

**Action Plan Framework for Adaptation and Mitigation of Climate Change
of the Agriculture and Rural Development Sector Period 2008-2020**
(Enclosed with the Decision No. 2730/QĐ-BNN-KHCN dated 5th September 2008 by
Minister of Agriculture and Rural Development)

I. OBJECTIVES

1.1. General Objectives

To enhance capability of mitigation and adaptation to climate change (CC) to minimize its adverse impacts and ensure sustainable development of the agriculture and rural development sector in the context of climate change. Of which, focuses are given to:

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

1.2. Specific Objectives

1.2.1. Develop a policy system integrating climate change in sectoral development programme, define responsibilities of relevant agencies as well as funding sources and management mechanisms of implementation of the action plan (AP) for adaptation and mitigation of CC;

1.2.2. Develop an AP and propose support policies to the CC affected regions to ensure the sustainable development of different sub-sectors of agriculture and rural development sector;

1.2.3. Strengthen capacity of research and forecast of CC impacts in agriculture, water resources, forestry, salt production and rural development to provide scientific foundation for formulating policies, strategies and solutions for mitigation and adaptation to CC in agricultural and rural development sector;

1.2.4. Strengthen international cooperation, promote the linkage with international and regional region programme, receive technical and financial assistance from international communities in CC mitigation and adaptation in agriculture and rural development sector;

1.2.5. Develop human resources for implementing the mitigation and adaptation to CC;

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

1.2.7. Ensure equal benefit sharing for rural communities in implementing CC mitigation and adaptation.

II. THE MAIN TASKS

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

2.1.1. Disseminate and guide the implementation of government's and sectoral policies to officials, staff and communities in mitigation and adaptation to CC;

2.1.2. Formulate plans for disseminating the government's and sectoral commitments with the international communities on CC mitigation and adaptation activities;

2.1.3. Develop an information system and a website of the Steering Committee for Climate change Adaptation and Mitigation in agricultural and rural development sector to disseminate information, forecast and answer enquiries on CC to the agencies under ministry, localities and businessmen and orientation for implementation of CC mitigation and adaptation solutions;

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

2.2. Develop human resources and conduct studies to develop and consolidate scientific foundation for providing solutions to mitigate and adapt to CC

2.2.1. Apply information technology in collecting, maintaining and processing information; Develop and operate the database system for the development and implementation of CC mitigation and adaptation activities;

2.2.2. Develop and implement study programme on CC impacts in the agriculture and rural development and recommend the mitigation and adaptation measures;

2.2.3. Train human resources, raise awareness and strengthen scientific research, recommend CC mitigation and adaptation;

2.3. Develop policy system, integrate CC in sectoral development programme

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 planning and development programme of the sector;

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

2.3.4. Develop a collaboration mechanism among ministries, sectors, between central and local levels and the mechanism for management of programme and projects in implementing the CC mitigation and adaptation;

2.4. Promote international cooperation in CC mitigation and adaptation in agriculture and rural development sector

2.4.1. Develop and recommend projects, seek for funding from international communities for mitigation and adaptation to climate change of the sector;

2.4.2. Strengthen cooperation and promote the relationship with international and sectoral programme through information sharing, develop a network of bilateral and multilateral cooperation for implementing sectoral climate change activities;

2.4.3. Organie training of human resources; experience and technological transfer on mitigation and adaptation to climate change in the sector;

2.4.4. Study to develop mechanisms for mobilization and utilization of AID funds in the most effective way as well as set up a fund 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. Some priority activities for implementing mitigation and adaptation to climate change in agriculture and rural development sector

2.5.1. Strength capacity for the standing office of the steering committee for climate change adaptation and mitigation (OCCA) of MARD;

2.5.2. Develop national standards (TCVN), national technical procedures (QCVN) in planning, designing and constructing infrastructure of sectors of water resources, agriculture, fisheries, forestry, salt production and rural development in the context of climate change;

