

No: 2730 /QĐ-BNN-KHCN

Hanoi, September 5th, 2008

DECISION

**Issuance of the Action Plan Framework for Adaptation to Climate Change
in the Agriculture and Rural Development Sector Period 2008-2020**

THE MINISTER OF AGRICULTURE AND RURAL DEVELOPMENT

Pursuant to the Decree No. 01/2008/ND-CP dated January 3rd 2008 by the Government stipulating functions, tasks, mandates and organizational structure of the Ministry of Agriculture and Rural Development;

In consideration of the official letter no. 40/TTr-VPBDKH dated 27 August 2008 by the Director of the Standing Office of the Steering Committee for Climate Change Adaptation and Mitigation on approval of the Action Plan Framework for Adaptation to Climate Change in the Agriculture and Rural Development Sector period 2008-2020; and

In accordance with the proposal by the Director of the Department of Science, Technology and Environment,

DECIDES:

Clause 1. Issuing enclosed with this Decision the Action Plan Framework for Adaptation to Climate Change in the Agriculture and Rural Development Sector, period 2008-2020.

Clause 2. The Standing Office of the Steering Committee for Climate Change Adaptation and Mitigation (OCCA) shall chair and coordinate with the Department of Science, Technology and Environment to assist the Steering Committee in supervising, guiding and facilitating relevant agencies to implement the Action Plan Framework.

Clause 3. This Decision comes into effect since the date of signing.

Clause 4. The Director of the Ministerial Office, Director of the Department of Science, Technology and Environment, Director of OCCA, leaders of agencies under MARD,

Directors of Departments of Agriculture and Rural Development of provinces and cities belonging to the central government, general directors of general companies, directors of companies belonging to MARD and members of the Steering Committee for Climate Change Adaptation and Mitigation shall be responsible for implementing this Decision.

Recipients:

- *Prime Minister and Vice Prime Minister (to report);*
- *Ministries and Government agencies;*
- *Provincial People's Committees;*
- *MARD leaders and agencies*
- *Labor union of agriculture and rural development sector*
- *Communist party committee and labor unions of MARD agencies;*
- *Provincial DARDs*
- *Website administrators of MARD and OCCA*
- *Members of the Steering Committee on CC*
- *Archived by OCCA, Department of Science, Technology and Environment*

Minister of Agriculture and
Rural Development
Signed and sealed

Cao Duc Phat

**Action Plan Framework for Adaptation and Mitigation of Climate Change
in the Agriculture and Rural Development Sector Period 2008-2020**

(Enclosed with the Decision No. /QĐ-BNN-KHCN dated 5th September 2008
by the Minister of Agriculture and Rural Development)

I. OBJECTIVES

1.1. General Objectives

Enhance the Government's capabilities of adaptation and mitigation to climate change (CC) in order to minimize its adverse impacts and to ensure sustainable development of the agriculture and rural development sector. In particular, there is a focus on:

- Ensuring the stability and safety of residents in cities and different zones and regions, especially the Cuu Long and Red river deltas and the central and mountainous areas;
- Ensuring stable agriculture production and food security in an agricultural area of 3.8 million ha with two seasonal rice crops;
- Ensuring the maintenance of dyke and infrastructure systems, as meets disaster prevention and mitigation requirements.

1.2. Specific Objectives

1.2.1. Develop a policy system integrating climate change into development programmes in the agricultural and rural development sector (hereafter called the sector). Define responsibilities of relevant agencies, funding sources and management mechanisms for the implementation of the Action Plan for Adaptation and Mitigation of Climate Change (hereafter called the AP);

1.2.2. Develop an AP and propose support policies to regions affected by CC to ensure sustainable development of the sector;

1.2.3. Strengthen research and CC impact projections in agriculture, water resources, forestry, salt production and rural development to provide scientific foundations for formulating policies, strategies and solutions for adaptation and mitigation to CC;

1.2.4. Strengthen international co-operation, promote the linkage with international and regional programmes and receive technical and financial assistance from international communities in CC adaptation and mitigation;

1.2.5. Develop human resources for implementing adaptation and mitigation policies;

1.2.6. Enhance awareness of government officials, staff and communities in CC adaptation and mitigation in the sector;

1.2.7. Ensure that rural communities receive equal benefits when implementing CC adaptation and mitigation policies.

II. THE MAIN TASKS

2.1. Conduct a communication and information programme to disseminate knowledge and experiences to enhance awareness of CC impacts and adaptation and mitigation activities of the sector.

