CSA Project: Capturing Synergies between Mitigation, Adaptation and Food Security

ANALYSIS REPORT

Agricultural and climate change policy: processes, decision-makers and implementation instruments in Viet Nam

Case studies in Son La, Yen Bai and Dien Bien provinces

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Abbreviations/Acronyms

AFD	France Development Agency
AKF	Adaption Knowledge Framework
ARD	Agriculture and Rural Development
ARP	Agricultural Restructuring Plan
AWD	Alternate Wetting and Drying
CC	Climate change
CDM	Clean Development Mechanism
CPC	Commune People Committee
CSA	Climate-smart agriculture
CSCFSPC	Central Steering Committee for Flood and Storm Prevention and Control
DARD	Department of Agriculture and Rural Development
DFAT	Department of Foreign Affairs and Trade (Australia)
DOC	Department of Construction
DOF	Department of Finance
DOIT	Department of Industry and Trade
DOJ	Department of Justice
DONRE	Department of Natural Resource and Environment
DOST	Department of Science and Technology
DOT	Department of Transportation
DPC	District People's Committee
DPI	Department of Planning and Investment
FA	Farm Association
FAO	Food and Agriculture Organization of the United Nations
GACSA	Global Alliance for Climate-Smart Agriculture
GAP	Good Agriculture Practices
GDP	Gross Domestic Product
GHG	Green House Gas
GIZ	Die Deutsche Gesellschaft für Internationale Zusammenarbeit
ICM	Integrated Crop Management
IFES	Integrated food and energy system
IPM	Integrated Pest Management
IPSARD	Institute of Policy and Strategy for Agriculture and Rural Development
JICA	Japan International Cooperation Agency
MAPCC	MARD Action Plan on Response to CC
MARD	Ministry of Agriculture and Rural Development
MOC	Ministry of Construction

MOF	Ministry of Finance
MOIT	Ministry of Industry and Trade
MOJ	Ministry of Justice
MONRE	Ministry of Natural Resource and Environment
MOST	Ministry of Science and Technology
MOT	Ministry of Transport
MPAD	Master Plan on Agricultural Development
MPI	Ministry of Planning andInvestment
M&E	Monitoring and Evaluation
NA	National Assembly
NAMA	Nationally Appropriate Mitigation Actions
NASC	National Assembly Standing Committee
NCCC	National Committee for Climate Change
NSCC	National Strategy on Climate Change
NGO	Non-Government Organization
NTP	National Target Program
NTP-NRD	National Target Program on New Rural Development
NTP-RCC	National Target Programto Respondto Climate Change
OCCA	Office of Climate Change Adaptation/The Steering Committee for Climate Change Mitigation and Adaptation, MARD
ODA	Official Development Assistance
OECD	Organization for Economic Co-operation and Development
ONCCC	Officer of National Committee for Climate Change
PCEMA	Provincial Committee for Ethnic Minority Affairs
PM	Prime Minister
PPC	Province People's Committee
PRA	Participatory Rural Appraisal
REDD+	Reducing Emissions from Deforestation and Forest Degradation, and Foster Conservation, Sustainable Management of Forests, and Enhancement of Forest Carbon Stocks
SBV	The State Bank of Vietnam
SP-RCC	Supporting Program to Respond to Climate Change
SRI	System of Rice Intensification
UNDP	United Nations Development Program
UNFCCC	United National Framework Convention on Climate Change
USAID	United States Agency for International Development
VCA	Vietnam Cooperative Alliance
VCCI	Vietnam Chamber of Commerce and Industry

VFF	Vietnam Fatherland Front
VICOFA	Vietnam Coffee-Cacao Association
VINACAFE	The Vietnam National Coffee Corporation LTD
VINACHEM	Vietnam National Chemical Group
VINATEA	The Vietnam National Tea Corporation LTD
VINACOMIN	Vietnam National Coal-Mineral Industry Holding Corporation Limited
VITAS	Vietnam Tea Association
VND	Vietnam Dong (Currency)
VRG	Vietnam Rubber Group
WB	World Bank
WU	Women Union
YU	Youth Union

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IPSARD research team

Executive Summary

Introduction and Background

Climate change (CC) and food security are increasingly recognized as two of the greatest challenges of our time. These two challenges intersect in the agriculture sector, which is highly climate-sensitive, a source and sink of greenhouse gas (GHG) and at the same time the main source of livelihoods, growth and foreign exchange earnings in developing countries with agriculture-based economies. CC is expected to have negative impacts on food security and agricultural development in many of these countries.

To solve this challenge, one of approaches that has been recently advocated by FAO is Climate Smart Agriculture (CSA). This approach integrates the three dimensions of sustainable development (economic, social and environmental) by jointly addressing food security and climate challenges. It is composed of three main pillars: i) sustainably increasing agricultural productivity and incomes; ii) adapting and building resilience to CC; and iii) reducing and/or removing GHG emissions, where possible.

EU and FAO are supporting the government of Malawi, Zambia and Vietnam with the project *Climate Smart Agriculture (CSA)*: *Capturing the synergies between Mitigation, Adaptation and Food Security*", which has four expected outputs: i) Establishment of an evidence based on CSA practices and policy; ii) Formulation of country-owned CSA strategies, if they do not already exist; iii) Development of CSA investment proposals and identification of financing mechanisms; iv) Building capacity across these areas.

Implementation of CSA approach will only be achieved and sustained through supportive and coherent decision-making processes. This report provides a better understanding of how agricultural and CC priorities are set, who shapes them and how. To this end, it will map an important subset of stakeholders, who shape agricultural and CC priorities and with whom the project will need to interact in exploring policy, strategy and investment options for CSA.

This report has four specific objectives: (i) examine policy formulation and decision-making processes relating to agriculture and CC; (ii) identify who are the key stakeholders involved in these processes; (iii) Assess the extent to which the national policy is reflected in implementation instruments; (iv) examine sub-national linkages relating to the translation of national policy into sub national policy implementation documents and how provincial policy issues are reflected in national policy, what processes, mechanisms and means are used for these "transfers" and who is involved?

Methodology

This study preliminarily employs qualitative methodology with three main tools: i) overview of agricultural and CC policy documents; ii) interview with key informants and iii) focus group technique. The review of policy documents aims to identify a relevant list of agricultural and CC policies, integration between the two domains of policies, policy implementation instruments at national and provincial levels, and find the extent of national-provincial linkages. The key informant interview is done with key national and provincial stakeholders in order to understand the progress of agricultural and CC policies, the involvement and roles of stakeholders, and the ways in which development priorities are set. The focus group, via

Netmap tool, is used to learn about the roles and the power of a stakeholder's influence on policy process.

Main findings

The National Architecture for Policymaking

In the political system of Vietnam, Central Committee of Party (CCP) plays the most important role in shaping the overall direction and policies which are in forms of Resolutions of the National Congress of the Communist Party. The National Assembly (NA) legalizes the overall direction and policies into Laws, Codes, Resolutions and Ordinances.The Government and the Prime Minister (PM) are responsible for issuing Decrees, Decisions and Directives. The Ministries then elaborate Decisions, Circulars and Joint Circulars to implement policies. However, there is not clearly distinction between policy and policy implementation instruments. Some Decrees can be implemented immediately, but some have to wait for guidance framed in Circulars to be implemented.

In general, Vietnam's policy system is still characterized by some limitations related to effectiveness, validation and public participation. For example, formulation of policy instruments on agricultural, rural development and CC requires that drafting groups/agencies refer to many hierarchically higher policy documents, through a time consuming and complicated review process, starting with the CCP down to concerning ministerial Circulars to make sure that the new policies reflect the spirit of the CCP andcomplywith Laws and other Government policy documents while do not overlap with other ministries' policies. In theory, this is a sensible requirement, but in reality overlaps and inconsistencies may not always detected. Additionally, the real impact of a legislation usually does not stem from overall or original policy statementsbut from follow-up guidelines and instructions.

Agricultural and CC policy landscapes

Key policies and strategies that drive agricultural production at present and the next 10-15 years include: i) the Resolution No. 26 of the CCP on agriculture, farmers and rural areas (known as Resolution 'TAM NONG'); ii) the National Target Program on New Rural Development (NTP-NRD); iii) the Master Plan on Agricultural Development to 2020 and a vision towards 2030 (MPAD); iv) the Agricultural Restructuring Plan towards higher added values and sustainable development (ARP); v) Encouragement of cooperation and linkages between production and trade of agricultural products, and formation of 'large-scale fields'.

The current agricultural policies can be divided into 5 groups: i) Policies to facilitate access to resources (via credit support, vocational training, land use,production inputs subsidy, etc.); ii) Policies to improve productivity, quality and added values (via research and advanced technology transfer support, application of VIETGAP, agricultural products processing, etc.); iii) Policies to support producer's organizations (via formation of cooperatives and common interest groups,facilitation of linkage between stakeholders in agro-product value chains, eyc.); iv) Policies to support commercialization of products (via development of international and domestic market through preferential credit and taxation, temporary storage, etc.); v) Policies to attract investment in agriculture and rural areas (via land accessibility, vocational training and cash provision).

To ensure national food security, Vietnam issued a specific Solution targeting protection of paddy land by giving financialsupportto paddy production localities. The subsidized cash is

used to invest in planning, improving impoverished paddy soil, building infrastructure, reclaiming land and grantingrice farmers.

To deal withCC issue, the Vietnam policy system employs two approaches: i) promulgating policies specialized in 3 main pillars: adaptation to CC, mitigation of Green House Gas (GHG) emissions, and inter-sectorial interventions and ii) integrating CC into policies and legislation of some relevant sectors. So far, the Government has issued many national strategies such as the National Strategy on Climate Change (NSCC), the Green Growth Strategy (GGS), the National Sustainable Development Strategy (NSDS), the National Strategy for Natural Disaster Prevention, Response and Mitigation etc. together with various laws with regard to energy use, water, forest protection, biodiversity and natural resources.

The agriculture sector, led by the Ministry of Agriculture and Rural Development (MARD), has so far responded positively and proactively toCC through two approaches: i) setting up a policy frameworkincluding theAction planframework for CC adaptation and mitigation in the agriculture and rural developmentsector for the period 2008-2020; theAction planon Response to CCinagricultural and rural development period 2011 - 2015 and a vision towards 2050; theProgram of GHGemissions reduction in the agricultural and rural development(ARD) up to 2020 and ii) mainstreaming CC into strategies, planning, plans, programs, and projects in the agricultural sector (which is institutionalized in a MARD's Directives).

Agricultural and CC Policy Processes

In Vietnam, the policy formulation has to comply with i) the Law on promulgation of legal documents in 2008 which regulates policies issued by the NA, Standing Committee of the NA, State President, the Government, the PM and Ministers and ii) the Law on promulgation of legal documents of People's Council and People's Committee in 2004 which regulates policies issued by Provincial People's Committees (PPC) and Provincial People's Councils. These laws regulate procedures,steps and actors involved in policy formulation.

In Vietnam, the policy formulation is normally in the domain of the Government. However, international organizations have shown a growing influence not only on policy formulation but also on policy implementation. The policymaking is normally delayed at the stages of ministerial approval and final version's ratification. The quality of a policy is usually affected by some factors such as drafting group (which is composed of members from national institutes, department of planning and international consultants) or convincing scientific evidences (which arethen partly affected by the availability of budget for research). Though many stakeholders participate in policy formulation, their comments and contributions would not be captured because final decision has actually been made beforehand (see section 4.1).

At the provincial level, Department of Agriculture and Rural Development (DARD) seizes the most power of agricultural policy process while Department of Natural Resources and Environment (DONRE) dominates overCC policy process. The policy formulation at provincial level usually followsadministrative-based rather than strong evidence-based approach while participation of private sector is mostly negligible. In some provinces, the lack of financial resource is a reason for procrastination of national policies' implementation.

Role of stakeholders in agricultural and CC policy processes

Agricultural and CC policiesareformulatedwith contribution of various stakeholders from six sectors including government agencies, research institutions, social-political organizations, donors, non-governmental organizations (NGOs), and private sector. However, in general, MARD and MONRE are the most important actors in the fields of agricultural and CC policies, respectively. They lead thepolicymaking process with substantial power in drafting policy, coordinating, approving and in some cases allocating financial resource for policy implementation. MARD and MONRE can be seen as the “focal point” in the policy processes.

National research institutes and experts from international organizations have been providing significant technical assistance to thepolicy formulation. Theyinform policy makers aboutpractical problems, provide scientific evidences and propose evidence-based solutions for policies. It can be said that policy formulation are gradually more connected with academic sector and scholars.

Recently, private sector (including enterprises, Vietnam Chamber of Commerce and Industry - VCCI) has contributed substantially in many policy discussions and policy dialogues. This is a positive signal for policymaking processin Vietnam because private sector is not only the beneficiaries of policies and the engine of the economy but also a resource of GHG emission.

International organizations (including bilateral and multilateral organizations) have been reinforcingtheirposition in policy process not only as donors for policy formulation and implementation, kick-starters of policy debates on development issues and development initiatives, but also asmajorgivers of technical assistance. NGOs, meanwhile, are influencing more on the policy formulation by supporting development projects in the field and using lessons learned from these projects to advocate for changes in policies.

Policy implementation instruments and national-provincial policy linkages

In order to drive and direct the implementation of important agricultural and CC policies, the Government usually establishes Steering Committees, both at national and provincial levels. Chairperson of the Steering Committee is regularly the Prime Minister/deputy Prime Minister (as for national level policies) and Minister/deputy Minister (as for sectorial policies). The Steering Committee-formed organization creates an institutional mechanism to steer and oversee overall policy implementation and financial allocation. However, such organizational structure is not always effective because the members of Steering Committee are part-time and busypersons who hold several positions in different committees.

At provincial level, based on its situation, PPC will issue action plans, plans, programs and projects to put national policies in practice. PPC also establishes Provincial Steering Committee (PSC) such as PSC of NTP-NRD, PSC of NTP-RCC which are led by chairman/vice chairman of PPC or director/deputy director of DARD, MONRE. However, the operational mechanism of PSC remains overlapping, disconnecting and functionally indistinctive between members. In addition, the central government does not have specific guidance on institutional organization and personnel ofPSC (such as PSC of NTP-RCC).

In general, CC response measures mainstreamed in agricultural policies are mentioned separately other than systematically as shown in CC policies. Moreover, these measures are

general direction and preliminarily stay focus on adaption measures with regard to natural disaster prevention rather than mitigation and GHG emissions reduction. In the sub-sector development strategies, only the development strategy on crops production mentions some CC adaptation activities. Integrating CC into the communal development planning has not been taken into account even though communes are the directly affected by CC.

On the other hand, CC policies have also integrated some activities that are of agricultural policies:i) ***Activities relating to ensuring food security****:* maintaining agricultural land; restructuring crops and livestock, adopting biotechnology and advanced manufacturing processes; controlling and preventing diseases in the context of CC; building mechanisms and policies on insurance systems in agriculture; ii) ***Activities relating to reducing GHG emissions****:*changing cultivation methods; using water, fertilizers, and animal feeds in proper manners; managing and disposing livestock waste; using biogas as fuel; and gradually eliminating backward agricultural machines that consume much energy.

However, there are existing conflicts and trade-offs between environment protection, CC adaptation and improvement of livelihood and income, between ensuring national food security and GHG emissions reduction. In addition, the overlapping in institutional organization, roles and policy content has led to divergence in policy implementation.

There are gaps that hinder the synchronization between agricultural policies and CC policies such as lack of solid scientific evidence and financial mechanism for integration; absence of criteria for environmental risk evaluation and level of integration; lack ofcompulsory regulation on integration of CC into the agricultural policies. CC policies have not encouragedprivate sector to apply advanced technologies and clean production processes aiming at reducing GHG emissions.

Budget for implementation of agricultural and CC policies is allocated through two channels: i) State budget; ii) Budget from National target programs, development programs and projects. The financial resources originate from state budget, Official Development Assistance (ODA), international organizations, state investment capital, commercial credit, and donation from private sector and citizens. The budget for CC programs is not mainstreamed in state budget but funded through specific programs or projects that would lead to give-and-take financial allocation. Moreover, requirements for local counterpart and counter-fund, in some programs and projects, cause difficulties for poor provinces.

The absence of a detailed guideline for national policies causes confusion in policy implementation at local level, especially guidance on integration and economic-technical norms for programs and project design. The vertical coordination and direction do not create horizontal linkage between agricultural policies and CC policies at local level. Monitoring of policy implementation is made through the bottom-up reporting system while policy feedback is performed via reporting and periodical meeting.

Opportunities and challenges for CSA approach in Vietnam

Despite the fact that CSA has not mentioned in the official legal documents in Vietnam, several CSA-related practices have employed in some programs and projects such as: SRI practices reduce water usage and GHG emissions; the agro-forestry integration helps to increase production capacity and ensure food security; model “Three Reductions, Three

Gains" (3R-3G) for rice production in which the "Three Reductions" refers to reducing three input factors (seeds, inorganic fertilizers, and pesticides) and the term "Three Gains" means three higher output results (yield, rice quality, and profits); Model "One Must, Five Reductions" for rice production (1M-5R) encourages use of certified seeds (which is considered as "a must") while "Five reductions" refers to reducing use of water, energy, post-harvest loss, fertilizers and pesticides. Besides, the Alternate wetting and drying (AWD) has been piloted in some provinces of Mekong River Delta.

There are a number of opportunities for development of CSA in Vietnam: i) Vietnam has joined the Global Alliance for Climate-Smart Agriculture (GACSA), demonstrating the Government's determination to adopt CSA in Vietnam; ii) CSA is an potential approach to address problems of agriculture, CC and food security simultaneously in a unified policy; iii) Awareness and political support in applying CSA at the national level; iv) Financial support and experiences about CSA from international organizations, including FAO, WB, ADB, UNEP, GEF, UNDP, AusAid and Norwegian Official Development Assistance.

However, there are also big challenges to adopt CSA in Vietnam: i) Local and sub-sector policies focusing more on improving productivity and yields of crops and livestock, ensuring food security, improving people's income, and reducing poverty, than on integrating CC response, in particular the CSA model into these agricultural policies; ii) No separate funding for CC, but through programs and projects; the counterpart capital mechanism is an obstacle for poor provinces; iii) Lack of information on CC, especially scenarios of CC response of regions, sub-regions; and specific information on the climate evolution, factors and trends; iv) Conflict between the long-term interests of CSA with immediate benefits in terms of profit, and production costs; v) Weak coordination mechanism among Ministry of Natural Resource and Environment (MONRE), MARD and Ministry of Planning and Investment (MPI) in policies related to CC; vi) Limited capacity and knowledge on CSA of researchers, and policy makers.

Recommendations

Recommendations regarding policy instruments

There is growing concern about enhancing the enforcement of integration of CC in social and economic planning at national, sectorial and provincial levels. We recommend that mainstreaming CC into national, sectorial and local development planning is necessarily compulsory process. This is essential for accelerating the integration process that is rather slow currently.

It needs a more effective horizontal coordination at national and provincial level and a vertical linkage among central and local Steering Committees in conducting Agricultural and CC policies in general and CSA policies in particular.

Recommendations regarding involvement of stakeholders in policy process

Policy formulation needs to ensure greater consistency in policy content across agricultural and CC policies, more detailed and institutionalized guidelines for formulation and implementation, less time-consuming steps and greater transparency. Institutional arrangements need to be reconsidered to avoid overlapping and trade-offs (i.e. biodiversity is managed by MONRE while natural forest is managed by MARD). Stronger condition among governmental agencies in the policymaking/implementation processes is recommended,

especially in terms of follow-up action. It is highly recommended that the Standing Office of the National Committee for Climate Change (NCCC) should have representatives of other key ministries (for example MARD, MOIT) rather than merely the representative of MONRE to support NCCC in decision making process. Similarly, MARD needs to upgrade the role, position, authority, independence and human resources of the OCCA under Steering Committee for Climate Change Mitigation and Adaptation. Vertical and horizontal coordination capacity of OCCA should be built in view of more effective and aligned agricultural development &CC policies.

The policy formulation needs to involve greater stakeholders from the provincial level from both government and non-government sectors to ensure that policies are implementable. The policy should be designed in a way to ensure trade-off between generality and specific criteria and indicators for monitoring and evaluation (M&E). Decentralization in policymaking to different ecological regions might be an option to ensure implementability, efficiency and activeness.

Recommendations regarding policy processes

An operational mechanism should be constituted to better integrate CC in policymaking process of ministries. At provincial level, formulating and developing agricultural and CC policies should be based on adequate and convincing scientific evidences with active participation of donors and private sectors.

Policy implementation needs to be improved by changing formulation processes, with greater emphasis on practical solutions and guidelines for mobilization of the resources and obtaining consensus on priorities across agricultural development and CC institutions/stakeholders at each level and across levels. Better instructions are needed in policy document on how to concretely formulate and implement measures and actions. This could help to speed up policy development processes at all levels. Incentives should also be presented in policies in order to attract resources, including from the private sector and to promote adoption of desired actions. It is not an easy task to involve enterprises in CSA, research should be done to pave the way for their participation. The government should have a roadmap on completing baseline studies to serve as the most important input for CC policies.

Since the current horizontal coordination among stakeholders (mainly ministries) is not efficient, it is recommended that policy need to clearly demonstrate roles and responsibilities for ministries and individuals involved. Measures should also be embraced in policy documents to ensure strong coordination horizontally.

Agricultural development under CC requires a huge investment, particularly in infrastructure,and relevant changes in production systems. It is strongly recommended that the Public-Private Partnership (PPP) mechanisms should be studied and applied.

M&E system for policy implementation need to be designed to track policy linkages (top-down implementation, bottom-up feedback and across agriculture and CC) and operational performance for the sake of policy formulation.

Top policy makers are highly aware of CC impacts and their immediate policy action has been on the right track. However, more detailed awareness is needed on specific issues not

just CCin general. This is important for the policy makers in the drafting groups.

Inputs on baseline situations for policy formulation need to be well prepared and made ready for the policymaking processes. Research is needed to clarify the CC scenarios in each region in Vietnam, especially the trend of future changes on factors having an impact on agricultural development. This is really important for ecological regions that are deemed to be suitable for the CSA research and development.

Recommendations on supportive policies for CSA

Regarding potential R&D in the CSA domain, it is recommended to have a multidisciplinary research projects to obtain an integrated evaluation of agricultural, CC, socio-economic and cost benefit analysis data to underpin technology, policy and investment choices. The evaluation might also include potentials of arming systems across the country, socio-economic efficiency, capacity to adapt and resilience to CC and the potential mitigation of GHG emissions. Challenges and opportunities for farmers to shift to CSA is also a vital issue of concern. Under the CSA EC-FAO project,three provinces of Dien Bien, Son La and Yen Baiagree to cooperate with FAO and MARD to formulate strategies for agricultural development towards CSA. Beyond the current pilot areas, Central Highlands where coffee and forest systems have clashed, CSA practicessuch as coffee-based agroforestry systems may be a potential option. MARD may wish to consider integrating CSA into the ARP. Lessons learned from the northern mountainous region canbe delivered to other provinces and can underpin work on a national CSA strategy.