2.5.3. Carry out scientific research programme and planning programme of agricultural and rural infrastructure; systems of cultivation, forestry, fisheries and salt production, natural prevention and mitigations, etc.. towards strengthening adaptation capacity to climate change, of which special attention will be given to the issues of temperature increase and sea level rise, focusing on:

a) The research programme and solutions for ensuring safety of residents in the Cuu Long river delta, the central region, the Northern river delta, the mountainous area for their stable lives in the condition of temperature increase and sea level rise;

b) Research programme and solutions for ensuring an stable area of two seasonal rice crops of 3.8 million ha to ensure national food security;

c) Research and master planning of water resources in Cuu Long river in the context of climate change and sea level rise;

d) Research and planning programme for flood prevention and control in the Red, Thai Binh and Cuu Long rivers, rivers in the central regions from Thanh Hoa to Khanh Hoa, South Central region and South East region to enhance adaptation to climate change;

e) The research and planning programme for protection and development of forests to protect seadyke and riverdyke;

g) Research and planning programme of salt production infrastructure and natural disaster prevention and mitigation infrastructure, etc towards enhancing adaptation ability to climate change, of which special focus is paid to the temperature increase and sea level rise;

h) The research and planning programme of the food and industrial crop production areas in adaptation to climate change;

i) Research and planning programme of the aquaculture and fisheries to adapt to climate change.

III. ORGANIZATION FOR IMPLEMENTATION

3.1. The main solutions

3.1.1. Mobilize experts from relevant ministries, sectors, research institutes, professional associations with technical assistance of international experts to develop a detail action plan of the sector to implement the programme effectively and timely;

3.1.2. Assign tasks among agencies under MARD and localities in formulation and implementation of mitigation and adaptation to climate change;

3.1.3. Systematize legal documents related to the integration of climate change issues in planning and development of agriculture and rural development;

3.1.4. Promote international cooperation in mitigation and adaption to climate change;

3.1.5. Train human resources, consultants, especially the leading scientists, government management officials to have better capacities in implementing the mitigation and adaptation to climate change in the agriculture and rural development sector;

3.1.6. Ensure financial support for implementation of the action plan sourced from Government budget together with mobilizing ODA, the international cooperation support programme, and other sources of international and national individuals and organizations at all economic sectors;

3.1.7. Strengthen guiding, reviewing, monitoring and evaluating the objectives, tasks and outputs of the sectoral action plan by period;

3.2. Implementation organization

3.2.1. Leaders of MARD's departments and units; General directors of companies, directors of companies enterprises under MARD, directors of provincial departments of agriculture and rural development belonging to the central authority, based on this Action Plan framework, within their own functions, shall take responsibilities in directing the formulating plan and organizing the implementation; concretize objectives and tasks under the 2008-

2020 period plan as well as annual plan; report to the MARD the progress of implementation of the action plan by periodically. The reports are required to submit through the standing office of steering committee for climate change adaptation and mitigation by 15 October annually.

3.2.2. Assign the OCCA to synthesize comments and proposals of all unities and agencies, recommend financing structure and annual financing needs, policies, mechanisms and solutions for implementation of tasks under the action plan framework than submit to the MARD leaders for approval;

3.3.3. Assign the department of science, technology and environment, based on the task list under the action plan framework, to coordinate with department of planning and department of finance to allocate state budget and other funding sources for the AP implementation;

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

3.3.5. Assign the OCCA to chair and coordinate with Department of Science, Technology and Environment and other relevant units to guide, supervise and synthesize the implementation; supervise and synthesize the implementation of the whole sector then report to the Minister through the Steering Committee for CC adaptation and mitigation annually before 30 October.

