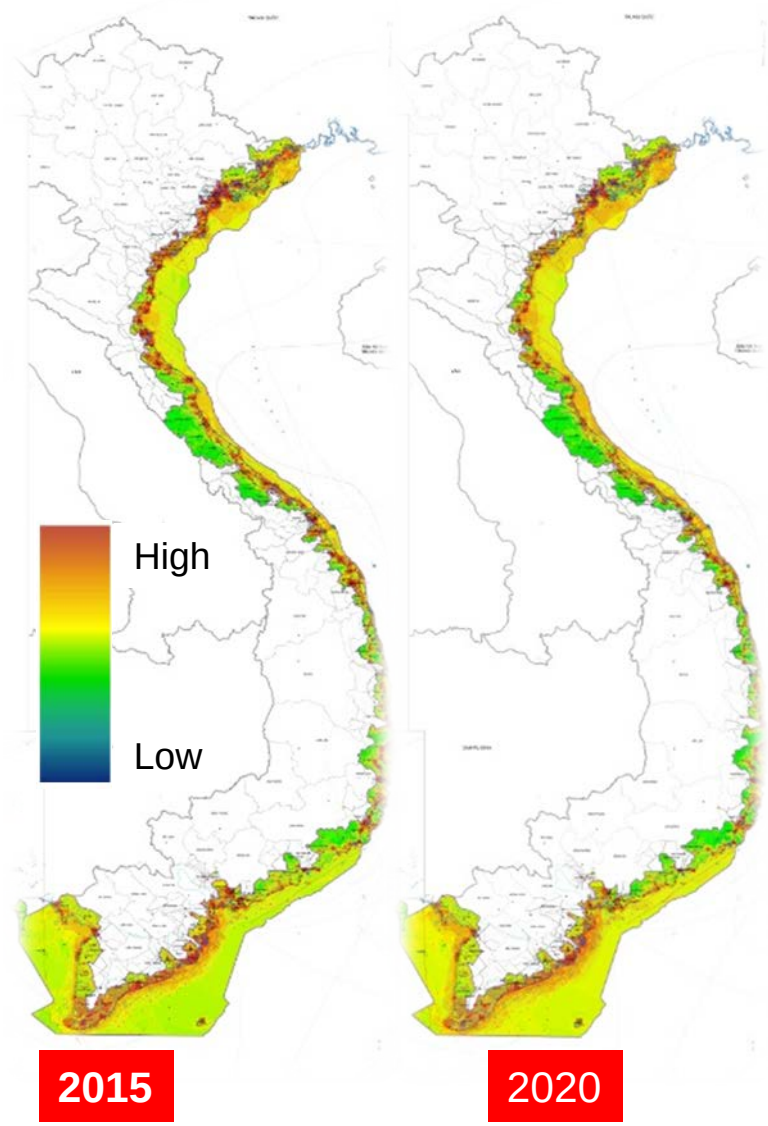
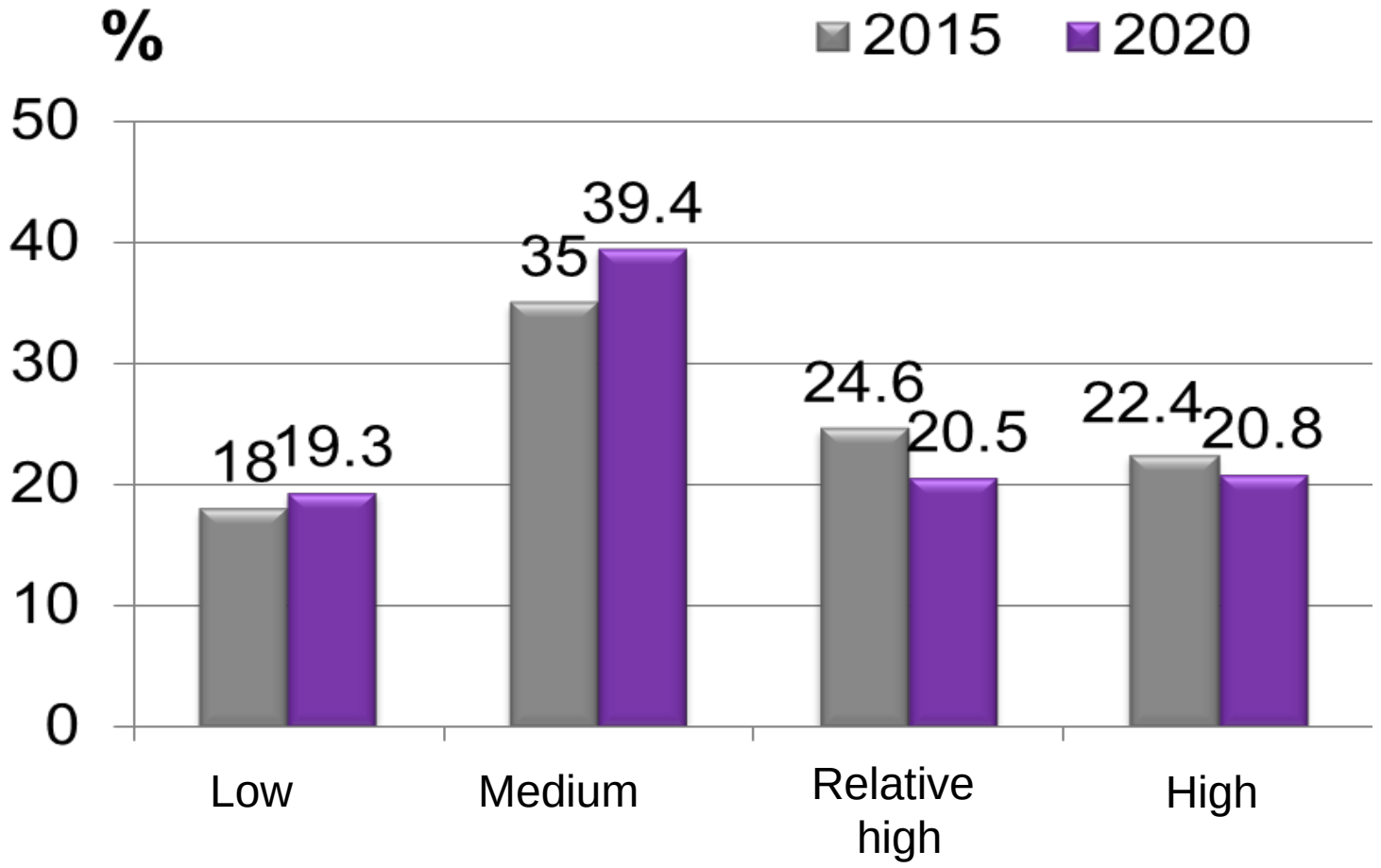
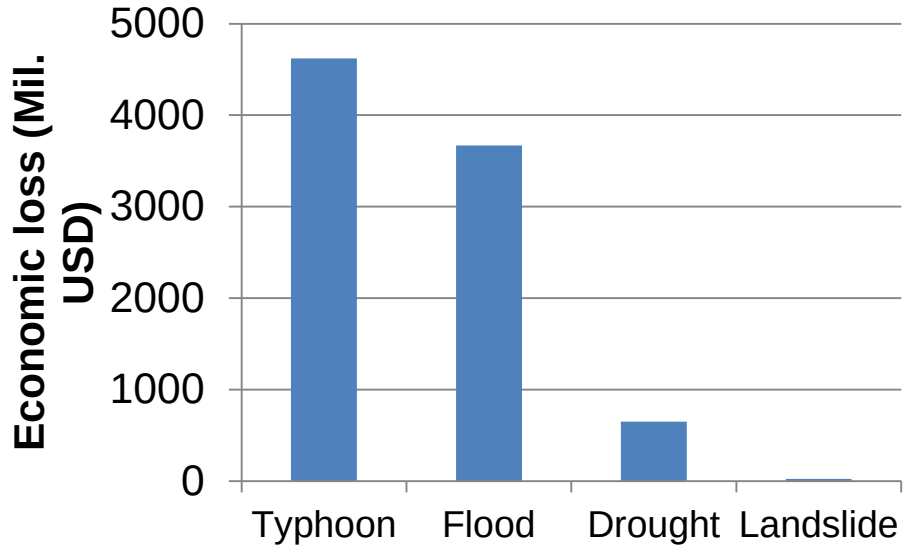
Vulnerability to climate change