+ To put CSA in practice in Vietnam, a clear roadmap is needed (study assessing current situation and potentials, especially full analysis of benefits of CSA models as evidences convincing policy makers; building pilot models to be integrated into provinces' schemes on restructuring agricultural sector and project supporting the restructure of agricultural sector (for instance, VNSAT project for rice and coffee); capitalizing lessons and experiences learnt for further institutionalization and scaling up).

+ Capacity building should be carried out for MARD, researchers, policy makers and agricultural extension workers where technical knowledge gaps can be filled. MARD researchers, policy makers and agricultural extension officers should also be trained to ensure a shift to real policy implementation on the ground rather than just "on paper". Policymaking should be realistic, implementable, and traceable with appropriate monitoring and evaluation provisions.

+ A National Advisory Committee on CSA or integration of CSA into existing mechanisms can be considered so as to advise MARD on the international experiences, support for policy design and social dialogue, and formulation of CSA technical guidelines.

+ Institutionalization of policies should mobilize full and active participation of concerned parties who provide technical and financial supports and policy beneficiaries to ensure high feasibility of policies at both central and provincial levels.

+ Full-time professionals and officers are required to be in charge of building and implementing agricultural and CC policies.

+ Considerationsare given to the best institutional arrangement within MARD for CSA

coordination of governmental agencies/other stakeholders and sub-sectors.

+ Political social organizations such as Famer Union, Women Union, Small and Medium Enterprise Association, etc. at all levels can play a substantial role backstopping MARD and INGOs to advocate toward a CSA production.

+ Since there is little research on and few assessments of CC impact on local production systems, MARD and MONRE need to take the leading role and to engage national/international institutions to carry out further studies on major crops/system in the main ecological regions.

+ Finally, there are quite a few CSA case studies and pilot projects as well as studies on crops/farming systems done by the Vietnam Academy of Agricultural Sciences (VAAS) and ICRAF Vietnam, which may be documented withincurrent knowledge sharing platforms or a new CSA platform. Public media is an efficient way to convey CSA to local communities and people.

CHAPTER 1
INTRODUCTION

1.1 Background

Climate change (CC) and food security are increasingly recognized as two of the greatest challenges of our time. These two challenges intersect in the agriculture sector, which is highly climate-sensitive, a source and sink of greenhouse gases (GHG) and at the same time the main source of livelihoods, growth and foreign exchange earnings in developing countries with agriculture-based economies. CC is expected to have negative impacts on food security and agricultural development in many of these countries, including the partner countries in the EC-FAO Climate-smart Agriculture project.

An important task facing these countries is to formulate policies, which facilitate the uptake/up-scaling of agricultural practices that increase adaptation to CC, in order to ensure agricultural development and food security. If this can be accomplished with a lower than business-as-usual emission level, which does not compromise development and food security goals, a mitigation co-benefit might also be generated for which climate financing may be possible. However, country-specific synergies and trade-offs, as well as the existing institutional, stakeholder and policy context need to be carefully considered. Such considerations and the direct incorporation of CC adaptation and mitigation into agricultural development planning and investment strategies form part of an evolving approach referred to as “climate-smart agriculture” (CSA) by FAO.

Vietnam is one of the countries most affected bythe adverse effects of climatic changes. This threat is more pronounced for the agriculture sector and rural society, where approximately 70% of the inhabitants relyon agriculture production that does not benefit from modern technologies. In Vietnam, CC has shown terrifying effects: annual average temperatures increased by about 0.5 to 0.7^{o}C over the past 50 years (1958-2007), average sea level rose at a rate of 3 mm per year (during 1993-2008), rainfallfell by 2% during the last fifty-year period (1958-2007), the number of cold frosts decreased significantly over the last two decades and typhoons with higher intensity occurred more frequently in recent years (FAO, 2011). Salinity intrusion is also a serious threat to the low wetland rice cultivation areas. These manifestationsof climatic changes, together with other extreme climate events in Vietnam, have caused serious loss of human life and damages to infrastructure. In the 12 year-period from 1996-to 2008, hurricanes, floods, landslides, and droughts have resulted in 9600 deaths and 1.5% loss in GDP per annum[1]. CC also causes serious impacts on Vietnam’s agriculture sectors such as the loss of cultivated land area, crop geographic redistribution, crop growth rate, changing water demand, spread of detrimental pests and diseases of animal husbandry. CC is predicted to cause more serious damage and losses in future.

The Vietnamese agricultural sector is currently worth USD 40 billion,representing about 21% of the GDP of the country. Agriculture’s shareofexportshasdeclined considerably over the last decade,from24% to12% (valuedat USD 25 billion in 2012)[2]. The major exporting

1 Dao Xuan Hoc, 2009. Plan on Climate Change Adaptation for Agriculture and Rural Development sector Available online at: http://www.vncold.vn/Web/Ykien.aspx?distid=1961.

[2]Toan, T.Q., Hai, L.T. (2014) Vietnam Agriculture Institutions.

commodities are, in descending order of export value, timber products, aquaculture (shrimp and catfish) coffee, rice, cashew nut, and rubber. The sector now employs about 47.7% of the Vietnamese population with the majority of agriculture production taking place on the household farming of less than 0.5 hectares[3]. Vietnam is now a middle income country and is facing the middle income trap. The government is now putting forward the program on restructuring the agricultural sector towards enhancing added values for agricultural commodities and increasing income for people living in the rural areas. CC is an important issue that the government should not ignore to carry out this mission.

To cope with CC threats, the Vietnamese government has formulated a plethora of policies ranging from law to strategies, plans to projects at national and provincial levels. In general, the government promulgates CC policies (coordinatedby MONRE). Concerned ministries and provinces then develop their own policies, strategies and action plans. For the case of the Ministry of Agriculture and Rural Development (MARD), CC policies are deployed and integrated based on instruction of the governmental level policy documents such as the National Strategy on Climate Change (NSCC) and the National Target Program to Respond to Climate Change (NTP-RCC).

A key question is what is the potential for CSA in Vietnam, given the enormous potential for agricultural development but under a changing climate, which demands changes to production systems? How might the government stimulate and up-scale adoption of CSA approaches? From the policy perspective, how can CSA are incorporated into the current agricultural development and CC policy frameworks for responsive and efficient action? In other words, how can government at various levels enable, through supportive policies, the uptake of CSA by farmers in Vietnam?

This study will concentrate on how the government prioritizes agricultural development in an era of CC, as reflectedin its policy and how itaddresses the need for policy alignment and consistency so that the strategic direction and priorities provided by policies can be translated into effective implementation. To achieve this, we also discuss how the need for further consultation and coordination among relevant stakeholders can be strengthened and whether policies and institutional arrangementsmay need to be streamlined, strengthened and mainstreamed to ensure efficient implementation.

1.2Objective of the study

Agricultural and CC policies provide strategic direction on what to prioritize. Priorities in turn guide action and budget allocation/investment for the action contained in plans, strategies and investments that enable implementation of this action. Implementation of CSA approaches will only be achieved and sustained through supportive and coherent decision-making processes across sectors and levels of governance. It is envisaged that this paper will contribute to a better understanding of how agricultural and CC priorities are set, who shapes them and how. To this end, it will map key policy instruments, stakeholder/actors shapingagricultural and CCpolicy priorities and their alignment, and the processes for policy formulation and implementation, including decision-making thereon. This information will form part of the evidence base generated by the project, which can help to inform development of CSA policy, strategy and investment options for government consideration.

[3]MARD'executive Summary report 2013 plan and implementation plan tasks in 2014.

The specific objectives of the assignment are therefore to:

1) Examine agricultural development and CC policies, their formulation, implementation and decision-making processes in order to ascertain how they affect the uptake of CSA approaches.

2) Identify and analyze who are the key stakeholders at national and provincial levels[4] involved in these processes and who directly and indirectly exert influence on them.

3) Assess the extent to which national policies on agricultural development and those on CC are reflected in implementation instruments and national development policies and priorities, including their comparative proportion of budget allocations.

4) Examine national-provincial linkages relating to the translation of national policy into provincial policies and policy implementation documents and how relevant provincial policy issues are reflected in national policy, what processes, mechanisms and means are used for these "transfers" and who is involved?

The methodology used for this assignment is contained in Annex 9.

1.3 Structure of the report

The report is structured as follows. Chapter 2 introduces the current contexts of agriculture and CC as well as opportunities and challenges for agriculture in the context of CC. Chapter 3 follows by giving an overall policy landscapes in which the key agricultural and CC policiesare presented. Chapter 4 analyzes the agricultural and CC policy formulation at national and provincial levels. Chapter 5 mapsstakeholders, their roles and power of influence in policy process by using the Netmap tool. Chapter 6 introduces implementation instruments of agricultural and CC policies at national and provincial levels. Chapter 7 examines opportunities and challenge for CSA approach in the context of Vietnam. The final chapter is conclusion and recommendation.

[4] Provinces involved in this study are: Son La, Dien Bien and Yen Bai.

CHAPTER 2
OVERVIEW OF AGRICULTURE AND CLIMATE CHANGE IN VIETNam

2.1 Agriculturein Vietnam

After 30 years of reforms, the Vietnam's agriculture has achieved many accomplishments, and became midwife of the country's economy. The annual growth rate of agriculture is relatively high at 5.4% in production value and 3.7% in added values (IPSARD, 2014). The internal structure has shifted witnessing a rapid increase in theproportion of fishery, and reduction in the proportion of crop. The proportion of aquaculture production inthe totalproduction valueincreased from 10.2% in 1986 to 24.8% in 2012 (IPSARD, 2013).

Along with the rapid growth, the production of agriculture, forestry and aquaculture have been shifted towards a higher productive and market-oriented system. Land use in cultivation has been also changed, as the proportion of annual crop area in the total agricultural area decreased from 79% in 1986 to 63% in 2012, of which rice area decreased from 61.2% in 1986 to 46.7% in 2001 and 40.3% in 2012. The perennial crop area share increased from 14.9% in 1986 to 36.9% in 2012 (MARD, 2013). In animal husbandry, large-scale farmsand farming households have been gradually replacing small-scale households. Therefore, the yields of high-demanded products such as poultry, pork, beef, and milk… grow fast. The average growth ratesof poultry, pig and cow reached 4.6%/year,3.2%/year, and 2.6%/year, respectively between 1987 and 2012 (GSO, 2013)[5]. In aquaculture, inshore fishing has decreased and gradually shifted to offshore fishing.The production has focused on competitive products of Vietnam's such as catfish and salty or brackish shrimp. The aquaculture area increased from 642 thousand hectares in 2000 to 1,055 thousand hectares in 2011, and 1,059 thousand hectares in 2012 (GSO, 2013). Aquaculture continues to be developed in multi-species, multi-types, and multi-patternstowards environmentally friendly production. In forestry, the forest coverage rate increased from 28% in 1995 to 39.7% in 2011, reaching 41% by 2013[6]. The value of exported products increased from USD219 million in 2000 to USD3.4 billion in 2010 and USD4.67 billion in 2012, with an average rate of 17.9%/year, contributing significantly to the turnover of the country and facilitating the development of industrial raw material plantations.

During the period 1986-2012, despite the adverse impacts, agriculture, forestry and aquaculture have remained a relatively high GDP growth rate of 3.68%/year on average. The production values of agriculture, forestry and aquaculture[7]have constantly increased with an average rate of 5.5%/year during the same period. In particular, aquaculturegrew with the highest rate of 9.2%/year, followed by agriculture 5%/year and forestry 1.8%/year[8].

Due to rapid growth, the agriculture has supplied enough food, and foodstuffs, ensuringthe country's food security and socio-economic stability. In 1995, with the per capita food

[5]General Statistics Office of Vietnam, Results of the 2011 Rural, Agricultural and Fishery Census
[6]General Statistics Office of Vietnam, Annual Statistical Yearbook; and Activity Report 2014 and Plan for 2015 of the Vietnam's Ministry of Agriculture and Rural Development
[7]Calculated at constant prices of 1994.
[8]Based on data from Statistical Yearbook-GSO period 2000-2011.

production of 363.1kg/person, Vietnam had to import millions of tons of food every year. By 2012, the amount was raised to 546kg/person (increased by 1.5 times),on average Vietnam has exported from 6-8 million tons of rice annuallyin the period 2010-2014 (IPSARD, 2014).

Besides these achievements, a number of shortcomings remainin the agricultural sector, as follows:

- Vietnam agricultural growth tends to slow down and decrease over time from 4.5% (period 1995-2000) to 3.8% (2000-2005), 3.4% (2006-2011), 2.7% in 2012 and 2.67% in 2013 (IPSARD, 2014)

- Agriculture is still growing extensively, while main resources for growth such as land, water, labor are increasingly diminished. The agricultural structure does not really reflect comparative advantages, as crop still accounts for a large proportion (over 50%) in the agricultural production value, of which rice accounts for a large share. Despite low economic efficiency, a great area of rice cultivation still need to be maintained to ensure food security, leading to a situation that many farmers no longer want to cultivate rice, nor intensify their crops, especially in the Red River Delta (Toan, 2013). Husbandry has grown fast but unsustainably, livestock productivity is low while the production costs are high; industrial farming has not been really developed, and disease controlling is poor. Foreign companies mostly provide livestock feeds in the market, while domestic feeds factories depend heavily on the imported raw materials. Therefore, the production value hasfallen sometime while the production costs were still high.

- The fishery sector has experienced ahigh growth rate but been exposed to potentially unsustainable development (unstable materials supply for aquaculture processing;insufficient links between producers, processors, and traders; asynchronous irrigation systems, increasing risk of infection of diseases caused by polluted environment). Since most of the livestock feeds and supplies are imported, farmer's profitsare not high. The proportionof inshore fisheries remains high while offshore fishing is inefficient. The process of reducing activities that harm coastal resources is still low; some activities such as using destructive tools (to fish) are not completely stopped.

- The contribution of forestry into economic growth is much lower than its potential. In fact, the forestry hasbrought out ecological and environmental benefits, not merely economicbenefits. Although the forest area has increased, productivity and quality of forests are stilllow with the main products of small wood. The forestryproduction is not consistent due to the lack of linkbetween growers, processors and consumers. The production is fragmented, small and spontaneous. Furniture exports grow fast but most input materials depend on import. Due to the poor forest protection and fire prevention, natural forests continue to be devastated and wildlife continue to be exploited at the severe level(VNForest, 2013).

- The agro-processingindustry is underdeveloped, as Vietnam mainly exports raw materials, resulting in losses in potential benefits of processed products in the international market. There have just been a few trademarks and geographical indications registered for agricultural productsof Vietnam so far. Post-harvest

activities like packaging, storing, and transporting remain underdeveloped, with outdated technology, and infrastructure. Poorclearance procedures and checking-points have led to high transaction costs. So that, the quality of agricultural products declines rapidly during the preserving process, the high rate of lossis resulted from prolonged transportation time.

- Unfair competition amongdomestic agro-manufacturing and processingenterprises still takes place (for example, state-owned enterprises like Vinafood 1, Vinafood 2 have received much subsidy from the government while private enterprises have not). There is no link between producers and enterprises, and the control of imported agricultural products through borders is loose. In general, we have not had yet complete institutions and infrastructure for the distribution systems and value chains of agricultural products. Trade promotion and market information are limited[9].Although being on the top exporter of many agricultural products, it is still difficult for Vietnam to enter the markets of developed countries due to the poorly-controlled food safety. Percentages of exportedagro products that have been rejected and enlisted in the strictly controlled groupare quite high, due to the high pesticide residue, veterinary medicinesand impurities.Weaknesses in quality management and commodities development have resulted in low products' prices and farmers' incomes, despite of increasing trade volumes. (the Agro-Forestry Processing and Salt Industry Department – MARD,2014).

- Agricultural growth in Vietnam over past years has primarily based on exploitation of natural resource and misuse of chemicals. Although theeconomic targets have been achieved, there have been also increasingly negative impacts onenvironment, and natural resources (coastal mangrove forests, underground water resources, coastal marine resources, and biodiversity, etc.). Misuse of production inputs, poor management of water resources and waste of agricultural byproducts are all causes of the environmental pollution and increased greenhouse gas emissions (MARD, 2013).

- Public investment in agriculture has not been rational, which spent mainly for basic infrastructure, especially irrigation systems. State'scapitals and government bonds spentfor irrigation in 2005 accounted for 30% of the total State budget in agriculture. This proportion increased to 32% in 2008 and 49.7% in 2012. Overall, between 2005 and 2012, while thecapital spent for irrigation increased by 7 times, the direct investment for agriculture, forestry and fisheries and the national target programsonly grewby 2 times (Department of Planning-MARD 2014).

- Although a wide range of policies have been issued, the implementation of these policies remained limited, due to lack of financial resources, human resources. A mechanism to evaluate the policies' impact and effectiveness is needed for timely policy adjustment and amendment.

2.2 Climate change in Vietnam

According to MONRE (2012), over 50 years (1958-2007), annual average temperatures has increased by about 0.5 to 0.7^0C; sea level has increased by about 20 cm; El-Nino, and La-

[9]Almost allprovinces and cities in Vietnam have a trade promotion division, but there are no links among sectors and regions, among the industry association, as well as between annual trade promotion plan and agricultural production plan

Nina have increasingly impacts in Vietnam. Due to CC, natural disasters such as storms, floods and droughts have been becoming more severe.

Trend of temperature and rainfall variedbyregions.The rainfall tended to decrease in the North, especially in the Red River delta (-11%) and North East (-7%); and increase in the South, especially in the Southeast (+20%) and Highlands (+11%). Winter's temperatures increased fasterthan that of summer, and temperatures in inland areas increased faster than that of coastal areas and islands. In winter, the most significant increase in temperatures was seen in the North West, North East, Red River Delta, and North Central (about 1.3-1.5^{0}C/50 years). While in the Southeast , Highlands and Mekong River Delta, temperatures in January have increased more slowly than that in the northern climate zones (approximately 0.6-0.9^{0}C/50 years).

There was a quite clear correlation between global warming and sea surface temperature of theEasternEquatorial Pacific, with agreat changing trend of rainy daysin southern climate zone (MONRE, 2009, 2012). Droughts, including monthly and seasonal ones tended to rise with uneven levels among regions and stations in each climate zone. Hot weatherseemed to increase in many parts of the country, especially in the Central and the South (IMHEN, 2010). Annual, on the average, there wereabout 12 typhoons and tropical low pressure formed in the East Sea, of which 45% were formed right in the East Sea and 55% come from the Pacific Ocean. There wereannually seven typhoons and tropical low-pressure come in Vietnam, and five out of which had direct influence on the country's mainland.

The average change of the sea level along the coast of Vietnam was about 2.8mm/year. From 1993 to 2010, the increasein the sea levelof the East Sea was 4.7mm/year.The sea level in the East tended to rise faster than that in the West of the East Sea. In Vietnam,thesea level in Central and in South coast tendedto increase faster, with the average increase in sea level for the entire coastal area of Vietnam was about 2.9mm/year.

In Vietnam, agriculture and rural development (ARD) including 6 main areas of agriculture, forestry, aquaculture, irrigation, salt production and rural infrastructure directly related to the lives of over 70% of the national population, has been most affected by CC (OCCA, 2011).

2.2.1Climate change's impact on agriculture

Agriculture is a sensitive and vulnerableindustry, especially under the impact of weather and climate. Hence, the impact of CC on agriculture could be severe, including: (i) Food insecurity due to the decline in crop yields; (ii) Change in water resource due to lack of freshwater in many regions and flooding in others (iii) Ecosystem imbalance and biodiversity loss; (iv)Unpredictable extreme weather phenomena; and (v) Damage to infrastructure and other risks.

Agriculture, as one of theimportant sectors, has been paid much attention by the Party, State and Government.Recently, because of CC, Vietnamese agriculture has suffered heavy losses due to storms and extreme weather events. According to the CSCFSPC's statistics, between 1995 and2009, from50 thousand hectares to over 900 thousand hectares of paddy were impacted every year by rainstorms and floods. During this period, the annual average economicloss caused by natural disasters over the country was 469.9 million (representing 1.24% of GDP, of which agricultural losses accounting for 0.67%). This loss tented to increase gradually, up to USD1 billion in 2006, USD1.39 billion in 2009.

CC has dwindled agricultural lands, leading to the risk of food insecurity. It is estimated that Vietnam would lose about 2 million hectares paddy land, out ofmore than 4 million hectares currently, causing a serious threat to national food security and living of tens of millions of people (MONRE, 2012).

CC has affected theadaptability to weather conditionsin agriculture, changedcrop structures, increased pests and diseases, reduced yields ofcrops and livestock, degradedcultivating lands, increased the risk of species'extinction, and disappeared rare genetic resources. Recently, spreading epidemics of brown plant hopper, Rice Grassy Stunt Virus, Rice Ragged Stunt Virus in the Mekong Deltahave affected the intensification of crops and reducedthe yields of rice (OCCA, 2011). The leaf folder outbreak in the winter-spring crop of 2008 in the North also damagedup to 400,000ha rice, reduced the productivity and increased the production costs (MARD, 2010).

CC has caused reduction in quantity and quality of forest ecosystems and biodiversity as well as adversely affectedforest's functions ofwater and climate regulation, and erosion control. In the few past decades, on the average, Vietnam has lost thousands of hectares of forest every year. Long-lasting droughts and evaporation have changed composition, distribution and growth capacity of the forest's plants and animals.Many tropical photophilic species will migrate to higher latitudes and sub-tropical plants will gradually disappear. Populations of rare and precious plants and animals are facing the risk of reduction and extinction. Rising temperatures and prolonged droughts will increase the risk of forest fires, especially the peat landforest, damaging biological resources, and increasing greenhouse gas emissions.. Rising sea levelshave reduced the existing mangrove areas and had negative impact on the area and ecosystems of mangrove forestsas well as plantations in Mekong Delta provinces. Losses in the productivity and area of crops have led to the need of transforming from forest to agricultural and aquaculture production, increasing the risk of forest disappearance(OCCA, 2011).

In aquaculture, rising temperatures have causedclear temperature stratification in aquatic habitats, which in turn affect the lives of creatures, make aquatic resources fragmented and reduce sub-tropical fishes of high economic value. Especially in the central provinces, temperature can rise to the level that threatens the survival of many species, including farmingones. Higher water temperature alters the food system of aquatic organisms. Accelerating decomposition of organic minerals make catfish and shrimp need more energy for respiration. That reduces the yield and quality of aquaculture products (ISPONRE 2009). However, changing temperaturesalso create favorable environments for some new diseases. In recent years, environmental degradation together with changing weather have caused mass killing of tiger prawns. In 2008, the intense outbreak of tiger prawn diseasesin Xuan Dai bay (Song Cau district, Phu Yen province)has caused major damages (OCCA, 2011). CC may affect aquatic ecosystems invarious forms such as flooding, salinization, water temperature (ISPONRE, 2009; World Bank, 2010). Projected rise in floods and sea levels, as well as change in rainfall during the rainy season may increase the risk of flooding in the Mekong Delta, where experiencedcatfish farmers have undergone (WB, 2010).