**Minister of Agriculture and Rural
Development**

Signed and sealed

Cao Duc Phat

**LIST OF ACTIVITIES UNDER THE ACTION PLAN FRAMEWORK IN MITIGATION AND ADAPTATION TO
CLIMATE CHANGE OF THE AGRICULTURE AND RURAL DEVELOPMENT SECTOR**
(Enclosed Decision No /QĐ-BNN-KHCN dated 5th September 2008 by the MARD Minister)

No	Area	Detail activities	Implementing agencies	Outputs	Implementing duration
1	Conduct the communication and information programme to disseminate knowledge and experiences to enhance people's awareness on CC impacts and mitigation and adaptation activities of the sector.	1.1. Disseminate and guide the implementation of government and sectoral policies to government officials and staff and communities in mitigation and adaptation to CC;	Chair agency: OCCA Collaborating agency: Department of Science, Technology and Environment, Department of Legislation	Training courses to disseminate and guide the implementation of government and sectoral policies to government officials and staff and communities in mitigation and adaptation to CC;	2008-2020 Funding sources: MARD and external funding
		1.2. Formulate plans for disseminating the government's and sectoral commitments with the international communities on CC mitigation and adaptation activities;	Chair agency: OCCA. Collaborating agency: Department of	Training courses to disseminate the government's and sectoral commitments with the international communities	2008-2020 Funding sources: MARD and external funding

		<p>1.3. Develop an information system and a website of the Steering Committee for CC adaptation and mitigation in agricultural and rural development sector to disseminate information, forecast and answers enquiries on CC to the agencies under ministry, localities and businessmen and orientation for implementation of CC mitigation and adaptation solutions;</p> <p>1.4. Organize thematic workshops, conferences and training courses on CC, its impacts and solutions for CC mitigation and adaptation for staff and officials from central to local levels</p>	<p>Science, Technology and Environment , Chairing agency: OCCA Collaborating agency: Department of Science, Technology and Environment and other departments</p> <p>Chair agency: OCCA Collaborating agency: Department of Science, Technology and</p>	<p>on CC mitigation and adaptation activities;</p> <p>Website of the Steering Committee for Climate Change Adaptation and Mitigation</p> <p>Thematic workshops and conferences and training courses on CC, its impacts and solutions for CC mitigation and adaptation 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>
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			Environment , Department of Legislation		
2	Develop human resources and conduct studies to develop and consolidate scientific foundation for providing solutions for CC mitigation and adaptation	<p>2.1. Apply information technology in collecting, maintaining and processing information; Develop and operate the database system for the development and implementation of CC mitigation and adaptation activities;</p> <p>2.2. Develop and implement a research programme on CC impacts in the agriculture and rural development and recommend measures for climate change mitigation and adaptation;</p> <p>2.2.1. Study on the agricultural climate</p>	<p>Chair agency: OCCA</p> <p>Collaborating agency: Department of Science, Technology and Environment and other MARD relevant agencies</p> <p>Chairing: Research institutes</p> <p>Collaborating: Scientists and relevant agencies</p> <p>Chairing:</p>	<p>Database on forecast, projects and activities in mitigation and adaptation to CC</p> <p>Scientific foundation and solutions for adaptation to CC in the sector</p> <p>Solutions for agricultural</p>	<p>2008-2010</p> <p>Funding sources: MARD and external funding</p> <p>2009-2015</p> <p>Funding sources: MARD and external funding</p> <p>2009-2015</p>

		change in 7 eco-regions, propose solutions for agricultural and rural development planning and production adjustment towards sustainable development;	Agriculture Research Institutes Collaborating: Scientists	and rural development planning and production adjustment towards sustainable development for 7 eco-regions;	Funding sources: MARD and external funding
		2.2.2. Study to forecast CC impacts on agricultural production and food security for different regions and different areas;	Chairing: Agriculture Research Institutes; Collaborating: Scientists	Forecast CC impacts on agricultural production and food security for different regions and areas	2009-2015 Funding sources: MARD and external funding
		2.2.3. Study to forecast CC impacts to salt production and salt security in different areas and regions	Chairing: Salt and Fishery resources processing and trading department; Collaborating: Scientists	Forecast CC impacts on salt production in three regions: North, Central and South.	2009- 2015 Funding sources: MARD and external funding
		2.2.4. Study to develop technique and procedures for cultivation, fertilizer utilization and soil reclamation for the	Chairing: Agriculture Research	technique and procedures for cultivation, fertilizer utilization and soil	2009-2015 Funding sources: MARD