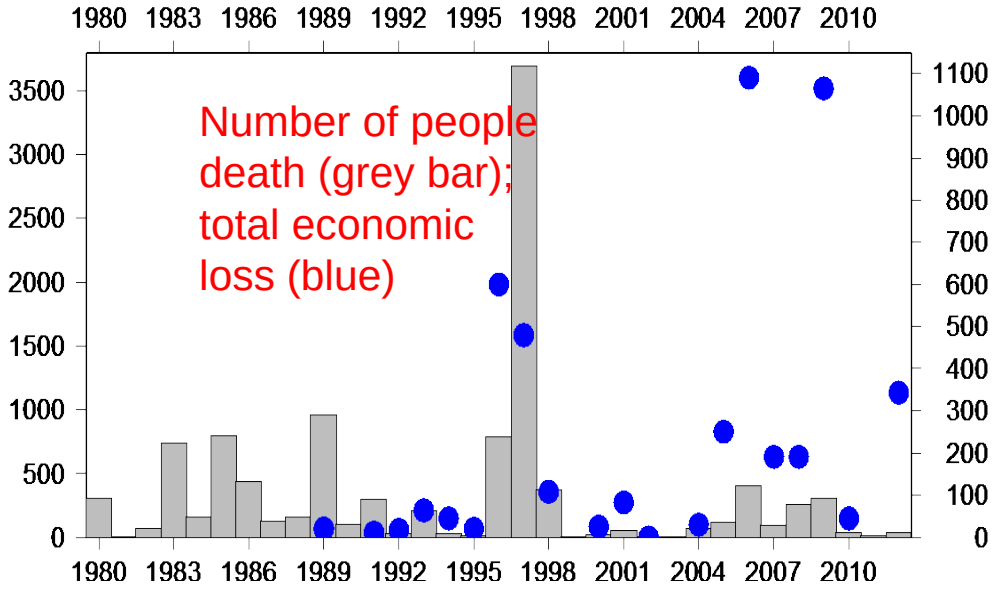


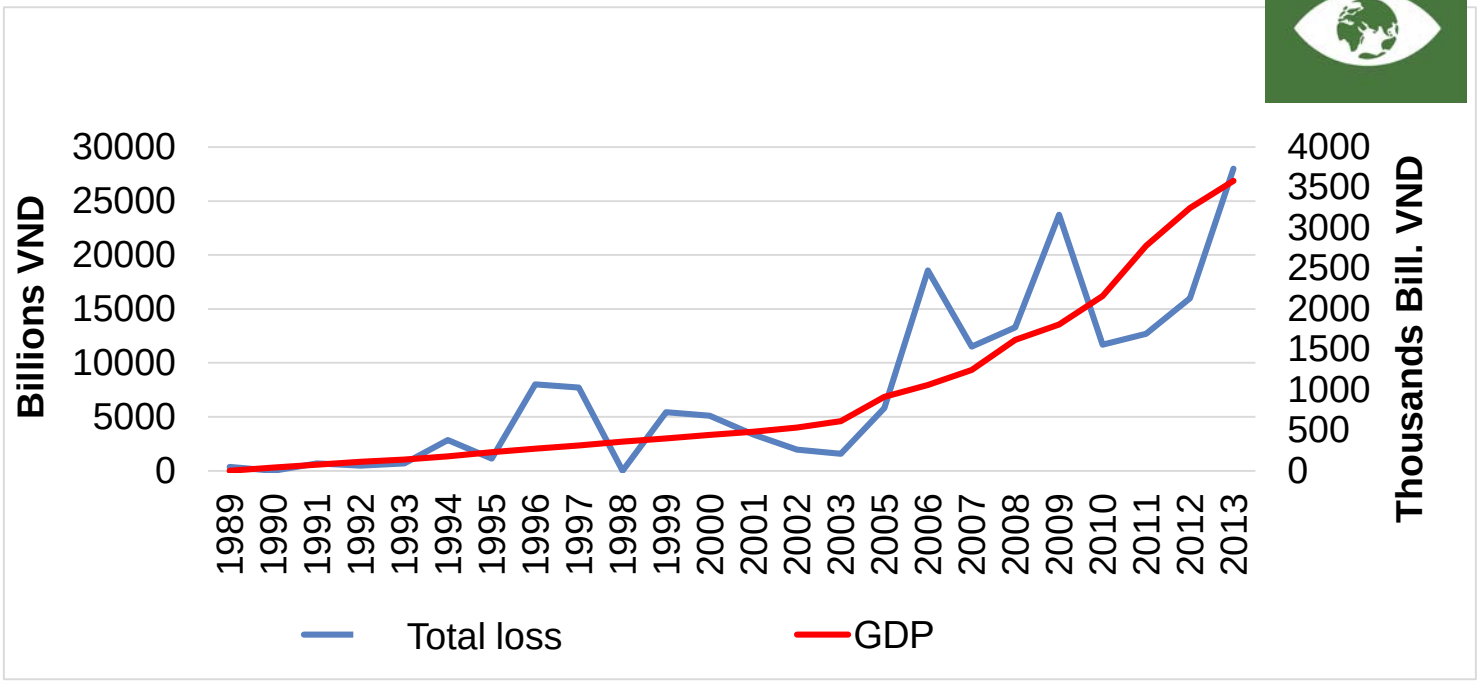


III. Synergy of climate change adaptation, mitigation and SD in Vietnam

Economic loss by disasters, climate change

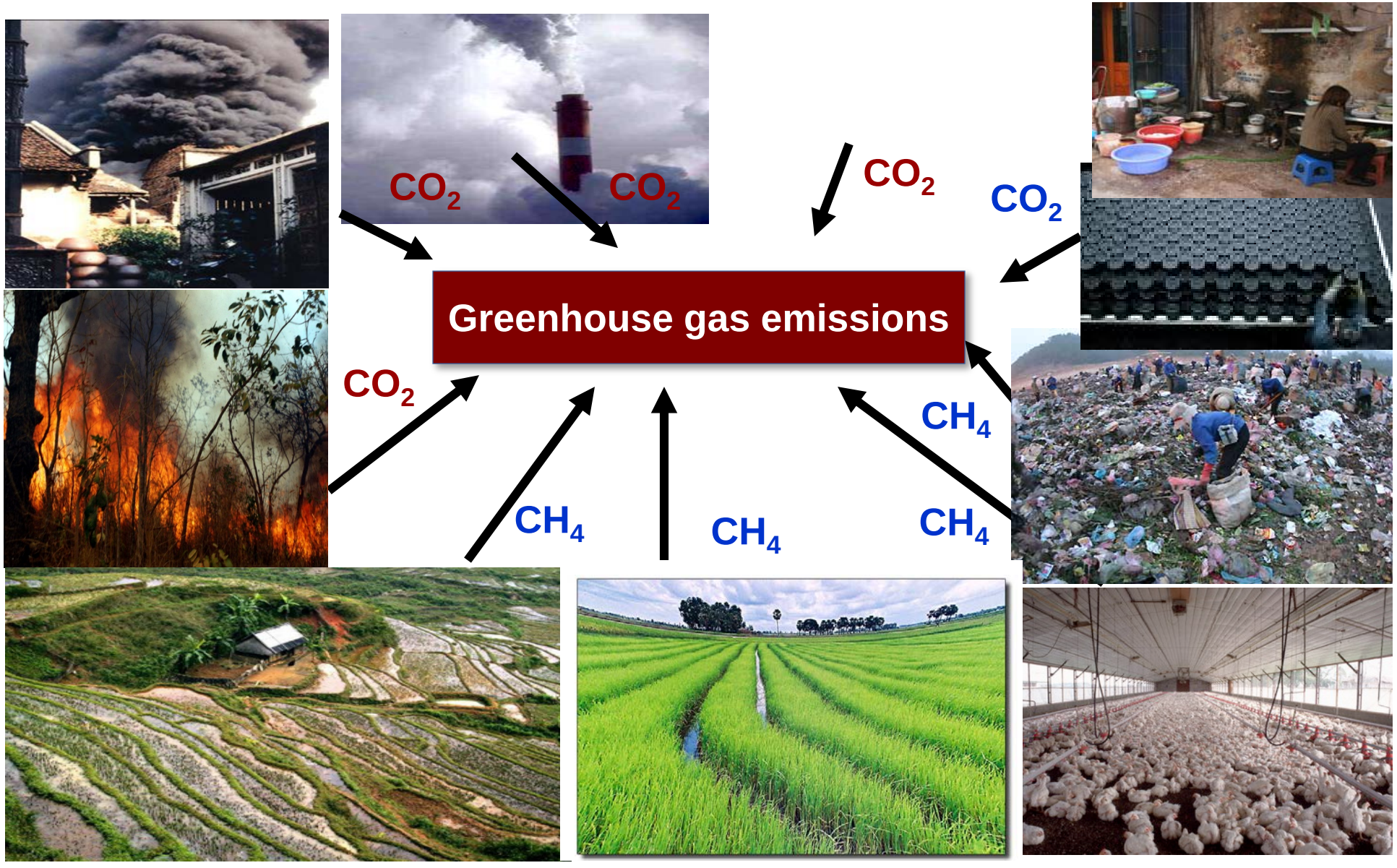




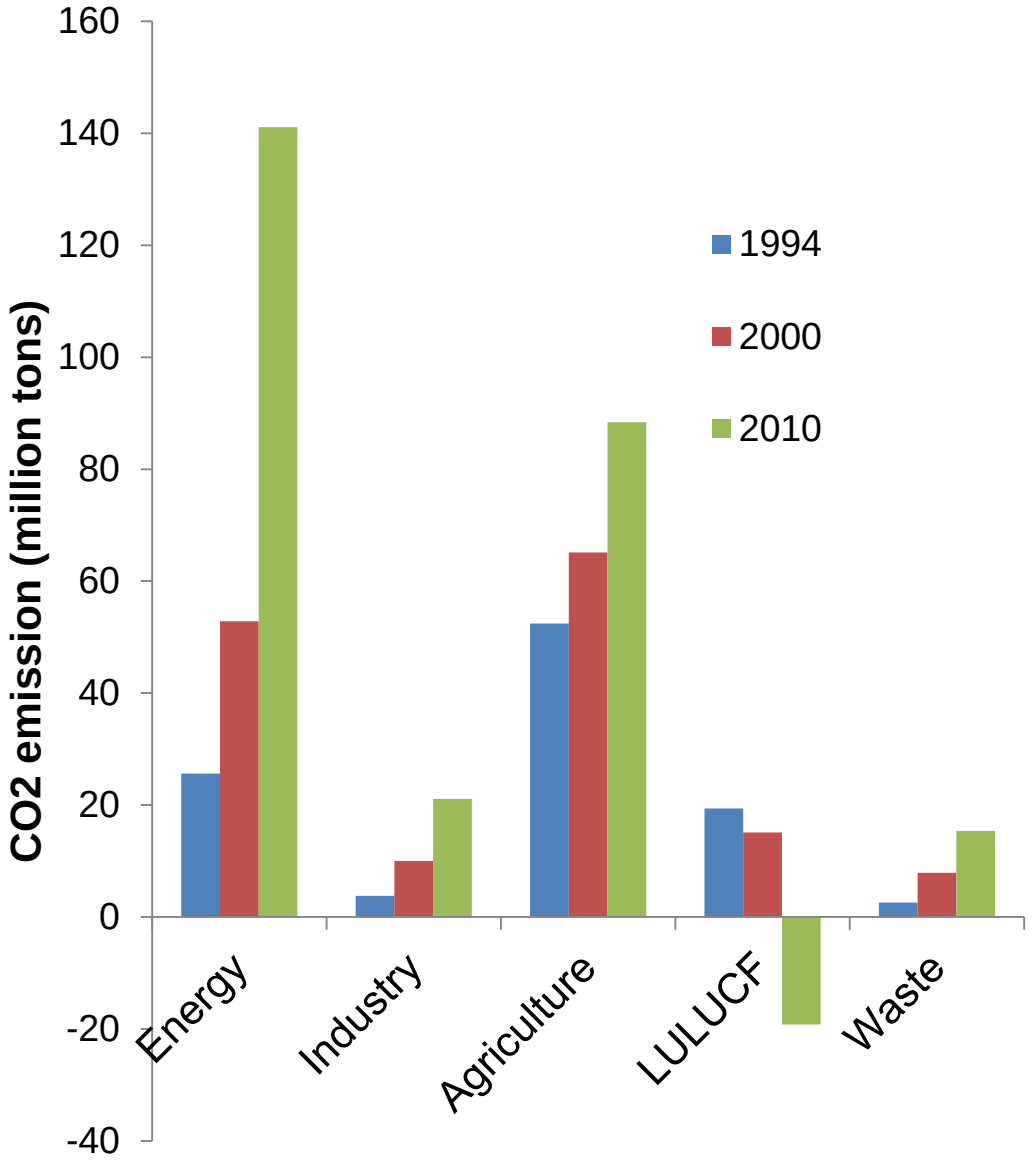


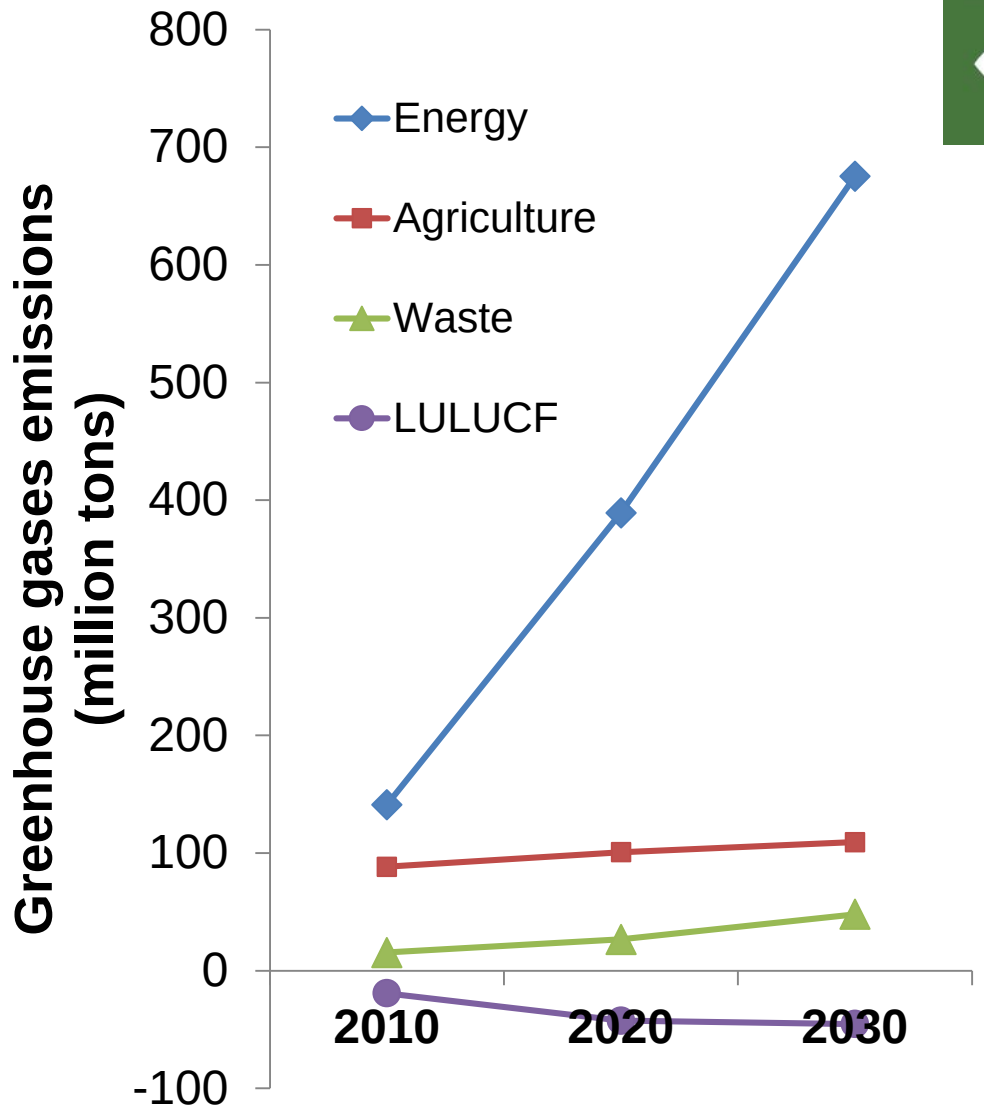
III. Synergy of climate change adaptation, mitigation and SD in Vietnam

Greenhouse gas emissions



III. Synergy of climate change adaptation, mitigation and SD in Vietnam





Greenhouse gas emissions in Vietnam

III. Synergy of climate change adaptation, mitigation and SD in Vietnam:
Most important achievements

1.Development, integration of policy and institution on CCR, including green growth strategies, NAMA, INDC into development policies, strategies

2. CC Science, technology achievements, CC scenarios based models of CCR for SD

3. Promoting social power to CC response: living with floods, drought, living with climate change; CC adaptation, CC mitigation

4. Proactively response to natural disasters & CC through resource sustainable use planning based on vulnerability assessment

5. Effective development and enhancement of international cooperation to climate change response

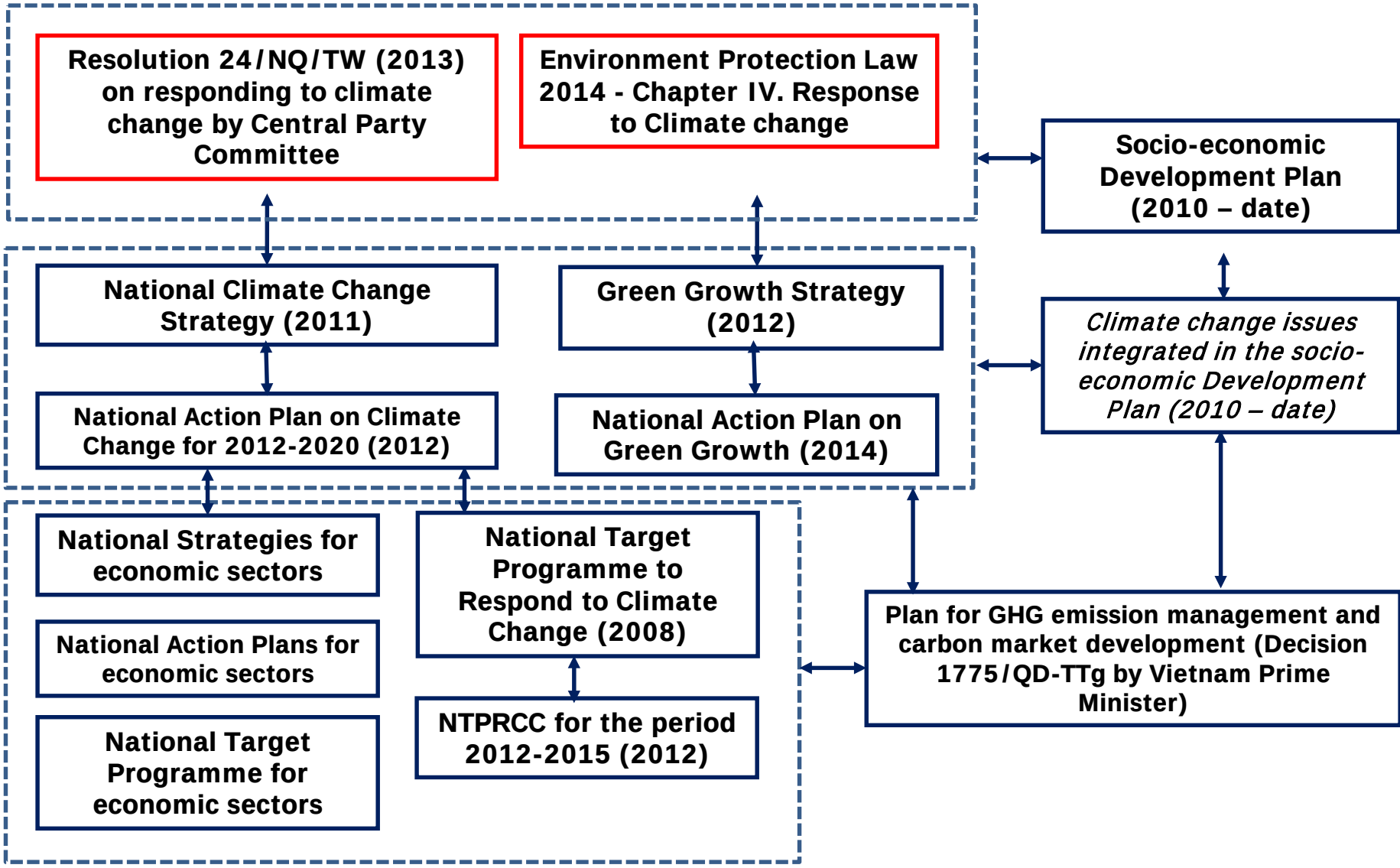
6. Development of human, financial resources for CCR

7. Developing science and technology for CCR.

CCR for SD

III. Synergy of climate change adaptation, mitigation and SD in Vietnam:
Integration of climate change response to development plans

- Vietnam needs to invest more efforts for implementing the SD goals, PAC.
- Vietnam needs to ensure faster to develop the socio-economy, sustainable development and efficient response to climate change
- Vietnam needs to have new growth model for taking new opportunities, transformations towards sustainability



