

CLIMATE CHANGE EXPENDITURE AND INVESTMENT REVIEW (CPEIR) –

PERIOD 2010-2020 – MINISTRY OF AGRICULTURE AND RURAL DEVELOPMENT (MARD)

1. General introduction

Ministry of Agriculture and Rural Development (MARD) is a governmental agency performing state management functions in the fields of agriculture, forestry, salt production, fishery, irrigation/water services and rural development nationwide, including state management functions with regard to delivery of public service in accordance with legal documents.

Climate change has a strong impact on the areas managed by MARD. Climate change not only causes extreme weather phenomena such as sea level rise, floods, droughts, saltwater intrusion, but it also heavily affects the agricultural sector, in particular: (i) Loss arable land in agriculture; (ii) Reducing yield of some crops and animals; (iii) affect livelihoods that depend on fisheries' water resources and the abundance of coastal resources; (iv) impact on forest resources and forest ecosystems; and (v) damage to agricultural infrastructure....

The overall role and mandate of the ministry, especially regarding climate change, is:

1. Building capacity for forecasting, warning, proactively preventing, avoiding and mitigating natural disasters, and adapting to climate change: (i) Building and developing capacity for climate change research and monitoring natural disaster forecast and warning. (ii) Changing the structure, varieties of plants and animals, adjusting seasons, and agricultural production techniques to adapt to climate change. (iii) Proactively prepare natural disaster prevention, fighting and mitigation plans and conditions suitable to each industry, field, region, region, especially coastal, mountainous and vulnerable regions. injury before natural disasters. (iv) Implement a program of upgrading and ensuring safety of reservoirs, especially in the Central region, Central Highlands, and Northern midlands and mountains. Upgrading critical sections of sea and river dykes, building sluice gates to prevent saline water and keep fresh water. Protect and promote restoration and planting of mangrove forests, coastal protective forests and watershed protection forests. Protection of flood drainage space on river basins and riverbeds.
2. Strengthen measures to prevent, combat and limit the impacts of high tide, inundation and saltwater intrusion due to sea level rise: (i) Develop flood risk maps according to sea level rise scenarios. (ii) Reviewing, supplementing and adjusting strategies and plans for development of sectors and fields, and regional and local socio-economic development in line with the sea level rise scenario. (iii) Actively relocate and reorganize residential areas in areas frequently affected by floods and storms and areas prone to flash floods and landslides. (iv) Implement flood control project for big cities.
3. Mitigation of greenhouse gas emissions; protect and develop natural ecosystems, enhance the ability to absorb greenhouse gases: (i) Implement the program to reduce greenhouse gas emissions through activities to combat deforestation, forest degradation, and development. forestry industry; (ii) Implement some climate-friendly solutions in agricultural production such as changing farming methods, using appropriate water, fertilizer, animal feed, and waste management and treatment in breeding, development and use of biogas.

Main activities in response to climate change

- Develop and implement action plans to respond to climate change of the Agriculture and Rural Development sector:

+ Decision No. 543 / QD-BNN-KHCN dated March 23, 2011 on the Action plan to respond to climate change of the Agriculture and Rural Development sector for the period 2011-2015 and vision to 2050

+ Decision No. 327 / QD-BNN-KH dated February 28, 2014 on the action plan of the Ministry of Agriculture and Rural Development to implement the Government's Resolution No. 08 / NQ-CP dated January 23, 2014.

- + Decision No. 891 / QD-BNN-KHCN dated 17/3/2020 Plan to implement the Paris agreement on climate change of the Ministry of Agriculture and Rural Development in the period 2021 - 2030
- + Decision No. 1864 / QD-BNN-KH of May 22, 2019 on the Action Plan of the Ministry of Agriculture and Rural Development on the Overall Action Plan to implement Resolution No. 120 / NQ-CP on sustainable development The Mekong River Delta adapts to climate change
- Develop and implement strategies, plans, programs, and projects that have been approved on climate change and green growth for each specific sector and field.
- Deploy key and urgent natural disaster prevention solutions and works to protect people's lives, ensure national defense and security, search, rescue and rescue; relocation and rearrangement of residential areas in areas frequently affected by storms, storm surges, floods, riverbank and coastal erosion or in danger of flash floods or landslides.
- Manage forests sustainably, prevent deforestation and forest degradation; to plant, protect and restore forests, to attach importance to developing big timber and coastal forests
- Ensuring food security through protection, rational maintenance and sustainable management of agricultural land; restructuring plants and animals; create new varieties to adapt to climate change; complete the disease control and prevention system.
- Review, adjust and develop livelihoods and production processes to suit climate change conditions associated with poverty reduction, social equity in the New Rural Development Target Program
- To consolidate, upgrade and perfect crucial sea and river dykes; safety of dams and lakes, control of saline intrusion in the most severely affected areas.