2.1.1. Disseminate to officials, staff and local communities the implementation of government and sectoral policies on adaptation and mitigation to CC;

2.1.2. Formulate a plan for disseminating commitments related to CC adaptation and mitigation between the Vietnamese government, the sector and the international community;

2.1.3. Develop an information database for MARD and a website for the Standing Office of Climate Change Adaptation and Mitigation (OCCA). The database will provide information on all of MARD's CC-related activities. The website will disseminate information, post CC projections and answer CC queries from ministry agencies, local communities, businesses and other stakeholders. It will also provide direction for the implementation of CC adaptation and mitigation policies;

2.1.4. Organize thematic workshops, conferences and training courses for staff and officials from central to local levels, on CC impacts and solutions for adaptation and mitigation

2.2. Develop human resources and conduct studies to develop and consolidate scientific foundations for providing adaptation and mitigation solutions

2.2.1. Apply information technology in collecting, maintaining and processing information. Develop and operate a database of CC adaptation and mitigation activities;

2.2.2. Develop and implement study on CC impacts in the sector and recommend adaptation and mitigation measures;

2.2.3. Train human resources for scientific research and implementing CC adaptation and mitigation policies;

2.3. Develop a policy system and integrate CC in sectoral development programmes

2.3.1. Develop a strategic vision for the sector in adaptation to CC;

2.3.2. Develop a policy and mechanism system integrating CC in the development planning programme of the sector;

2.3.3. Screen and review current legal documents and sectoral policies and recommend amendments and issuance of new legal documents on CC adaptation and mitigation as necessary;

2.3.4. Develop a collaboration mechanism among ministries and ministerial departments and between central and local levels as well as a management mechanism of programmes and projects on CC adaptation and mitigation.

2.4. Promote international cooperation in CC adaptation and mitigation in the sector

2.4.1. Develop and recommend projects and seek funding from the international community for adaptation and mitigation to CC;

2.4.2. Strengthen cooperation and promote relationships with international and sectoral programmes through information sharing. Develop a network of bilateral and multilateral cooperatives for implementing sectoral CC activities;

2.4.3. Organise international training, experience exchanges and technological transfers on adaptation and mitigation to CC;

2.4.4. Research and develop mechanisms for the most effective mobilization and use of international aid to assist in CC adaptation and mitigation. Establish a fund for international assistance for implementation of the CC adaptation programme;

2.4.5. Promote the cooperation and integration of CC actions in programme and plans implementing multilateral commitments on environment protection.

2.5. Priority activities for implementing adaptation and mitigation policies in the agriculture and rural development sector

2.5.1. Strengthen capacity for OCCA;

2.5.2. Develop national technical standards and procedures for planning, designing and constructing infrastructure in the water resources, agriculture, fisheries, forestry, salt production and rural development sectors in the context of CC;

2.5.3. Conduct scientific research and planning programmes on agricultural and rural infrastructure, cultivation, forestry, fisheries and salt production systems, natural prevention and mitigation, etc. to assist in strengthening adaptation capacities to CC. Special attention will be given to the issues of temperature increases and sea level rises, focusing on:

- a) A research programme and solutions for ensuring the safety of residents in the Cuu Long river delta, the central region, the Northern river delta and the mountainous area in the context of temperature increases and sea level rises;
- b) A research programme and solutions for ensuring a stable agricultural production area of 3.8 million ha with two seasonal rice crops, to ensure national food security;
- c) The research and master planning of water resources development in Cuu Long river in the context of sea level rises;

- d) The research and planning programme for flood prevention and control in the Red, Thai Binh and Cuu Long rivers, in the central regions from Thanh Hoa to Khanh Hoa and in the South Central region and the South East region;
- e) The research and planning programme for the protection and development of forests to protect sea dykes and river dykes;
- g) The research and planning programme for salt production infrastructure, natural disaster prevention and mitigation infrastructure, etc. towards enhancing adaptation, especially for temperature increases and sea level rises;
- h) The research and planning programme for the food and industrial crop production areas in adaptation to CC;
- i) The research and planning programme of the aquaculture and fishery industries in adaptation to CC.