III. Synergy of climate change adaptation, mitigation and SD in Vietnam:
Development of social power to response to climate change

Smart response to floods

3. Enhancing Flood Release Capacity

2. Building flood proofing houses

4. Shifting of Cropping Calendar

1. Building Safe Residential Areas for people

5. Other: floating Child care centers, school, hospital…

Housing design

Smart agriculture

Smart aquaculture

III. Synergy of climate change adaptation, mitigation and SD in Vietnam:
Development of social power to response to climate change

Smart response to floods

Smart housing design

Transportation

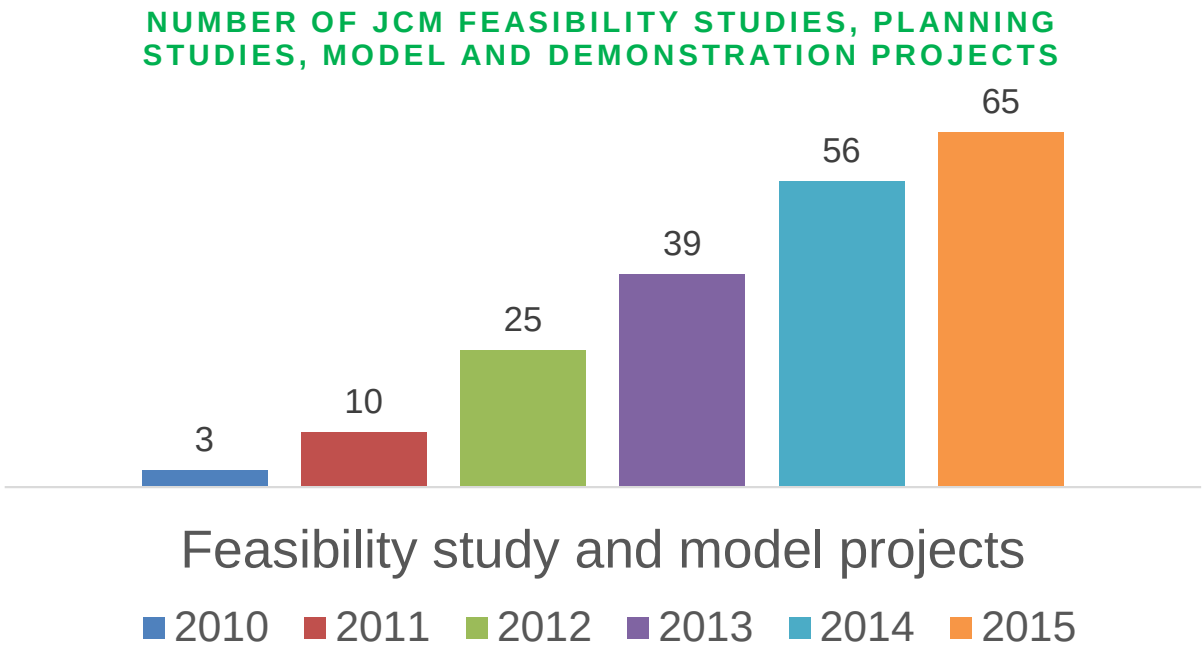
Smart agriculture

Smart aquaculture

Housing and transportation

III. Synergy of climate change adaptation, mitigation and SD in Vietnam:
Reducing GHGs and waste for SD

- Energy saving, efficiency
- Waste treatment
- Produce renewable energy
- Low carbon livelihoods
- Smart economic development models: Agriculture, aquaculture, urban, etc.
- Promoting Joint Crediting Mechanism (JCM)

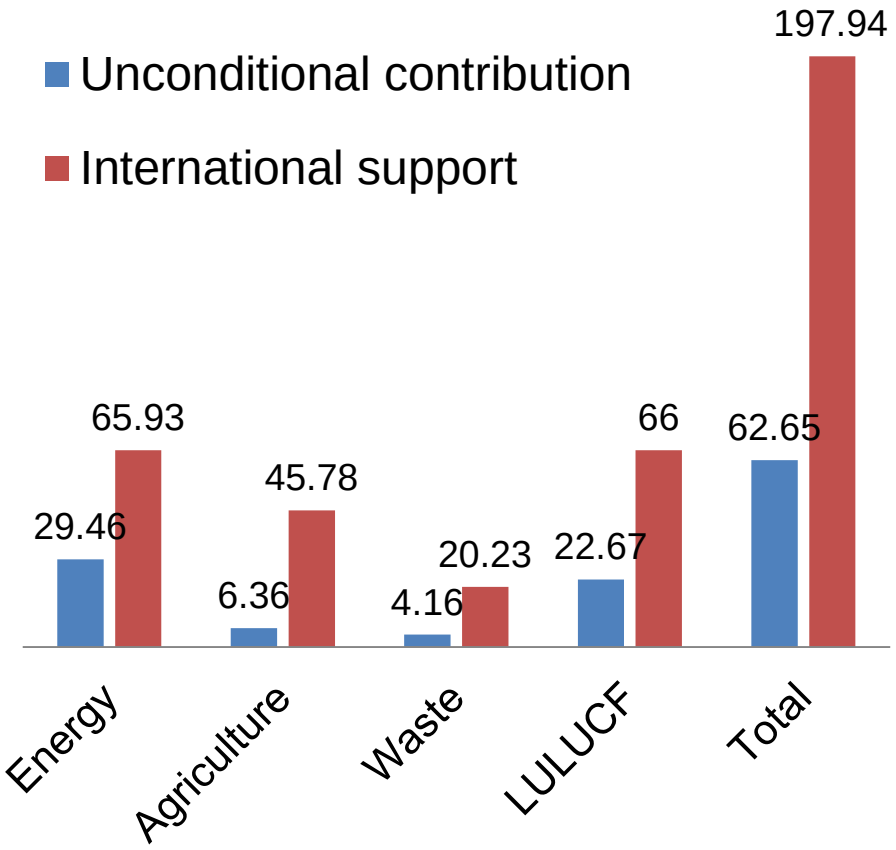


EARTH HOUR 2014 IN VIETNAM

III. Synergy of climate change adaptation, mitigation and SD in Vietnam:
Reducing GHGs and waste for SD

- **Scope of works:**
  - Energy
  - Agriculture
  - LULUCF
  - Waste
- **Target GHG:**
  - Carbon dioxide (CO2),
  - Methane (CH4),
  - Nitrous oxide (N2O),
  - Hydro fluorocarbons (HFCs),
  - Perfluorocarbons (PFCs),
  - Sulfur hexafluoride (SF6).
- **BAU:**
  - 2010: 225.6 million tCO2e
  - 2020: 474.1 million tCO2e
  - 2030: 787.4 million tCO2e

- **Contribution (**no support**)**
  - By 2030, with only domestic resources: reduce by **8%** total GHG emissions compared to BAU, including:
  - Increase renewable energy to **4%** of the total electrical energy
  - Increase forest cover of 45%.
- **Contribution (**with international support**)**
  - By 2030, with only domestic resources: reduce by **25%** total GHG emissions compared to BAU, including:
  - **30-35%** emission intensity per unit of GDP compared to 2010.
  - Increase renewable energy to **9%** of the total electrical energy



III. Synergy of climate change adaptation, mitigation and SD in Vietnam:
Reducing GHGs and waste for SD

Green technology

Energy efficiency

REDD+

Low carbon transportation

Earth hour 2014 in Vietnam

Household water warming system

Producing Biogas

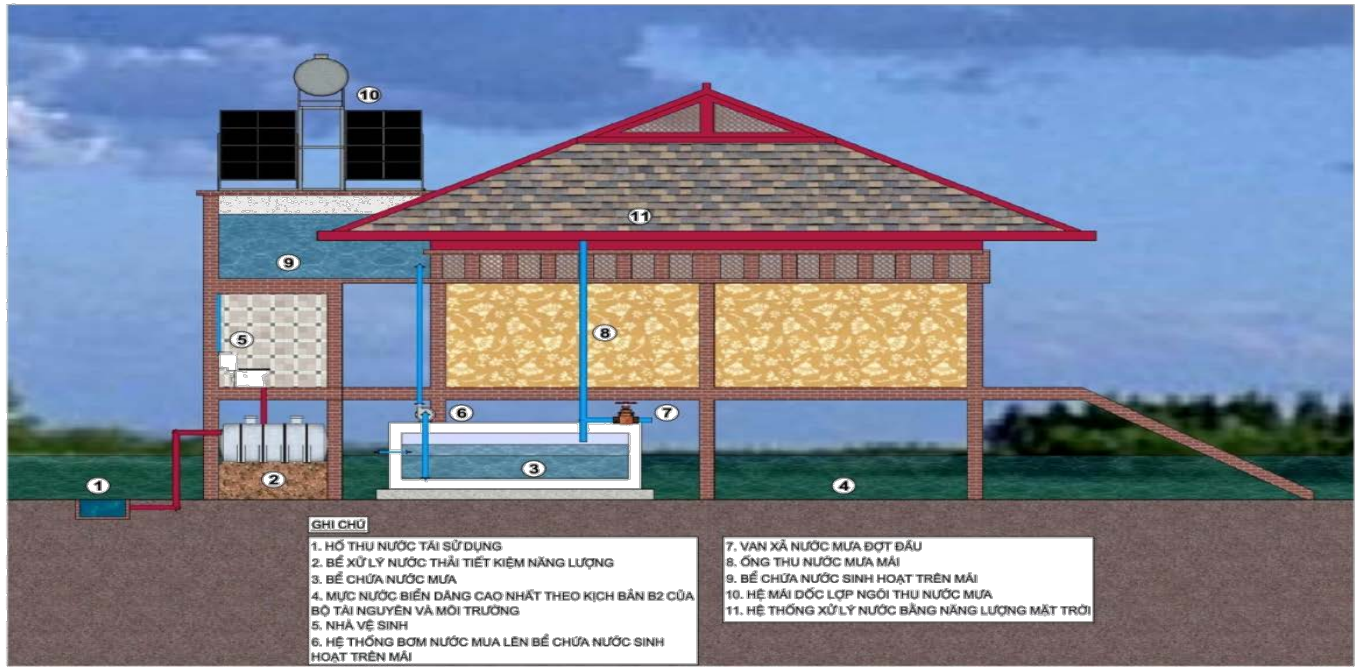
Ecosystem protection

III. Synergy of climate change adaptation, mitigation and SD in Vietnam:
Development of social power to response to climate change

Flood resilient and Energy saving Eco-house Model

1. Raising awareness from the central to the local level and the private sector;
2. Strengthening of research, development and application of science and technology in response to climate change.

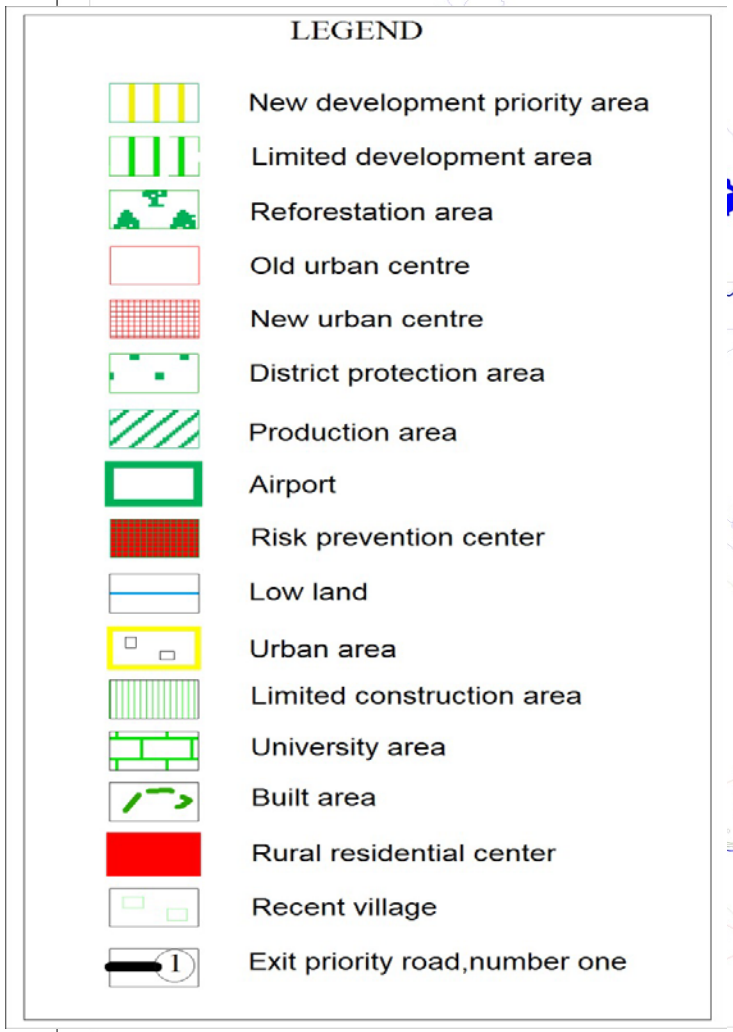
The salinity water treatment system using solar energy