Seawater intrusion may affect the habitat and growth of freshwater species such as shrimp and catfish, which account for large shares of the aquaculture industry in Vietnam. Salt tolerance of catfish is much less than shrimp. However, there has been no thorough studyon

the large-scale impact of salinity on catfish and shrimp (WB, 2010).CC willhave impacts on livestock feed systems, in particularon crops, birth rates and milk secretion. Besides CC can increase the morbidity and mortality rates and lead to occurrence of new diseases due to the change of temperature. CCalso affects the behavior of livestock producers in Vietnam (OCCA, 2011).

Overall, although the agricultural value of Vietnam made up a small proportion in the national GDP and food security. Therefore, any damage on agriculture caused by natural disasters will have greater impact on poor farmers and their resilience (OCCA, 2011).

2.2.2 Forecasts for impacts of climate change and rising sea levels on agriculture

According to scenario of CC and sea level rise by 2100, if the sea level rises by 1m, up to 38.29% of natural land area and 32.16% of agricultural land will be submerged. The paddy production is projected to lose about 7.5 million tons of rice, equivalent to 28.87 trillion (about USD1.37 billion). In the Mekong Delta, about 1.5-2million hectares will be flooded and when there is a big flood,up to 90% of the area can be inundated and the flooding time can be from 4 to 4.5 months. Sea-level rise will threaten river dikes, sea dikes and reservoirs;change coastal currents; cause coastal erosion; and reduce drainage capability; leading to larger flooded areas and longer flooding time. CC would bring out changes in seasonality, increase in diseases, and reduction in productivity and aquatic resources and degradation in soil quality (MONRE, 2012).

Aggregate damages on some major crops caused by CC are forecasted by 2030 and 2050. These damages for rice would be 2 million tons (8.37%) in 2030 and 3.69 million tons (15.24%) in 2050.Similarly, 18.71% and 32.91%of maize production will be lost in 2030 and 2050, respectively. The lost ratio for soybeans is not high and forecast to be 2.51% and 9.0% in 2030 and 2050, respectively (MONRE, 2009).

As affected by CC, the risk of forest fires will increase in the next decade. The forest fire percentage can be 51-85% in the Northern Central and 25-113% in the North Westby 2100. The condition of CC is considered favorable for the development of pine caterpillars, and their growth rate by 2010 is forecast toincrease31% compared to 2000. The sea-level rise would shift mangroves into the estuary where they will survive if they can adapt to the new environment, and vice versa. Degradation of mangrove forests will cause the risk of coastal erosion, and increase the level of destruction to coastal areas by the storm and the waves (OCCA, 2011).

Therefore, the risk of CC's impacts on Vietnamese agriculture, as well as its various aspects is obvious. That is the great challenge for the Government and people of Vietnam in the coming years. Policies and measures to respond to CC are very important and necessary, requiring the efforts of the Government and the whole community.

2.3 Opportunities and challenges for agriculture in the context of climate change

According to the World Bank (2010),Vietnam is one of 10 countries in the worldmost affected by CC. With a 3,260 km coastline, 28 coastal provinces and cities and two delta regions which are two main rice-producing areas as well as densely populated areas, CC would have impacts on the country's production by causing soil erosion, saltwater intrusion and nutrient depletion.

The increasingly severe effects of CC will require more considerationfrom the government, especially solutions of adaptation, prevention and mitigation to natural disasters. These

response measures should be linked to the sustainable development, as well as thecommunities'resilience against the ravages of nature. Besides, in the context of CC, it is more crucial to invest in science and technology and in research in order to ensure and maintain crop and livestock production, crop conversion, and efficient models of agricultural production.

CC is a serious risk for goals of poverty reduction and sustainable development in Vietnam. The most vulnerable areas are water resources, agriculture, and aquaculture. Therefore, adapting solutions in Vietnam needs to be implemented at all 3 levels: community, policy and institutional capacity, of which institutional capacity is the most important solution.

The Vietnamese Government has ratified the NSCC[10], which mentions adaptation and mitigation measures. In the agricultural sector, the project on reduction of greenhouse gases emissions in agriculture has been adopted and implemented[11]; also industries 'action plans to respond to CC have been issued and implemented

Many projects and programs which have been implemented contain adaptation and mitigationsolutions linked to increased farmers'productivity and incomes such as models of 'OneMust, FiveReductions"[12] (1M-5R) 'ThreeReductions, ThreeGains'[13] (3R-3G),, Alternate Wetting and Drying (AWD); System of Rice Intensification (SRI); 4C Program (Common Code for Coffee Community)[14];, Rainforest; Forest – Garden–Fish Pond- Livestock (RVAC); Garden–Fish Pond - Livestock (VAC); and linked to sustainable development. The climate-smart agriculture (CSA[15])model is one of the prioritized adaptations to CC in agriculture and rural development in the coming years (OCCA, 2015).

[10]Decision 2139/QĐ-TTg dated 05 December, 2011 of the Prime Minister approving the National Strategy on Climate Change.

[11]Decision 3119/QĐ-BNN-KHCN dated 16 December, 2011 of MARD approving the project "Reduction of GHG emissions in agriculture and rural areas by 2020".

[12]1 must implies use of certified seeds; 5 reductions refer toreducinguse of water, energy, post-harvest lost, pesticides and fertilizer

[13]3 Reductions refer toreducinguse of seed, pesticides and fertilizer; 3 Gains mean increase in rice yield, quality and economic efficiency

[14] Program for sustainable coffee production under the general principle for the world coffee community, Nestle

[15] FAO initially launched CSA concept focusing mainly on food security, but then referred to coping with climate change. CSA is an integrated approach to address the challenges of food security and climate change simultaneously. CSA towards three goals and also 3 important pillars: (1) sustainably increasing agricultural productivity and incomes, supporting equitable growth between income, food security and development; (2) Adapting and building resilience of agricultural production systems and food security to climate change at all levels; (3) reducing and/or removing greenhouse gases emissions in agriculture (crop, livestock, fisheries ...)

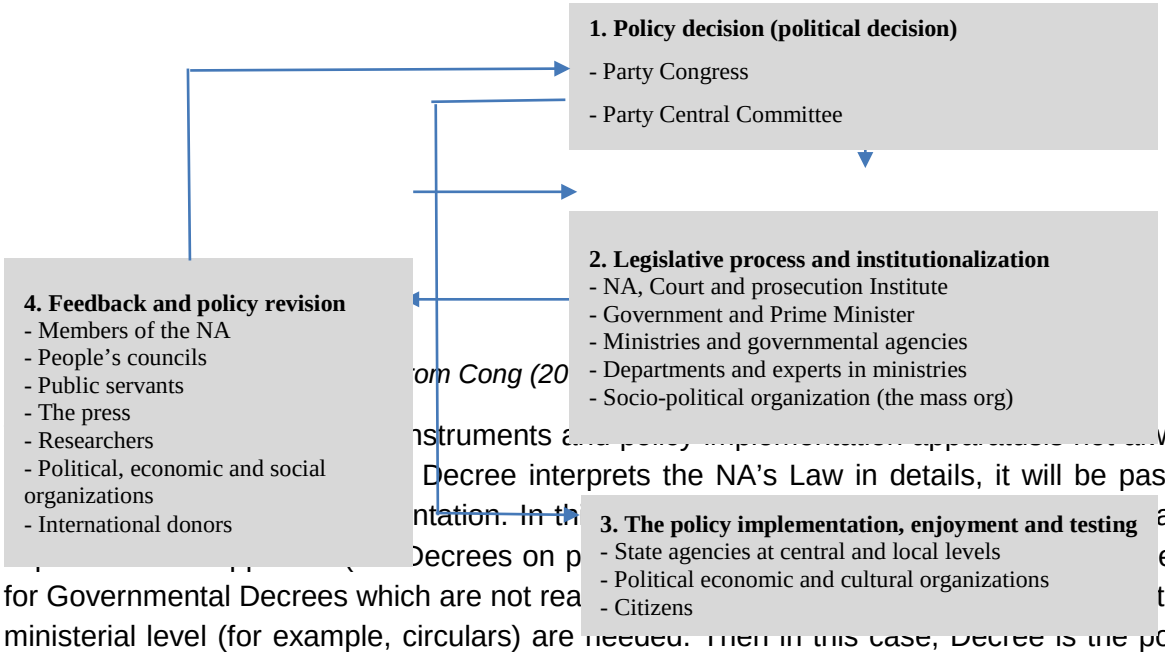
CHAPTER 3
AGRICULTURAL AND CLIMATE CHANGE POLICY LANDSCAPE

3.1 The policy architecture of Vietnam

In the policy formulation system of Vietnam, the Party organs (including the Party Congress, the Central Committee of the Party (CCP), and the Political Bureau) give the overall direction (in form of resolutions and directives). The Resolution of the Party Congress is prepared by the Party Central Committee before each congress which is organized every 5 years. The National Assembly(NA) is then responsible for realizing the overall direction for legislative documents (laws, resolutions, and ordinances).

The Government and the PM are responsible for promulgating Decrees, Decisions and Directives; while ministries are in charge of enacting Decisions, Circulars, and Joint Circularswhich are considered as policy instruments to implement direction and policies (McCarty 2002).

FIGURE 1: THE GENERAL POLICY PROCESS IN VIETNAM



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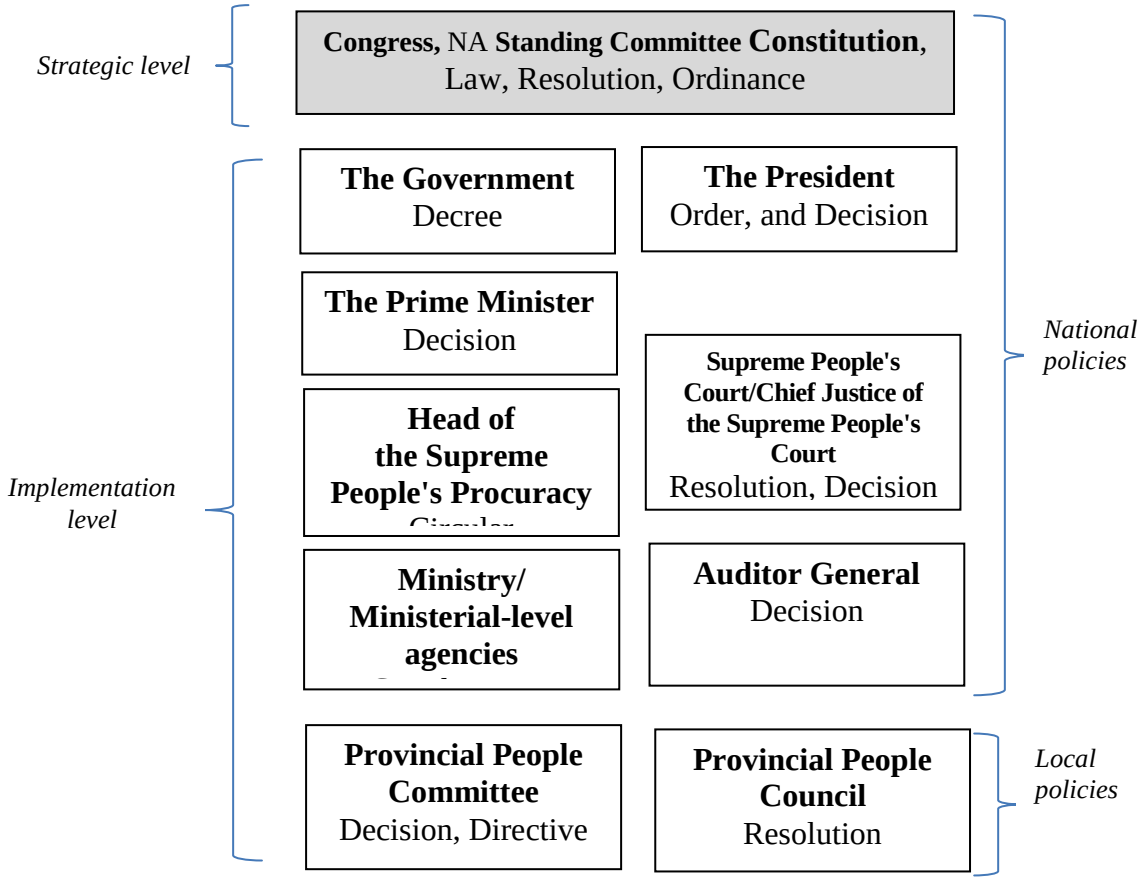
nstruments a ways
Decree interprets the NA's Law in details, it will be passed
ntation. In th as a
Decrees on p eas,
for Governmental Decrees which are not rea t the
ministerial level (for example, circulars) are needed. Then in this case, Decree is the policy instrument, which gives a broad strategic direction, while Circular is classed as implementation instrument. Policies that have directive attribute are those promulgated by the CCP, the Political Bureau and NA's Resolutions. At the provincial level, the Provincial PeopleCouncil's Resolution also plays a directive role to which provincial policy instruments need to refer.

At the provincial level, the resolutions of Provincial Party Secretariat (PPS) must take into account the spirit of the CCP and the valid NA, the President, the Government and the Prime Minister policy documents. The PPS's policy again serves as strategic direction for the implementation of the provincial policies. Therefore, the provincial implementation instruments must be aligned with the PPS's instruments and the central level policy documents in effect.

In general, Vietnam's policy system is still characterized by some limitations related to

effectiveness, validation and public participation. For example, formulation of policy instruments on agricultural and rural development and CC require that drafting groups/agencies refer to many hierarchically higher policy documents, through a time-consuming and complicated review process, starting with the CCP down to other related ministerial-level Circulars. This requirement is to make sure that the new policies reflect the spirit of the CCP, are consistent to the Law and other Government policy documents and do not overlap with other ministries' policies. In theory, this is a sensible requirement but in reality overlaps and inconsistencies still exist. Additionally, the real impact of new legislation usually does not lie in the overall or original policy statement, but in these follow-up guidelines and instructions (Shanks 2004).

FIGURE 2: THE SYSTEM OF LEGAL DOCUMENTS OF VIETNAM



Source: synthesis of the authors, 2015.

3.2 Agricultural and climate change policy landscape at the national level

3.2.1Agricultural policy landscapein Vietnam

The Vietnamese agriculture policy includes many different types of legal documents issued at various levels: i) *National level*: Resolutions of the CentralParty of Vietnam (PCV), Government Decrees and Decisions of the PM; ii) *Sector level*: Decisions and directions of MARD; strategies, plans, planning, projects, programs and projects of MARD; iii) *Local level*: Resolutions of the provincial Party Committee, provincial People's Council; Decisions of provinces, districts and communes' People Committees. Normally, the national level is policy-promulgating level and sector and local levels are policy-implementing ones, even though the delimitation of promulgation and implementation levels is not very clear, as discussed above.

Key policies and strategies that drive agricultural production at present and the next 10-15 years include: i) Resolution No. 26 of the CCP on agriculture, farmers and rural areas (known as Resolution 'TAM NONG')[16]; ii) the National Target Program on New Rural Development (NTP-NRD)[17]; iii) the Master Plan on Agricultural Development to 2020 and a vision towards 2030[18] (MPAD); iv) the Agricultural Restructuring Plan towards higher added values and sustainable development[19] (ARP); v) Encouragement of cooperation and linkages between production and trade of agricultural products, and formation of 'large-scale fields'[20].

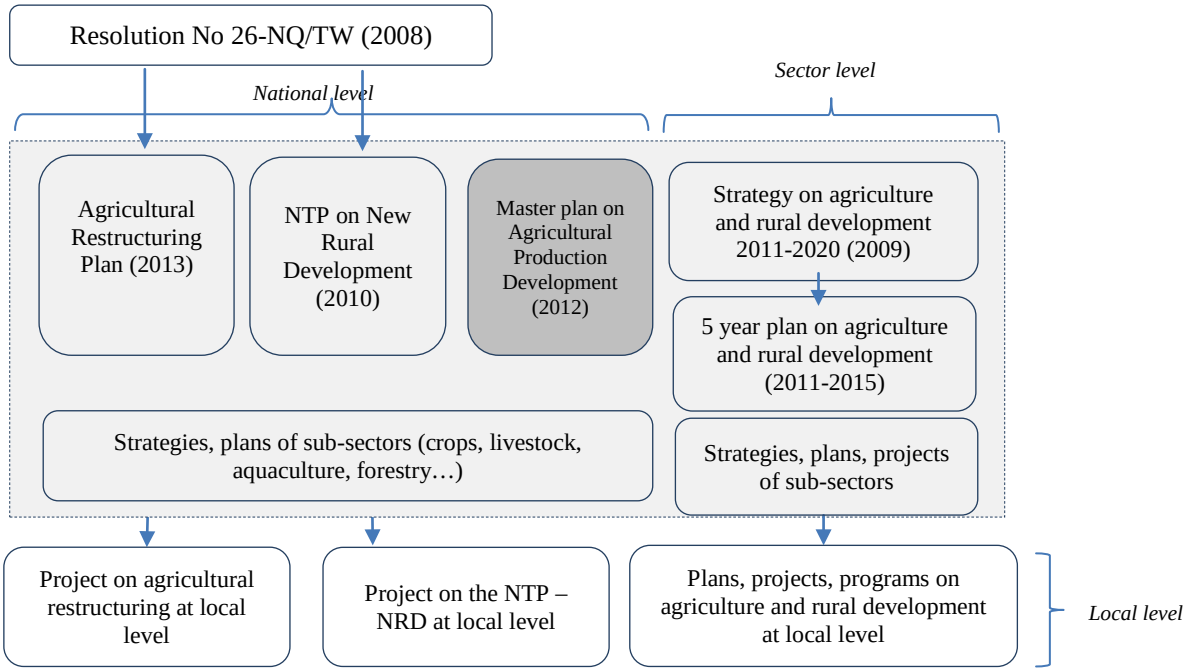
The overall objectives of the agricultural policies are to i) develop the large commodity production towards modernization and sustainability; ii) improve productivity and quality; ensure national food security; and increase competitiveness; iii) effectively use resources of land, water, labor and capital; iv) improve incomes and livelihood of farmers[21].

To achieve these objectives, the Government, the PM, MARD, and the local People's Committees have issued many concrete policies on agricultural production. These policies can be divided into 5 groups i) Policies to support access to resources; ii) Policies to improve productivity, quality and added values; iii) Policies to support producer organizations; iv) Policies to support trade of products; v) Policies to attract investment in agriculture and rural sectors.

Policies to support access to resources include polices related to land, credit, and labor for agriculture in general, and for each subsector, in particular (crops, livestock, fisheries, forestry and salt production). Support to access to inputs is delivered through a number of tools such as i) Credit policy: preferential interest loans, interest subsidies, secured loans to banks, mortgage loans, debt restructuring, debt freezing when a disaster occurs; ii) Land policy: recognizing land as a source of capital in production and business; encouraging land consolidation; extending the duration of agricultural land allocated to households and individuals from 20 years to 50 years; exempting tax for agricultural land; iii) Labor policy: training for agricultural and rural labors; iv) Supporting policy on inputs as seeds, fertilizers, agricultural materials, fuels through subsidies and ensuring quality of inputs.

FIGURE 3: LINKS AMONG SOME AGRICULTURAL POLICIES OF VIETNAM

[16]Resolution No. 26 NQ/TW dated 05/08/2008 on "agriculture, farmers, and rural areas"
[17] Decision No. 800/QĐ-TTg dated 4 June 2010 on approval of the NTP-NRD.
[18] Decision No. 124/QĐ-TTg dated 2 February 2012 on approval of the Master Plan on agricultural production development by 2020 with vision to 2030.
[19]Decision No. 899/QD-TTg (dated 10/06/2013) approving the project "agricultural restructuring towards raising added values and sustainable development"
[20] Decision 62/2013/QĐ-TTg dated 25 October 2013 on encouragement of cooperation and linkages between production and trade of agricultural products, and formation of 'large-scale fields'.
[21] Decision 124/QĐ-TTg dated 2 February 2012 of the Prime Minister on approving the Master Plan on Agricultural Development towards 2020 and a vision to 2030.



Source: synthesis by author, 2015.

*Policies to improve productivity, quality and added values*encompass such key tools as i) supporting the research and transfer of agricultural technologies (funding for research and experiments; supports for good high-yield breeds; investment in research and development, promotion of agricultural extension and technical transfer; ii) supporting the adoption of VietGAP in agricultural production: funding for surveys and analysis; iii) enhancing the product processing and added value[22]: material zones planning, infrastructure construction for processing, expanding product markets and encouraging enterprises to invest in processing.

Policies to support producer organizations consist of two main tool groups: i) Supporting the establishment and operation of the economic cooperating organizations like cooperating groups, cooperatives, basing on the regulations on the operation of cooperatives, and cooperative law; ii) Encouraging production of value chains, and contract manufacturing through supports for accessing to land, making export contracts, funding training, and infrastructure; land rent, personnel training, production costs for farmers and farmers' organizations[23].

Policies to support trade of products include main tools such as i) Export: export credit[24] (loans for exporters and foreign importers), preferential tax for agricultural export at 0% rate, added value tax refund, etc.; ii) Domestic consumption: including policies on agricultural trade promotion, links for consumption of agricultural products and temporary agricultural purchase and storage .

[22] Decision No. 69/2007/QD-TTG of the Prime Minister: approving the Project on development of processing of agricultural and forestry products under the industrialization and modernization of agriculture and rural development until 2010 and towards 2020.
[23]Decision No. 62/2013/QĐ-TTg dated 25 October 2013 on policies to encourage cooperation and links between productionand trade of agricultural products, building large-scale fields.
[24]Decree No. 75/ 2011/ND-CP dated 30 August 2011 on the State's investment credits and export credits; and other documents: Decree No. 133/ 2013/NĐ-CP, Decree No. 54/ 2013/ NĐ-CP; Circular No. 77/ 2013/ TT-BTC; Decision No. 52/ 2008/QĐ-BTC

Policies to attract investment in agriculture and rural development refer to increasing enterprises' investment in agriculture and rural areas through State supporting tools focusing on access to land (land use fee exemptions, land rent); training for human resources; market development; science and technology (funding for training, advertising and research); direct cash to some projects (slaughtering of cattle and poultry, husbandry, planting herbs, macadamia; marine aquaculture; processing of agricultural products and woodworking).

TABLE 1: SOME CURRENT IMPORTANT AGRICULTURAL POLICIES IN VIETNAM

Time	Name of documents	Levels of issuing	Governing documents	Adopting duration
2008	**Resolution26** onagriculture, farmers, and rural areas	Party Central Committee	-	2008 - 2020
2010	**NTP –NRD**2010 – 2020	Prime Minister	+ Resolution 24/2008/NQ-CP of the Government + Resolution 26 NQ/TW	2010 - 2020
2012	**MPAD**	Prime Minister	The proposal of the Minister of MARD	2011-2020
2013	**ARP**	Prime Minister	+ Resolution 24/2008/NQ-CP of the Government + Resolution 26 NQ/TW	2013-2020
2013	Encouragement of cooperation and linkages between production and trade of agricultural products, and formation of 'large-scale fields'	Prime Minister	The proposal of the Minister of MARD	From 2013

Source: synthesis by author, 2015.