III. ORGANIZATION FOR IMPLEMENTATION

3.1. The main implementing solutions

- 3.1.1. Mobilize experts from relevant ministries, sectors, research institutes and professional associations, along with technical assistance from international experts, to develop a detailed AP of the sector in a timely and effective manner;
- 3.1.2. Assign tasks among agencies under MARD and localities for the formulation and implementation of adaptation and mitigation policies;
- 3.1.3. Systematize legal documents related to the integration of CC issues in the planning and development of agriculture and rural development;
- 3.1.4. Promote international cooperation in mitigation and adaptation to CC;
- 3.1.5. Train human resources, consultants, leading scientists and government management officials in developing strengthened capacities to implement adaptation and mitigation policies;
- 3.1.6. Ensure financial support for AP implementation from the government budget together with mobilizing Official Development Assistance (ODA), international cooperation support programmes and other sources of national and international assistance;
- 3.1.7. Conduct regular guiding, reviewing, monitoring and evaluating capacities to maintain focus and improve the objectives, tasks and outputs of the AP.

3.2. Implementation organization

- 3.2.1. Based on the AP framework, MARD departmental leaders, general directors of companies and directors of provincial agriculture and rural development departments belonging to the central authority, shall take responsibility within their own areas of directing the formulation and implementation of the Plan. They shall concretize objectives and tasks

under this AP framework for the period 2008-2020 and report their progress to MARD periodically. Progress reports are required to be submitted to OCCA by 15 October annually.

3.2.2. OCCA will be assigned to synthesize comments and proposals of all unities and agencies and to recommend financing structure, annual financing needs, policies, mechanisms and solutions for the implementation of tasks under the AP framework. OCCA will then submit their reports to MARD leaders for approval.

3.3.3. Assign the Department of Science, Technology and Environment, based on the task list under the AP framework, to coordinate with the Department of Planning and the Department of Finance to allocate the state budget and other funding sources for plan implementation;

3.3.4. During the implementation of the AP framework, in case of any need of amendment or addition of new contents, the agencies in charge are responsible for actively reporting to the Minister for his consideration;

3.3.5. Assign OCCA to chair and coordinate with the Department of Science, Technology and Environment and other relevant units to guide, supervise and synthesize the plan implementation and supervise and synthesize the implementation of the whole sector. OCCA will then report to the Minister annually before 30 October.

**Minister of Agriculture and Rural
Development**

Signed and sealed

Cao Duc Phat

**LIST OF ACTIVITIES UNDER THE ACTION PLAN FRAMEWORK FOR THE ADAPTATION AND MITIGATION
OF CLIMATE CHANGE IN THE AGRICULTURE AND RURAL DEVELOPMENT SECTOR**

(Enclosed Decision No/QĐ-BNN-KHCN dated 5th September 2008 by the MARD Minister)

No	Main Tasks	Detail activities	Implementing agencies	Outputs	Implementing duration
1	Conduct a communication and information programme in order to enhance awareness of CC impacts and adaptation and mitigation activities	<p>1.1 Disseminate and guide implementation of government and sectoral adaptation and mitigation policies for the benefit of government officials, staff and communities</p> <p>1.2. Develop training courses for disseminating government and sectoral commitments with international communities on CC adaptation and mitigation activities</p>	<p>Chairing agency: OCCA Collaborating agency: Department of Science, Technology and Environment, Department of Legislation</p> <p>Chairing agency: OCCA. Collaborating agency: Department of Science, Technology and Environment,</p>	<p>Government officials, staff and communities have greater knowledge of government and sectoral adaptation and mitigation policies</p> <p>Training courses to disseminate government and sectoral commitments with international communities developed</p>	<p>2008-2020 Funding sources: MARD and external funding</p> <p>2008-2020 Funding sources: MARD and external funding</p>

		<p>1.3. Develop a website for OCCA to disseminate information, provide CC forecasts and answer CC queries from ministry agencies, localities, businesses and other stakeholders. It will also provide direction for the implementation of CC policies and adaptation and mitigation solutions</p> <p>1.4. Organize thematic workshops, conferences and training courses for staff and officials from central to local levels on the impacts of CC and adaptation and mitigation solutions</p>	<p>Chairing agency: OCCA Collaborating agency: Department of Science, Technology and Environment and other departments</p> <p>Chairing agency: OCCA Collaborating agency: Department of Science, Technology and Environment, Department of Legislation</p>	<p>Functional and informative website for OCCA developed</p> <p>Thematic workshops, conferences and training courses developed for staff and officials from central to local levels</p>	<p>2008-2020 Funding sources: MARD and external funding</p> <p>2008-2020 Funding sources: MARD and external funding</p>
2	Develop human resources and conduct studies to develop and	2.1. Apply information technology in collecting, maintaining and processing information; Develop and operate a MARD database for the development and	Chair agency: OCCA Collaborating agency:	Database developed on all MARD CC projects and activities	2008-2010 Funding sources: MARD and external funding