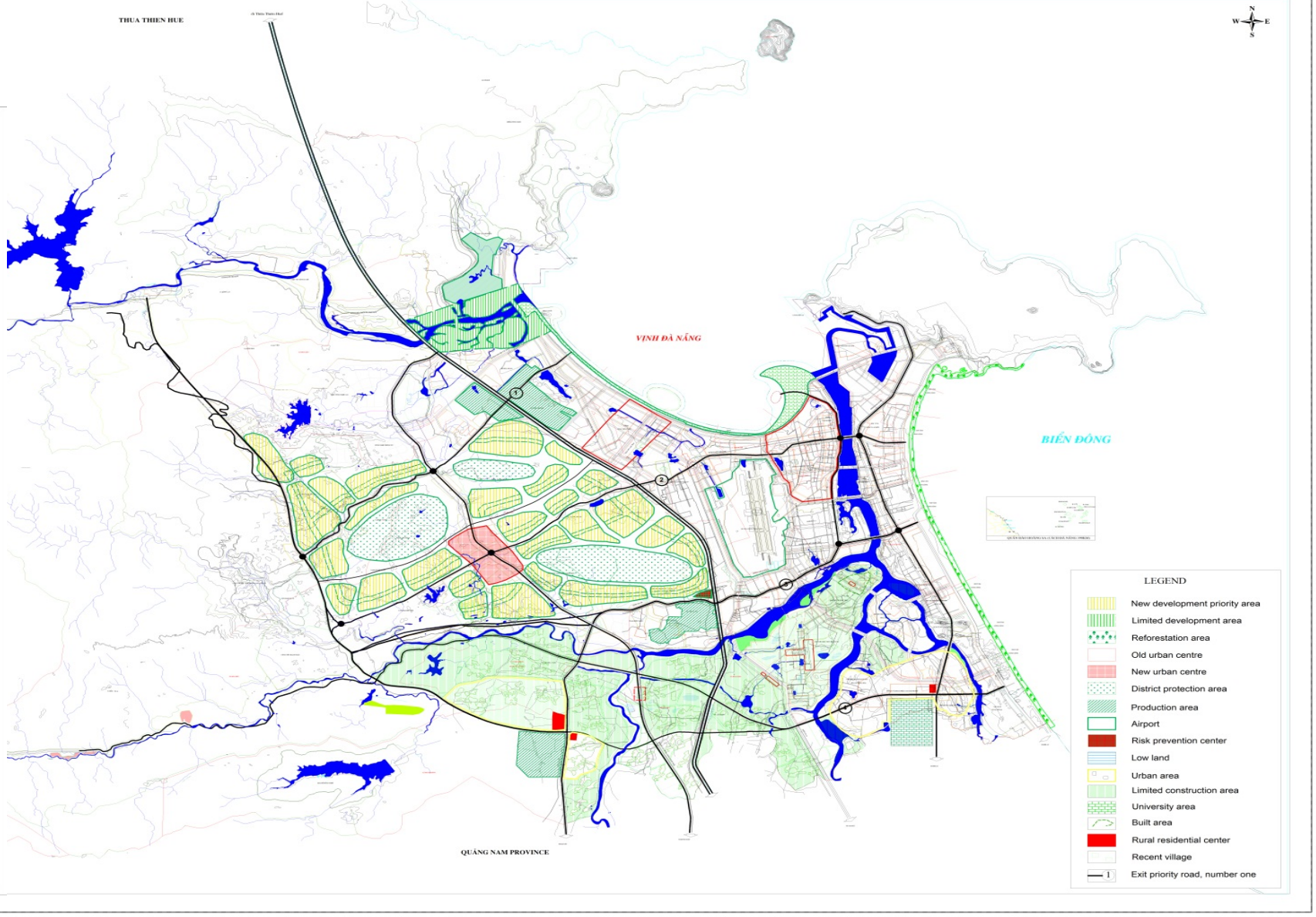


Energy saving Eco-house Model

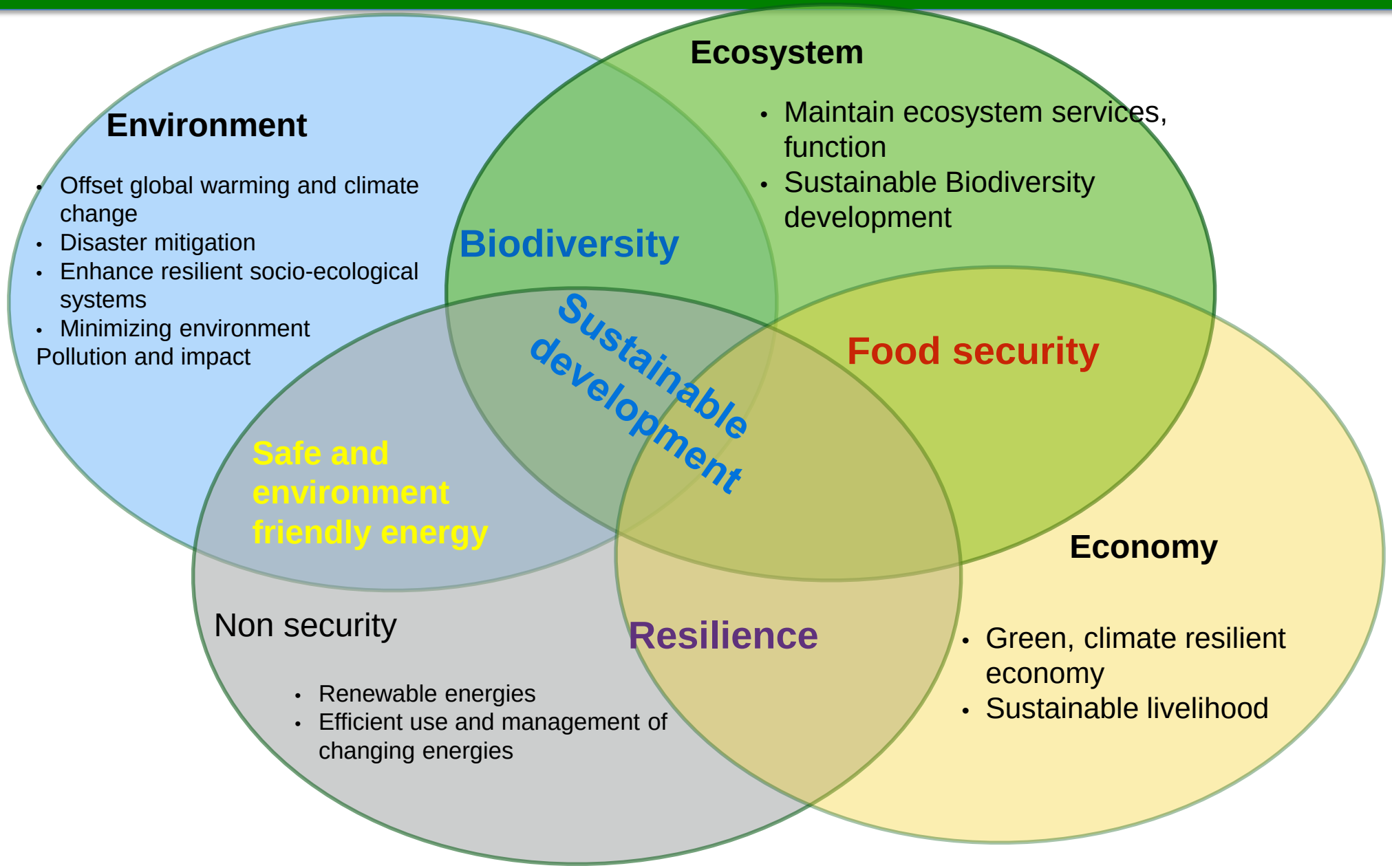
A Product of National Scientific Program to Respond to Climate Change

Sustainable and resilient Development plan of Da Nang city





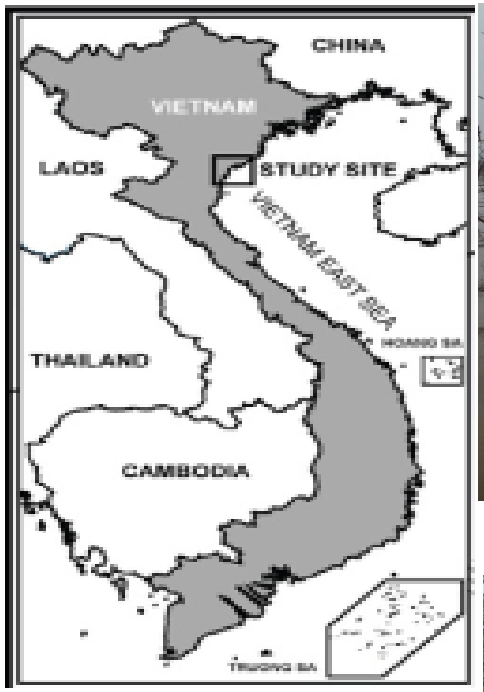
Synergy of 3E+1 NEXUS for achieving SDG being implemented in the mountainous area, North west Vietnam



Synergy of climate change adaptation, mitigation and SD through Restoring mangrove ecosystems:

Mangrove restoration in Hau Loc, Thanh Hoa, Vietnam

- C storage increase 250 MgC/ha after 25 years (CCM)
- Bringing livelihoods to local people (CCA)
- Reducing impacts of erosion (CCA)



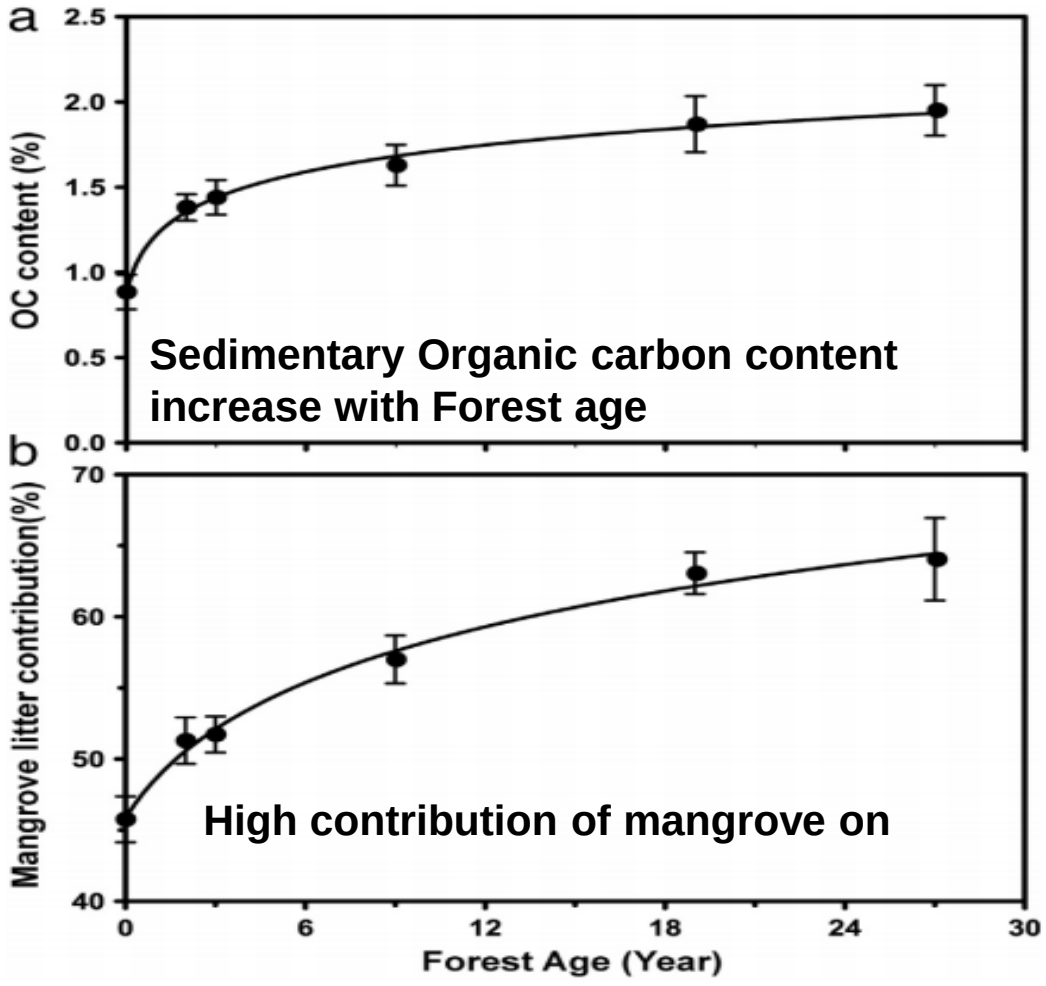
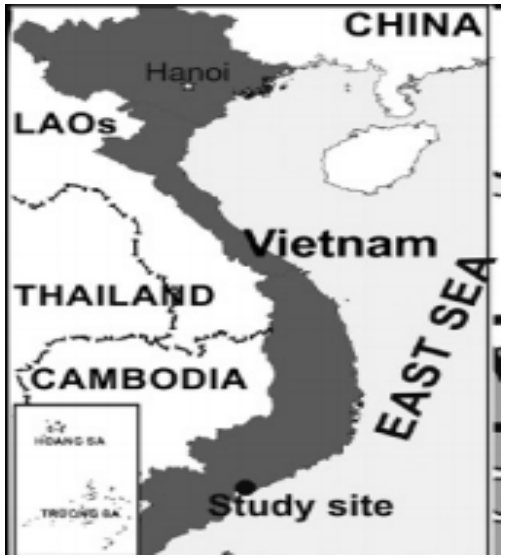


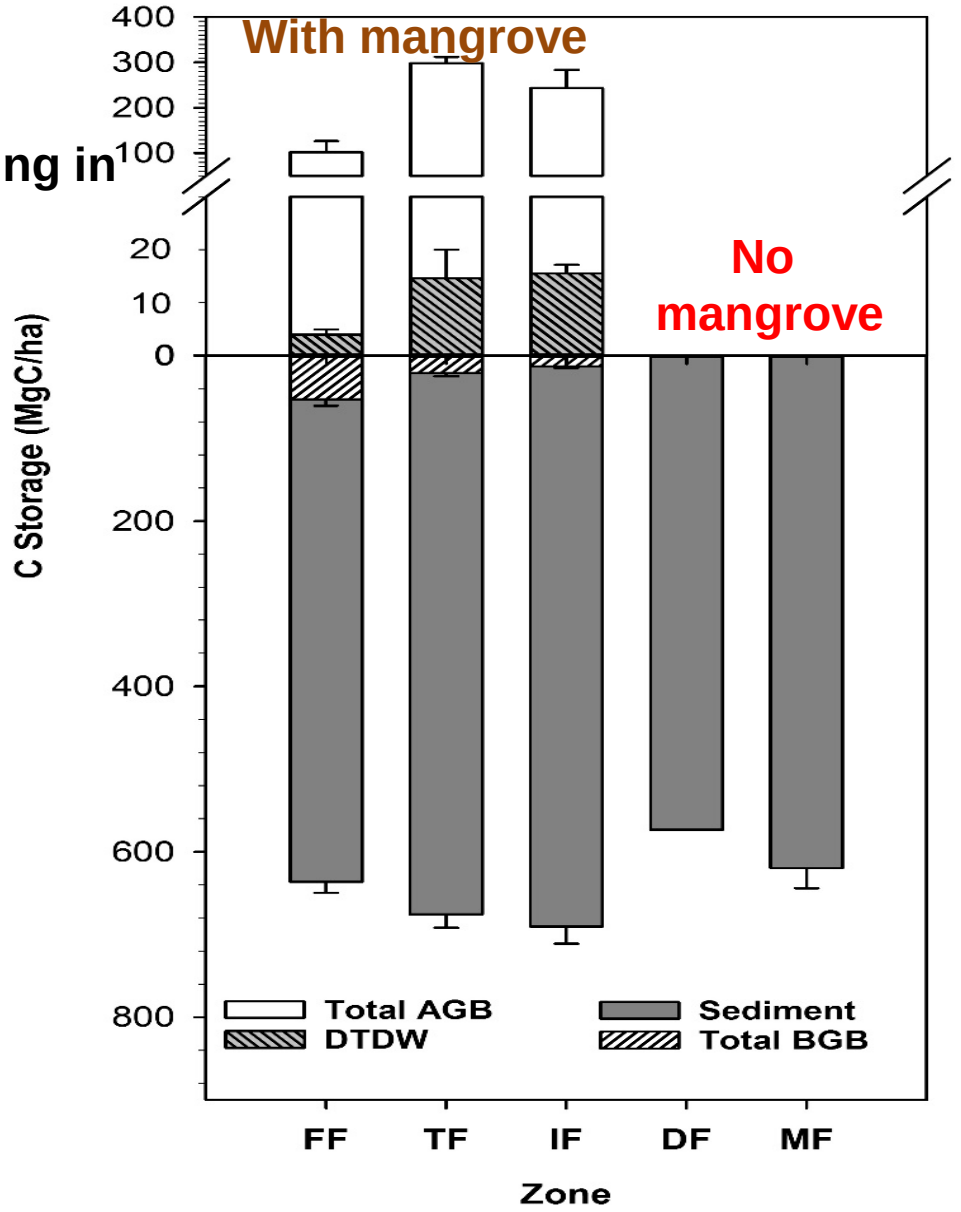
Fig. 4. Relationships between mangrove forest age (year) and (a) the organic carbon content (%), and (b) the mangrove litter contribution (%). Points denote mean values. Error bars indicate standard error, and curves show logarithmic fits for Eq. (5) and (6), respectively.