One of the important goals of agricultural policies is to ensure national food security. This is also a common goal between policies of agriculture and CC. To achieve this goal, the Government has issued Resolution No. 63/NQ-CP dated 23 December, 2009 on ensuring national food security, which identifies a number of key measures to ensure food security, including: i) planning on agricultural production in general and rice-planting land in particular; ii) investments in irrigation, and dikes systems; iii) investments in research and science and technology transfer (breeding, mechanization of production, preservation and processing...); iv) training for managers and farmers; v) encouraging farmers, localities to keep paddy land, encouraging enterprises to trade rice; vi) innovation in producer organizations (forming cooperating groups, cooperatives, associating with enterprises).

Regarding food security, on the supply side, maintaining paddy land and guaranteeing

incomes for rice farmers are two important policies. To keep paddy land, apart from planning, restricting land transformation, controlling and supervising paddy land, the Government has also delivered cash to local authorities supporting their productionand rice land reclamation[25]. To guarantee incomes for rice growers, the State has taken measures for temporary storage of rice to increase the market price of rice through subsidizing interests for enterprises temporarily buying and storing rice.

3.2.2 Climate change policy landscape in Vietnam

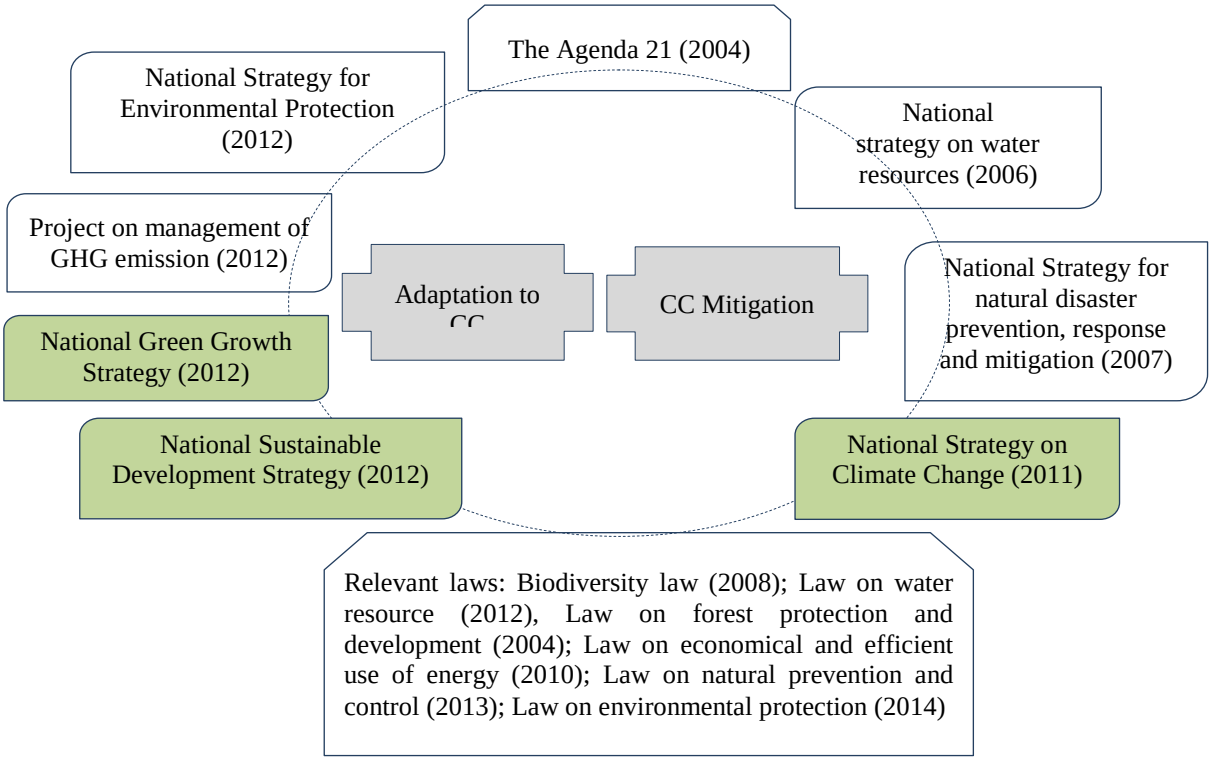
NATIONAL POLICY LANDSCAPE FOR CC

Vietnam has paid attention to CC since 1990, through the Agenda 21[26], participated in the United Nations Framework Convention on CC (UNFCCC) in 1992 and become a member of this Convention since 1994. By that time, CC was only one of nine aspects of the sustainable development strategy[27]. Later, Vietnam has issued a wide range of documents related directly and indirectly to responding to CC. Even though each document has its own priorities,the common aim is to adapt to and mitigate the impacts of CC, enhance sustainable development and socio-economic development associated with environmental protection.

Coping with CC has just been received direct attention since 2007 and expressed in the Resolution of the regular Government meeting in November 2007 and the NTP-RCC[28]issued by the PM. This program represents a political commitment to integrate CC into development policies of Vietnam (Thuc, Huong, Trang, 2012). Not until 2011 were the NSCC[29] and National Action Plan on CC 2012-2020[30]issued, marking an important milestone in CC adaptation policies of Vietnam.

FIGURE 4: STRATEGIC FRAMEWORK ON CC RESPONSE IN VIETNAM

[25] The Government Decree35/2015/NĐ-CP dated 13April 2015 on management and use of rice-planting land.
[26]Decision 153/2004/QD-TTg of the Prime Minister dated 17 August 2004 on issuing Strategic orientation for sustainable development in Vietnam.
[27]Some documents reflect the viewpoint of sustainable development in Vietnam, including the "National Plan on Environment and Sustainable Development 1991-2000" (Decision No. 187-CT dated June 12, 1991); Directive No. 36-CT/TW of June 25, 1998 of the Politburo on enhancing environmental protection during the period of industrialization and modernization; Report of 9th National Congress of the Communist Party of Vietnam in 2001; "The strategic orientation for sustainable development in Vietnam" (known as Agenda 21 of Vietnam) in 2004.
[28] Decision 158/2008/QD-TTgdated 2 December, 2008 approving the NTP to response to CC
[29] Issued under the Decision 2139 /QD-TTg of the Prime Minister on 5 December 2011.
[30] Issued under the Decision 1474/QD-TTg of the Prime Minister on 5 October 2012.



Source: synthesis by author, 2015

TABLE 2: NATIONAL CC POLICY FRAMEWORK OF VIETNAM

Time	Name of documents	Levels of issuing	Governing documents	Adopting duration
2007	Resolution 60/2007/NQ-CP	Government	-	-
2008	**NTP-RCC** 2008	Prime Minister	Resolution 60/2007/NQ-CP	Stage 1: 2009-2010 Stage 2: 2011-2015 Stage 3: after 2015
2011	**NSCC**	Prime Minister	The proposal of MONRE	-
2012	**NTP-RCC** 2011-2015	Prime Minister	NSCC	2012-2015
2012	**National Action Plan** on CC 2012 – 2020	Prime Minister	NSCC	2012 – 2020
2013	Resolution 24-NQ/TW[31]	Party Central Committee	-	-

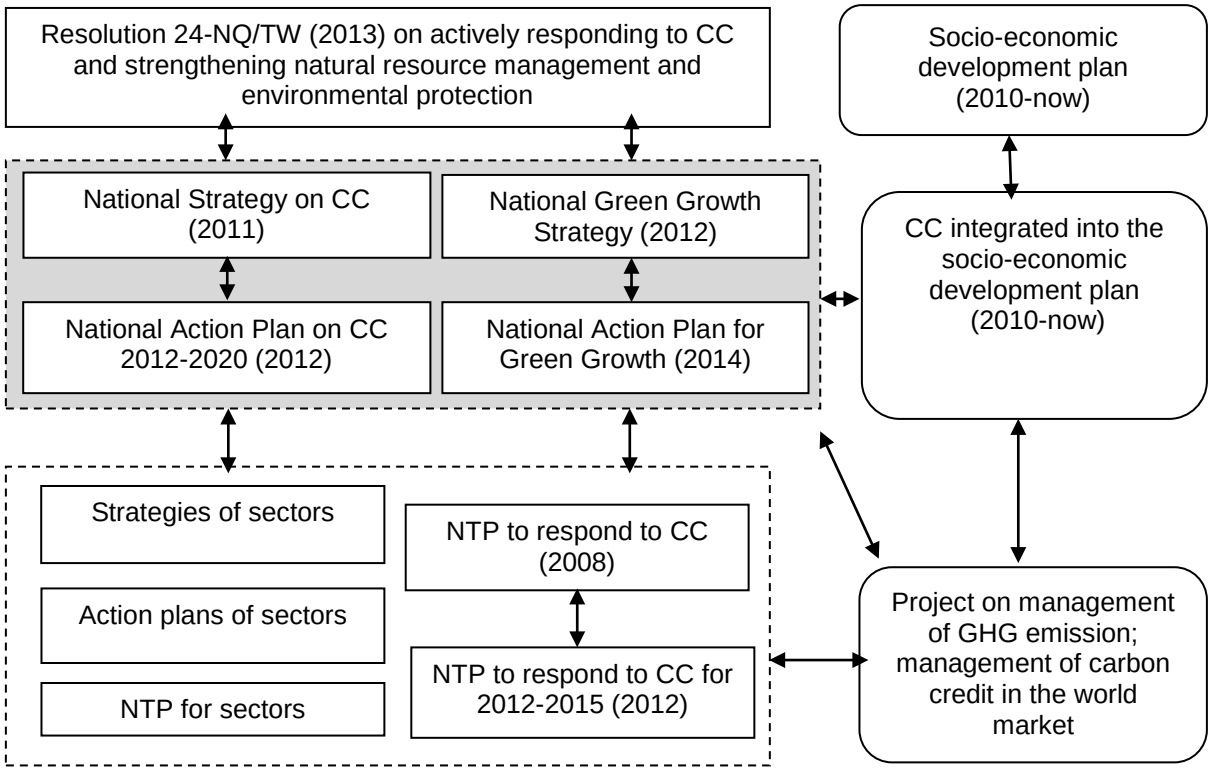
Source: synthesis by author, 2015

The NSCC and the Green Growth Strategy (GGS) are two focuses of CC response policies of Vietnam. These policies are realized through programs specialized in CC and green growth (such as the NTP-RCC and the SP-RCC) and a series of strategies focusing on

[31] Resolution 24-NQ/TW on actively responding to CC and strengthening natural resource management and environmental protection.

renewable energy, energy saving, mitigation and management of natural disasters, reduction of emissions from deforestation and forest degradation (REDD+), and development of science and technology (MPI, 2015). These two strategies are also considered as a basis for integrating CC into the national, local, and sectorial plans of socio-economic development in the period from 2010 to 2020. The Government and the Prime Minister have, so far, issued 94 legal documents, including 1 Resolution, 16 Decrees, 75 Decisions and 2 Dispatches giving direction on CC since 2008 (NCCC, 2014).

FIGURE 5: LINKAGES AMONG CC POLICIES IN VIETNAM



Source: Report at the Conference onannouncement of the establishment of the Vietnam Panel on CC, 2015.

In general, measures to respond to CC in Vietnam are mostly reflected in the NSCC in 2011. This strategy covers tasks needed to cope with CC, including strategies on adaptation, mitigation and supports (see Table 3).

Therefore, since 2008, engraved by the introduction of the NTP-RCC, the Vietnam CC policy system employs two approaches: i) promulgating policies specialized on 3 main pillars: adaptation to CC, mitigation of GHG emissions, and inter-sectorial interventions and ii) integrating CC into policies and legislation of some relevant sectors.

TABLE 3: MAIN TASKS IN THE NSCC

Strategies	Tasks
Adaptation	- Ensuring food security and water resources - Responding actively to rising sea levels and consistently to vulnerable areas

	- Proactively responding to natural disasters and monitor climate
Mitigation	- Protection and sustainable development of forests, enhancing GHG absorption and biodiversity conservation - Reduction of GHG emissions, contributing to protecting the Earth's climate system (development of renewable energy sources, new energy, economical and efficient use of energy, agriculture, waste management)
Supporting	- Strengthening the leading role of the State in responding to CC - Development of science – technology in responding to CC - Strengthening international cooperation and integration, enhancing national roles in CC issues - Diversification of financial resources; effective investment

Source: synthesis by author, 2015.

CLIMATE CHANGE POLICY LANDSCAPE IN THE AGRICULTURAL SECTOR

Agriculture is one of the sectors which are heavily affected by CC (MONRE, 2010). Therefore, MARD has paid attention to CC in agriculture quite early by issuing the action plan frameworkfor adaptation and mitigation ofCC in the agriculture and rural development sector for the period 2008-2020[32] in September 2008, prior to the promulgation of the National Target Program (NTP) on CC in December 2008. In two years of 2011 and 2013, the Ministry also issued a number of documents related to CC in the agricultural sector (Table 4). MARD has, so far, issued 24 legal documents, including 9 Circulars, 1 Joint Circular, 13 Decisions and 1 Directive on implementing CC response plan (NCCC, 2014).

[32]Decision 2730/QD-BNN-KHCN dated 5 September 2008 on promulgating the Action plan framework for CC adaptation and mitigation in the agriculture and rural development sector for the period 2008-2020.

TABLE 4: THE CC RESPONSE POLICY FRAMEWORK IN THE AGRICULTURAL SECTOR

Time	Name of documents	Governing documents	Adopting duration
2008	**Action plan framework** for CC adaptation and mitigation in the agriculture and rural development sector for the period 2008-2020	The statement of the Steering Committee of the Action plan for CC adaptation in agriculture	2008-2020
2011	**Action plan on Response to CC**in the agriculture and rural development sector period 2011 - 2015 and vision to 2050 (MAPCC)	NTP -RCC 2008	2011-2015, vision to 2050
2011	**Directive on integrating CC** into the development, and implementation of strategies, planning, plans, programs, projects of the agriculture and rural development sector, period 2011-2015[33]	Action plan framework2008 and Action planon Response to CC in the agriculture and rural development sector 2011	2011-2015
2011	**Program of GHG emissions reduction**in the agriculture and rural development sector by 2020	Action planon Response to CC in the agriculture and rural development sector 2011	2011-2020
2013	**MARD's Plan** to implement the National Action Plan on CC period 2012 – 2020	National Action Plan on CC period2012 – 2020	2012-2020

Source: synthesis by author, 2015.

Strategies and measures to respond to CC in the agricultural sector have been increasingly specific, comprehensive and synchronized, covering both adaptation and mitigation. The *Action plan framework* for adaptation and mitigation of CCof MARD in 2008 only focuses on raising awareness and research capacity on CC,constructing policy systems, integratingCCinto sector programs, seeking support and cooperation from international organizations. The *Action Plan*in response to CC in agriculture launched in 2011 with more measures has been seen as a basis for the entire action of the agricultural sector. In this Action Plan, to respond to CC, MARD has prioritized i) assessing impacts of CC and sea level rise on each sub-sector of agriculture and ii) mainstreaming CC into action plans, policies, strategies, planning, sector and local development plans (see Annex 2). Therefore, prioritized investment projects are i) construction of flood protection works in urban areas and densely populated areas (capital need: 1.2 billion USD[34]); ii) strengthening and upgrading of river and sea dikes (capital need: 0.5 billion USD[35]) and iii) completion and upgrading of

[33]Directive 809/CT-BNN-KHCN dated 28 March 2011 on integrating CC into the development, and implementation of strategies, planning, plans, programs, projects of the agriculture and rural development sector, period 2011-2015.
[34] Equivalent to 25 trillion VND.
[35] Equivalent to 10 trillion VND.

irrigation system (capital need: 0.5 billion USD[36]) (seeAnnex 3).

At the same time, MARD has also issued the Program of GHG emissions reduction[37]in the agriculture and rural development sector that contributed 43.1% of total GHG emissions in Vietnam, besides the energy sector and LULUCF (MONRE, 2010). The Project aims to promote agricultural production towards green, safe products, low emission, sustainable development as well as ensure national food security, poverty reduction and effective response to CC. GHG emission reduction activities in the Project are determined specifically for each sector: crops, animal husbandry, fisheries, forestry, irrigation, and rural industries.

Thus, the policy to respond to CC in the agricultural sector consists of two main pillars: the Action Plan of the agricultural sector and the Program of GHG emissions reduction which includes both adaptation and mitigation solutions. The main priorities are to assess impact of CC, integrate CC into development policies and construct infrastructure to adapt to CC.

3.3Comparison of agricultural and CC policy landscapes

3.3.1 Integration between agricultural and CC policies

INTEGRATION OF CC POLICIES INTO AGRICULTURAL POLICIES

One of the first major policies in the agricultural sector, which covers CC, is Resolution 26 of the Party Central Committee. In the Resolution, adaptation to CC, disaster prevention and environmental protection are set as goals and solutions. Other important policies (ARP, for instance) have also set CC response as a task of the agricultural sector at different levels (seeAnnex 4).Agricultural policies absorb following CC-related actions:

- *Adaptation*: i) Construction of infrastructure including dykes and irrigation works regulating water for agricultural production; ii) Capacity building and awareness raising of disaster prevention for officials, citizens and communities; iii) Resettling residents out of areas affected by natural disasters; iv) Selection of plants, crops and varieties to avoid impacts of CC and v) Adoption of science and technology, quality, high-yield and disease-resistant seedlings to adapt to CC.

- *Mitigation*: i)Encouraging the protection and development of forests and increasing the economic value generated from forests; ii) Rural environmental protection; iii) Strengthening management and controlling of pollution and environmental protection in animal husbandry, fisheries and forestry; iv) Development of renewable energy from livestock by-products.

In the period 2008-2012, a number of agricultural programs and projects have been implemented with links to CC and one or more pillars of the CSA (seeAnnex 5). Some have been mainstreamed into policies such as supports to apply VIETGA[38], developing standards for irrigation works for the Red River Delta[39], and overall planning of irrigation in the Mekong River, Red River Delta and Central Vietnam[40].

[36] Equivalent to 10 trillion VND

[37]Decision 3119/QĐ-BNN-KHCN dated 16 December 2011 approving Project on reducing GHG emission in agriculture and rural development until 2020.

[38] Decision 01/2012/QĐ-TTg dated 9/01/2012 of the Prime Minister on some policies supporting the adoption of VietGAP.

[39] Decision 1116/QĐ-BNN-TCTLdated 26 May 2011 of Minister of MARD.

[40] Master plan on irrigation in the Mekong Delta (Decision 1397/QĐ-TTg dated 25 September 2012); Red River Delta (Decision 1554/QĐ-TTg dated 17 October 2012); the Central (Decision 1588/QĐ-TTg dated 24 October 2012).

In general, CC response measures are scattered in the agricultural policies, not as comprehensive as policies designed directly to CC. These integrated scope of CCresponseare mainly in form of visions and are more measures of disaster prevention than of adaptation to CC and reduction of GHG emissions (Ha, 2014).

In addition, the integration of CC into socio-economic development plans at the communal level is still limited, even though communes are directly affected by CC. Though the PM Decision 800 on the NTP-NRDnotesthat funds from the NTP-RCCshould be mainstreamed into the NTP-NRD, the NTP-NRD at communal level is equivalent to other NTPs and guidance on integration is unavailable.Moreover, shortage of financial and human resources as well as limited understanding about core issues, goals and solutions prevent communes from integrating policies together in the short and long term (Tri et al, 2015).

The most obvious attempt to integrate CC into the programs and plans of agricultural development has been shown in the MARD'sDirective 809 (2011). The Directive has determined that the integration should be done at different stages of construction, approval and implementation of strategies, planning, plans and sector projects to ensurethe harmonization with the policy framework for CC at the national level. The scope of policy integration is identified for agricultural sub-sectors (crop production, livestock production, fishery, irrigation, salt production and rural development). For example, solutions are to restructure crops and livestock to adapt to CC, diseases control network, adoption of new techniques and technologies that are appropriate to CC, use ofproper inputs to reduce GHG emissions and waste disposalto minimize environmental impacts.

However, the integration of CC into the agricultural sub-sectors is still marginal. The Livestock Development Strategy towards 2020[41](2008)and the Project on Livestock Restructuring[42](2014) do not mention the phrase "Climate Change". Nor do the Vietnam Forestry Development Strategy 2006-2020[43](2007)and the Vietnam's Fisheries Development strategy through *2020*[44](2010)mention that phrase. Meanwhile, the Project on Crop Development [45]issued by MARD in 2012 has covered CC by introducing some measures of irrigation, agricultural extension and crop restructuring. Agricultural extension policies do not have solutions to develop agricultural systems that adapt to CC. The policies for mountainous regions in recent years often focus on hunger eradication, poverty reduction and cooperative mechanisms aiming to develop the economy rather than to respond to CC. No CC and adaptation issues in mountainous regions are found to have been integrated into these policy documents.

In addition, coordination mechanisms to integrate CC into the tasks of line ministries and departments (including agricultural sector) are still weak. For example, sea dykes, coastal security roads and socio-economic development roads built by MARD, Ministry of Defense

[41]Decision10/2008/QĐ-TTg dated 16 January2008 of the Prime Minister on approving Livestock Development Strategy towards 2020.
[42]Decision 984/QĐ-BNN-CN dated 9 May, 2014 of MARD on approving Project on Livestock restructuring towards higher added values and sustainable development".
[43]Decision 18/2007/QĐ-TTg dated 5 February, 2007 of the Prime Minister approving Vietnam Forestry Development Strategy 2006 – 2020.
[44]Decision 1690/QĐ-TTg dated 16 September 2010 of the Prime Minister approving Vietnam's Fisheries Development strategy through 2020.
[45]Decision 824/QĐ-BNN-TT dated 16 April 2012 of MARD approving Project on Crop Development until 2020, vision to 2030.

(MOD) and Ministry of Transport (MOT), respectively are located hundreds to thousands of meters afar from each other and there is no connection between them. In fact, some hundreds of kilometers of sea dykes in the Mekong Delta were planned to be built by MARD and MOT. However, although the finance has been allocated to the two ministries, one still finds it difficult to cooperate with the other. The funding for two programs of raising public awareness is also allocated to two separate ministries (Thanh et al, 2015).

Therefore, the fundamental objective of the agricultural policies is to improve productivity and quality; ensure food security; use resources efficiently; improve incomes and livelihoods. CC has been integrated into agricultural policies since 2008 through the Resolution 26, Master Plan, ARP, NTP-NRD and some development strategies of the subsectors.

INTEGRATION OF AGRICULTURE INTOCC POLICIES

In reverse, the CC policies also aim to mainstream two objectives of responding to CC and ensuring food security and poverty alleviation.