consolidate scientific foundations for providing adaptation and mitigation solutions	implementation of CC adaptation and mitigation activities	Department of Science, Technology and Environment and other MARD relevant agencies		
	2.2. Develop and implement study on CC impacts in the agriculture and rural development sector and recommend adaptation and mitigation measures	Chairing: Research institutes Collaborating: Scientists and relevant agencies	Scientific foundations established and solutions recommended for adaptation and mitigation to CC	2009-2015 Funding sources: MARD and external funding
	2.2.1. Undertake study on the impacts of CC on agriculture in seven eco-regions and propose solutions for planning and production adjustment towards sustainable development	Chairing: Agriculture Research institutes Collaborating: Scientists	Completed study on the impacts of CC on agriculture. Proposed solutions for planning and production adjustment towards sustainable development for seven eco-regions	2009-2015 Funding sources: MARD and external funding

	<p>2.2.2. Undertake study to forecast CC impacts on agricultural production and food security for different regions and areas of Vietnam;</p>	<p>Chairing: Agriculture Research institutes; Collaborating: Scientists</p>	<p>Study developed on forecasted CC impacts on agricultural production and food security for different regions and areas</p>	<p>2009-2015 Funding sources: MARD and external funding</p>
	<p>2.2.3. Undertake study to forecast CC impacts to salt production and salt security in the North, Central and South Vietnam regions</p>	<p>Chairing: Salt and Fishery Resources Processing and Trading Department; Collaborating: Scientists</p>	<p>Study developed on forecasted CC impacts on salt production in the North, Central and South regions</p>	<p>2009- 2015 Funding sources: MARD and external funding</p>
	<p>2.2.4. Study to develop techniques and procedures for cultivation, fertilizer utilization and soil reclamation for key crops in CC affected areas</p>	<p>Chairing: Agriculture Research institutes Collaborating: Scientists</p>	<p>Techniques and procedures developed for cultivation, fertilizer utilization and soil reclamation for key crops in CC affected areas</p>	<p>2009-2015 Funding sources: MARD and external funding</p>
	<p>2.2.5. Study to forecast CC impacts on the performance of irrigation, drainage, salt</p>	<p>Chairing agency: Water</p>	<p>Forecasted CC impacts on the performance of irrigation,</p>	<p>2009-2015 Funding sources:</p>

	prevention, water supply and river and sea dyke systems. Recommend solutions for planning the upgrading of those structures	Resources Research institutes Collaborating: Scientists	drainage, salt prevention, water supply and river and sea dyke systems. Solutions recommended for planning the upgrading of structures	MARD and external funding
	2.2.6. Study to recommend structural measures in water resources to enhance adaptation to flow changes (water quality and quantity) at river basins	Chairing agency: Water Resources Research institutes Collaborating: Scientists	Structural measures developed in water resources to enhance adaptation to flow changes (water quality and quantity) at river basins	2009-2015 Funding sources: MARD and external funding
	2.2.7. Study to forecast impacts of CC and adaptation measures on water balance in different economic zones and to identify potential areas of water stress	Chairing agency: Water Resources Research institutes Collaborating: Scientists	Impacts of CC and adaptation measures on water balance in different economic zones forecasted and areas of potential water stress identified	2009-2015 Funding sources: MARD and external funding
	2.2.8. Map out hazardous zones where flash floods, river and sea bank slides, storms, sea	Chairing agency: Water	Zoning of risk areas of flash floods, river and sea bank	2009-2015 Funding sources:

	level rises, earthquakes, tsunamis and droughts may occur	Resources Research institutes Collaborating: Scientists	slides, storms, sea level rises, earthquakes, tsunamis and droughts identified	MARD and external funding
	2.2.9. Study to forecast impacts of CC on biodiversity, forest ecosystems and wetlands and propose adaptation measures	Chairing agency: Forestry Research institutes Collaborating agencies: Scientists	Research undertaken on impacts of CC on biodiversity, forest ecosystems and wetlands. Adaptation measures recommended	2009-2015 Funding sources: MARD and external funding
	2.2.10. Study impacts of CC on productivity of aquaculture and fishery resources and recommend measures for adaptation and conservation	Chairing agency: Fishery Research institutes Collaborating agency: Scientists	Impacts of CC on productivity of aquaculture and fishery resources assessed, measures of adaptation and conservation recommended	2009-2015 Funding sources: MARD and external funding
	2.2.11. Study impacts of CC on husbandry and epidemic prevention and recommend	Chairing agency:	Impacts of CC on husbandry and epidemic prevention	2009-2015 Funding sources:

		adaptation solutions	Husbandry Research institutes Collaborating: Scientists	assessed and adaptation solutions recommended	MARD and external funding
		2.2.12. Study impacts of CC on residential distribution, water supply and sanitation infrastructure development and recommend adaptation solutions	Chairing agency: Agriculture and Rural Development Research Programme Collaborating agency: Scientists	Impacts of CC to residential distribution, water supply and sanitation infrastructure development assessed and adaptation solutions recommended	2009-2015 Funding sources: MARD and external funding
		2.2.13. Develop new crop varieties and an experimental programme to increase crop adaptation	Chairing agency: Agriculture Research Programme Collaborating agency: Scientists	New crop varieties and an experimental programme to increase crop adaptation developed	2009-2015 Funding sources: MARD and external funding

		<p>2.2.14. Study impacts of CC on marine ecosystems, aquatic biodiversity, marine conservation reserves and inland aquatic conservation reserves</p>	<p>Chairing agency: Department of Fishery Resources Exploitation and Protection, Collaborating agency: Scientists</p>	<p>Impacts of CC on marine ecosystems, aquatic biodiversity, marine conservation reserves and inland aquatic conservation reserves assessed</p>	<p>2009-2015 Funding sources: MARD and external funding</p>
		<p>2.3. Train human resources, enhance awareness, strengthen the scientific research and recommend CC adaptation and mitigation solutions</p>	<p>Chairing agency: Department of Personnel Organization, Collaborating agency: Department of Science, Technology and Environment, OCCA, Research Institutes</p>	<p>Human resources are qualified to meet requirements of implementing adaptation and mitigation to CC in MARD</p>	<p>2009-2010 Funding sources: MARD and external funding</p>

3	Develop a policy system integrating CC in sectoral development programmes	3.1. Develop a strategic vision for adaptation to CC	Chair agency: OCCA Collaborating agency: Department of Science, Technology and Environment and other agencies under MARD	Strategic vision developed for adaptation to CC in the sector	2009-2010 Funding sources: MARD and external funding
		3.2. Develop policy and mechanism system integrating CC in sectoral planning and development programmes	Chairing agency: Department of Planning Collaborating agency: Agencies under MARD	Policy and mechanism system developed, integrating CC in sectoral planning and development programmes	2009-2010 Funding sources: MARD and external funding
		3.3. Screen and review system of legal documents and sectoral policies. Recommend amendments and issuance of new legal documents on CC adaptation and	Chairing agency: Department of Legislation,	Legal documents on CC adaptation and mitigation reviewed, amended and issued	2009-2015 Funding sources: MARD and external funding

		mitigation	Collaborating agency: Agencies under MARD		
		3.4. Develop a collaboration mechanism among ministries, sectors and central and local levels. Develop mechanism for management of programmes and projects in implementing CC adaptation and mitigation	Chair agency: OCCA Collaborating agency: Department of Science, Technology and Environment, Collaborating agency: Agencies under MARD	Collaboration mechanism among ministries, sectors and central and local levels developed Mechanism for management of programmes and projects in implementing the CC adaptation and mitigation developed	2009-2015 Funding sources: MARD and external funding
		3.5. Formulate policies to support disaster prone areas and develop disaster risk insurance policy	Chairing agency: Department of Dyke Management and Storm Control,	Support policies to disaster prone areas formulated Disaster risk insurance policy developed	2009-2011 Funding sources: MARD and external funding

			Collaborating agency: Agencies under MARD		
		3.6. Formulate policy on conservation of pure seeds and gardens and industrial and perennial fruit trees	Chairing agency: Department of Cultivation Collaborating agency: Scientists	Policy formulated on conservation of pure seeds and gardens and industrial and perennial fruit trees	2010-2015 Funding sources: MARD and external funding
		3.7. Formulate support policy for crop pattern movement in different agricultural eco-regions	Chairing agency: Department of Cultivation Collaborating agency: Scientists	Support policy formulated for crop pattern movement in agricultural eco-regions	2010-2015 Funding sources: MARD and external funding
		3.8. Develop policy and mechanisms for the management, protection, development and sustainable use of forest and forest land resources	Chairing agency: Department of Forestry	Policy and mechanisms developed for the management, protection, development and sustainable	2010-2020 Funding sources: MARD and external funding