Synergy of climate change adaptation, mitigation and SD through Restoring mangrove ecosystems:

Mangrove restoration site in Can Gio

- Largest in Vietnam (40000ha)
- C storage increase >500 MgC/ha after 30 years
- Critical important reducing salt intrusion, erosion and flooding in Ho Chi Minh city
- Improving livelihoods of local people

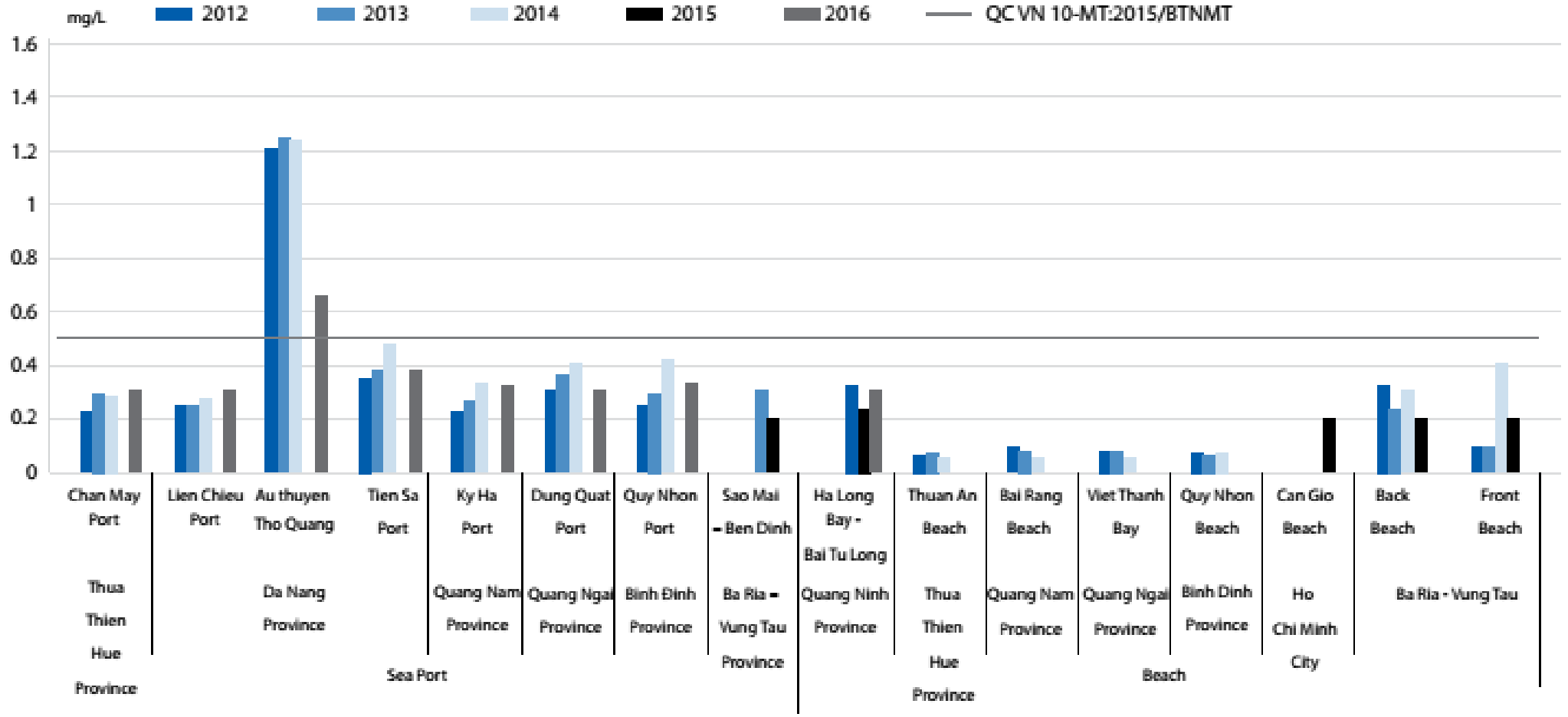




FF: fringe forest; TF: transition forest;
IF: Interior forest; MF: Mudflat; DF: disturbed forest

III. Synergy of climate change adaptation, mitigation and SD in Vietnam:

SDG 14: Conserve and sustainably use the oceans, the sea and marine resources for sustainable development

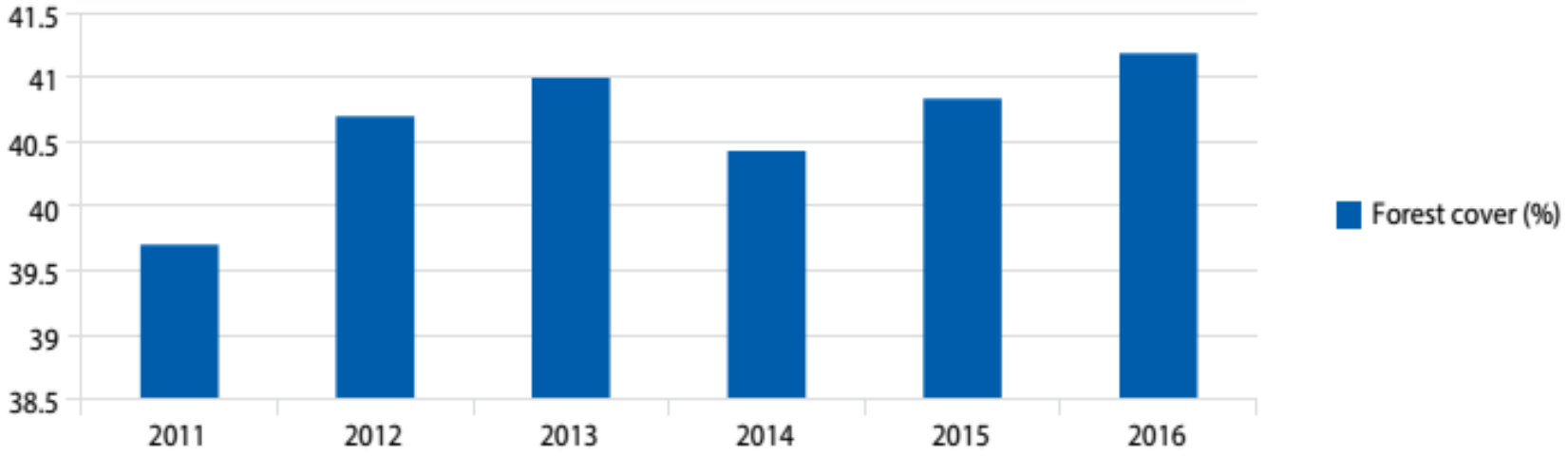


Source: MONRE, National Environment Report 2016 Urban Environment

Variation of oil and grease concentration in coastal water of some urban areas in 2012-2016

III. Synergy of climate change adaptation, mitigation and SD in Vietnam:

SDG 15: Protect and sustainably develop forests; conserve biodiversity; develop ecosystem services; combat desertification; prevent the degradation of and rehabilitate land resources



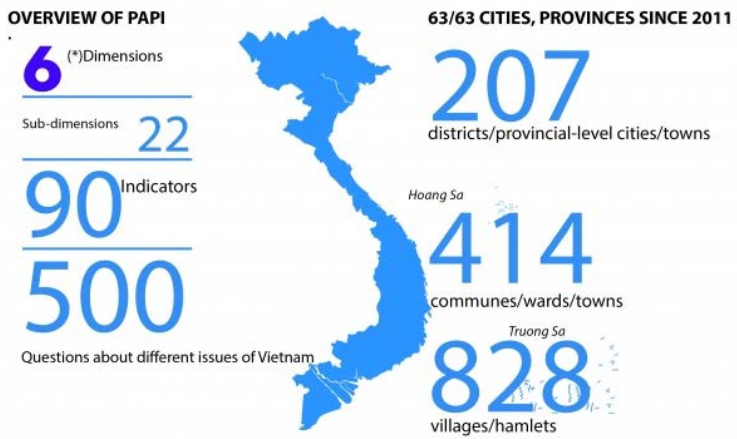
Source: Ministry of Agriculture and Rural Development

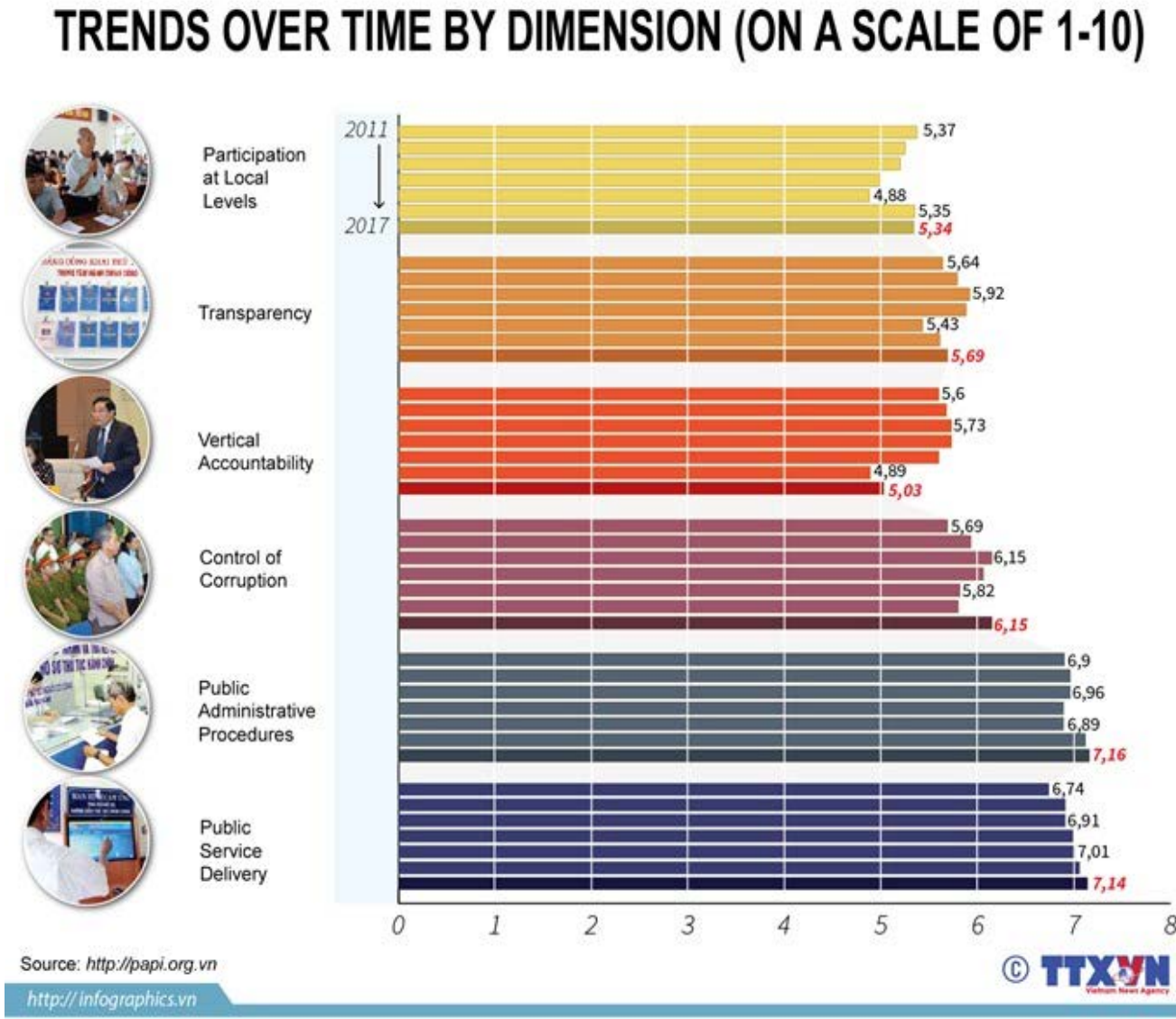
III. Synergy of climate change adaptation, mitigation and SD in Vietnam:

16 PEACE, JUSTICE AND STRONG INSTITUTIONS

SDG 16: Promote a peaceful, fair, just, equitable, and equal society for sustainable development, provide access to justice for all and build effective, accountable, and inclusive institutions at all levels

- Fulfiller its international commitments on ensuring civil, political, social, economic and cultural rights
- **Major judicial and legislative reforms:** including the Criminal Code, Code of Civil Procedure, Law on Enforcement of Custody and Temporary Detention, Law on Anti-Corruption, Law on Access to Information, Law on Religion and Folk Beliefs