Specific results:

From the capital sources managed by ministries, branches and localities and capital sources from national target programs and target programs. In the 2016-2020 period, the agricultural and rural infrastructure system will be invested in upgrading and gradually modernizing, serving better and better for production, people's daily life, natural disaster prevention and control. and climate change adaptation. Specifically:

- Fisheries sector: The capacity of fishing ports increases by about 620 ships / day, the volume of goods through the port increases by 55,000 tons / year. The capacity of mooring to avoid storms increases by about 3,700 ships. Provide the market with 1.5 billion varieties of mollusk free from diseases; about 7 billion breeds of high quality, disease-free shrimp. Concentrated aquaculture area increases about 8,820 ha;
- Agricultural sector: The rate of using advanced technical varieties (or equivalent) in the production of some crops reaches or exceeds the target set by 2020 (70%), specifically: Maize reaches 95 %; cassava reached 75%; crossbred pig breeds 93% (over 3%), 100% dairy breeds are allowed to use advanced technical breeds or crossbreeds ... The area of crops applying advanced technology has been certified 82.3 thousand ha (2.5 times higher than the set target); the acreage of crops signed under a contract for product sales reached nearly 1.0 million hectares (2 times higher than the set target); the number of pigs raised according to VietGAHP process in 2019 will reach 5-5.5%, chickens reach 15-18% (meet and exceed the set target).
- Forestry sector: Forest coverage rate reaches 42%, contributing to meeting the requirements of environmental protection, natural disaster mitigation, conservation of genetic resources and forest biodiversity; the area of special-use forest increased by 100,000 hectares; concentrated afforestation of about 1.1 million hectares (1,027 million hectares of planted production forests, 84,000 hectares of special-use and protection forests); scattered planting of 280.7 million trees; zoning for regeneration averagely 360 thousand ha / year (The targets met or exceeded the target).
- Irrigation sector: Irrigation projects invested with Government bonds in the period of 2017 - 2020, after completion, will achieve main results such as: Reservoir capacity increases by about 1,397 billion m³; The area of direct irrigation increases by about 80,499 ha; creating resources, improving irrigation capacity about 318,839 ha; improving drainage capacity of about 402,492 ha; control salinity, keep fresh for about 1.1 million hectares; water supply for people, industry and services. To consolidate and repair about 1,320 km of dykes,

of which 700 km of sea dikes and 620 km of river dykes; 5,482 small and medium water reservoirs were secured.

- The New Rural Construction Program (NTM): By the end of 2019, the whole country has 4,806 communes (54%) recognized as meeting NTM standards, the national average reaches 15.66 criteria / commune, no longer exists. communes under 5 criteria; increasing 35.3% compared to the end of 2015 (the time to summarize phase 1) and completed 2.4% and 1.5 years ahead of the 10-year target (2010-2020) of the Party and National Assembly and Government assigned.

Typical projects demonstrate the implementation of climate change related plans and strategies of the Ministry of Agriculture and Rural Development.

- Implement 03 target programs in the 2016-2020 medium-term public investment plan managed by the Ministry of Agriculture and Rural Development, including: (i) Sustainable Fisheries Economic Development Target Program (total implementation capital CT is 49,248 billion dong); (ii) Sustainable Forestry Development Target Program (total capital for program implementation is 59,600 billion VND); (iii) The target program of agricultural economic restructuring, natural disaster prevention and mitigation, and stabilization of people's lives (total capital for the program implementation is 306,660 billion VND).

- ODA projects such as Disaster Management Project (WB5) have a total investment (E-commerce) of 3780 billion VND; Coastal Resources for Sustainable Development project with e-commerce at 2475 billion VND; Sustainable Agricultural Transformation Project (Vnsat) with e-commerce of 6472 billion VND; Protection Forest Restoration and Sustainable Management Project (JICA2) with an e-commerce of 2577 billion VND; Repairing and improving dam safety (WB8) with an e-commerce of 9967 billion VND; Sustainable climate resilience and sustainable livelihoods The Mekong Delta (MD-ICRSL) - WB9 has an e-commerce of 8577 billion VND; Modernization of the Forestry Sector and Enhancement of Coastal Resilience (FMCR) Project has e-commerce of VND4452 billion.