			Collaborating: agency: Agencies under MARD	use of 16.24 million ha for planned forest development, Rate of forest land area increased to 42-43% in 2010 and 47% in 2020	
		3.9. Establishment of community's self-financing funds for prevention and mitigation of disasters	Chairing agency: Department of Dyke management and storm control, Collaborating agency: Agencies under MARD	Community's self-financing funds for prevention and mitigation of disasters established	2010-2015 Funding sources: MARD and external funding
		3.10. Develop policy and mechanisms for the management and sustainable development of salt production adaptation	Chairing agency: Department of Fishery Resources Processing and Trading and Salt Production	Policy and mechanisms developed for the management and sustainable development of salt production adaptation	2010- 2020 Funding sources: MARD and external funding

			Collaborating agency: Agencies under MARD		
4	Promote international cooperation in CC adaptation and mitigation in the agriculture and rural development sector	<p>4.1. Formulate project proposals on adaptation and mitigation and seek funding from the international community</p> <p>4.2. Strengthen cooperation and promote relationships with international and sectoral programmes through information sharing. Develop a network of bilateral and multilateral cooperatives for implementing sectoral CC activities</p> <p>4.3. Organize training of human resources and technological transfers in adaptation and mitigation to CC</p>	<p>Chairing agency: OCCA Collaborating agency: Agencies under MARD</p> <p>Chairing agency: International Cooperation Department – MARD, Collaborating agency: OCCA</p> <p>Chairing agency: Department of Personnel</p>	<p>Projects proposals formulated on adaptation and mitigation and funding sought from the international community</p> <p>Relations with international and sectoral CC stakeholders strengthened Bilateral and multilateral cooperative network developed</p> <p>Training activities of human resources and technological transfers conducted</p>	<p>2008-2020 Funding sources: MARD and external funding</p> <p>2008-2020 Funding sources: MARD and external funding</p> <p>2008-2020 Funding sources: MARD and external funding</p>

		4.4. Research and develop mechanisms for the most effective mobilization and use of international aid to assist in CC adaptation and mitigation. Establish fund for international assistance for implementation of the CC adaptation programme	<p>Organization – MARD, OCCA, Collaborating agency: Agencies under MARD</p> <p>Chairing agency: Department of Finance Collaborating agency: OCCA and other agencies under MARD</p>	<p>Mechanisms developed for mobilization and utilization of international aid and other funding</p> <p>Fund for implementation of the CC adaptation programme established</p>	<p>2009-2012</p> <p>Funding sources: MARD and external funding</p>
		4.5. Promote cooperation and integration of CC actions in programmes and plans implementing multilateral commitments on environment protection	<p>Chairing agency: OCCA, Departments of Forestry, Forest Protection, Collaborating agency: Agencies under MARD</p>	<p>Environmental protection plans and programmes integrated into CC activities (eg. Action Plan on desertification prevention, CITES, etc.)</p>	<p>2009-2020</p> <p>Funding sources: MARD and external funding</p>

5	Priority activities for implementing adaptation and mitigation to climate change in agriculture and rural development sector	5.1. Strengthen capacity of OCCA	Chairing agency: Department of Personnel Organization, OCCA Collaborating agency: Department of Science, Technology and Environment	OCCA capacity strengthened to fulfill tasks assigned by MARD	2008-2010 Funding sources: MARD and external funding
		5.2. Formulate Vietnam National standards and technical criteria for planning, design and construction of agricultural and rural infrastructure in the context of CC	Chairing agency: Department of Science, Technology and Environment Collaborating agency: Departments and agencies under MARD	National standards and technical criteria for planning, design and construction of agriculture and rural infrastructure developed	2009-2020 Funding sources: MARD and external funding