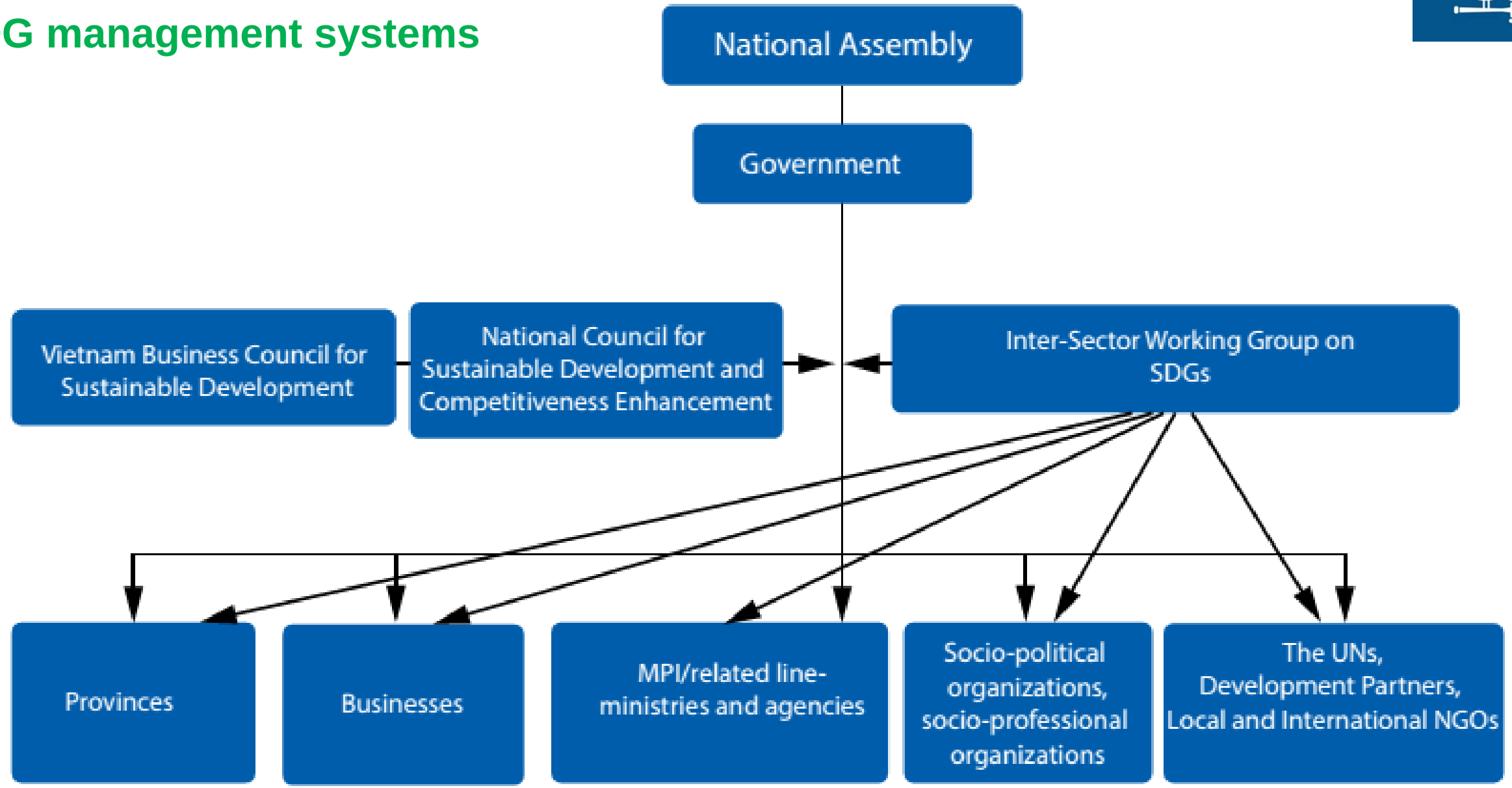




III. Synergy of climate change adaptation, mitigation and SD in Vietnam:

16 PEACE, JUSTICE AND STRONG INSTITUTIONS

SDG management systems



III. Synergy of climate change adaptation, mitigation and SD in Vietnam:

SDG 17: Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development

- **GOVN has achieved progress in international economic integration through full implementation of its bilateral and multi-lateral cooperation commitments, development and implementation of strategies**
  - To join free trade areas with important economic and trade partners, and signing and effective implementation of new-generation FTAs with proper roadmaps to ensure national benefits
  - Diplomatic relations with 187 nations, including 26 strategic and comprehensive partners;
  - Economic and trade relations with most nations and territories;
  - A member of many regional and global organizations and for a;
  - A hub to link the regional economy to its FTA network with 59 partners
- **International commitments:** Agreement on UNFCCC, 1994; Kyoto protocol, 2002, PAC, 2015; Issue many national decisions for implementing Kyoto protocol, PAC, CDM, JCM

III. Synergy of climate change adaptation, mitigation and SD in Vietnam:
Contribution to international cooperation & national institutions

- Agreement on UNFCCC, 1994; Kyoto protocol, 2002, PAC, 2015
- Issue many national decisions for implementing Kyoto protocol, PAC, CDM, JCM
- Climate change management systems

IV. Lessons learned: Climate change actions contributing to achieving SDGs

Climate change actions		Contributing to achieving SDGs
CCR	Activities in VN	
Adaptation	Enhancing natural resilience: ecosystem, biodiversity conservation	SDG 14,15, 11, 6
	Enhancing social resilience: socio-economic development, environment protection, disaster prevention, SD strategies, plans, programs, including reducing poverty and hunger (Resolution by PM…),	SDG 1,2,3,4,5,6,7,8,11
	Development of infrastructure, including disaster prevention construction	SDG11
	Developing models of coastal city to adapt to CC (Hai Phong, Da Nang, Hoi An, Nha Trang, Ho Chi Minh, Rach Gia), resilient cities (Quy Nhon, Can Tho, …)	SDG11, 13,14,15
Mitigation	Reducing GHG (NTP on CC, strategies of CC (Decision 2139/QĐ-TTg, 2011), Green Growth, (Decision 1393/QĐ-TTg, 2012) Renewable energy; NAP implementing PAC, (2053/QĐ-TTg), INDC, NDC; Initiatives from communities on using solar energy	SDG 13, 12, 7

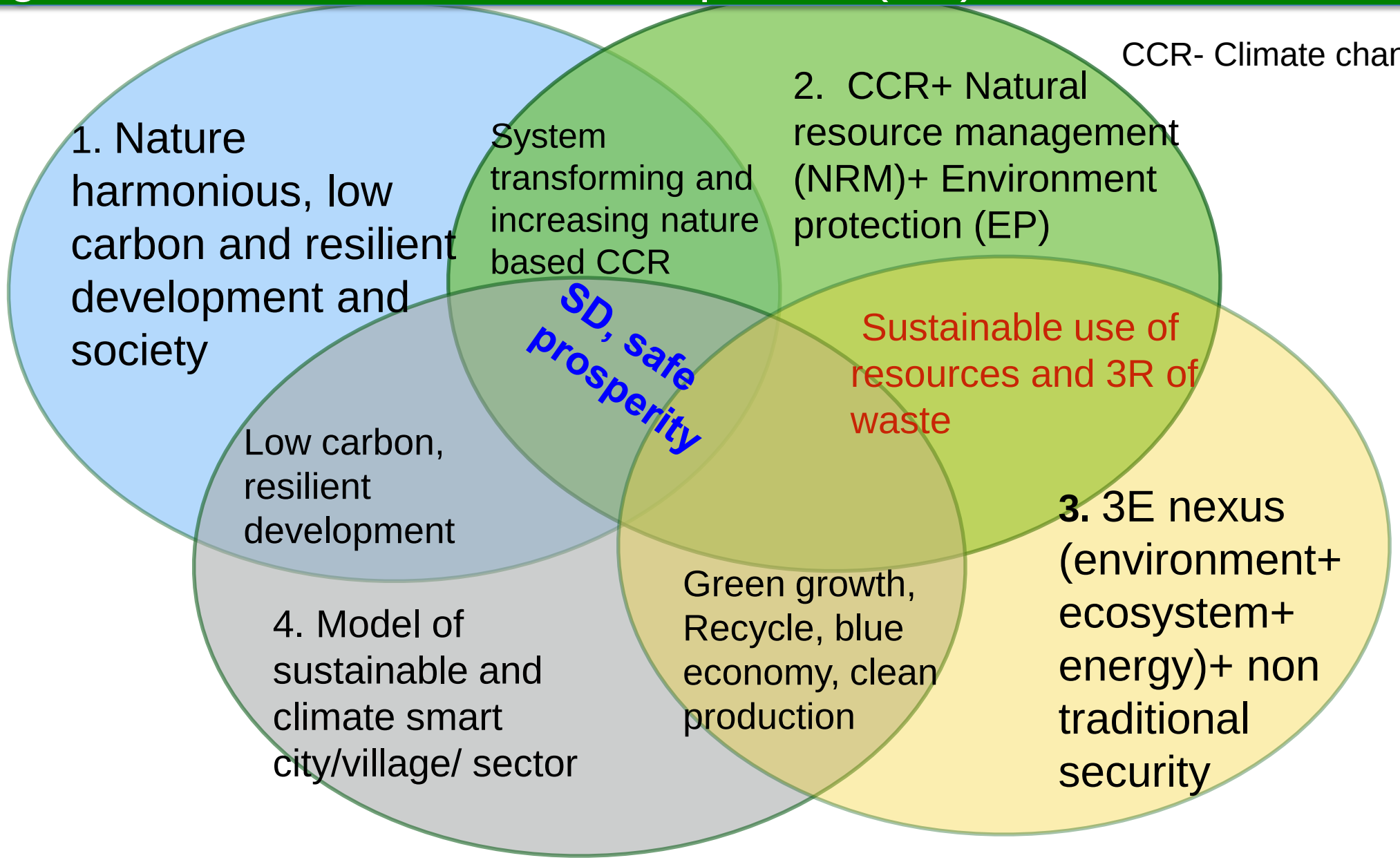
IV. Lessons learned: Climate change actions contributing to achieving SDGs

Climate change actions		Contributing to achieving SDGs
CCR	Activities in VN	
Transforming and integration	1.Integration models: Living with flood, drought and climate change (Mekong Delta); New village (whole Vietnam), low carbon and resilient village (Red River Delta); Climate agriculture model (Red River Delta, Mekong Delta); Mangrove restoration and planting in Red River Mouth area, Hau Loc, Can Gio area, Camau Coast…; 2. Innovative policy and institution: CCR- natural resource management and environment protection (Resolution 24/NQ-TW, 2013); NAP implementing PAC, (Decision 2053/QĐ-TTg, INDC (2015), NDC 2017; Integrated coastal zone management (Decision 1570/2013 by PM), SD of wetland (Decree 109/2007 by VN Gov.), SD of Mekong Delta responding to CC(decree 120/NQ-CP) 3. Science and technology based : CC scenarios (2009, 2012, 2016), National Science and technology programs on CCR; environment, natural resource and disaster, SD of north west; Marine and Island management and marine economy development; Application of Forth Industrial revolution (Decision 16 by PM, 4-2017); ….	SDG 3, 4, 6, 13, 14,15, 11,

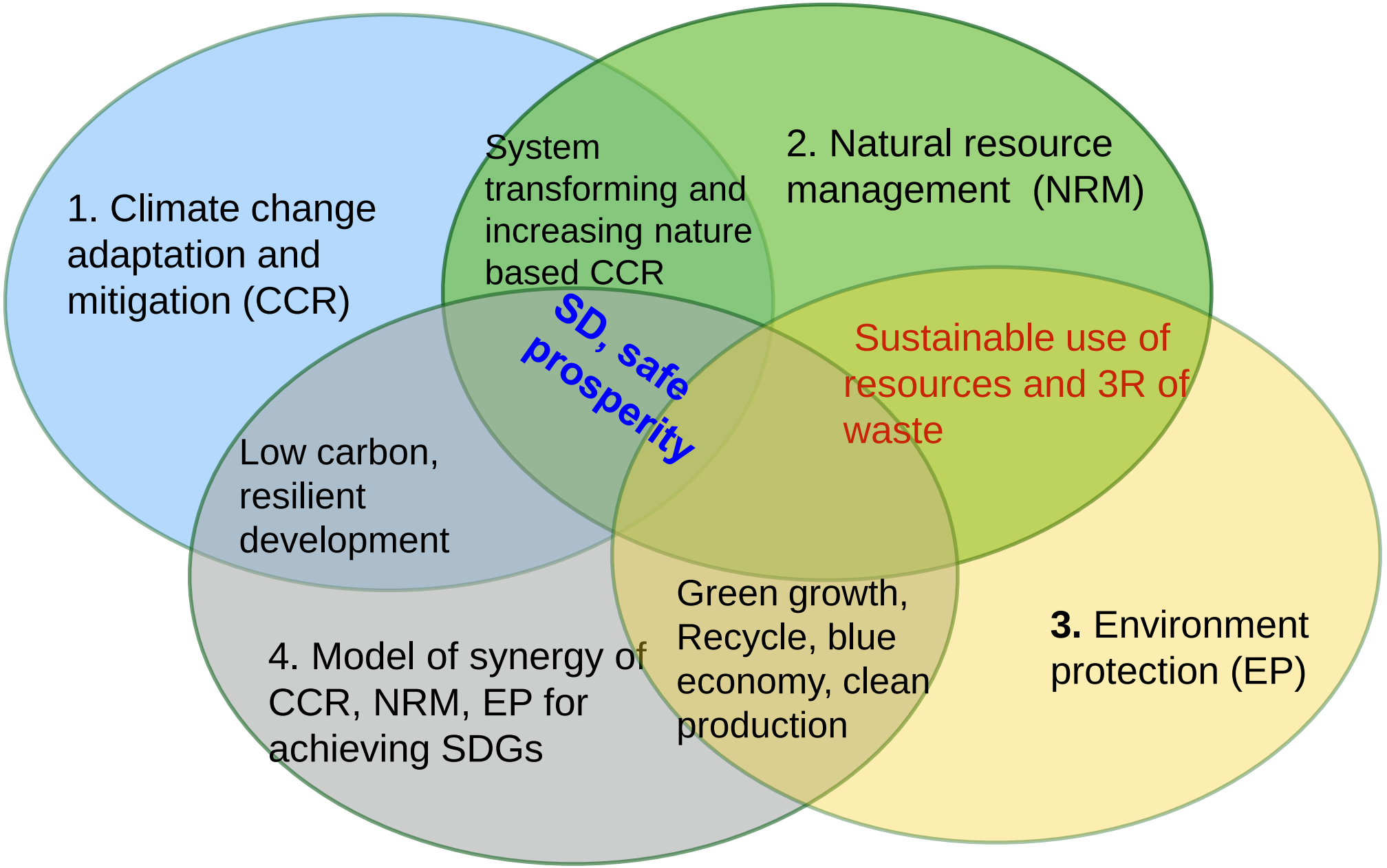
IV. Lessons learned: Climate change actions contributing to achieving SDGs

Climate change actions		Contributing to achieving SDGs
CCR	Activities in VN	
Transforming and integration	4. Climate and SD smart human resource development: BS in climate change (HUNRE) Master training programs in CC (VNU SIS), CC and development (VNUVJU), sustainability science (VNU SIS), non traditional security management (VNU HSB), meteorology, environmental science (VNU HUS); PhD in environment and sustainable development (VNU CRES); PhD in CC and SD (IMHCC);	SDG 3, 4, 6, 13, 14,15, 11,
	5. International, regional, national collaboration and partnership in CCR, SD: SPRCC (GIZ, JICA), projects related to CC Adaptation and mitigation, SD of aquaculture, renewable energy, infrastructure… supported by EU, Japan, Germany, Korea, Australia, USA, France, WB, ADB and other countries and international organization	SDG16,17

IV. Lessons learned: The best model of synergy climate change adaptation and mitigation with sustainable development (SD) are:



IV. Lessons learned: synergy of CCR- NRM- EP for SDGs



IV. Lessons learned from synergy of climate change response for sustainable development

Based on S&T, policies, finance, indigenous knowledge, social power and innovation action plans,

Co-benefit among stakeholders, co-benefit between CC adaptation – mitigation, maintaining sustainability, security and SD

Think globally, regionally, action locally in both CCR and achieving SDGs; Achieving SDGs –the best for CCR

Integration, interdisciplinary, inter-fields, bottom-up, top-down, international and national cooperation

Promoting Business based for both CCR and Achieving SDGs: Creating policy, institution, social platform

Nature and social ecosystem based CCR for SD; transforming society

INTERNATIONAL EFFORTS+

Vietnam efforts in CCR for achieving SDGs through: Low carbon and resilient development, society, area, sector; climate smart activities

IV. Lessons learned from climate change response for sustainable development

The most important solutions to enhance the models of the climate change response and SD synergy are:

i) the integration of three pillars of CC adaptation, mitigation (including disaster prevention, green growth, renewable energy) into sustainable development and vice versa;

ii) the combination of PAC and SDGs implementing, climate change response, sustainable use of natural resource and environment protection, 3E nexus for sustainable development of economy;

iii) balance, harmony of benefits of all stakeholder of SD, CC adaptation and mitigation, sustainable use of natural resource and environment protection;

iv) Development of climate smart and SD science, technology and human resource and knowledge transfer;

v) International, regional, national collaboration, partnership.