- Projects with state budget capital such as Northern Ben Tre water drainage system (phase 1), Ben Tre province, E-commerce, VND 2123 billion; Ta Pao Voice mailbox in Binh Thuan province, e-commerce is 2,536 billion dong; Krong Pach Thuong reservoir, Dak Lak province, e-commerce is 4,421 billion VND; Ngan Truoi - Cam Trang irrigation project, Ha Tinh province, e-commerce is 4,430 billion VND; Ho Ban Mong, Nghe An province, e-commerce is 4,455 billion VND; Irrigation system Cai Lon - Cai Be (phase 1) 3309 billion; Canh Tang reservoir in Hoa Binh province 3115; Song Luy reservoir in Binh Thuan province 1484 billion VND; EaHleo 1 reservoir in Dak Lak province 1477; Dong Mit water reservoir in Binh Dinh province 2142; Ngoi Gianh water reservoir, Phu Tho province 1279; Ban Lai water reservoir phase 1 of Lang Son province 3,000 billion; Tan My Voice mailbox in Ninh Thuan province 5951; Ban Mong Lake

2. Sources of total climate change budget

a) Total climate budget 2010 – 2020

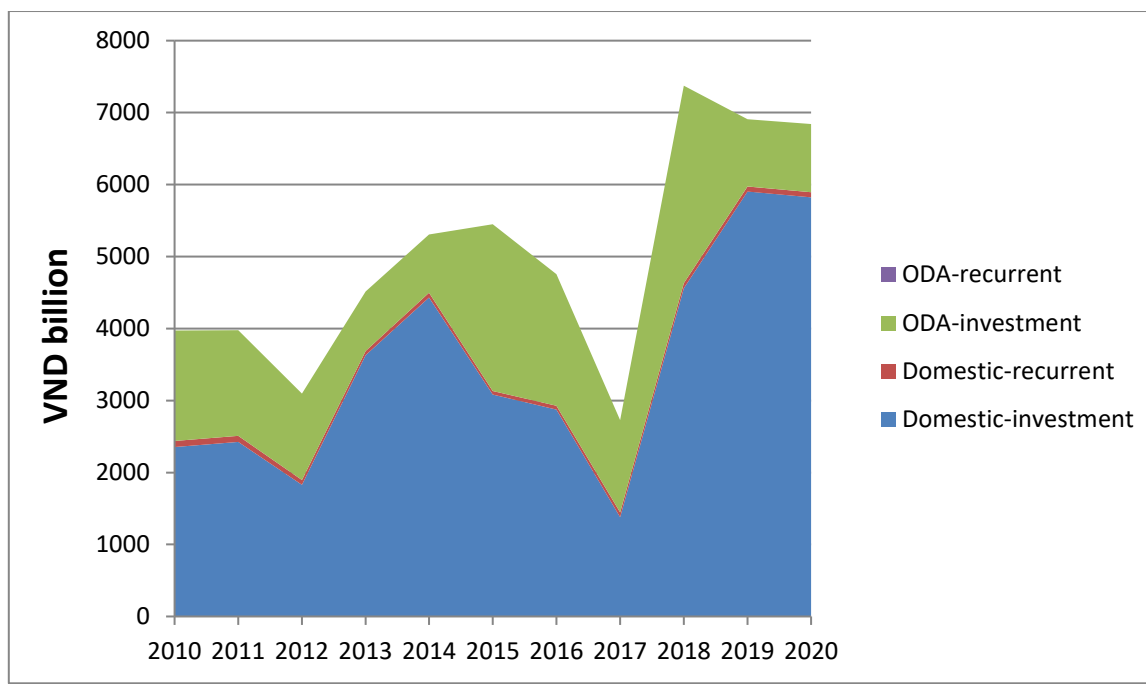


Figure 1: Total climate change budget expenditure in MARD - includes investment expenditure, recurrent expenditure; from domestic sources and ODA (at 2020's constant prices)

- The average investment spending on climate change is about 4,926 billion VND/year and for the recurrent expenditure is about 67 billion VND/year. The investment budget for climate is highest in 2019 (6,840 billion VND), while the lowest in 2017 (2,659 billion VND). The recurrent budget for climate is always small, with the largest budget in 2010 (86 billion VND), and the lowest in 2015 (48 billion VND).
- The annual average domestic expenditure on climate change investment is 3,481 billion VND, accounting for 71% of the total investment spending, and ODA contributes to 1.445 billion VND accounting for 29%. The proportion of ODA investment varies across the years, the lowest is 14% in 2019, 2020 but 48% in 2017. The climate investment budget represents between 37 – 52% of the total investment budget, averaging 45% for the whole study period.
- Recurrent expenditure in the whole period is only from the domestic budget, not from ODA. The annual average domestic expenditure on climate change recurrent is just 67 billion VND. The climate domestic budget represents between 15 – 25% of the total recurrent budget, averaging 19% for the whole study period.

b) The total climate change budget as a percentage of the total Ministry budget from 2010 – 2020.