At the national level, the National Green Growth Strategy and the National Strategy to respond to CC have mentioned measures to respond to CC in agriculture. In particular, the National Green Growth Strategy solves the problem of CC in agriculture through reduction of GHG emissions and development of sustainable organic agriculture. Such measures are to restructure crops and livestock; use economical and efficient technologies that reduce emissions; use recycling technologies; use agricultural by-products; afforest; and reduce emissions from deforestation and forest degradation (REDD). Meanwhile, the National Strategy to respond to CC aims at both ensuring food security and reducing GHG emissions in agriculture: i) ***ensuring food security****:*maintaining agricultural land; restructuring crops and livestock; adopting biotechnology and advanced manufacturing processes; controlling and preventing diseases in the context ofCC; building mechanisms and policies on insurance systems in agriculture; ii) ***reducing GHG emissions****:* changing cultivation methods; using water, fertilizers and animal feeds in proper manners; managing and disposing livestock waste; using biogas as fuel; and gradually eliminating backward agricultural machines that consume much energy.

At the sector level,the Action Plan to response to CC in the agricultural sector and the Program of GHG emissions reduction have clearly determined measures to response to CC associated with the development of the sector. The second task in the former has proposed adaptation and mitigation measures for each subsector, which simultaneously aim at CC response and agricultural development. Meanwhile, the later focuses on CC mitigation in agriculture, with a clear objective that "promotes the development of green agricultural production towards safe, low emissions, sustainable development, ensured national food security, poverty reduction and effective response to CC."

3.3.2. Alignment, consistency across agriculture and CC polices

By analyzing the integration between agricultural and CC polices, it is seen that in reality, agricultural policies and CC policies have shared a number of common objectives, orientations and solutions.

Firstly, both the agricultural and CC policies aim at agricultural development, ensuring national food security, improving farmers' living standards, reducing poverty and adapting to

CC. These are fixed objectives that go along with the two policy groups.

TABLE 5: SHARING RESPONSES BETWEEN KEY MENTIONED AGRICULTURAL AND CC POLICIES

Increasing yields and incomes	Adaptation	Reducing GHG emissions
- Development of breeds that are high-yield, tolerant and adaptive to CC - Adoption of advanced cultivation methods to reduce inputs while ensuring productivity and quality - Maintaining agricultural land, transforming a part of inefficient rice-growing areas into short-term industrial crops areas with lower emissions and higher economic efficiency	- Construction of infrastructure (irrigation systems, dykes) serving for economic development and CC adaptation - Shifting crops, plant and animal varieties for CC adaptation and high economic values	- Protection and development of forests, generating values from forest - Research and adoption of technologies that efficient and economical use inputs and reduce GHG emissions in agriculture - Research and adoption of technology of treatment and reuse of byproducts and wastes - Building models of production organizations, providing service to improve efficiency in production and reduce GHG emissions

Source: Synthesis by author, 2015.

Secondly, activities that the two policies have interest in are research on science and technology serving CC and agriculture; training and capacity building on CC and agriculture for staffs; raising awareness of people about disaster prevention and mitigation and CC; and international cooperation to mobilize resources, knowledge and experience.

Thirdly, the two policies have shared many approaches to meet concurrently two objectives of CC response and agricultural development.

3.3.3 Conflicts/trade-offs between agricultural and CC policies

Despite numerous common objectives and approaches, there are conflicts between the two policies which are hard to be harmonized and even trade-offs between agricultural development and CC response.

Contradictions and inconsistences in policies documents have been mirrored in many different aspects. The first issue is the sequence of policy issuing. For example, NTP-RCC was issued under the PM Decision No 158/2008/QD-TTg dated 12 February 2008 prior to the NSCC under the PM Decision 2139/QD-TTg dated 05 December 2011. This is not ordinary process because National Strategy should be issued first. For this reason, to amend and update the NTP to be more appropriate to the National Strategy, the Prime Minister issued Decision 1183 / QD-TTg of 30 August 2012 to re-approve NTP 2012-2015.

The conflict also exists between the objectives of environmental protection, CC adaptation and improvement of livelihood and income for the people. That is the most obvious contradiction between the CC policies and the agricultural policies in particular, and the development policy in general. Research by Son et al (2011) showed that the development policy for mountainous areas focuses more on the immediate targets of poverty alleviation, and socio-economic development rather than CC response, since the target of poverty

reduction seems to be urgent, while adverse impacts of CC are harder to perceive. Development of forestwill facilitateenvironment preservation and protection.The production forest with better management would support income increase, protection of land from erosions, and water retaining, etc. Enhanced development of intensive large-scale livestock production will help increase revenue, but will not benefit environmental protection.

The second conflict is between the two objectives of ensuring national food security and reducing GHG emissions. Resolution 63/NQ-CP dated 23 December 2009 of the Government stressed on ensuring food security by maintaining 3.8 million hectares of cultivated land, and by intensive rice production. However, agriculture has contributed 43.1% of GHG emissions in Vietnam (MONRE, 2010) and intensive rice production requires much chemical fertilizers. Even though this contradiction can be solved through advanced farming techniques that consumefewer inputs and generate higher yields, it will be a tradeoff in many cases. Similarly, encouraging the cultivation of maize to ensure food security without land controlling measures will lead to forest encroachment, and deforestation which in turn will exacerbate erosion, landslides and CC.

Within MARD, there are other examples of conflicts between agricultural development policies and environmental protection/natural disaster mitigation policies for strategic exports such as maize, cassava, rubber, coffee, pepper and aquaculture. On one hand, the government wants to boost the productivities while on the other hand also wants to conserve the environment. Agricultural policies refer generally to disaster mitigation and environmental protection but do not tackle these through technical barriers to production and trade restrictions, which may have a greater impact on synergies between agricultural production and environmental protection. Consequently, crop and aquaculture areas have increasing impacts on environmental protection. The policies on credits (for example, the Government Decree No. 41[46]) and trade promotion (for example, the Government Decree No. 210[47]) do not encourage agricultural products that respect the environment and help to mitigate natural disasters.

Other conflicts stem from the overlap of institution, organizations, roles and contents of policies, leading to inconsistencies in implementation. One example of institutional overlapping is that the Support Program for Response to CC (SP-RCC) is managed by MONRE while the Central Committee for Flood and Storm Prevention and Control is controlled by MARD. In addition, the natural forest is managed by MARD while biodiversity and its related policy are managed by MONRE. Similarly, both MARD and MONRE have the Policy on Community-based Disaster Prevention and Mitigation (CBDPM). MARD proposed its CBDPM in 2008. Subsequently, MONRE also submitted the Program on "Raising the community awareness about CC" and it was also approved later by the Government. Therefore, issuing two nearly similar policy contents has resulted in waste, overlapping and pushing local authorities to a dilemma where problem may not be solved[48].

To deal with these conflicts, some policies have tried to harmonize agricultural and CC

[46] Decree No. 41/2010/ND-CP dated 12 April 2010 on credit support for the agricultural and rural development.
[47] Decree No. 210/ 2013/NĐ-CP dated 19 December 2013 on policy for encouraging investment on agriculture and rural development.
[48] In 2008, IPSARD reviewed the whole forestry policy framework of Vietnam for MARD/GTZ, it found 104 inconsistent policy issues which falls into 4 categories: overlapping, contradicting, deficiency, outdating.

objectives. The Vietnam Forestry Development Strategy clearly determines three types of forest and production activities (agricultural production and fisheries, agroforestry, landscape business, recreation and eco-tourism) allowed in the forestland in view of forest protection and improved livelihood of local communities. In addition,forestland recipients can convert up to 20% of their allocated land into agricultural production and agroforestry cultivation to ensure food security[49]. However, this policy puzzles forest management. At the same time, encroachment of agricultural land leads to the contraction of forest. Therefore, policy aimed at dual targets (developing forests while ensuring the livelihood of forest owners) is problematic: forests cannot be well managed by ethnic poor households when they are still facing fragile livelihood and food insecurity (Vien et al., 2005). Such dual policy has resulted inincreasing forest fragmentation and forest fires, exacerbation of soil erosion and deteriorationof watershed areas.

Similarly, the ARP aims at both ensuring food security, reducing GHG emissions and the adverse impacts on environment. The Program of GHG emissions reduction in the agricultural sector has also applied practices to save energy of agricultural machinery and has developed and applied minimum tillage practices to reduce GHG emissions and to improve soil fertility and water retention.

3.3.4 Gaps in agriculture and CC polices

The synergy between agricultural and CC policies will be achieved by bridging gapsbetween these two policy groups. Firstly, there is inadequate guideline to integrateCC policies into agriculture and other polices at the national level and into economic development plans at provincial level. Although revision of all policy documents is highlighted to achieve a better CC policy integration, the reviewing task, however, is not an easy exercise as it requiresconsiderable time and resources (Thuc, 2010).

Secondly, limited assessment of CC impacts at local levelrenders non-result-based policymaking, which can possibly lead to maladaptation (Thuc, 2010).

Thirdly, some national policies have not identified potential financial resource or specific incentives to attract investment from the private sector. Budget shortage is a serious cause of delay in policymaking/implementing at ministerial and provincial levels (Thao and Nga, 2013).

Moreover, current policies are lacking criteria to assess environmental risks, vulnerability, and extreme weather-induced consequences; criteria to assess the integration of CC into agricultural policies, compulsory provisions of integration,as well as incentives for localities and sectors to integrate CC into theagricultural policies (Son et al, 2011).

Big gap in policy alignment is explained by the lack of concrete guidelines to nudge agricultural production towards CSA and the incentives to attract investment in agricultural production that is environmentally friendly and contributed to GHG reduction. GGS is one of those instruments where technical tools, regulations and guidelines for policy implementation are absent. In fact, entrepreneurs (including public service companies) who own tremendous resources of land, trees and labor are deemed to make significant contributionto reducing GHG emission if CSA is to be pursued. However, again, policies do not show how to involve private sector, or at least present basic objectives, outcomes and roadmap for implementation.

[49]Decision No. 178/2001/QD-TTg dated on 12th November 2011 on the benefit-sharing mechanism for forestland for forestland allocation,

While there are very few successful models of integration of CC into the agricultural policies, they have been paid little attention to and not been put into the policy yet. The project“Climate change affecting land use in the Mekong Delta: adaptation of rice-based cropping systems project (CLUE)”[50]has obtained remarkable results. The successful selection of rice varieties can tolerate to salinity and submergence using participatory (with farmers) approach. AWD cropping method also has shown potential forGHG emission reduction[51], although there are still many barriers for adoption. However, the achievements of international support projects have not been translated into agricultural and CC policies.

3.4 Relative priority of agriculture and CC compared to other polices areas

The biggest concerns of CC impacts to Vietnam are sea level rises and typhoons. This is written in NSCC (2011) “CC seriously threatens our food security and agricultural development: agricultural lands are narrowed, especially a significant area of low-lying coastal lands, the Red River Delta and the Mekong Delta are flooded in salt water due to the rising sea level.” This shows that the Vietnamese Government has been aware of the loss of agricultural land and threats of national food insecurity. It also sets an ambitious plan to integrate into the global trade to boost exporting, while having to cut down the GHG emission to avoid potential trade barriers. These challenges are also the highest priorities of the Government in the next 5 years and onwards.

CC mitigation prevails over CC adaption in the working agenda of the Government and Ministries. In the Action Plan on Response to CC (MAPCC) of MARD, natural disaster mitigation is prioritized. While 30% of the total budget of MAPCC allocated to this componentbudget reserved for CC adaptation takes a smallerpie piece.

[50] The project is implemented by IRRI/Can Tho University under the funding of ACIAR
[51] For further information, please see: http://www.ctu.edu.vn/en/news_det.php?id=635

CHAPTER 4
PROCESS OF AGRICULTURAL AND Climate change POLICY FormuLation AT NATIONAL AND LOCAL LEVEL

4.1 Process of agricultural and CC policy formulation at the national level

General policy formulation process

The formulation process of national strategies, action plans, NTPs, master plans on agricultural development and CC response at Government level will comply withthe Government Decree No. 24/2009/NĐ-CP[52]., as follows:

1. The Government will assign ministries, ministerial-level agencies and Government agencies by their function and mandates to take the lead in the drafting of decisions of the Prime Minister.

2. The drafting body will review the law enforcement; survey and assess the status of social relations; search information and materials related to the content of the draft; prepare proposals' compile and revise the policy draft; consult with relevant experts; prepare a statement and documents related to the policy draft.

3. During the drafting process, the drafting body *may mobilize the participation of research institutes, universities, associations, relevant organizations and competent experts, scientists to review and evaluate the law enforcement*; review and assess existing legal documents; do sociological surveys; assess social relations related to the policy draft; gather and compare existing documents and treaties related to the draft.

4. The drafting bodywill make the draft decisions with the participation of representatives of the Ministry of Justice (MOJ), the Government Office as well as agencies and organizations concerned.

5. The drafting body will consult possible direct beneficiaries and agencies, organizations and individuals, by the method prescribed in Clause 2, Article 35 of the Law on promulgation of legal documents[53].

6. The drafting body will state clearly the contents need to be commented to appropriate recipients; elicit and synthetize comments; upload documents containing comments and explanations, as well as the revised version on website.

7. The drafting body will send the policy draft to ministries, ministerial-level agencies and Government agencies for commenting.

8. Finalize the draft and submit a dossier to thePMfor approval. The dossier includes (1) Statement to thePMon the draft decision after collecting appraising opinions; (2) Draft of the revised decision after being appraised; (3) Appraising report; (4) Report stating the acceptance of appraising opinions; (5) Report gathering opinions of agencies,

[52]Decree 24/2009/NĐ-CP dated 5 March 2009 of the Government on Specific regulation on enforcement of Law on promulgation of legal documents.
[53]Law on promulgation of legal documents No.17/2008/QH12 dated 3 June, 2008 ofNational Congress of Vietnam

organizations and individuals on the policy draft; copied reports on opinions of ministries, ministerial-level agencies and Government agencies; (6) Other relevant documents (if any).

9. The Government Office will examine the dossier and draft of decisions and the compliance with the process of draft making.

10. After the PM'scomments on the draft of decision, the drafting body will, in collaboration with MOJ and the Government Office, amend and finalize decision, and submit the decision to the Government for endorsement.

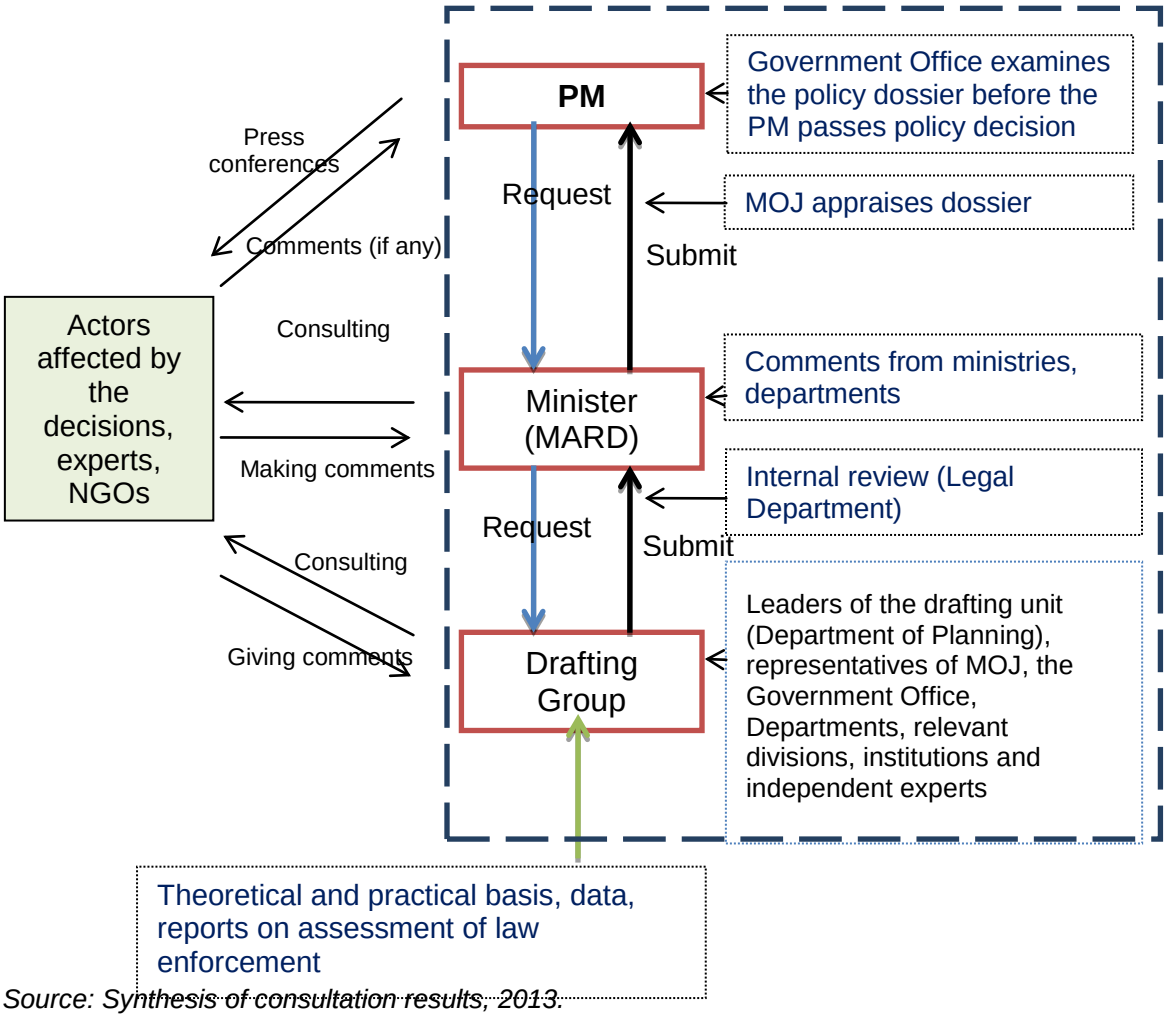
Process of agricultural and CC policy formulation

Agricultural policies include strategies, planning, long-term development plans, 5-year development plans, annual plans, important sectors and industries' projects or works often formulated by MARD and under decision made by the PM[54]. The drafting process will comply with the Law on promulgation of legal documents in 2008.

In general, the policy-making process starts when thePMassigns MARD as coordinating body in policy formulation. The Minister of MARD, upon the nature of the policy, forms a DraftingGroup which includesrepresentatives of the concerned ministries, departments and institutes under the Ministry. In order to have scientific, theoretical and practical grounds, the process will get consultants and research institutions involved. During the process of formulation, the DraftingGroup will hold a range of national and regional consultative workshops gathering local and international experts, representatives from the private sector and social unions. After consultations and paper drafting, a dossier will be handed to the Legal Department for review before being submitted to the Minister, who in turn oversee the contents before sending the policy draft to relevant Government's ministries and agencies for observations. Then MARD will complete and submit the dossier to thePMfor approval. The Government Office is responsible for checking the dossier's contents and its compliance with the standard formulating process. Based on thePM's comments on the policy draft, the coordinating body (MARD), together with the MOJ and the Government Office will amend and finalize the policy paper to be signed by the PM. As soon as thePMpasses policy, the Government Office will hold a press conference to announce the policy (Figure 6).

FIGURE 6: PROCESS OF PRIME MINISTER'S DECISION FORMULATION FOR AGRICULTURAL POLICIES

[54] Decree 199/NĐ-CP of the Government on Regulation on functions, duties, rights and organizational structure of MARD



Source: Synthesis of consultation results, 2013.

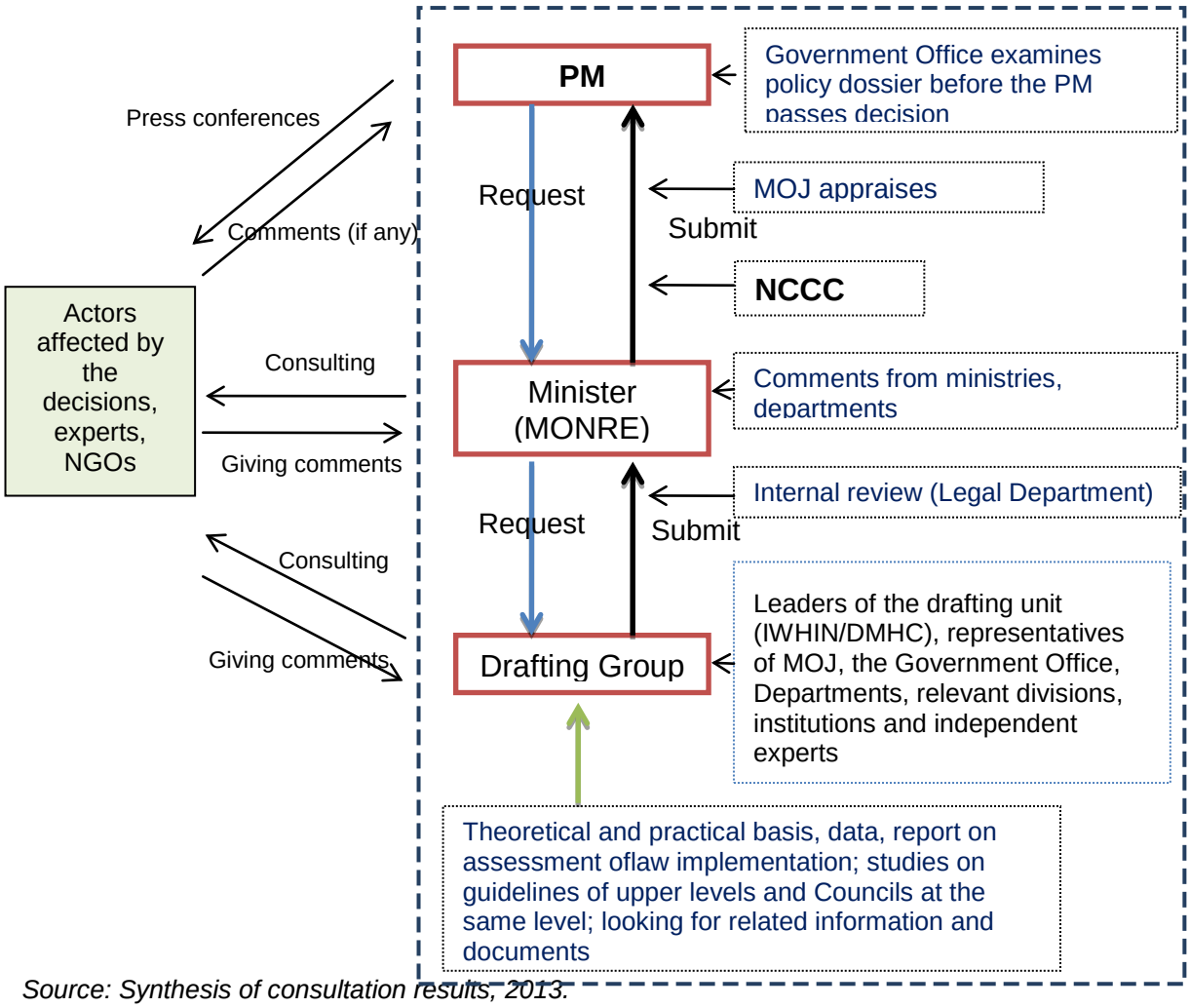
Similarly, the process of CC policy formulationwill comply with the Law on promulgation of legal documents with the role of the formulation body assigned to MONRE (Figure 7).