V. Perspectives: New growth model by synergy of climate change response and SD: low carbon and highly resilient development

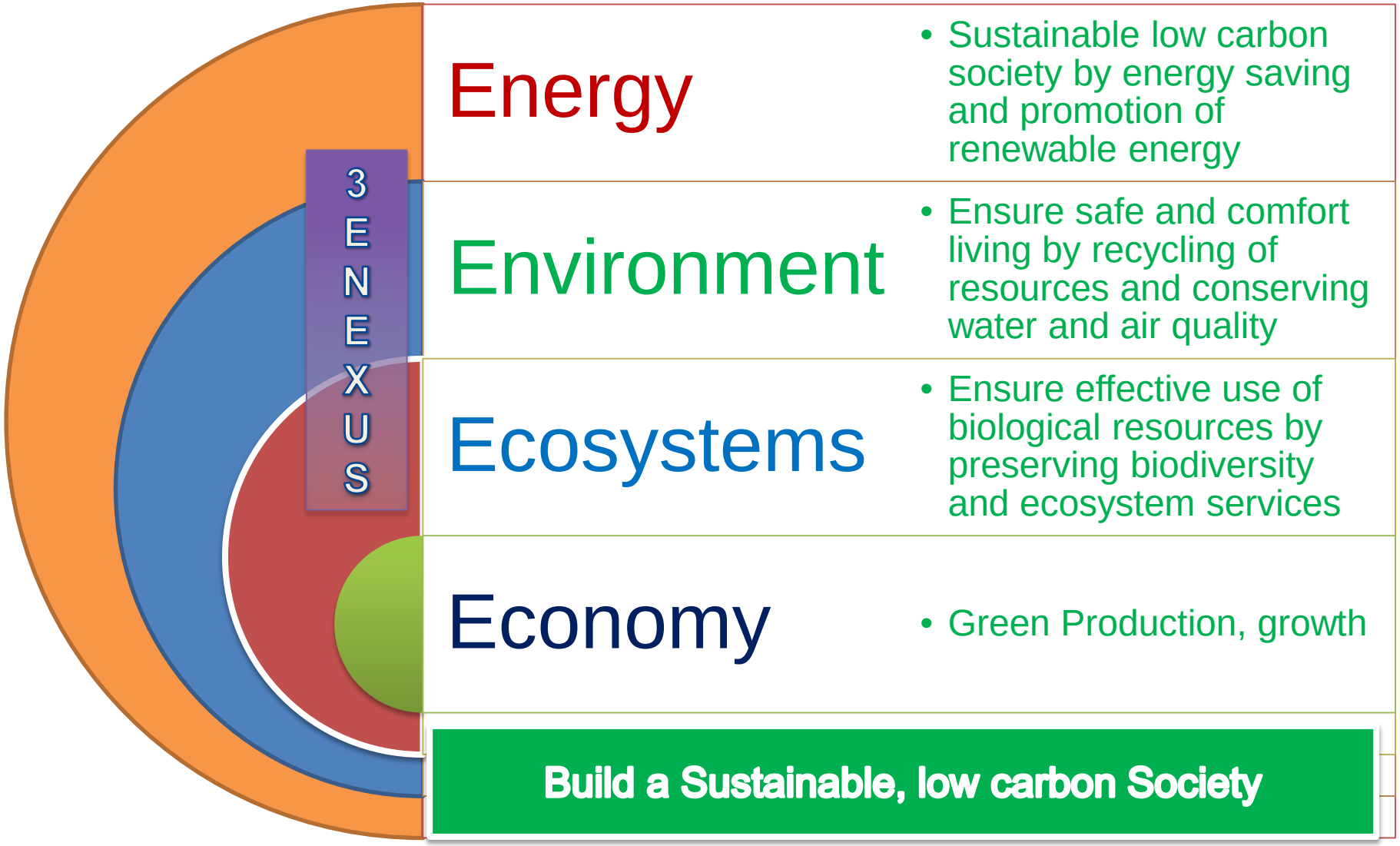
Transformation of growth models is a major solution for faster and sustainable development in the climate change context, to make use of opportunities and transformation of challenges from PAC and SDGs

1. Adjust the growth models towards the low carbon, high resilience, efficient use of energy, natural resources based on the high quality of human resources, advanced science and technology, financial resources, policies and institutions

2. Build & develop: low carbon & resilient society to appropriate with Vietnam conditions, contributing to implement objectives of sustainable development and fast growth

V. Perspectives: New growth models for climate change response and SD

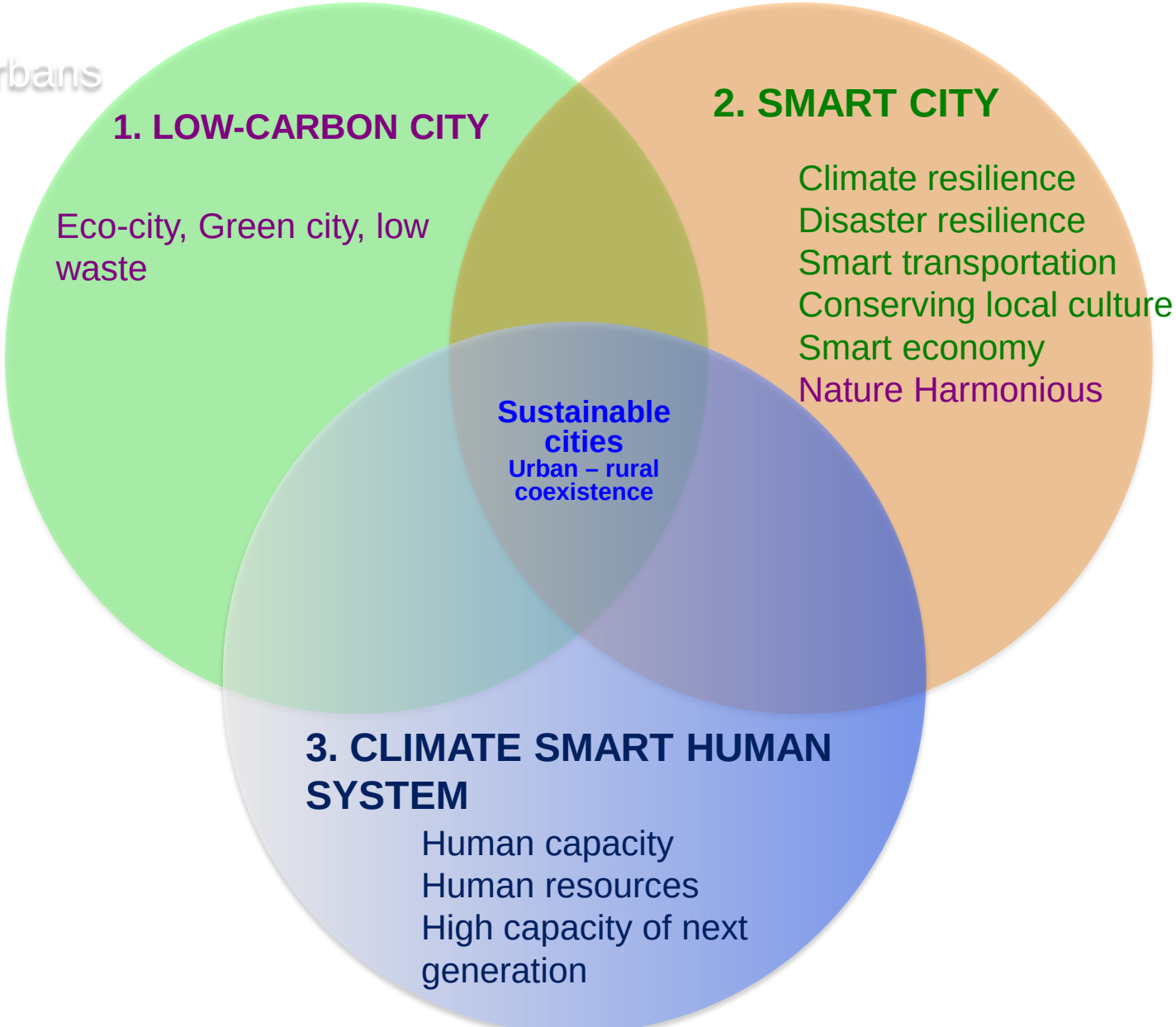
Implementing 3E+1 NEXUS Approach



(IR3S, Japan)

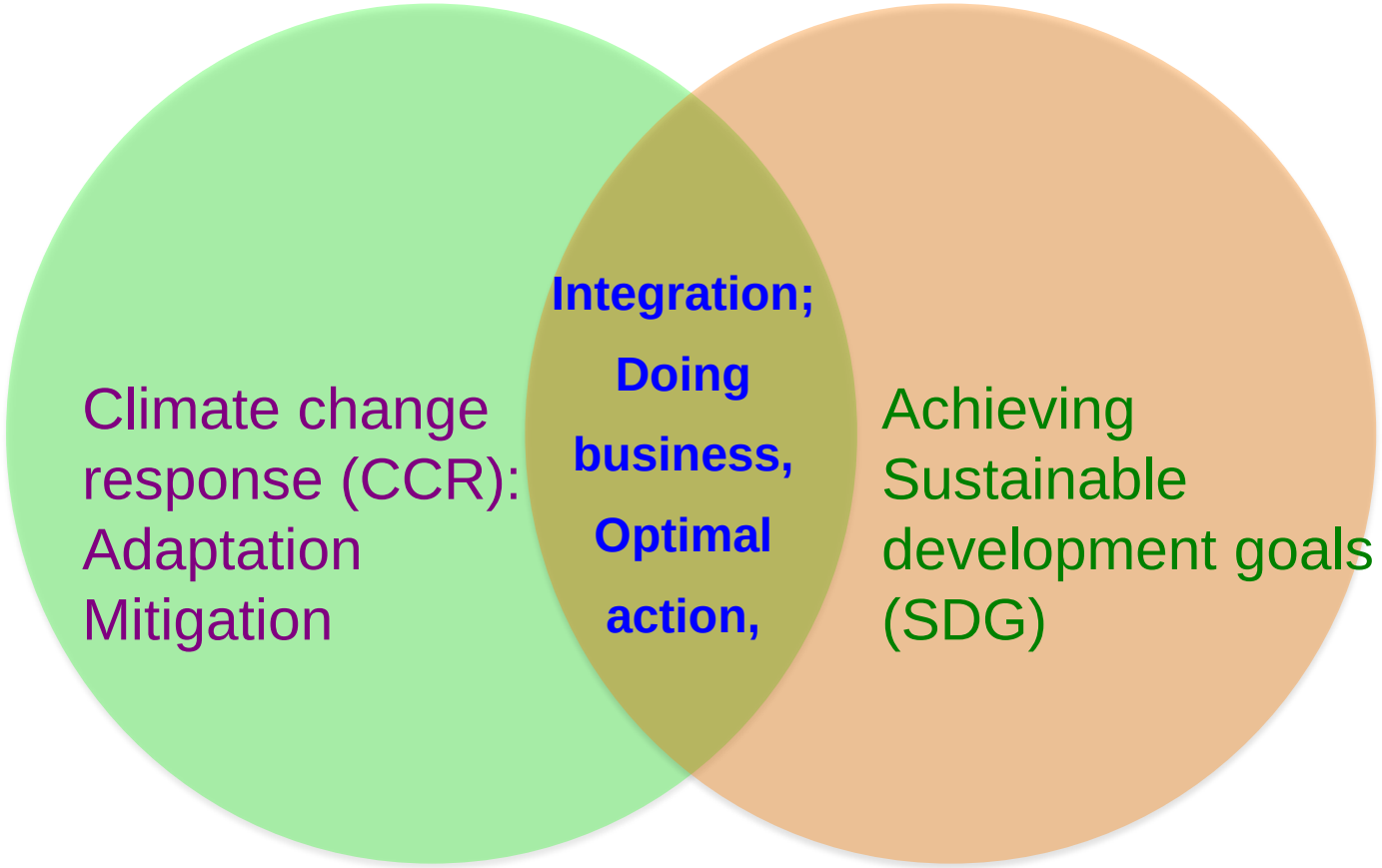
V. Perspectives: Synergy of climate change response and maintaining sustainability, security, SD by building sustainable, resilient and low carbon cities