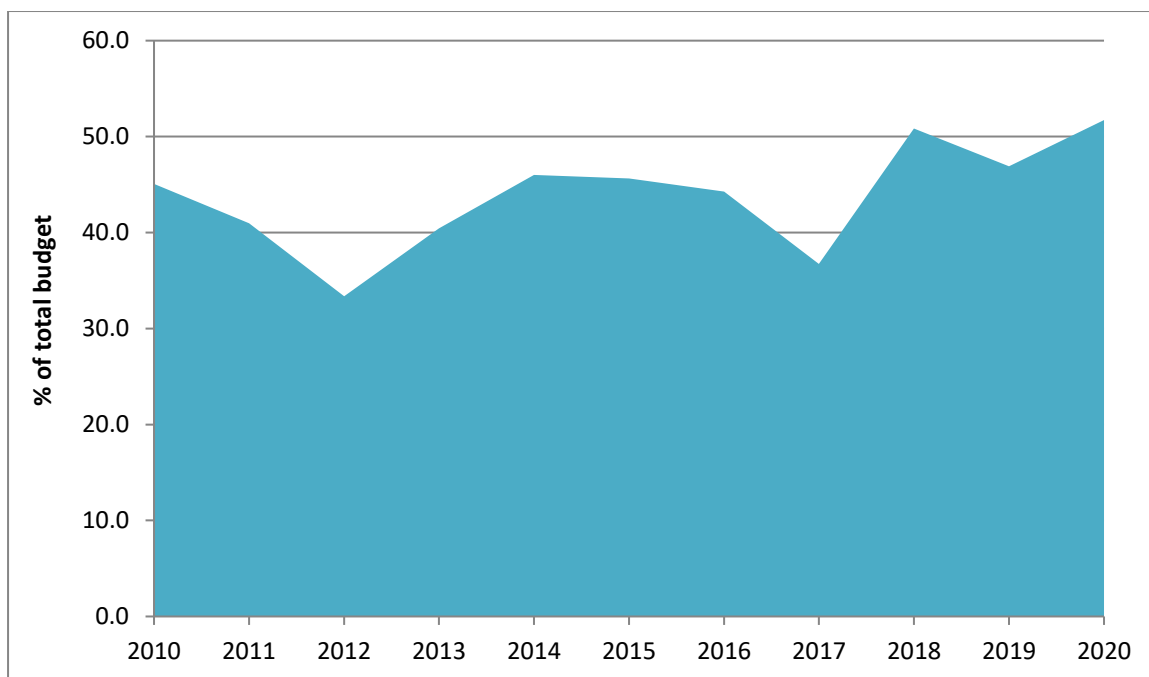


Figure 2: Ratio of budget expenditure on climate change to the total MARD budget for the period 2010-2020 (unit: %)

- In most years analysed in the 2010-2020 period, the climate budget represents between 33 – 51% of the total MARD budget. In 2020, the climate investment budget was the highest proportion of the MARD investment budget at 51.7 %, whereas it was lowest at 33.4% in 2012.

3. Purpose of total climate change budget

Allocation of total climate change budget to adaptation and mitigation:

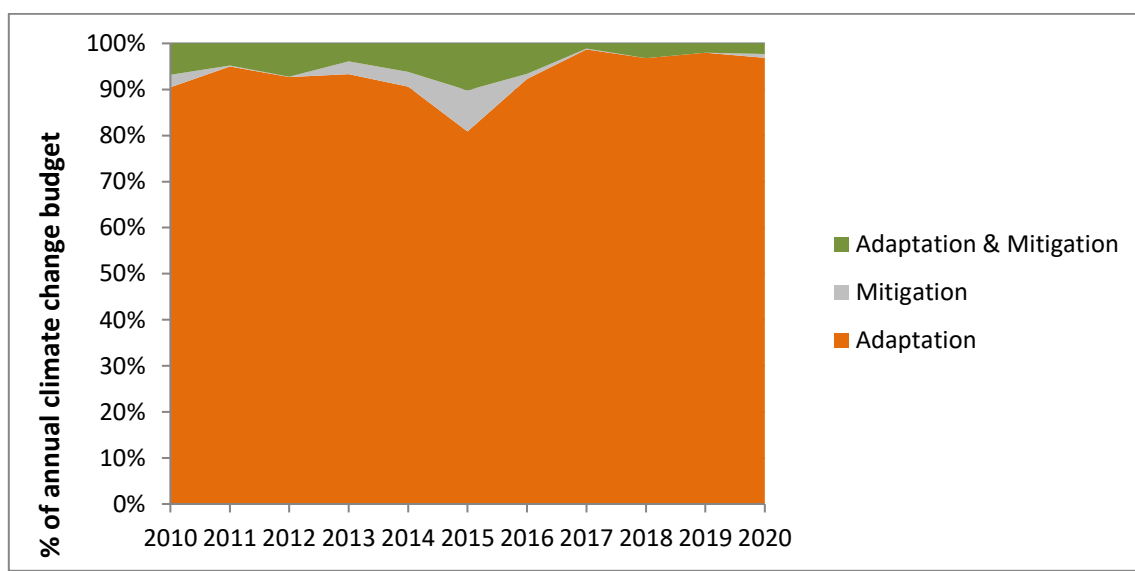


Figure 3: Conceptual distribution of public spending on climate change (i.e. categories: adaptation, mitigation, adaptation + mitigation)

- Total budget in climate change in the 2010-2020 period mostly focuses on adaptation. Adaptation represented 81% of climate budget in 2015 and then over 90% for the remaining years.

- The remaining allocation is spent on Forest Protection and Development projects in MARD that have both adaptive and mitigative aspects. In the whole period 2010-2020, there is only one mitigation project which aimed to improve the quality and safety of agricultural products and support development of a biogas.

4. Allocation of total climate budget to climate change themes

a) Allocation of total climate change budget to pillars:

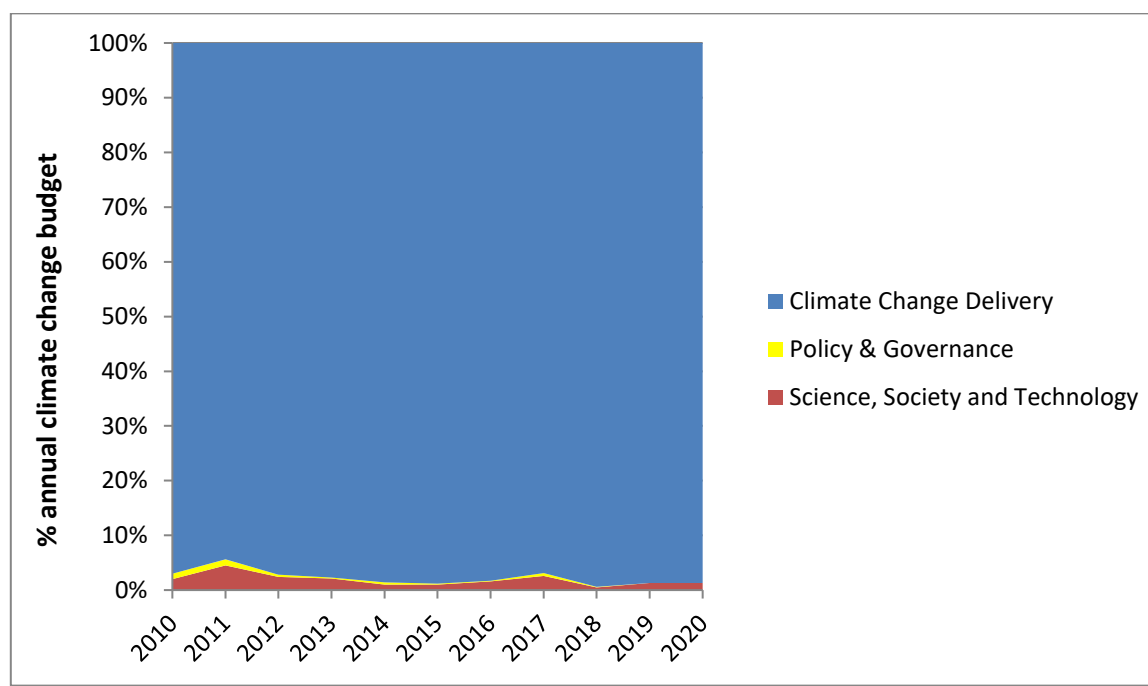


Figure 4: Distribution of public expenditure on climate change – grouped into Investment expenditure (Climate change delivery) and Recurrent expenditure (classified into Science, society and technology and Policy & governance)

- The climate change budget 2010-2020 focuses predominantly on CCD. CCD was 94% of climate budget in 2011 and then over 97% for the remaining years. All of CCD came from investment budget, ST and PG came from recurrent budget.