		key crops in CC affected areas	Institutes Collaborating: Scientists	reclamation for the key crops in CC affected areas	and external funding
		2.2.5. Study to forecast CC impacts to performance of irrigation, drainage, salt prevention, water supply, river and sea dyke systems and recommend solutions for planning the upgrading of those structures ;	Chairing agency: Water Resources Research Institutes Collaborating: Scientists	Forecast CC impacts to performance of irrigation, drainage, salt prevention, water supply, river and sea dyke systems and recommend solutions for planning the upgrading of those structures;	2009-2015 Funding sources: MARD and external funding
		2.2.6. Study to recommend structural measures in water resources to enhance the adaptation to the changes of coming flow (water quality and quantity) at river basins under context of CC;	Chairing agency: Water Resources Research Institutes Collaborating: Scientists	structural measures in water resources to enhance the adaptation to the changes of coming flow (water quality and quantity) at river basins under context of CC;	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, identify potential areas of water stress in the future.	Chairing agency: Water Resources Research Institutes Collaborating:	Impacts of CC and adaptation measures on water balance in different economic zones are forecasted, potential areas of water stress in the future	2009-2015 Funding sources: MARD and external funding

		<p>2.2.8. Mapping out the zones of risks of flash flood, river and sea bank slide, storm, sea level rise, earthquake, tsunami, flooding diversion zoning, flood and drought risk assessment;</p>	<p>Scientists Chairing agency: Water Resources Research Institutes Collaborating: Scientists</p>	<p>are identified Zoning of risks of flash flood, river-bank slide and sea-bank slide, storm, sea level rise, earthquake, tsunami, flooding diversion zoning, flood and drought risk assessment;</p>	<p>2009-2015 Funding sources: MARD and external funding</p>
		<p>2.2.9. Study to forecast impacts of CC on biodiversity, forest ecosystems, wetlands and propose adaptation measures</p>	<p>Chairing agency: Forestry Research Institutes Collaborating agencies: Scientists</p>	<p>Impacts of CC on biodiversity, forest ecosystems, wetlands are forecasted, adaptation measures are recommended</p>	<p>2009-2015 Funding sources: MARD and external funding</p>
		<p>2.2.10. Study impacts of CC on areas and productivity of aquaculture and fishery resources and recommend measures for adaptation and conservation of fishery resources;</p>	<p>Chairing agency: Fishery Research institute Collaborating agency: Scientists</p>	<p>Impacts of CC on areas and productivity of aquaculture and fishery resources are assessed, measures of adaptation and conservation of fishery resources are recommended;</p>	<p>2009-2015 Funding sources: MARD and external funding</p>

		2.2.11. Study impacts of CC to husbandry, epidemic prevention and recommend adaptation solutions;	Chairing agency: Husbandry research institute Collaborating: Scientists	Impacts of CC to husbandry, epidemic prevention are assessed, adaptation solutions are recommended.	2009-2015 Funding sources: MARD and external funding
		2.2.12. Study impacts of CC to 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 are forecasted, adaptation solutions are recommended;	2009-2015 Funding sources: MARD and external funding
		2.2.13. Develop a new crop variety selection and experiment programme to increase crop adaptation to adverse impacts of climate change	Chairing agency: Agriculture Research Programme Collaborating agency:	A new crop variety selection and experiment programme to increase crop adaptation to adverse impacts of climate change is developed	2009-2015 Funding sources: MARD and external funding

		<p>2.2.14. Study impacts of CC to marine ecosystems, aquatic biodiversity and marine conservation reserves, inland aquatic conservation reserve;</p>	<p>Scientists</p> <p>Chairing agency: Department of fishery resources exploitation and protection, Collaborating agency: Scientists</p>	<p>Impacts of CC to marine ecosystems, aquatic biodiversity and marine conservation reserves, inland aquatic conservation reserve are assessed</p>	<p>2009-2015</p> <p>Funding sources: MARD and external funding</p>
		<p>2.3. Train the human resources, enhance people 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,</p>	<p>Human resources are qualified to meet requirements of implementing mitigation and adaptation to CC in ARD</p>	<p>2009-2010</p> <p>Funding sources: MARD and external funding</p>