		<p>5.3. Conduct research and planning programme</p> <p>5.3.1. Develop a research programme and solutions for ensuring the safety of residents in the Cuu Long river delta, the central region, the Northern river delta and the mountainous area in the context of sea level rises</p> <p>5.3.2. Develop a research programme and solutions for ensuring a stable agricultural production area of 3.8 million ha with two seasonal rice crops, to ensure national food</p>	<p>Chairing agency: Department of Dyke Management and Storm Control, Department of Planning</p> <p>Collaborating agency: Department of Science, Technology and Environment, OCCA and other agencies under MARD</p> <p>Chairing agency: Department of Cultivation</p>	<p>Research and planning recommendations made to ensure the safety and stability of residents inhabiting in Cuu Long and Red river deltas, the central region and the Northern mountainous area in the context of sea level rises</p> <p>Research programme developed and solutions recommended for ensuring a stable agricultural production</p>	<p>2009-2012</p> <p>Funding sources: MARD and external funding</p> <p>2010-2012</p> <p>Funding sources: MARD and external funding</p>
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		security	Collaborating agency: Agencies under MARD	area of 3.8 million ha with two seasonal rice crops	
		5.3.3. Develop research and master planning of water resources in Cuu Long river in the context of sea level rises	Chairing agency: Water Resources institutions Collaborating agency: Agencies under MARD	Research and master planning carried out on water resources in the Cuu Long river delta in the context of sea level rises	2009-2012 Funding sources: MARD and external funding
		5.3.4. Develop research and planning for flood control in the Red river, Thai Binh river and Cuu Long river and rivers in the central region from Thanh Hoa to Khanh Hoa, the South Central region and the South East region	Chairing agency: Department of Dyke Management and Storm Control Collaborating agency: Agencies under MARD	Flood control planning developed in the Red river, Thai Binh river and Cuu Long river and rivers in the central region from Thanh Hoa to Khanh Hoa, the South Central region and the South East region	2010-2020 Funding sources: MARD and external funding

		5.3.5. Develop research and planning for food and industrial crop cultivation areas in the context of disaster management and adaptation to CC	Chairing agency: Department of Cultivation Collaborating agency: Agencies under MARD	Research and planning developed for food and industrial crop cultivation areas	2010-2020 Funding sources: MARD and external funding
		5.3.6. Develop a research and planning programme for aquaculture and fishery industries in adapting to CC	Chairing agency: Department of Aquaculture Collaborating agency: Agencies under MARD	Research and planning programme developed for aquaculture and fishery industries	2010-2020 Funding sources: MARD and external funding
		5.3.7. Develop research and planning programme for forest protection and management to protect sea dykes and coastal areas	Chairing agency: Department of Forestry Collaborating agency: Agencies under	Research and planning programme developed for the protection and management of forests to protect sea dykes and river dykes	2010-2020 Funding sources: MARD and external funding

		5.3.8. Develop a research and planning programme for disaster prone areas	MARD Chairing agency: Department of Construction Management Collaborating agency: Agencies under MARD	Research and planning programme developed for disaster prone areas	2010-2020 Funding sources: MARD and external funding
		5.3.9. Develop a research and planning programme for integrated utilization and management of river basins	Chairing agency: Department of Water Resources Collaborating agency: Agencies under MARD	Research and planning programme developed for integrated utilization and management of river basins	2010-2020 Funding sources: MARD and external funding
		5.3.10. Develop a research and planning programme for salt production and salt field infrastructure for adaptation to temperature increases and sea level rises	Chairing agency: Department of Fishery	Research and planning programme developed for salt production and salt field infrastructure	2010- 2020 Funding sources: MARD and external funding

			Resources Processing and Trading and Salt Production. Collaborating agency: Agencies under MARD		
		5.4. Develop a tree planting programme for wave protection of sea dyke systems	Chairing agency: Department of Forestry, Department of Dyke Management and Storm Control Collaborating agency: Agencies under MARD	Tree planting programme developed for wave protection of sea dyke systems	2008-2020 Funding sources: MARD and external funding
		5.5. Develop upgrading programme for irrigation, dyke protection and storm and flood control systems	Chairing agency: Department of	Upgrading programme for irrigation, dyke protection and storm and flood control	2008-2020 Funding sources: MARD and

			Dyke Management and Storm Control, Department of water resources Collaborating agency: Agencies under MARD	systems developed	external funding
		5.6. Develop a rural infrastructure consolidation programme	Chairing agency: Department of Planning Collaborating agency: Agencies under MARD	Rural infrastructure consolidation programme developed	2010-2020 Funding sources: MARD and external funding
		5.7. Establish disaster management support organizations	Chairing agency: Department of Dyke Management and Storm	Disaster management support organizations established	2010-2015 Funding sources: MARD and external funding

			Control Collaborating agency: Agencies under MARD		
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