Table 1: Distribution of public expenditure on climate change by categories of Science, and Technology, Policy and Governance and Climate Change Delivery

	ST		PG		CCD	
	Count	%	Count	%	Count	%
2010	80.902	2.0	39.494	1.0	3853.721	97.0
2011	180.515	4.5	43.336	1.1	3755.028	94.4
2012	74.371	2.4	12.979	0.4	3007.518	97.2
2013	96.176	2.1	7.915	0.2	4410.711	97.7
2014	52.947	1.0	19.541	0.4	5234.207	98.6
2015	53.148	1.0	9.381	0.2	5388.395	98.8
2016	74.949	1.6	5.583	0.1	4674.984	98.3
2017	71.473	2.6	13.937	0.5	2641.363	96.9
2018	40.083	0.5	9.438	0.1	7298.621	99.4
2019	93.043	1.3	2.931	0.0	6813.054	98.7
2020	88.510	1.3	0.180	0.0	6754.658	98.7

b) Allocation of Climate Change Delivery tasks (annual mean expenditure VND billion, 2010 – 2020):

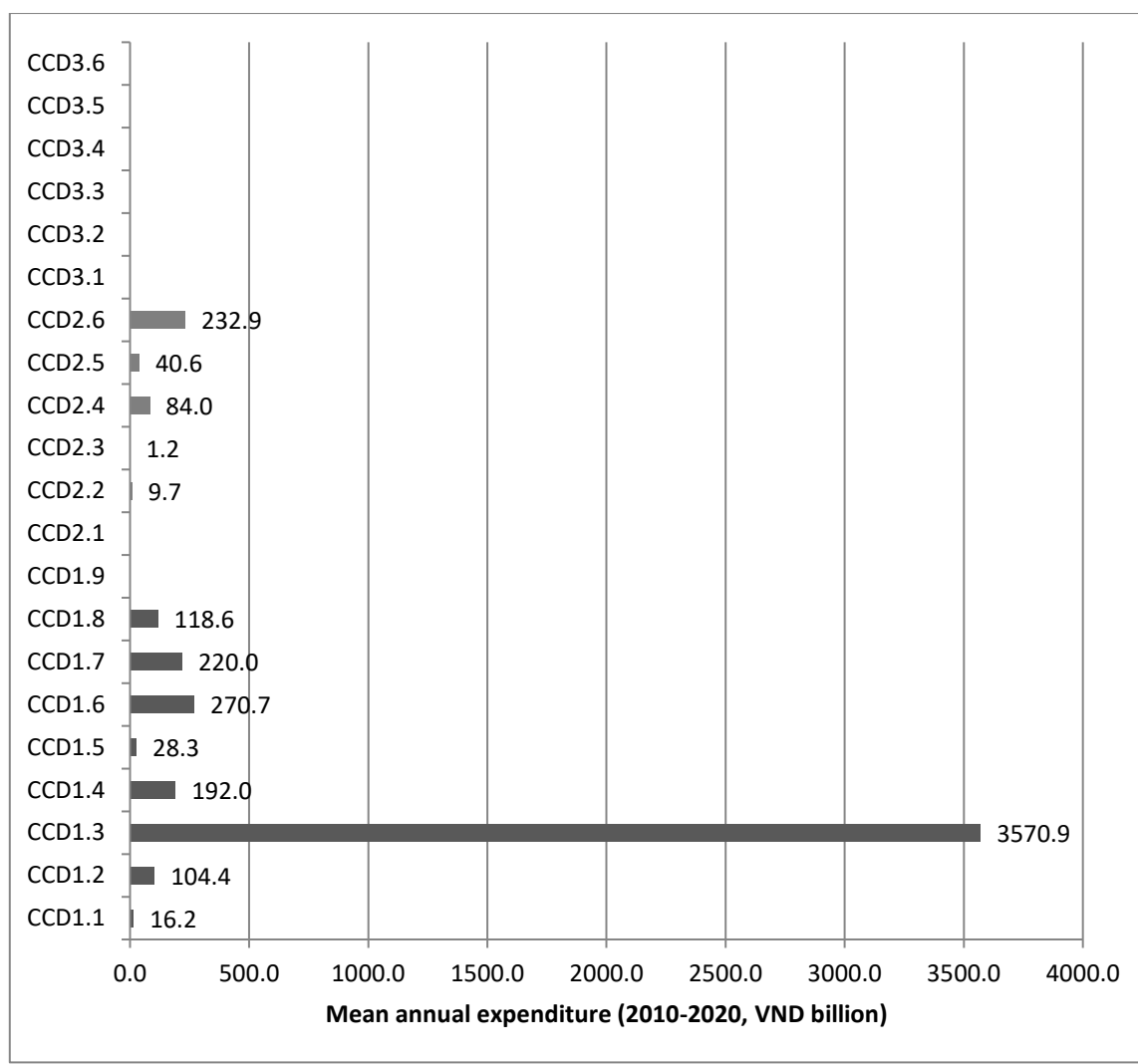


Figure 5: Distribution of public expenditure on climate change with in the (Climate change delivery (CCD) category.