Comparing the policy formulation processes between agriculture and CC shows some similarities and differences. The similarities are:

- Theoretically, they have to be consistent with and strictly follow the direction of policy documents of upper levels and not to overlap with existing policies in effect;
- They have to set up the Drafting Group and involve different governmental and non-governmental stakeholders who are crucial to the policymaking process;
- Both agriculture and CC policies must take ecological and socio-economic differences among provinces into account. If the policy is too general, it is difficult and confusing for provincial authorities to implement, whereas the central government wants to control everything. If the scope of policy is too specific, it willonly be appropriate to some provinces, but not to others.

FIGURE 7: PROCESS OF PRIME MINISTER'S DECISION FORMULATION FOR CC POLICY[55]

[55]NTP- RCC and the NSCC



Source: Synthesis of consultation results, 2013.

The differences between the two processes are:

- The formulation of agriculture policy is the responsibility of MARD while the formulation of CC policies for all sectors is the preliminary responsibility of MONRE;
- Agricultural policies seems to show less inconsistency due to the long lasting agriculture development of the country over decades;
- CC policies must take into account the CC impact scenarios;
- CC policies involve other institutions such as the NCCC, etc.

Limited awareness of policy makers and people about CC results in the weak and inefficient CC policy formulation and implementation. For example, understanding of the CC concept is different among individuals, institutions, and local people. Many provinces do have concrete projects and funding for natural disaster mitigation (i.e., drought, flood and landslide) without realizing that they are part of CC.

The policy formulation process is expected to engage various actors in different policy steps. In reality, the policy formulation process in Vietnam is bounded within the scope of the Government with very little involvement of other stakeholders. Furthermore, provisions on the timing of policy-making process are not always accurately fulfilled in reality. Considerable

delays often occur in the steps of revision at the Ministry level and of the final approval (Ohno 2010). Prolonged paper examination at the Government Office causes late submission to the Government and PM for final endorsement[56].

The role of the DraftingGroups established bythe two ministries is highlighted under current policy-making process. As per stipulated by the current laws, the Drafting Groups are made up ofsenior officers representing formulating institutions, appraising agencies, technical organizations, experts and researchers. However, Ohno (2010) indicated that these group only consists of some mid-level professionals from the two ministries. A numerous policy papers to be elaborated each year place a burden on these policy work groups that hinders their creative and innovative thinking in drafting policy as well as their cooperation with non-governmental sector.

The participation of research institutes and scientists in the Drafting Groups favors evidence-based policies. However, a big gap between scientific research and policyis obviously acknowledged. Scientists often complain that they do not find their voice in policies, while policy makers often find very difficult to have enough scientific grounds for policy proposals. Marginal impact of research on policy is explained by disconnections between research, policy and practice, absence of different stakeholders' voice, poor professional networks and communication (Barnard et al 2007).

Although there is a provision of direct consultation with the direct beneficiaries as well as concerned agencies, organizations and individuals in policy drafting, it is not easy to put it in practice. Firstly, the Drafting Group has not recognized the necessity of the consultation of concerned stakeholders. Some interviewed officials say that they do not have enough time to work on policy suggestions for the prepared policy draft. Therefore, comments and suggestions might be superficial and poor. Secondly, in many cases, targeted policy beneficiaries are not invited to lend their voice to the policy. Ohno (2010) found that when enterprises want to make comments on or to express their dissatisfaction with the policy, they have to find connection with policy makers by themselves, or through seminars and media. Thirdly, there is no operational mechanism for following upthe voice observation of policy stakeholders during policy-making process.

Besides, weak connection between ministries in the process of policy formulation and implementation leads to inconsistency and gaps in policies. Although responsibilitiesof each Ministry are defined in the policy papers, there are no provisionsfor guiding interactions betweenMinistries. The complexity of current policy-making system bases on the balance of power, which is horizontal (between ministries and departments), vertical (national and local) and geographical (North, Center, South and remote areas). This makes the policy promulgation inflexible and difficult to react quickly to changes (Ohno 2010).

During MARD policy formulation processes for agriculture and CC, the priority is set based on following considerations:

- *Necessity*: actions which can minimize the current negative effects of CC.
- *Social impacts:*actions related to reducing damaging effects on the lives and

[56] Vietnamnet, 'The Government staff is more important than Minister', http://vietnamnet.vn/vn/chinh-tri/240516/chuyen-vien-van-phong-chinh-phu-to-hon-bo-truong-.html

livelihoods of the poor, as well as income improvement of vulnerable communities, especially rural, mountainous, remote areas as well as women and ethnic groups.

- *Economic impacts*: actions benefiting economic recovery, especially through low cost and highly effective actions.
- *Multiple targets*: in order to meet the needs and expectations of various departments, subsectors, regions and stakeholders.
- *Enabling impact:* need for greater research, institutional and planning capacities.
- *Integration impact:* CC response activities in all programs, strategies and plans at all levels are to be coordinated vertically as well as horizontally.
- *Flexibility*: measures which are feasible and consistent with large number of programs and plans.

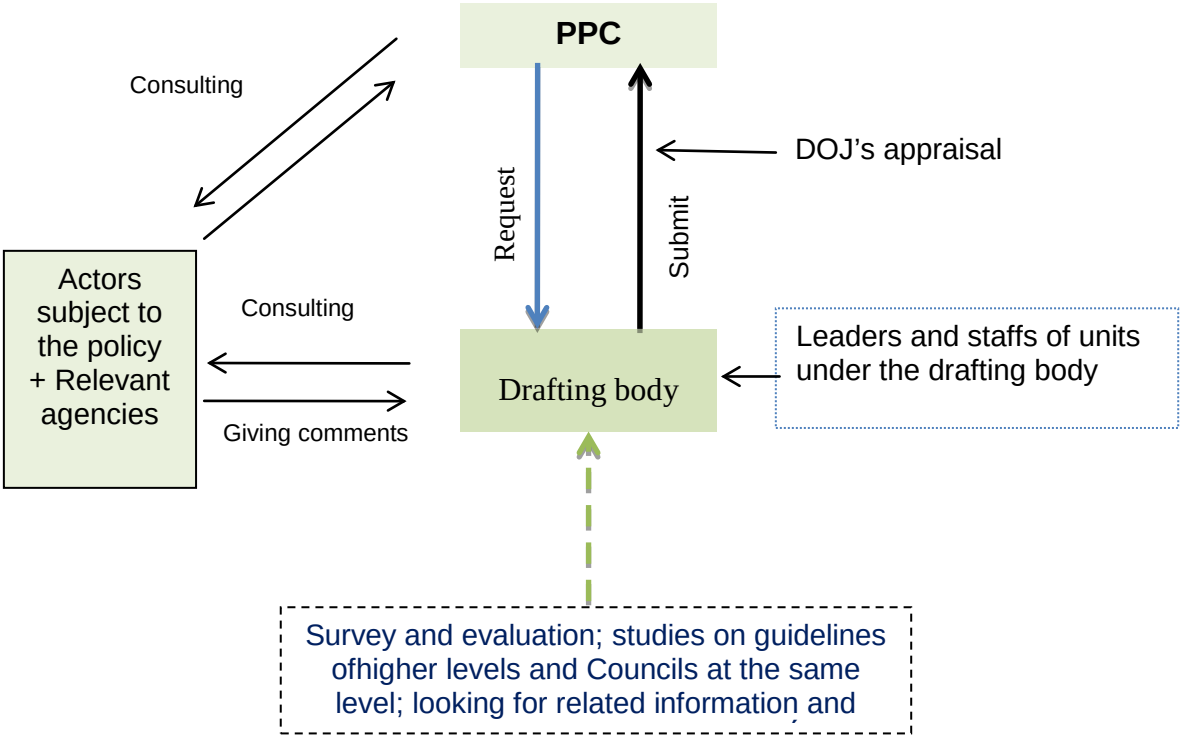
Policy promulgation in Vietnam is a consensus-based decision-making mechanism. However, only those who get directly involved know whether the consensus is real. This can be a case that the decision was already taken by a number of leaders before the policy is drafted. Besides, the term 'policy' is interpreted in different ways in order to make a final decision that please everyone (Lucius 2009).

4.2 Process of agricultural and CC policy formulation at the provincial level

At the provincial level, the process of agricultural and CC policy formulation complies with the law on promulgation of legal documents of People's Councils and People's Committees. There is no big difference between the policy formulation process at the national and provincial level. Both provincial-level agricultural and CC policy formulation follow general processes. While DARD takes the lead in making agricultural policies, DONRE and the Provincial Committee to Response to CC are in charge of formulating CC policies.Figure 8 depicts the process of developing a policy at the provincial level.

Surveys in three provinces showed a wide range of drawbacks in the policy formulation process. The quality of policies depends partly on financial resources. The adequate funding will enable the formulating body to hire experts/consulting agencies to assess the situation, or carry out studies on the related Party and the State's policies. However, in 3 provinces surveyed, there is merely no participation of agencies and individuals outside in the process, due to lack of finance. For example in Yen Bai, DONRE and DOST rated that 40% of inputs needed for the CC policymaking is from districts' reports and only 10% from DOST and the rest from other sources. Lacks of reliable study findings and consultations have led to shortage of scientific basis, especially for the CC policies.

FIGURE 8: POLICY FORMULATION PROCESS AT THE PROVINCIAL LEVEL (PPC)



Source: Synthesis from the process of legal documents formulation of People's Councils and People's Committee

Another drawback of the policy formulation process at the local level is the delay in the policy promulgation due to lack of resources and institutional obstacles. For example, the NTP-RCC was issued in 2008, but not until 15th December 2010 did Yen Bai issue the Decision No. 2385/QD-UBND[57] on implementation of NTP-RCC in the province. The reason for this delay, as Yen Bai stated was the lack of finance.

Last but not least, the limited participation of enterprises, civil organizations and communities is another drawback of the policy-making process. Despite directly being affected by policy, communities are hardly consulted. Social and political organizations (farmers' associations, women...) have had contribution to asmall extent, especially to the CC policies.

4.3 Integration between agricultural and CC policies at the national and local levels

Integration between agricultural and CC policies at national level

While the central role in the formulation of agriculturaland CC policies is of MARD and MONRE, respectively, the integrating mechanism between two policy groups has been implemented through following channels:

- *Giving comments and opinions:* the policy formulation process requires seekingcomments and opinions of agencies concerned through written opinions, workshops and seminars. This mechanism enables MARD to give comments in terms of agricultural aspects on CC policies, and vice versa.
- *Formulation of sector policy:* MARD has actively integrated CC into agricultural policies (e.g. Action Plan to response to CC in agricultural sector, Directive 809, Project on GHG emission reduction), based on the framework of NTP-RCC, National

[57] Dated on 15th December 2010

Strategy to respond to CC and National Action Plan on CC 2012-2020.

- Giving guidelines to integrate prioritized investment in CC adaptation into strategies, programs, planning and sector development plans, which are formulated and guided by MPI[58]…This framework maps out the steps determining investment priorities (four steps) and integrating those priorities into the formulation process of socio-economic development plan.

- *The National Committee on CC:* in which the PM is the Head of the Committee, the Minister of MONRE is the Deputy-Head, and members are Ministers of some line Ministries (including MARD). The working mechanism of the Committee allows solving the inter-sectorial CC issues, a better coordination among ministries; and an operational system to monitor the implementation of the NSCC to ensure uniformity.

Integration between agricultural and CC policies at the local level

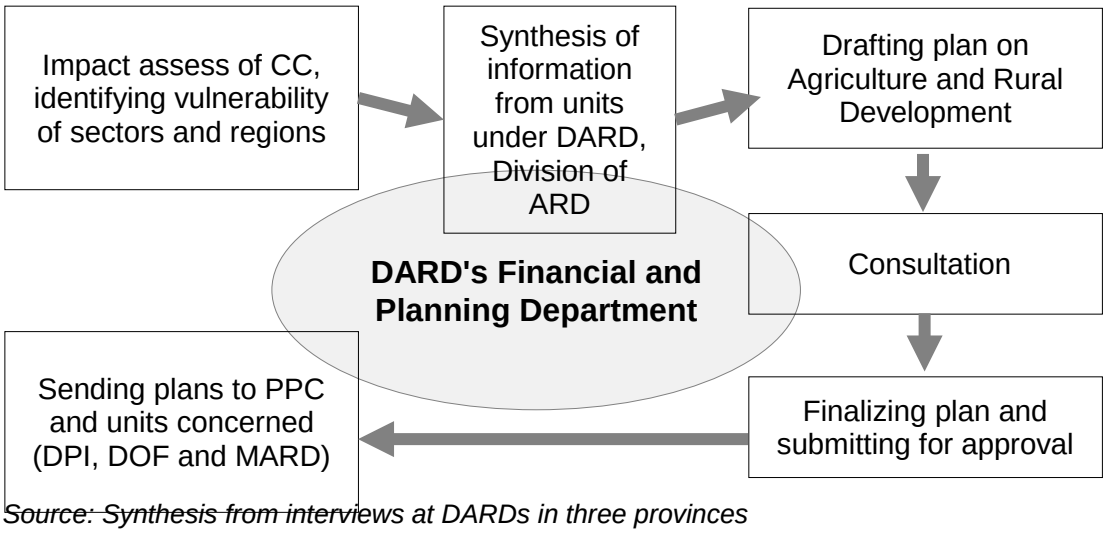
At local level, the integration of agricultural andCC policy is implemented at two levels: i) integration of CC into strategies and overall development plans of the province and ii) integration of CC into agricultural policies.

At provincial level, the integration of CC policies prepared by DONREand agriculture policiesprepared by DARD into global development strategies, planning and projects is the task of the Department of Planning and Investment (DPI) who knows where and how to mainstream AG and CC aspects in the bottom-up planning exercise. In theplanning process, DPI sends a form[59] to related Departments and Districts to assess the socio-economic development plan and to get ideas on how to integrate CC issues therein in order to achieve the dual targets for addressing CC and enhancing socio-economic development. A workshop is then organized to pool final ideas on the Plan, with emphasis placed on cross-cutting/inter-sector issues. The final step is to send the Plan to the PPC for approval.

In the agricultural sector, DARD undertakes the integration of CC into strategies and sector development plans (as shown in Figure 9, the detail process inAnnex 6).

FIGURE 9: INTEGRATION OF CC INTO THE AGRICULTURAL POLICIES AT THE PROVINCIAL LEVEL

[58]Issued under Decision 1485/QĐ-BKHĐT of MPI dated 17 October 2013 on issuing framework guiding selection of CC response priorities in making socio-economic development plan.
[59] The title of this form is *"assessment of the vulnerability and planning on disaster prevention and mitigation "*



Source: Synthesis from interviews at DARDs in three provinces

The DARD's Financial andPlanning Department is the coordination unit of the whole process of CC and agricultural policy integration. Districts' divisions of ARD together with DARD's divisions of crops production, livestock production, fisheries, forestry and other branches provide data inputs and give comments on the policy draft. The scope of policy integration refers to guidelines of PPC and the Directives 809 of MARD.

CHAPTER 5
STAKEHOLDERS IN AGRICULTURE AND CLIMATE CHANGE POLICY PROCESS

5.1 Stakeholders in agricultural and CC policy formulation at national level

5.1.1 Stakeholders in agricultural policy formulationat national level

Due to a huge number of agriculturalpolicies have been issued, we select two of the most important policies: the MPAD[60] and the ARPtowards higher added value and sustainable development[61] to analyze the involvement of stakeholders in policy-making process.

Stakeholders involving in the two policy-making processescan be categorized in six sectors including government agencies, research institutions, social-political organizations, donors, NGOs and private sector (which is composed of enterprise and professional associations).

TABLE 6: KEY STAKEHOLDERS IN AGRICULTURAL POLICYMAKING PROCESS AT NATIONAL LEVEL

TT	Government agency	Research institution	Mass organization	Donor	NGO/international agency	Business sector
1	Prime Minister	NIAPP*	FU	WB	Oxfam America	VCCI
2	Government Office	IPSARD**	WU	FAO	ICRAF	VINATEA
3	MARD	VIFEP	YU	USAID	CIAT	VINACAFE
4	MONRE	FIPI	VFF	GIZ	SNV	VRG
5	MPI	IWARP		ADB		VITAS
6	MOF	NIAS		JICA		VICOFA
7	MOJ	VAAS				VCA
8	MOST					VINAFOOD
9	SBV					

Note: * Key research institute participates in MPAD

** Key research institute participates in the ARP

Source: synthesis of key informant interview at national level, 2013-2015.

EVALUATION OF THE ROLE-PLAYS OF STAKEHOLDERS

Policy drafting and technical assistance

In general, MARD is the most important player in the agricultural policy formulation process.

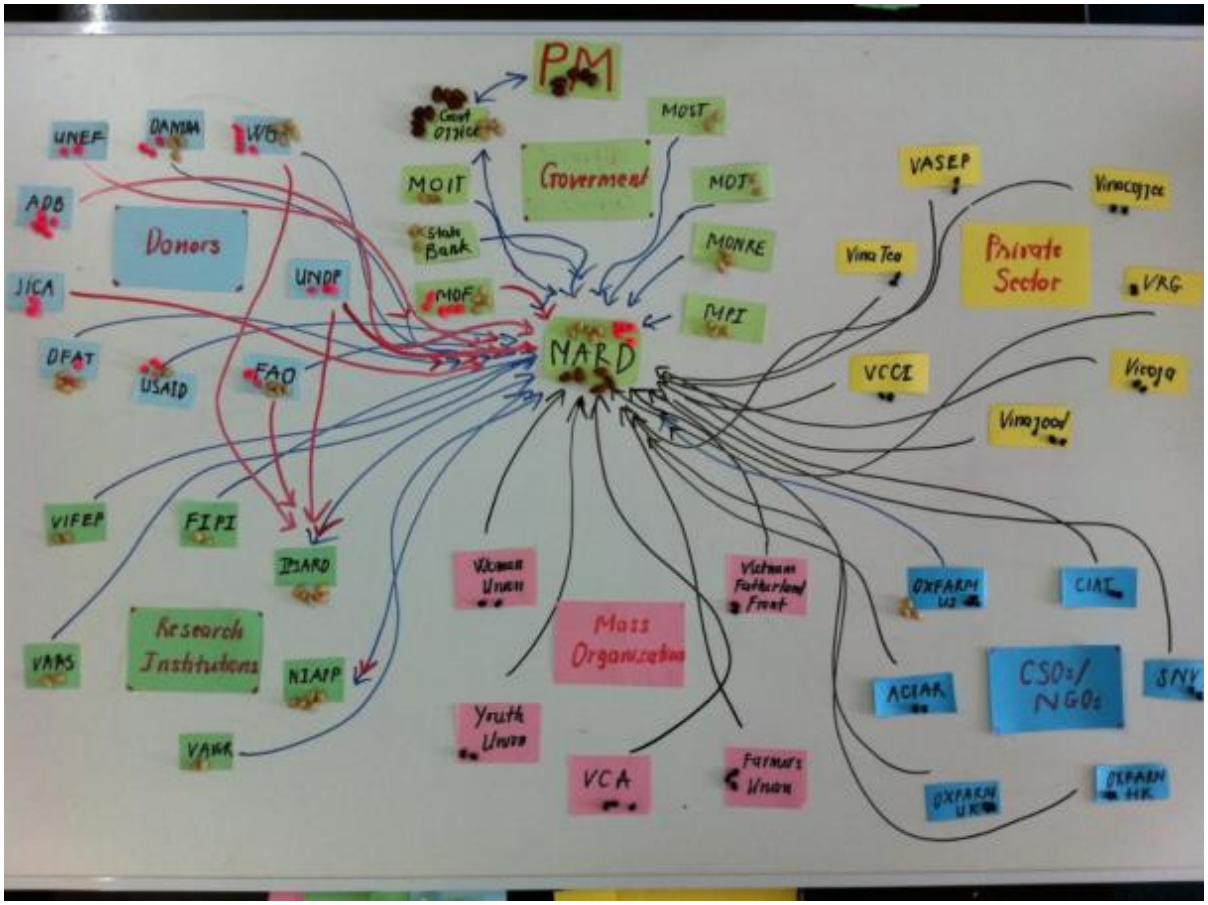
[60] Decision 124/Q Đ-TTg dated 2 Feb 2012 by Prime Minister on approval of Master plan on agricultural development until 2020 and towards 2030.

[61] Decision 899/QĐ-TTg dated 10 June 2013 by the Prime Ministeron Agricultural Restructuring Plan towards higher added value and sustainable development.

Under MARD, relevant bodies are designated to prepare the first draft of the policy. As for the MPAD, NIAPP ischosen to be the leading stakeholder to propose and prepare agricultural planning reports. These reports are considered as a scientific ground for the first draft of the policy on agricultural planning. Besides NIAPP, a number of institutionsjoin in the planning process, namely the Department of Crops Production (DCP), the Department of Livestock Production (DLP), IPSARD, VAAS, FIPI, VIFEP, IWARP, VinaCafe, Vinatea, VRG, VICOFA etc. To finalize the report, NIAPP host a series of conferences that aim to share the report and consult different stakeholders includingpolicy's beneficiaries such as enterprises, provinces, etc.

As for the ARP, IPSARD is a key technical assistance provider. Besides, IPSARD also received financial and technical support from international experts of FAO, WBand Oxfam America. The participationof international experts as well as international organizations, with profound understanding of international integration and agreements, and incorporation of CC into agriculture, has marked a positive progress in policy formulation in Vietnam. This will help Vietnam make better agricultural policies in the context of international economic integration.

FIGURE 10: NETMAP EXERCISE WITH STAKEHOLDERS IN AGRICULTURAL POLICY PROCESS



Source: Netmap workshop with key stakeholders in agricultural policies, 2015.

Note: the red lines denote flows of provision of finance; the blue lines denote flows of policy advice; the black lines denote flows of technical assistance. The power of a stakeholder is symbolized by a kind of seeds to which the more power stakeholders will be assigned more seeds: i) Peanuts signify the power of approval; ii) Pine seeds signify the power of coordination; iii) Red seeds signify the

funding power of a stakeholder; iv) black beans signify the role of policy advice; v) Soybeans denote the roles of policy drafting and technical assistance.

Coordination

MARD and the Government Office share the coordinative power in the whole policy formulation process. MARD is responsible for drawing policy draft, holding policy consultation and finalizing the policy draft before submitting policy draft to the PM. Under MARD, the Department of Planning is assigned to lead the whole policy formulation process in collaboration with other technical departments inside and outside MARD. Due to the importance of the two policies, the Minister of ARDoversees the whole process by chairing a number of the consultative meetings.

Regarding formulation of PM's Decisions, the Government Office just receives, verifies and submits for PM's approval. However, the Government Office plays an importantrole in the development of Decrees (such as coordinating related Ministries and lines to prepare a list of Decreesto be elaborated, convoking leaders of the concerning agencies to discuss about the policy draft, presenting policy papers at government's meetings…).