Building a sustainable urbans



V. Perspectives: CCR-SDGs achieving by:

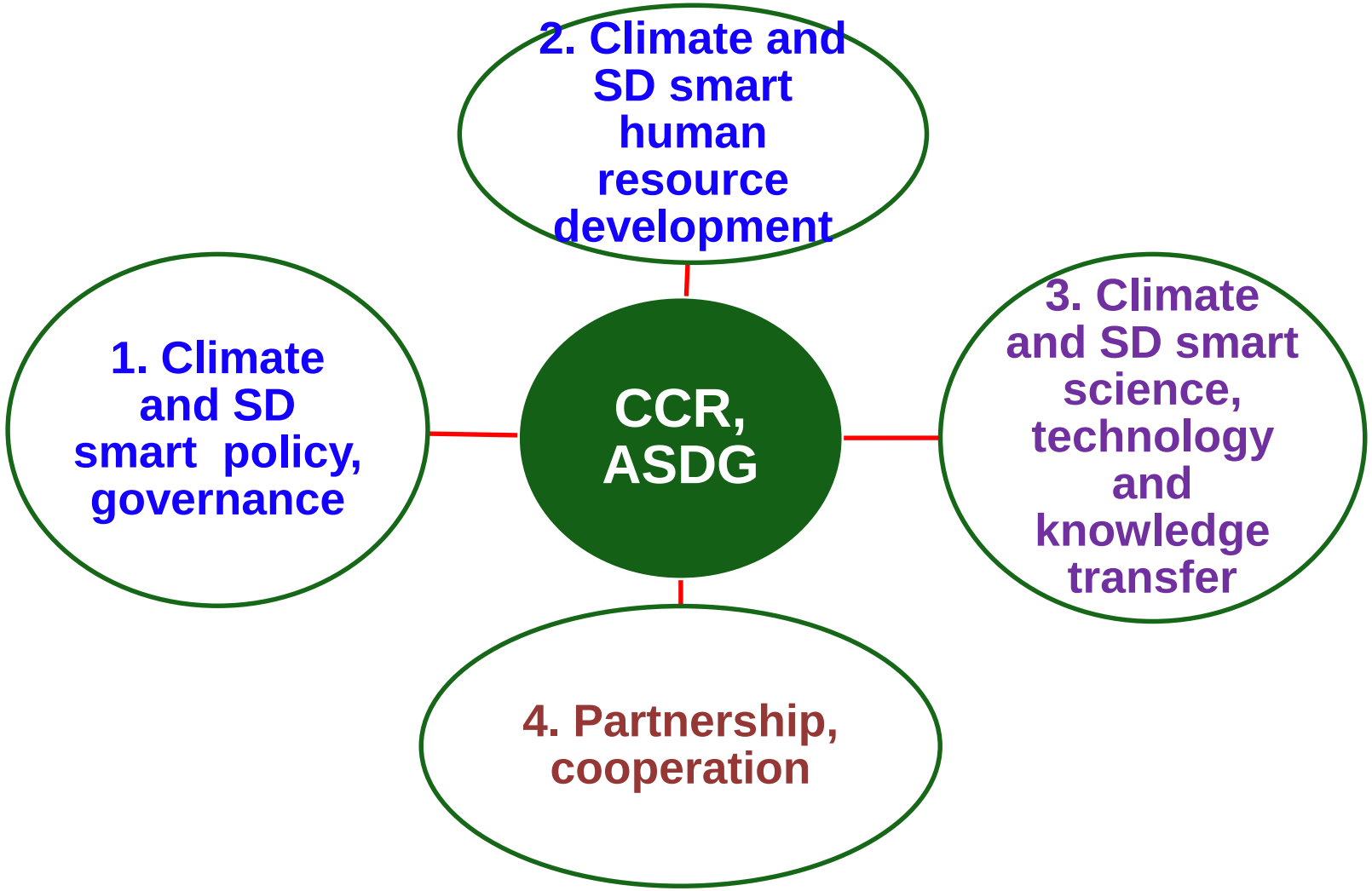
1. Integrating CCR into achieving SDGs (policy, strategy, plan, activities…)
2. Considering CCR and achieving SDGs (ASDG) as business
Creating policy, institution for promoting the CCR and ASDG business



3. Based on the assessment of level of maintaining sustainability, core/vital values of human, society, planet to choose and implement the most optimal solutions
4. Find out and taking opportunities from CC for CCR and achieving SDGs

V. Perspectives: Climate change response (CCR)- Achieving sustainable development Goals (ASDG) by the Solutions:

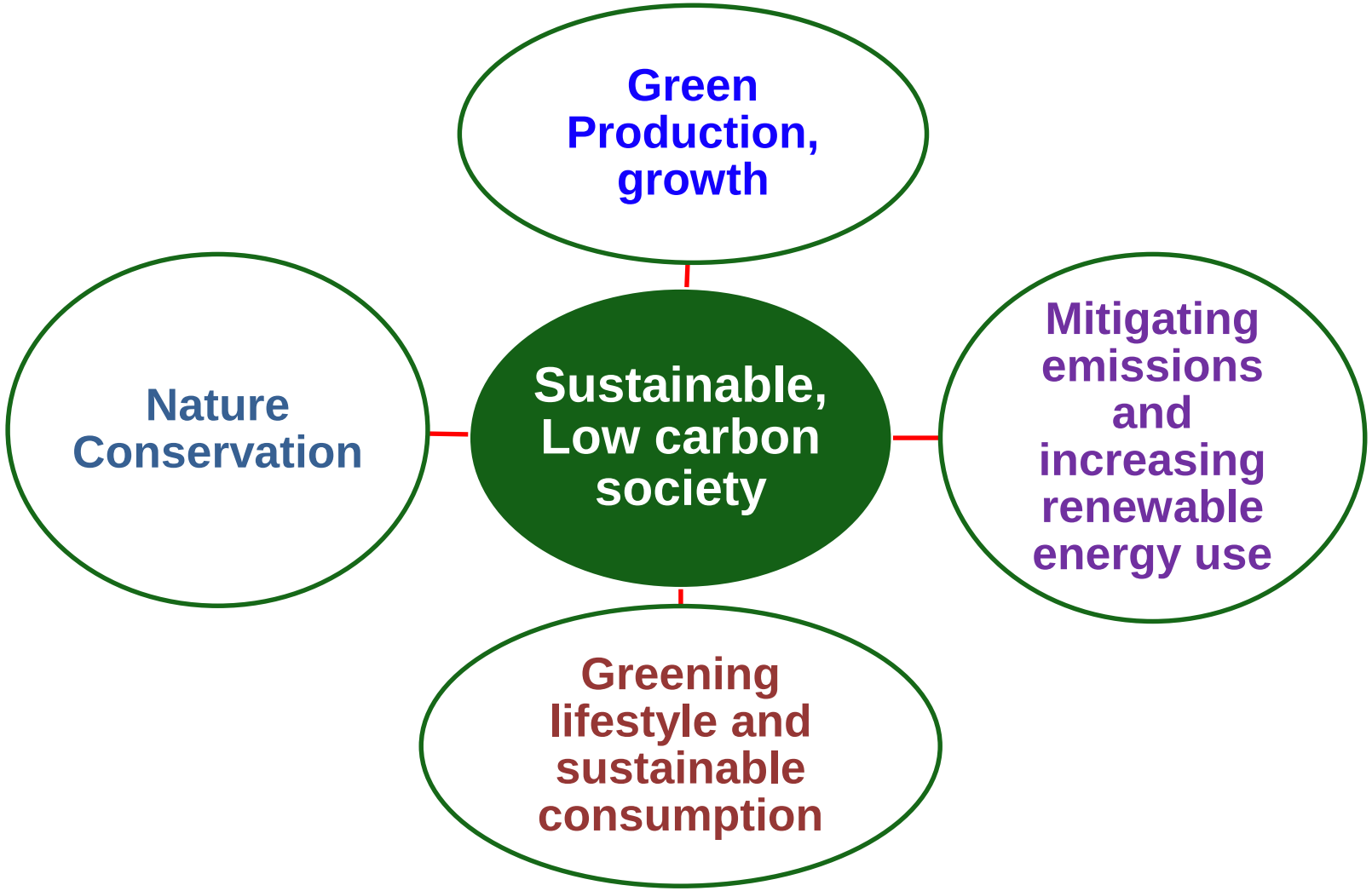
Recognizing: 1. integrating, interacting of CCR and ASDG
2. Harmony, balance of benefit, interest of all stakeholders



V. Perspectives: New growth models for climate change response

Implementing Low carbon society

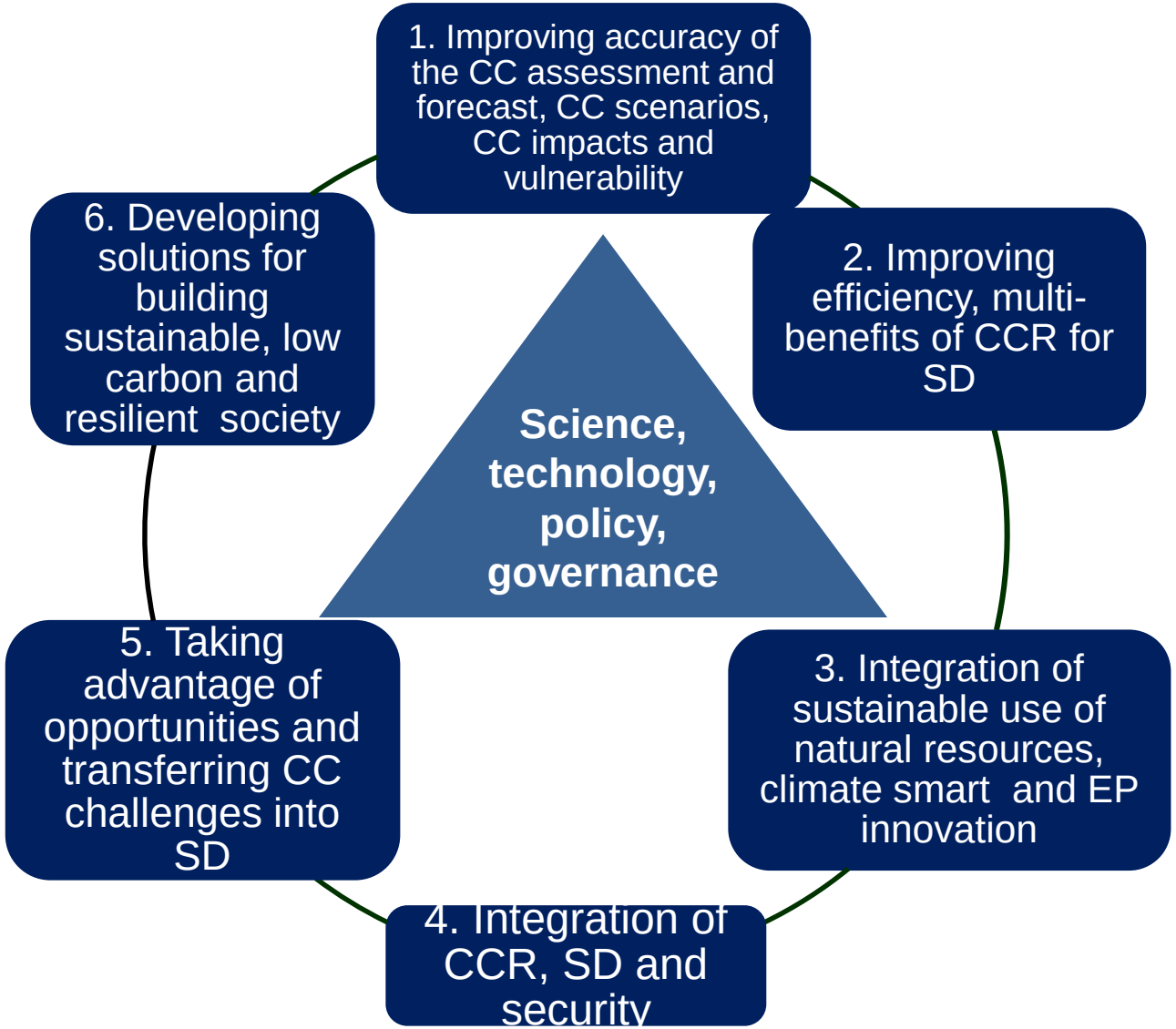
Actions towards sustainable, low carbon society



V. Perspectives: Creating Business opportunities on climate change response and achieving SDGs

Climate change actions		Contributing to achieving SDGs	Business and start up opportunities
CCR	Activities in VN		
Adaptation	Enhancing natural resilience: ecosystem, biodiversity conservation	SDG 14,15, 11, 6	Replaceable Wetland and forest banking,
	Enhancing social resilience	SDG 1,2,3,4,5,6,7,8,11	Climate resilient business
	Development of climate resilient infrastructure, disaster prevention construction	SDG11	BOT on the infrastructure development
	Developing models of CCR	SDG11, 13,14,15	Conducting and transferring the models
Mitigation	Reducing GHG (NTP on CC, strategies of CC, Green Growth, Renewable energy; NAP implementing PAC, INDC, NDC; environment protection	SDG 13, 12, 7	Renewable energy production; energy economic technologies; waste energy technologies MRV technology, service, consultant

V. Proposals for future cooperation: in science and technology and policy innovation

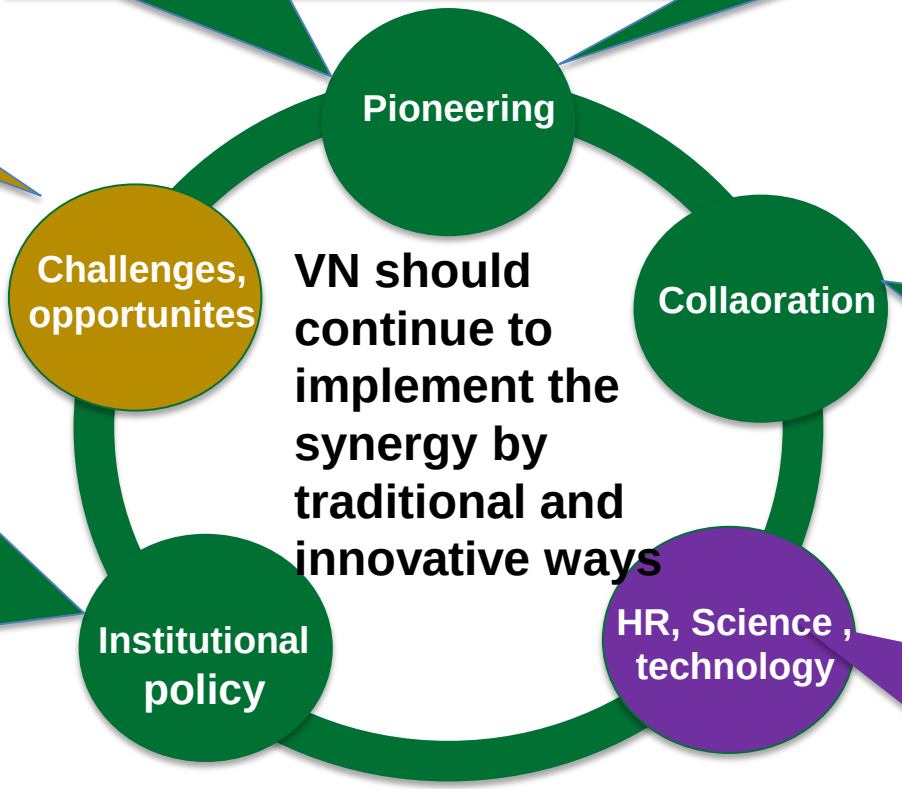


Conclusions

Vietnam is one of the most vulnerable to climate change (CC) countries, facing with many challenges and having opportunities of SD

Continuing pioneering in CC response and synergy of CCR, natural resource management and environmental protection and SD based on policies, finance and investment and action plans

Developing model of sustainable, low-carbon and highly resilient, nature harmonious growth for proactive response to CC, EP and SD



Promoting cooperation, effective use of support, international and national donors to implement the new model of growth for SD and the synergy

Institution and policies innovation, social power for developing and realizing the synergy of climate change response, sustainable use of natural resources and environment protection and new growth models

Developing human resources, science and technology, attracting and effectively using collaboration, funding and resources for realizing the synergy