- The dominant target of climate change from 2010 - 2020 was irrigation (CCD1.3) accounting for 73% of the CCD budget. Other targets for CCD expenditures were Rural development and food security (CCD1.6) for 5.5%, disaster risk reduction (CCD2.6) accounts for 4.8 %, forest development (CCD1.7) accounts for 4.5%, embankment river (CCD1.4) accounts for 3.9% and Saline intrusion (CCD1.2) accounts for 2.1%.
- Smaller amount of budget have been allocated to Water quality and supply (CCD1.5, 0.6%) and Protection of the coast and coastal dykes (CCD1.1, 0.3%).

Table 2: Public expenditure on climate change within the CCD category

	count	%	count	%	count	%	count	%
CCD1.1	16.21	0.3	CCD1.8	118.6	2.4	CCD2.6	232.9	4.8
CCD1.2	104.42	2.1	CCD1.9	0.0	0.0	CCD3.1	0	0
CCD1.3	3570.93	73.0	CCD2.1	0.0	0.0	CCD3.2	0	0
CCD1.4	192.01	3.9	CCD2.2	9.7	0.2	CCD3.3	0	0
CCD1.5	28.27	0.6	CCD2.3	1.2	0.0	CCD3.4	0	0
CCD1.6	270.68	5.5	CCD2.4	84.0	1.7	CCD3.5	0	0
CCD1.7	219.98	4.5	CCD2.5	40.6	0.8	CCD3.6	0	0

c) Allocation to Science, Society and Technology and to Policy and Governance tasks (annual mean expenditure VND billion, 2010 – 2020):