			Research Institutes		
3	Develop policy system, integrating CC in sectoral development programme	<p>3.1. Develop a strategic vision for the sector in adaptation to CC;</p> <p>3.2. Develop a policy and mechanism system integrating CC in sectoral planning and development programme;</p> <p>3.3. Screening and reviewing system of legal documents and sectoral policies,</p>	<p>Chair agency: OCCA Collaborating agency: Department of Science, Technology and Environment and other agencies under MARD</p> <p>Chairing agency: Department of Planning Collaborating agency: Agencies under MARD</p> <p>Chairing agency:</p>	<p>Strategic vision for the sector in adaptation to CC; is developed</p> <p>Policy and mechanism system integrating CC in sectoral planning and development programme is developed</p> <p>Legal documents on CC adaptation are amended and</p>	<p>2009-2010 Funding sources: MARD and external funding</p> <p>2009-2010 Funding sources: MARD and external funding</p> <p>2009-2015 Funding</p>

		then recommend amendments and issuance of new legal documents on CC mitigation and adaptation;	Department of Legislation, Collaborating agency: Agencies under MARD	issued	sources: MARD and external funding
		3.4. Develop a collaboration mechanism among ministries, sectors and between central and local levels and the mechanism for management of programme and projects in implementing the CC mitigation and adaptation programme;	Chair agency: OCCA Collaborating agency: Department of Science, Technology and Environment, Collaborating agency: Agencies under MARD	Collaboration mechanism among ministries, sectors and between central and local levels and the mechanism for management of programme and projects in implementing the CC mitigation and adaptation programme is developed	2009-2015 Funding sources: MARD and external funding
		3.5. Formulate policies to support the disaster prone areas, the disaster risk insurance policy;	Chairing agency: Department of Dyke management	- The support policies to the disaster prone areas are formulated - Disaster risk insurance policy	2009-2011 Funding sources: MARD and external funding

			and storm control, Collaborating agency: Agencies under MARD		
		3.6. Formulate the policy on conservation of pure seeds (???) and gardens, industrial and perennial fruit trees in the context of climate change;	Chairing agency: Department of Cultivation Collaborating agency: Scientists	Policy on conservation of pure seeds (???) and gardens, industrial and perennial fruit trees in the context of climate change is formulated	2010-2015 Funding sources: MARD and external funding
		3.7. Formulate support policy to the crop pattern movement in the context of CC in different agricultural eco-regions;	Chairing agency: Department of Cultivation Collaborating agency: Scientists	Support policy to the crop pattern movement in the context of CC in agricultural eco-regions	2010-2015 Funding sources: MARD and external funding
		3.8. Develop policy and mechanism for management, protection, development and sustainable use of forest and forest land resources;	Chairing agency: Department of Forestry	Develop, manage, protect and sustainable use of 16.24 million ha of area planned for forest development,	2010-2020 Funding sources: MARD and external

		3.9. Establishment of self-finance fund for prevention and mitigation of disaster	Collaborating: agency: Agencies under MARD Chairing agency: Department of Dyke management and storm control, Collaborating agency: Agencies under MARD	increase the rate of forest land area rate to 42-43% in 2010 and 47% in 2020 The self-finance fund for prevention and mitigation of disaster is established	funding 2010-2015 Funding sources: MARD and external funding
		3.10. Develop policy and mechanism for management and sustainable development of salt production to adapt to CC	Chairing agency: Department of Fishery resources processing and trading and	Policy and mechanism for management and sustainable development of salt production to adapt to CC are developed	2010- 2020 Funding sources: MARD and external funding