Approval

In a general policy formulation process, the most striking decisionsare made through three steps: i) approval of policy agenda bythe MOJ; ii) consensus within the Ministry that is assigned to draft policy and iii) final approval by the PM. The Government Office holds a certain power at the approval step.

MOJ exercises its approval power throughdrawing upannual policy-making agendas for Ministries. Accordingly, Ministriescan only make policies listed in the MOJ's approved policy agendas. Regarding PM's Decisions, MOJ participates as a member of the Drafting Group.

In the agricultural policy process, MARD hosts policy dialogues, takes on board advices from various partners and makes decisions. MARD is therefore the most influential player over the whole policy process.

Funding/fund raising

Together with Ministry of Finance (MOF), international organizations such as WB, ADB, USAID, DANIDA, UNDP, FAO, UNEP, etc. are the biggest donors for agricultural policy formulation as well as policy implementation. They support evidences-based policy formulation through research projects and backstop policy implementation through development projects.

Finance allocation

Although playing an insignificant role in drafting agricultural policies, MOF shows their utmost power in financial appraisal for policy formulation and policy implementation. Ministries who are assigned to formulate a policy have to send policy-making agenda to get endorsement from MOF on budget. The official feedback from MOF on the appropriateness of budget is an

indispensable document of theprofile to be sent to NA for final approval of policy-making agenda.

Policy advice

In the policy formulation, the leading agency has to consult the policy draft with many stakeholders from both government and non-government sectors. Unlike stakeholdersproviding technical assistance, these stakeholders only give their comments on the draft policy upon request from the Drafting Group. The consultationexercise can be repeated until the Drafting Group is satisfied. As for the MPAD, the participation of the Government Office, MPI, MONRE, MOF, MOJ, MOST is compulsory, of which MONRE shows its significant role in advising land use planning. Meanwhile, the ARP was built with proactive involvement of not only above-mentioned government agencies but also the State Bank of Vietnam (SBV) who give its insights about credit incentives.

The non-government groups include civil society (mass organizations, NGOs) and private sector. ***The social-political organizations*** such as FU, WU, Youth Union (YU) and VFF, representatives of different social groups, were all consulted during policy formulation process. Among these stakeholders, FU seems to have more interaction with the Drafting Group than the others do because it is the voice of farmers. However, the real contribution of these stakeholders is questionable. ***NGOs***are not get involved in formulation of MPAD but in the ARP through the International Support Group (ISG- established under MARD). As a forum, ISG supports policy dialogues and development, coordination and exchange of experiences and expertise in the ARD sector through facilitating partnerships between MARD and ARD stakeholders at different levels. Members of ISG are named as MPI, MOF, bilateral donors (Australia, Netherlands, Sweden, Switzerland, Denmark, Japan and Germany), multilateral donors (WB, ADB, UNDP, IFAD) and NGOs. Meanwhile, ***business sector***give a hand to the report on overall planning on agriculture 2020 and towards 2030 and the ARP including VCCI, VCA, Vitas, VRA, Vicofa, Vietnam Food Association (VFA), Vinafood 1 and Vinafood 2, Vinatea, Vinacafe, Vietnam Rubber Group (VRG), etc. The private sector's contribution exhibits the patterns of policy implementation and Public-Private Partnership (PPP) in ARD.

5.1.2 Stakeholders in CC policy formulation at national level

Vietnam has shown its active response to CC through issuing a number of policies. To shed the light on involvement of stakeholders in policy formulation, the NSCC and NTP-RCC are selected among the others.

Similar to agricultural policies, CC policies have been built based on a large contribution of different stakeholders from 6 sectors including government agencies, research institutions, social-political organizations, donors, NGOs and private sector (Table 7).

TABLE 7: KEY STAKEHOLDERS IN CC POLICY FORMULATION AT NATIONAL LEVEL

TT	Government agency	Research institution	Mass organization	Donor	NGO/international agency	Business sector
1	NCCC	IMHEN	FU	UNDP	CCNetwork	VNCHEM
2	Government office	ISPONRE	WU	WB	CARE	VNPETROL
3	MONRE	AEI	YU	FAO	IUCN	VNCOMINE
4	MPI	VAWR	VFF	GIZ	WWF	VNCEMEN
5	MOF	VUSTA		ADB	FFI	EVN
6	MARD			JICA		VCCI
7	MOJ					
8	MOST					
9	MOIT					
10	MOT					

Source: synthesis of key informant interview at national level, 2013-2015.

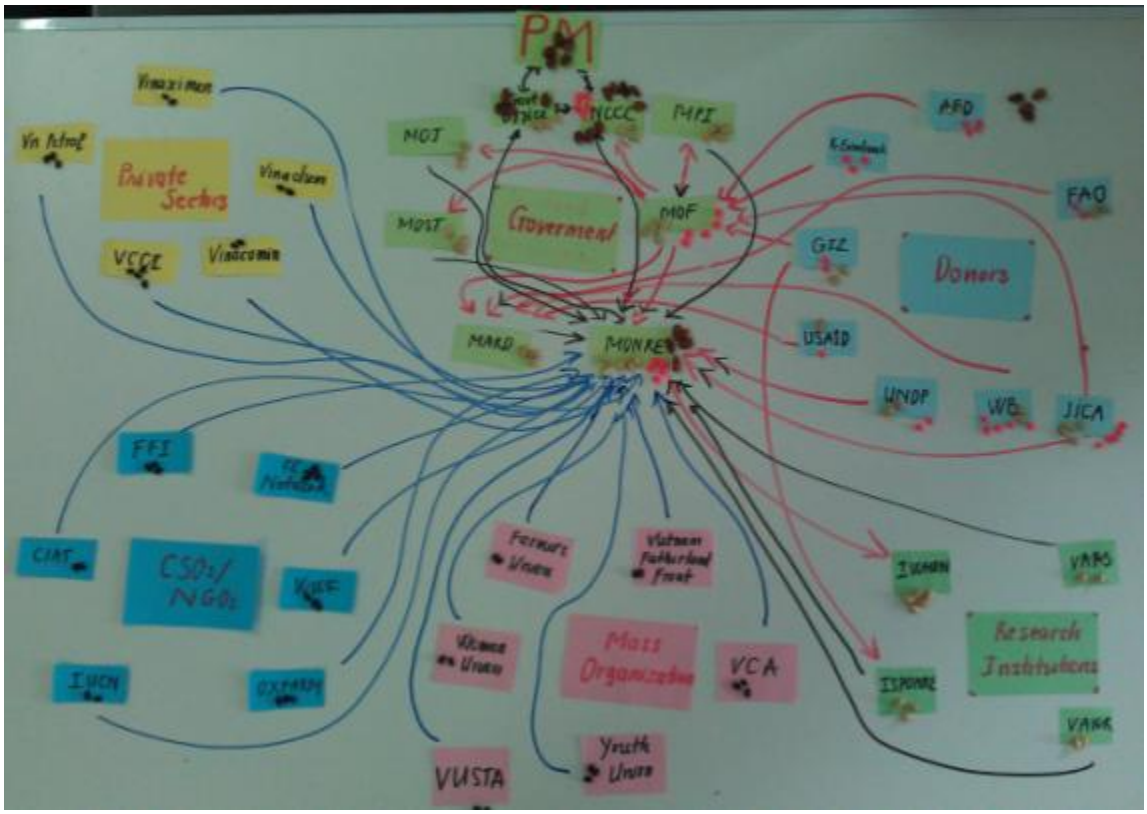
Evaluation of the roleplays of stakeholders

Policy drafting and technical assistance

It is undoubtable that MONRE is the most powerful stakeholder in general CC policy process. It plays and indispensable role not only in drafting policy but also in coordinating and allocating financial resource through NTP-RCC and SP-RCC. Under MONRE, the Department of Meteorology, Hydrology and CC (DMHCC) takes the overall coordination on behalf of MONRE. MPI and MOF also join in the drafting process but their contribution is less significant than MONRE's.

As for provision of technical assistance, the Institute of Meteorology, Hydrology and CC (IMHEN) and the Institute of Policy and Strategy on Natural Resources and Environment (ISPONRE) are the main force. These institutions gather leading national experts working in CC and environment fields. The Vietnam Academy for Water Resources (VAWR) and the Agricultural Environment Institute (AEI) under the VAAS also contributed in the process with less significance. Along with the national institutes, international organizations such as JICA, UNDP, AFD, FAO provide valuable technical assistance through initiating and funding research projects on CC.

FIGURE 11: NETMAP EXERCISE WITH STAKEHOLDERS IN CC POLICY PROCESS



Source: Netmap workshop with key stakeholders in CC policies, 2015.

Note: the red lines denote flows of provision of finance; the blue lines denote flows of policy advice; the black lines denote flows of technical assistance. The power of a stakeholder is symbolized by a kind of seeds to which the more power stakeholders will be assigned more seeds: i) Peanuts signify the power of approval; ii) Pine seeds signify the power of coordination; iii) Red seeds signify the funding power of a stakeholder; iv) black beans signify the role of policy advice; v) Soybeans denote the roles of policy drafting and technical assistance.

Coordination

The power of coordination is shared among some bodies, including the Government Office, MONRE and NCCC. In any policy formulation, the Government Office is always a powerful coordinator who transmits directive ideas of the PM, makes comment on drafting policy and finalizespolicy profile for the PM's approval. MONRE demonstrates its coordination power through gathering concerned departments andline agencies to draft policy and holding consultative workshops. Meanwhile, NCCC which is chaired by the PM and composed of leaders from different Ministries, is responsible for directing, coordinating and connecting different Ministries to address important, interdisciplinary issues related to the NSCC, the Green Growth Strategy (GGS), the National Energy Efficiency Program (VNEEP), REDD+ and other CC programs. Recently, NCCC has established the Vietnam Panel on Climate Change (VPCC), which gathers prestige scientists in the domain of CC, and assisted the formulation of CC policies in Vietnam.

Approval

In term of CC policies, MONRE has the utmost power in policy approval because of its leading

role in drafting policy. Along with MONRE, NCCC wields its power through giving advice to the PM about policy documents before they are ratified by the Government and the PM.

Funding/fund raising

Along with provision of technical assistance, some international organizations such as JICA, UNDP, WB, GIZ, AFD, K-Eximbank etc. have contributed great funds for formulation and implementation of policy CC.

Finance allocation

The power of finance appraisal belongs to MOF. For example, in the implementation of NSCC, MOF, together with MONRE and MPI, is responsible for reviewing the financial demand. In the National Action Plan on CC 2012 – 2020, one of the MOF's assignments is to set up an operational mechanism tailored with international financial mechanism to ensure effective and transparent management of investments in CC.

Policy advice

Mass organizations, NGOs and business sector have made great contribution to CC policy formulation. CCnetwork (as NGOs), VCCI (business sector) and FU, Union of Science and Technology Vietnam (VUSTA) are key advisors.

Box 1: The roles of MARD in CC policy formulation

MARD is an important player in building CC adaptation and mitigation strategy. However, the participation in the policy formulation for NTP-RCC and NSCC was inconsiderable and ineffective. MARD sent 1-2 persons (one is leader, one is official of DOSTE under MARD) who are not CC experts to join in the drafting group. The consultancy for the draft policy was done in formality way because of short time availability for giving comment. OCCA under MARD had not enough time to organize a meeting with participation of leading experts, corresponding departments to give advice for the draft policy. For this reason, many policy contents are not strictly relevant to situation of sub-sectors of agriculture (crops, livestock, fishery etc.).

Key informant interview with Hoang Anh-OCCA, 2015.

The analysis of stakeholders in agricultural and CC policy formulation process shows some outstanding points:

- There are many stakeholders participating in both policy formulation processes. However, in general, MARD and MONRE are the most important players in their own fields. They are the leading agencies in policy formulation process with substantial power in drafting policy, coordinating policy actions and in some cases allocating financial resource for policy implementation. MARD and MONRE can be seen as the "focal point" in the policy formulation processes.
- The quality of agricultural and CC policies greatly correlates with technical assistance from national institutes and consultants from international organizations. Availability of funds for research projects also affects evidence-based policy-making process.

- Recently, private sector (including enterprises, VCCI) has contributed substantially in policy discussion and policy dialogue. This is a positive signal for policy formulationbecause private sector is the actor who is the most affected by policies in view of its important role in economic development and its considerable impact on CC.
- International organizations securea position of influence in policyformulation process. They act not only as donor in policy processes but also as the kick-starters of policy debates, development initiatives and outstanding technical assistants.

5.2 Stakeholders in agricultural and CC policy formulation at provincial level

The discussions with provincial stakeholders in Yen Bai, Dien Bien and Son La have shown less complicated policy formulation process in comparison with national level. Only two sectors involved in the policy formulationare provincial government agencies and mass organizations. There seems to be minor participation of other sectors in policy formulation such as national institutes, consultants (except for NOFMASI's participation in rubber development policy in Dien Bien), donors, NGOs and private sector.

TABLE 8: KEY STAKEHOLDERS IN AGRICULTURAL POLICY FORMULATION AT PROVINCIAL LEVEL

#	Government agency	Mass organization	Research institution
1	PPC Office	FU	NOFMASI[62]
2	PSC NRD	WU	
3	PSC FSPC	Vietnam Fatherland Front	
4	DARD	YU	
5	DPI	VCA	
6	DOF	Veteran Union	
7	DONRE		
8	DOJ		
9	PCEMA		
10	DOLISA		
11	DOST		
12	DPC		

Source: Synthesis of key informant interview in Son La, Yen Bai, Dien Bien, 2013-2015.

[62]NOFMASI participated in formulating policy for rubber development (Decision 16/2011/QĐ-UBND dated 30 May 2011 on supporting policy for rubber development in Dien Bien until 2020).

TABLE 9: KEY STAKEHOLDERS IN CC POLICY FORMULATION AT PROVINCIAL LEVEL

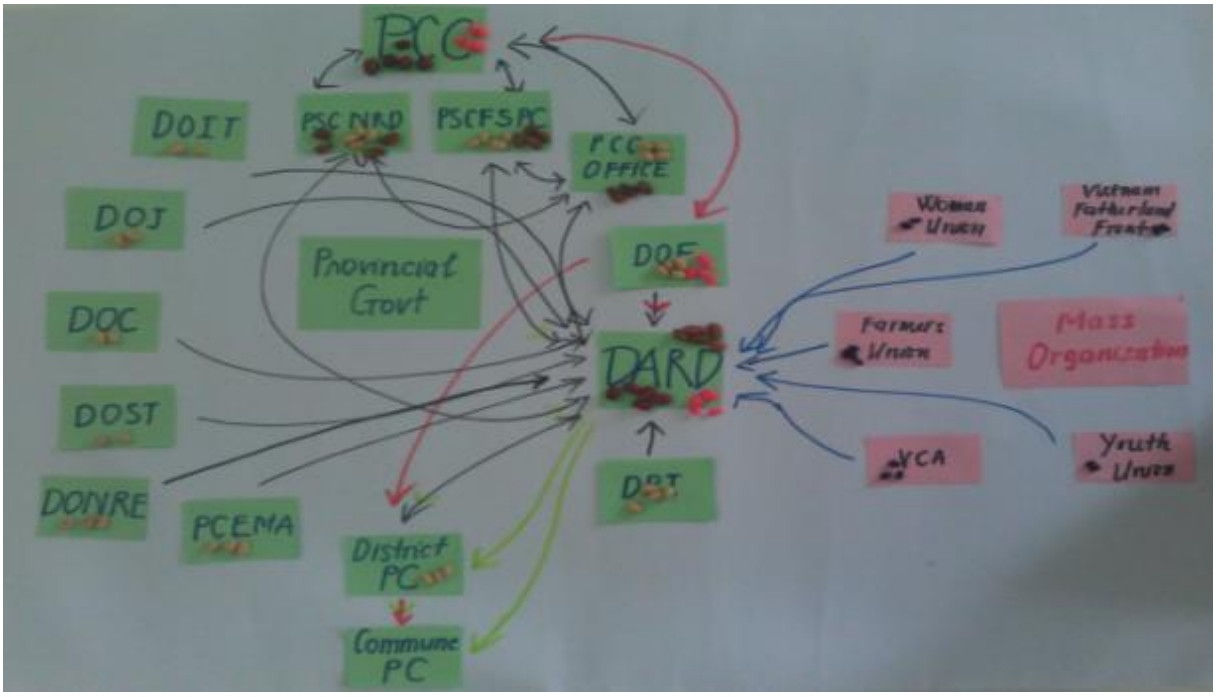
#	Government agency	Mass organization
1	Provincial Steering Committee on CC (PSCCC)	FU
2	PPC Office	WU
3	**DONRE**	Vietnam Fatherland Front
4	DPI	YU
5	DOF	VCA
6	DARD	
7	DOJ	
8	PCEMA	
9	DOLISA	
10	DOST	
11	DOET (Department of Education and Training)	
12	DIC (Department of Information and Communication)	

Source: synthesis of key informant interview in Son La, Yen Bai, Dien Bien, 2013-2015.

Evaluation of the role-plays of stakeholders

As for agricultural policies at provincial level, DARD is the "focal point" responsible for drafting policy as well as coordinating policy formulation and implementation. The other two institutions: Provincial Steering Committee for New Rural Development (PSC NRD) and Provincial Steering Committee for Flood and Storm Prevention and Control (PSC FSPC) which are led by Province Chairman and leaders of DARD, also join in as coordinators.

FIGURE 12: NETMAP EXERCISE WITH PROVINCIAL STAKEHOLDERS IN AGRICULTURAL POLICY FORMULATION

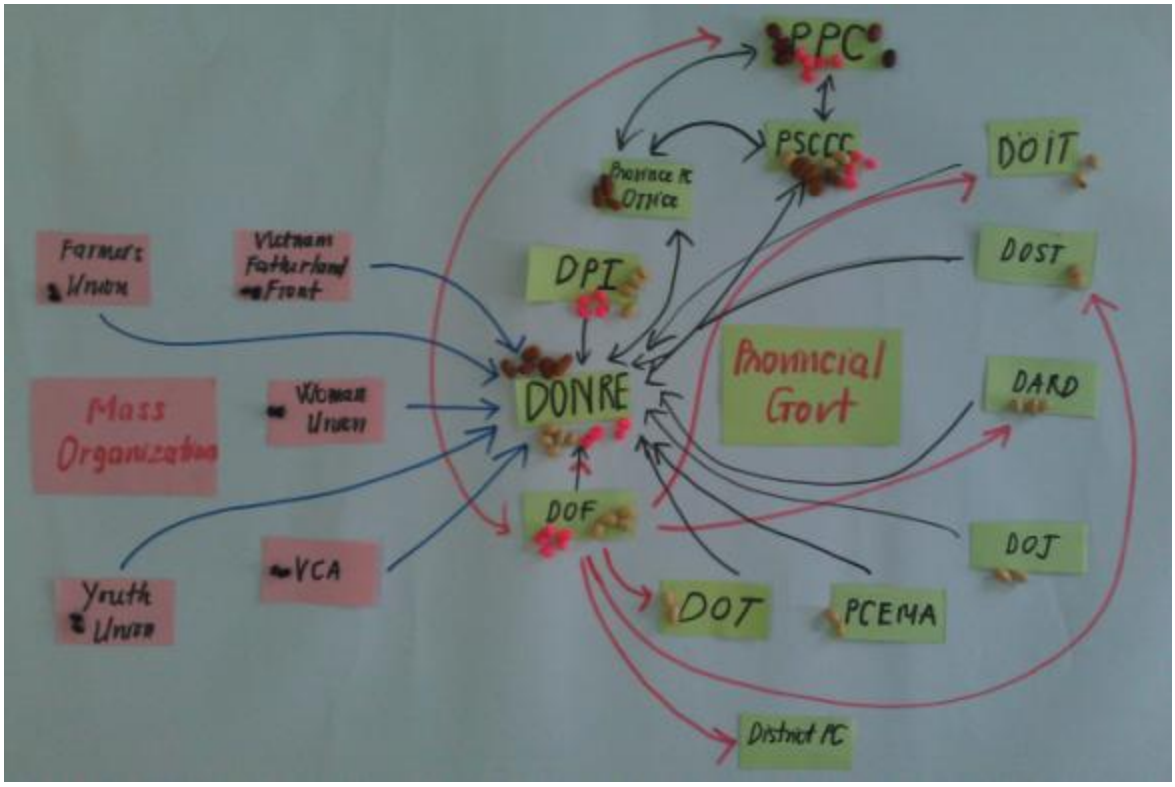


Source: Synthesis of Netmap exercises with provincial stakeholders in Son La, Dien Bien and Yen Bai

Note: the red lines denote flows of provision of finance; the blue lines denote flows of policy advice; the black lines denote flows of technical assistance. The power of a stakeholder is symbolized by a kind of seeds to which the more power stakeholders will be assigned more seeds: i) Peanuts signify the power of approval; ii) Pine seeds signify the power of coordination; iii) Red seeds signify the funding power of a stakeholder; iv) black beans signify the role of policy advice; v) Soybeans denote the roles of policy drafting and technical assistance.

As for CC policy formulation, four important stakeholders including Provincial Steering Committee for CC (PSCCC), Department of Natural resources and Environment (DONRE), Department of Planning and Investment (DPI) and Department of Finance (DOF) are involved. The leaders of these Departments are Deputy Chiefs of the Committee. Similar to DARD in agricultural policies, DONRE is the most important stakeholder in CC policy formulation because of its critical power of policy approval and coordination and financial allocation.

FIGURE 13: NETMAP EXERCISE WITH PROVINCIAL STAKEHOLDERS IN CC POLICY FORMULATION



Source: Synthesis of Netmap exercises with provincial stakeholders in Son La, Dien Bien and Yen Bai

Note: the red lines denote flows of provision of finance; the blue lines denote flows of policy advice; the black lines denote flows of technical assistance. The power of a stakeholder is symbolized by a kind of seeds to which the more power stakeholders will be assigned more seeds: i) Peanuts signify the power of approval; ii) Pine seeds signify the power of coordination; iii) Red seeds signify the funding power of a stakeholder; iv) black beans signify the role of policy advice; v) Soybeans denote the roles of policy drafting and technical assistance.

DPI and DOF seizeultimate power respectively in planning and financial allocation. Policy options and actions depend on financial availability which is in the hand of DPI and MOF. Only upon requests from the Drafting Group, other provincial government departments join as policy advisors and exercise their limited power of policy approval and technical assistance.

The primary role of the PPC Office is coordinating policy process and taking on board policy suggestions. The mass organizations participated in policy formulation through providing comments to the policy draft. Among mass organizations, FU shows the most significant role in giving feedback to agricultural policies. District People's Committees (DPCs) not only give advices on the draft of agricultural and CC policies but also implement policies and guide the policy implementation at the communal level.