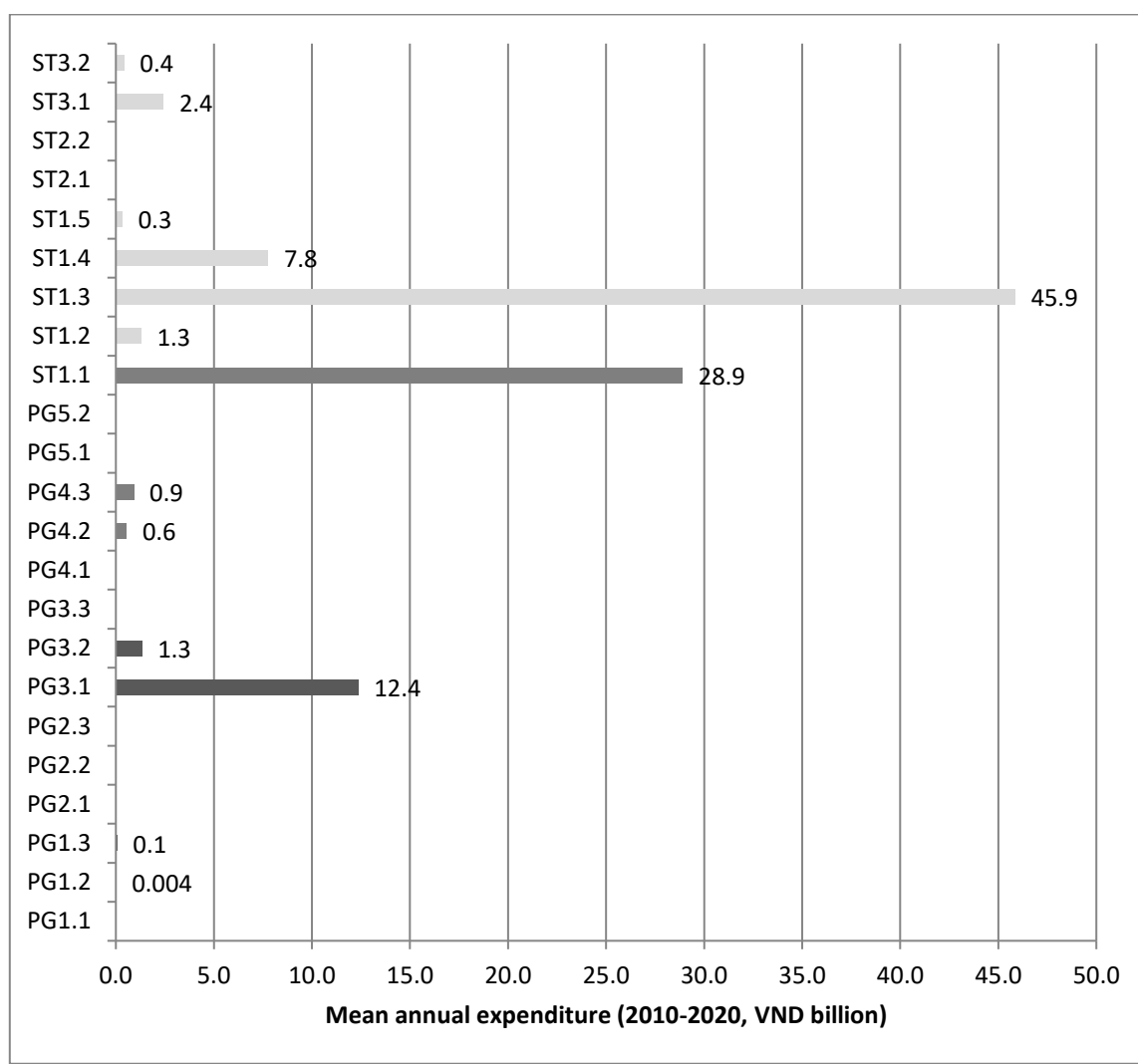


Figure 6: Allocation to Science, Society and Technology and to Policy and Governance tasks (annual mean expenditure VND billion, 2010 – 2020):

- The main targets of budget in climate change for ST and PG task from 2010 - 2020 has been in Consolidate biological resources and genetic resources (ST1.3) accounting for 45%, Build information and database (ST1.1) for 28%, Building Action Plan (PG3.1) accounts for 12%, Survey and evaluate the impact of CC (ST1.4) accounts for 8% and Improve the capacity of community leaders and civil society organizations to perceive and respond to CC (ST3.1) accounts for 2.4%, Improve weather and meteorological risk forecasting (ST1.2) accounts for 1.3%, CC impact assessment (PG3.2) accounts for 1.3%.
- Smaller amounts of budget have been allocated to Enhance the capacity of the entire community to respond to CC (ST3.2) which accounts for 0.4% and Technology for energy efficiency and low GHG emissions (ST1.5) which accounts for 0.3%, Legal tools are both adaptive and mitigating (PG4.3), and account for 0.92%, Legal tools for adaptation (PG4.2) accounts for 0.55%, Legal tools for minimization (PG4.1) accounts for 0.05%, Track and evaluate spending and implement CC adaptation policies (PG1.3) accounts for 0.1% and Increased responsiveness to CC (PG3.3) accounts for 0.03%.

Table 3: Public expenditure on climate change within the ST and PG categories

PG1.1	0	0.00	PG3.3	0.03	0.03	ST1.3	45.85	44.82
PG1.2	0.004	0.00	PG4.1	0.05	0.04	ST1.4	7.77	7.59
PG1.3	0.1	0.07	PG4.2	0.55	0.54	ST1.5	0.34	0.33
PG2.1	0	0.00	PG4.3	0.92	0.90	ST2.1	0	0.00
PG2.2	0	0.00	PG5.1	0	0.00	ST2.2	0	0.00
PG2.3	0	0.00	PG5.2	0	0.00	ST3.1	2.43	2.38
PG3.1	12.4	12.08	ST1.1	28.90	28.25	ST3.2	0.43	0.42
PG3.2	1.3	1.30	ST1.2	1.30	1.27			

5. Overseas Development Assistance climate programmes

Contribution of ODA to total climate change budget (average 2010 –2020):	28.9 %
<p>Five largest ODA allocations in terms of climate budget:</p> <ol style="list-style-type: none"> 1. Project on Disaster Management (WB5) (2011, 2014-2020, 8.7%) 2. Integrated Rural Development Project for Central Provinces (2010-2020, 8.4%) 3. Quality and safety improvement project for agricultural products and Development of biogas program (2010, 2013-2017, 5.5%) 4. Irrigation Management Project for Rural Development in the Mekong River Delta (WB6) (2011-2012, 2014-2018, 4.4%) 5. The Project of Rural Infrastructure Development for Production in the Central Highlands Provinces (2013, 2015-2020, 2.7%) 	

6. Policy and planning instruments

Instrument	Yes (✓) or No (X)
Climate Change Action Plan	X
Green Growth Action Plan	✓
Plan for Implementation of Paris Agreement	✓
Others: none	