			salt production . Collaborating agency: Agencies under MARD		
4	Promote international cooperation in CC mitigation and adaptation in agriculture and rural development sector	<p>4.1. Formulate project proposals, seek for funding from international communities for mitigation and adaptation to climate change of the sector;</p> <p>4.2. Strengthen cooperation and promote the relationship with international and sectoral programme through information sharing, setting up a network of bilateral and multilateral cooperation on sectoral relevant climate change activities;</p>	<p>Chairing agency: OCCA Collaborating agency: Agencies under MARD</p> <p>Chairing agency: International Cooperation Department – MARD, Collaborating agency:</p>	<p>Projects proposals for CC mitigation and adaptation in agriculture and rural development are formulated</p> <p>The cooperation relationship with international and sectoral programme through information sharing, setting up a network of bilateral and multilateral cooperation on sectoral relevant climate change activities is</p>	<p>2008-2020 Funding sources: MARD and external funding</p> <p>2008-2020 Funding sources: MARD and external funding</p>

		4.3. Organize training of human resources; experience and technological transfer on mitigation and adaptation to climate change in the sector;	OCCA Chairing agency: Department of Personnel organization – MARD, OCCA , Collaborating agency: Agencies under MARD	strengthened; Training activities of human resources; experience and technological transfer on mitigation and adaptation to climate change in the sector are conducted;	2008-2020 Funding sources: MARD and external funding
		4.4. Study to develop mechanisms for mobilization and utilization of AIDs fund and other sources in the most effective way as well as establishing a fund for implementation of the CC adaptation programme;	Chairing agency: Department of Finance Collaborating agency: OCCA and other agencies under MARD	Mechanisms for mobilization and utilization of AIDs fund and other funding in the most effective way are developed, a fund for implementation of the CC adaptation programme is set up	2009-2012 Funding sources: MARD and external funding
		4.5. Promote the cooperation and integration of CC actions in programme and action plans implementing	Chairing agency: OCCA,	Contents of action plans and programmes of environmental protection	2009-2020 Funding sources: MARD

		multilateral commitments on environment protection.	Departments of Forestry, Forest Protection, Collaborating agency: Agencies under MARD	such as the action plan on desertification prevention, CITIES, etc are integrated in CC activities	and external funding
5	Some priority activities for implementing mitigation and adaptation to climate change in agriculture and rural development sector	<p>5.1. Strength capacity of the standing office of steering committee for climate change adaptation and mitigation of MARD;</p> <p>5.2. Formulate Vietnam National standards and technical criteria for planning, design, and construction of</p>	<p>Chairing agency: Department of Personnel Organization, OCCA Collaborating agency: Department of Science, Technology and Environment</p> <p>Chairing agency: Department of</p>	<p>The OCCA capacity is strengthened to fulfill tasks assigned by the MARD</p> <p>National standards and technical criteria for planning, design, and</p>	<p>2008-2010 Funding sources: MARD and external funding</p> <p>2009-2020 Funding sources: MARD</p>

		<p>agriculture and rural infrastructure in the context of climate change</p> <p>5.3. Conduct research and planning programme</p> <p>5.3.1. The research programme and solution planning 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 CC and water sea level rise</p>	<p>Science, Technology and Environment Collaborating agency: Departments and agencies under MARD</p> <p>Chairing agency: Department of Dyke management and storm control, Department of planning Collaborating agency: Department of Science,</p>	<p>construction of agriculture and rural infrastructure in the context of climate change are formulated</p> <p>Solution planning 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 CC and water sea level rise are recommended</p>	<p>and external funding</p> <p>2009-2012 Funding sources: MARD and external funding</p>
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			Technology and Environment, OCCA and other agencies under MARD		
		5.3.2. Research programme and solution planning to ensure an area of 3.8 ha of two-seasonal rice crop for national food security;	Chairing agency: Department of Cultivation Collaborating agency: Agencies under MARD	Solution planning to ensure an area of 3.8 ha of two-seasonal rice crop for national food security is adjusted	2010-2012 Funding sources: MARD and external funding
		5.3.3. The research programme and master planning of water resources of Cuu Long river delta in the context of CC and sea level rise	Chairing agency: Water Resources institutions Collaborating agency: Agencies under MARD	Master planning of water resources of Cuu Long river delta in the context of CC and sea level rise is formulated and adjusted	2009-2012 Funding sources: MARD and external funding
		5.3.4. The research programme and flood control planning in the Red river, Thai	Chairing agency:	Flood control planning in the Red river, Thai Binh	2010-2020 Funding

		<p>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 to adapt to CC;</p>	<p>Department of Dyke management and storm control Collaborating agency: Agencies under MARD</p>	<p>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 to adapt to CC is adjusted</p>	<p>sources: MARD and external funding</p>
		<p>5.3.5. The research programme and land use planning in the linking with the task of disaster prevention for the food crop and industrial crop cultivation areas to adapt to CC</p>	<p>Chairing agency: Department of Cultivation Collaborating agency: Agencies under MARD</p>	<p>Land use planning in the linking with the task of disaster prevention for the food crop and industrial crop cultivation areas to adapt to CC is adjusted</p>	<p>2010-2020 Funding sources: MARD and external funding</p>
		<p>5.3.6. The research programme and aquaculture region planning to adapt to CC;</p>	<p>Chairing agency: Department of Aquaculture Collaborating agency: Agencies</p>	<p>Aquaculture region planning to adapt to CC is adjusted</p>	<p>2010-2020 Funding sources: MARD and external funding</p>

		5.3.7. Research programme and planning of forest protection and development to protect sea dyke and coastal areas;	under MARD Chairing agency: Department of Forestry Collaborating agency: Agencies under MARD	Planning of forest protection and development to protect sea dyke and coastal areas is formulated and implemented	2010-2020 Funding sources: MARD and external funding
		5.3.8. Research programme and construction planning of disaster prone areas;	Chairing agency: Department of construction management Collaborating agency: Agencies under MARD	Construction planning of disaster prone areas is formulated and implemented	2010-2020 Funding sources: MARD and external funding
		5.3.9. Research programme and planning of integrated exploitation and management of river basins;	Chairing agency: Department of Water Resources Collaborating	Planning of integrated exploitation and management of river basins is prepared and implemented	2010-2020 Funding sources: MARD and external funding

		<p>5.3.10. The research programme and planning of areas of salt production, salt field infrastructure system towards strengthening the adaptation to CC in the context of temperature increase and sea level rise</p>	<p>agency: Agencies under MARD</p> <p>Chairing agency: Department of fishery resources processing and trading and salt production. Collaborating agency: Agencies under MARD</p>	<p>Planning of areas of salt production, salt field infrastructure system towards strengthening the adaptation to CC in the context of temperature increase and sea level rise is formulated and implemented</p>	<p>2010- 2020 Funding sources: MARD and external funding</p>
		<p>5.4. The tree planting programme for wave protection of sea dyke system;</p>	<p>Chairing agency: Department of Forestry, Department of</p>	<p>The tree planting programme for wave protection of sea dyke system;</p>	<p>2008-2020 Funding sources: MARD and external</p>

			dyke management and storm control Collaborating agency: Agencies under MARD		funding
		5.5. Upgrading Programme of water resource system, dyke protection system, storm and flood control system;	Chairing agency: Department of dyke management and storm control, Department of water resources Collaborating agency: Agencies under MARD	The upgrading programme of systems of water resource, dyke and flood and storm control	2008-2020 Funding sources: MARD and external funding
		5.6. The rural infrastructure consolidation programme;	Chairing agency:	Rural infrastructure consolidation programme	2010-2020 Funding

		5.7. Establishment of disaster management support organizations;	<p>Department of Planning</p> <p>Collaborating agency: Agencies under MARD</p> <p>Chairing agency: Department of Dyke management, flood and storm control</p> <p>Collaborating agency: Agencies under MARD</p>	Disaster management support organizations are established	<p>sources: MARD and external funding</p> <p>2010-2015 Funding sources: MARD and external funding</p>
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