The analysis of stakeholders in policy formulation at provincial level has shown some noteworthy points as follows:

- DARD, the department managing many CC response activities, has moderate power in the PSCCC. This is a weakness in the institutional organization at provincial level, affecting decision-making process and integration of CC into ARD

- PSC, a form of institutional organization with involvement of different government departments, can facilitate the capture of policy quickly and systematically. However, the members of PSC are part-time officers who hold several positions with limited time and dedication. This may lead toinefficient operation of the PSC.
- Political determination of the provincial leadership is an essential factor in CC policy formulation. Without this determination, economic development and poverty reduction are usually given preference over response to CC, especially in poor mountainous provinces.
- Professional qualifications and limited awareness of provincial officials on CC is a factor that affects the quality of CC policies at provincial level.
- The participation of households and private sector in the policy formulation is negligible.

chapter 6

IMPLEMENTATION OF AGRICULTURAL AND CLIMATE CHANGE POLICIES AT NATIONAL AND PROVINCIAL LEVELS

6.1 Implementation of agricultural and CC policies at national level

6.1.1 Development of legal framework for agriculture and CC

According to MARD's statistics (2015), in the two years of implementation of the ARP, MARD has approved five national planning schemes and 17 regional planning schemes serving agricultural restructuring and coping with CC. In particular, the MPAD and master plan on development of fisheries, rice, rubber, coffee, pepper, cashew, sugarcane, vegetables and corn production have been developed. At the regional level, MARD has developed a Planning on ARD in the Red River Delta, North-South Central, Southeast and Mekong Delta in the context of CC; and planning on forest protection and development in some areas. Along with the crop development strategy, MARD has reviewed structures of major crops and designed a market-oriented crop restructuring plan based on local advantages.

Promulgation of policies and legislation on CC response has preliminarily met development needs of the country and affirmed Vietnam's determination in coping with CC and sea level rise. Policies and legislation on CC have been synchronously implemented, creating a legal framework for CC response. There have been so far the resolutions of the Party, the laws of the NA, the NTPs of the PM, national strategies and action programs of the Government, ministries and localities to cope with CC, to reduce GHG emissions and to integrate CC into national, sectorial, and local development strategies and plans(NASC, 2014).

According to statistics of the Ofice of NCCC (ONCCC), by the end of 2014, the Government and ministries[63] have issued over 300 documents, which are related directly or indirectly to CC with 19 Government papers and over 200 documents of ministries concerned. In recent years, ministries have also carried out more than 214 action programs aiming at improved institution and policy packageas well as CC-response works. These documents mainly focus on updating CC and sea level rise scenarios; assessing impacts of CC and sea level rise in some key areas;encouraging research and development; adopting technology in coping with CC and sea level rise; building policy matrix; reducing GHG emissions through dealing with deforestation and forest degradation, sustainable management of forest resources, conservation and enhancement of forest carbon stocks; promoting efficient and economical use of energy, etc.

However, current legal framework of agricultural and CC policieshas some drawbacks and limitations: lack of concrete policies and legislation on CC;absence of operational mechanism suitable to Vietnam's conditions; unbalanced policies which focus more on disaster prevention and mitigation than CC response and GHG emission reduction; scattered mechanisms on GHG emission reduction; absence of orientations on GHG emission

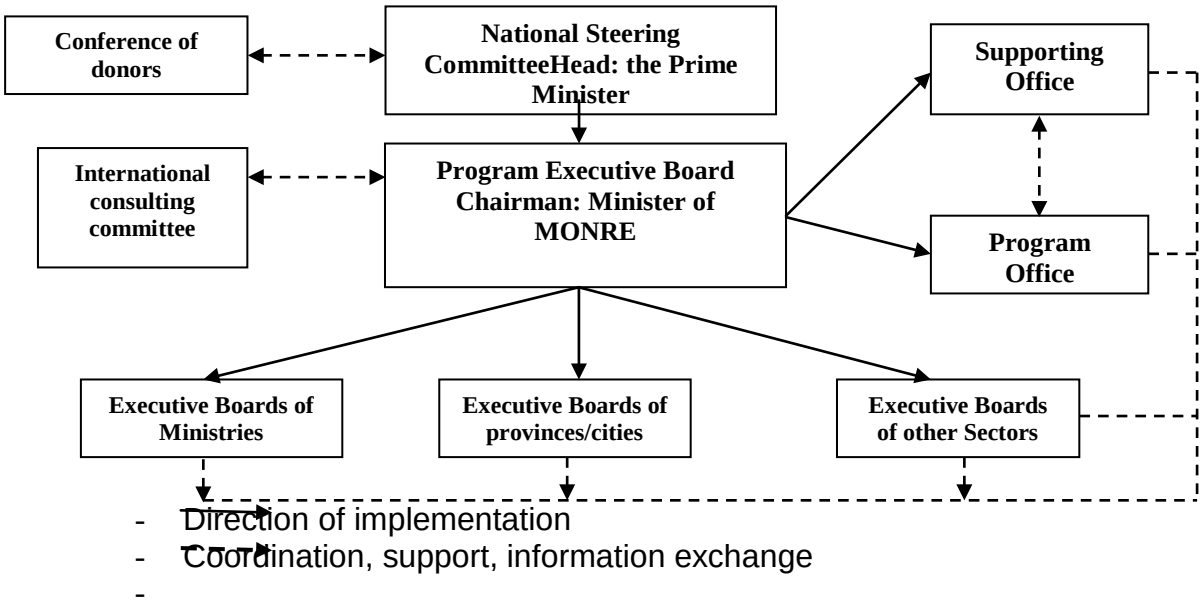
[63] MARD has issued 24 legal documents, including 9 circulars, 1 joint circular, 13 decisions and 1 directiveon implementation on plans for CC response. These documents mainly focus on CC response and GHG emission reduction in the agriculture sector.

reduction in some potential sectors in Vietnam; vague links between CC adaptation and mitigation; lack of long-term vision stated in policy papers; overlapping, scopes of policies (NASC, 2014).

6.1.2 Institutional organization in policy implementation

At the nationallevel, there is the NCCC chaired by the PM. MONRE, the standing body of the National Steering Committee for CC, assists the Chairman in developing working plans of the Committee, supervises the task accomplishment of ministries, sectors and localities; synthesizes and reports on CC response activities; and performs a number of tasks assigned by the Chairman. Other concerning ministries such as MARD, MOC, MOT, MOH and MOIT all have their own leading units for CC.

FIGURE 14: STRUCTURE AND ORGANIZATION OF THE NTP-RCC



Source: Report on capacity assessment of UNDP, 2010

The PM has established an inter-sectorial Steering Committee on Agricultural Restructuring[64] (MARD leads the Steering Committee). This Committee assists thePMin giving direction on ARP.

So far,61 out of 63 provinces and cities have promulgated Action Plan on CC response; identified specified tasks and projectsuntil 2015 and for the period from 2016 to 2020. After approval, these provinces have established Steering Committees for CC[65]. There are also focal points and officials in charge of CCunder departments of the provinces. In district level, due to limited human resources, divisions of natural resource and environment assign part-time staffs to monitor CC activities (NTP-RCC Office, 2014)

Since the promulgation of the nationalARP, there have been 36 out of 63 provinces and cities have passed their own ARPs and built a list of prioritized projects (MARD, 2015).

[64]Decision No. 508/QD-TTg dated 17 April 2015.
[65]Steering Committee is led by the chairman or vice chairman of the provincial committee, and standing vice head is director of DONRE and leaders of departments, other departments are members. Office of the Steering Committee to respond to CCbased in DONRE to promptly advise and assist the steering committee

Despite the fact that disaster prevention and CC response are closely linked to many sectors and localities, there has not been any regulation on joint actions when natural disasters occur; nor specific policies to encourage socialization in CC response yet.

6.1.3 Implementation of CC policies

To implement the NSCC, the National Steering Committee for CC has demandedgreater coordinationamong ministries, sectors and provinces in forecast; development of scenarios; construction of operational mechanisms for resources mobilization; initially raising social awareness about the consequences of CC; updating the international CC scenarios; and development of regional plan in the Mekong delta[66] to cope with CC and reduce GHG emissions.

NTP- RCC has identified trends and evolution of some climatic factors; developed, updated and published scenarios of CC and sea level rise; built socio-economic development plans; assessed CC impacts by sector and by region; proposed appropriate measures and enacted action plan in response to CC by ministry and by locality; raised awareness about CC at the national level and in some pilot provinces of the program.

The Supporting Program to respond to CC(SP-RCC) has developed more than 214 policy actions between 2010-2014; established a forum on CC policy dialogue between ministries, donors, NGOs and business community; strengthened coordination mechanism between national and local authorities, and between government agencies and donors; raised about USD1 billion from donors[67]; appraised and submitted "*List of 61 priority projects on CC*" focusing on three groups of issues[68] to thePMfor approval. In 2013, the Government allocated funds for the initial implementation of 16 prioritized projects in 16 upland and coastal provinces.

The Science and Technology to respond to CC: MARD has reviewed the Science and Technology to respond to CCProgram which serves for the NTP-RCC 2012-2015in order to identify potential technology which is environmentally friendly and able to reduce GHG emissions in Vietnam; reviewed activities of international cooperation in science and technology for CC to determine applicable results. The revision shows that 51 scientific researches and projects have been carried out nationwide.

Under *the National Science and Technology for CC,* in 3 years (2011-2013), nearly 55 scientific projects were approved, of which a variety of topics related to solutions of CC response in agricultural sector, including research on rice variety, and aquatic species of tolerance to high salinity; research and development of early warning toolkit of food insecurity, etc. MONRE has guided, synthesized, and supervised the implementation of scientific research and technology transfer on CC (ONCCC, 2014).

[66]supported by the Netherlands

[67] Donors: JICA, AFD, WB, Canada, Australia, Korean

[68]Three groups of issues: (1) Construction, upgrading and reinforcement of dykes, embankments to cope with floods, tides, salinization, and landslides; (2) Construction, enhancement, reinforcement of reservoirs in areas with high risk of drought; and supply systems of drinking and production water in areas with high risk of salinization; (3) Reforestation, restoration and protection of protective forests to keep water, prevent erosion and runoff, improve forest coverage, reduce damage from natural disasters (such as floods, flash flood , landslides), protect downstream areas, regulate climate, maintain and develop the livelihoods of communities, improve of ecological environment etc.

To implementing the *Program of GHG emissions reduction* through reducing deforestation and forest degradation, sustainably managing forests and conserving and improving carbon reserves from forests, MARD has collaborated with UN experts to develop and implement the Program "*Reducing emissions from deforestation and forest degradation in Vietnam*" (REDD+) funded by the Norwegian Government through UN agencies. Currently, MARD is implementing UN-REDD Program Phase 2 (from 2012 to 12/2015) with financial support from the Norwegian Government. The project has been piloted in six provinces of Lao Cai, Bac Kan, Ha Tinh, Binh Thuan, Lam Dong and Ca Mau. However, due to many obstacles in the disbursement mechanisms and procedures, the UN-REDD project phase 2 has been extended until 2018.

6.1.4 Financial resources for CC response

At national level: the planned budget for the NTP-RCC is 1,771 billion VND[69]. Since commencement of the program until 2014, the Program has been allocated 950 billion VND, accounting for 54% of the total planned funding[70]. ThePMhas approved 61 priority projects under SP-RCC[71] with estimatedbudget of 17,893 billion VND; of which, 11 projects have been implemented. The policy matrix frame[72] of 2013 (approved by the PM), including 25 policy actions to fulfilleight goals;and the policy matrix framework[73] of 2014 encompassing 29 policy actions, has been implemented.

TABLE 10: CONTRIBUTIONS FROM MAJOR DONORS FOR SP-RCC (2009-2014)

No	Donors	Contribution (million USD)
1	JICA	473.00
2	WB	210.00
3	AFD	112.00
4	K-Eximbank	60.00
5	DFAT (non-fundable)	13.40
6	CIDA (non-fundable)	4.25
	Total	**872.65**

Source: SP-RCC, 2014.

The MAPCC[74] has been developed with a huge expected budget of 72,402 billion VND (about 3.45 billion dollars) for 2011-2015 (of which 402 billion VND for tasks and 72,000

[69]Central state budget: 770 billion VND; Local budget and others: 153 billion VND, foreign aids: 848 billion VND.
[70] 2011: 170.8 billion VND; 2012: 320.8 billionVND; 2013: 248.3 billion VND; 2014: 217 billion VND.
[71]Decision 1443/TTg-QHQT dated 19 September 2012 of the Prime Minister.
[72]Decision 1628/QĐ-TTg dated 19 September 2013 of the Prime Minister.
[73]Decision 44/QĐ-TTg dated 8 January 2014 of the Prime Minister.
[74]Decision 543/QĐ-BNN-KHCN dated 23 March 2011 of the Minister of MARDpromulgating Action Plan on Response to CC in agriculture and rural development period 2011-2015 and vision to 2050.

billion VND for projects). However, data from WB[75](2015) reveals thatout of 54 tasks with the funding of 402 billion in the period 2011-2015, only 21 tasks will have been fulfilled by 2015 with the funding of 47 billion VND (OCCA, 2015).

The VND 1,700 billion ADB loan for the Low Carbon Agriculture (LCA) project incepted by MARD is not mentioned in the MAPCC. It is not evident to put this investmentin the 72,000 billion project package. The USD CC Development Policy (USD 70 million) is another important project to address CC issues by adopting policies and strengthening institutional capacity to promote climate resilience and lower carbon intensity development. 10% of the project budget (equivalent to USD 7 million) is reserved for ARD sector.

However, like the process of target and objective setting as well as beneficiaries targeting described above, budget allocation in policies and strategies for agriculture and CC in many case is planned arbitrarily by the drafting group. The group, in consultation with MOF, will use the policy targets, objectives and scope defined in the policies or strategies to estimate the budget needed. Normally the budget will include two parts: the national fund and local contribution or the resources mobilized by provinces from the private sector, the community and the foreign support. This way of budgeting has caused difficulties for local authorities, especially the mountainous provinces since they cannot find resources to leverage. This also causes delays and failure to achieve policies objectives. One example is, according to the MAPCC, the total budget needed for implementing prioritized projects in the period from 2013-2015 is 3,000 billion VND of which 40% come from the local government. However, these projects have only existed on paper since the provinces had no money to contribute for their share (matching money), which is a prerequisite condition for action framework to be implemented.

In 2012, the Government approved 61 projects under the SP-RCC for 61 provinces with total budget of 17,893 billion VND in which central budget is 14,326 billion VND (including State budget and international sources) and local budget is 3,567 billion VND. In this budget planning, each province has one project and the amount for each project depends on the level of CC impact[76] and the objective to be achieved. This way of financial planning shows a tendency towards equal budget allocation following the “each province one project” thought without considering high priority ecological areas/provinces. It is apparent that the Northern mountainous provinces are likely to have a higher CC impact, given its lack of capacity to respond to CC, than those in the Southeastern provinces are. The most crucial project of each province in the Southeastern region can be not as crucial as the second crucial project in the Northern provinces. Therefore, this way of budget allocation is inappropriate.

It can be seen that while the State budget allocation dedicated to CC projects may be small, budget allocation for projects/programs which are inclusive aspects of CC, such as disaster prevention and mitigation, is very large. Moreover, budget for CC activities is mainly related

[75]Within the total expenditure for CC response for the period 2010-2013 (capital and recurrent expenditure) of ministries, the MARD’s expenditure is dominant (79%), and the funds allocated to MARD in 2013 was approximately 3000 billion VND. Majority of the fund (88%) was allocated to infrastructure projects aimed at strengthening their tolerance, funding to mitigation wasincreasing at low rate of 3.9%(WB, 2015).

[76]The national CC impact assessment is conducted by MONRE. This impact scenario is used for policy formulation including budget. However, at each province, this national assessment is not detailed enough for the provincial government to use for local planning.

to public irrigation, infrastructure and natural disaster reduction, rather than to research and development of plant/crop varieties, animal breeding, policy research and farming system. Ideas at the consulted workshop contend that investment in rural infrastructure and irrigation is also investment in response to CC. At this point, it is difficult to explicitly define how much have been invested to cope with CC. Sometimes the budget for natural disaster reduction and mitigation, for instance, was planned and allocated before CC became a national policy issue of importance. Therefore, it is also difficult to track and find out how much in total has been invested in CC. Finally, the budget approval is sometimes indicative, as the real budget to implement depends on each province's capacity to mobilize a portion of the funds. Government funding for projects at the national level all come from international donors and state budget.

6.1.5 Dissemination of policies, legislation and CC awareness-raising

Raising awareness on CC for managers of all levels and communities has been identified as the most important task to perform CC response effectively and actively. Ministries, branches and localities have actively developed and carried out wide ranges of communication activities with diversified contents referring to various sectors. MONRE has actively collaborated with Vietnam Television, Voice of Vietnam and other mass media agencies to increase the length and contents of broadcasting programs on CC[77]. Besides, the Ministry of Education and Training has developed and integrated programs, textbooks and materials on CC and CC response into official curriculums from preschool to college. However, community awareness CC remain limited and one-sided, only concerning about the negative impact about CC, not about changing lifestyles, production patterns and consumption towards low-carbon and green growth (NASC, 2014).

6.1.6 International cooperation for CC response

Vietnam had good preparation and results in international negotiation on CC at the 19th Conference of the UN Framework Convention on CC (COP 19). The COP19, considered as the Conference of finance, has had some progress but very limited results. Commitment of cutting GHG emissions, financial contributions and technology transfer in some developed countries in the period 2013-2020 and after 2020 remained low, non-transparent and inconsistent (ONCCC, 2014). Participation of Vietnam in many bilateral and multilateral meetings has demonstrated the efforts and calls for international support in coping with CC.Vietnam has also attended in workshops on general credit mechanism (JCM) and workshops on getting ready for the construction and implementation of NAMAs, workshop on climate action towards low carbon economies (NASC, 2014).

To implement the ASEAN's Action Plan on CC which aims at releasing the ASEAN leaders' joint statement, proposed by the Vietnamese PM in 2010 (when Vietnam chairs ASEAN), Head of Vietnam Delegation requested to strengthen ASEAN solidarity in negotiations on CC. Before the conference, Vietnam, with support from UNDP and the United Kingdom, hadprovided delegation with updated information. In early March 2014, Vietnam with support from UNEP, organized a meeting for the ASEAN delegates to agree on COP19 result which is a foundation forformulatingaction plans in each country.

[77]Organize training courses for communicators, issue handbooks, leaflets, books and scenarios for dissemination of CC; organize workshops, talks, competitions, cultural stage on CC, open forum on CCat newspapers, radio; broadcast documentary to spread information widely across province.

Apart from the main partners officially involved in SP-RCC program (Japan, France, the World Bank, South Korea, Australia), Vietnam has established close cooperation with the United Kingdom, the Kingdom of Denmark, the Netherlands, Canada, Norway, Finland, the Asian Development Bank, United Nations Development Program, United Nations Environment Program and other partners to support Vietnam to cope withCC.

In 2013, MONRE has signed a cooperation agreement with Japan on the implementation of the joint credit mechanism (JCM), which was proposed by Japan to replace CDM mechanism of the Kyoto Protocol (Japan no longer participates in the Kyoto Protocol). There have been 10 countries signing cooperation agreement on JCM with Japan. The number of participating countries is expected to increase since Japan has lobbied to get JCM recognized as a mechanism in the framework of the UN Framework Convention on CC (ONCCC, 2014).

6.2 Implementation of agricultural and CC policies in surveyed provinces

6.2.1 Development of legal framework for agriculture and CC

Legal framework for agricultural policies: To date, only Dien Bien approved the ARP under PPC Decision No. 212/QD-UBND dated 25 March 2015, aiming at promoting agricultural and rural economicrestructuring through investment priorities on plant and animal species of high economic efficiency; development of long-day industrial crops such as coffee, rubber, tea; livestock; forestation, and forest products processing. The shift focuses on developing livestock and poultry production (agriculture); growing raw material associated with processing facilities (forestry), improving aquaculture value, and producing economically valuable products (fisheries); raising incomes and improving living standards for rural people;restructuring labor; reducing poverty rates in rural areas; managing effectively natural resources; reducing GHG emissions and negative impacts on the environment. Yen Bai and Son La have already drafted and submitted Action Plans on agricultural restructuring to the competent authority for approval. In general, development of action plans in the three provinces is slower than expected (planned to be passed by the end of 2014).

Legal Framework for CC policies: three provinces have developed strategic action programs on disaster prevention and reduction until 2020 and plans to implement NTP-RCC until 2015; have issued action plans to respond to CC until 2020, and vision to 2025; plans to implement Project on raising community awareness and community-based disaster management; plans on natural disasters prevention and mitigation from 2010 to 2015, and vision to 2020. There is a great delay in the process of CC policy development at the provincial level. For example, it took Dien Bien nearly 4 years to promulgate an action plan to respond to CC, and the fastest province spent two years. This delay is a result of limited human capacity (provinces have no personnel specializing or being trained on CC), and lack of technical support from outside (due to lack of financial resources). Another reason is that policy formulationprocess at provincial level has to wait the meeting of Provincial People's Council that is normally held twice a year. In the case of available budget, it still takes at least 6 months for a policy to be ratified.

6.2.2 Organizational structure for agricultural and CC policy implementation

There has been no Steering Committee for the ARP at provincial level.Implement the restructuring plan are directed by PPCs through DARD. However, the provinces have Steering Committee for the NTP-NRD.

Dien Bien and Yen Bai have established Steering Committees and Assisting Groups for the Steering Committees to realize NTP-RCC. Although Son La does not have steering committee, DONRE has been assigned to be the standing body to lead the implementation of NTP-RCC[78]. Despite having organized in Steering Committee, there are still limitations in directing and implementing NTPs and the NSCC at provincial level, such as overlap or unclear functions and duties between departments, no specific guidelines on organization and personnel to perform NTPs.District level has not been proactive in implementing plans on CC response. There is no mechanism guiding the coordination between provincial departments. DONRE,leading development ofaction plan, is lacking feedback, collaboration, exchange of information and data with other provincial departments. The assisting group of the Steering Committee is improper as it includes 04 members all from DONRE (1 leader, 3 staffs from different divisions of DONRE)without representatives of other departments (e.g. DARD). This maylead to the incomprehensive proposals and poor integration of other departments into joint action plans.

Although natural disasters prevention and CC response involving various departments and divisions under DARD, there has not a focal point at DARD working on CC response in the agricultural sector. There is no specific guideline on mainstreaming CC response (measures, contents) into agricultural development, even though PPC has given direction under the action plan on responding to CC. Therefore, the integration of CC into the specialized fields of DARD's division remains limited.

6.2.3 Financial resources for CC response at the provincial level

To implement NTPs and the NSCC, provinces have developed action plans, priority programs and projects (Table 11). Dien Bien has developed 27 priority programs, projects in the period 2011-2020 with total budget of 798.8 billion VND, Yen Bai with 22 priority projects totaling to 1361.8 billion VND, and Son La with 33 priority projects amounting to 3325.48 billion VND.

TABLE 11: PRIORITY PROGRAMS AND PROJECTS FOR CC RESPONSE IN 3 PROVINCES

Province	Period	Number of priority programs, projects	Total funding (billion VND)
Dien Bien	2011-2020	27	798.8
Son La	2012-2015	33	3,325.48
Yen Bai	2011-2015	22	1,361.8

Source: Synthesis from action plans to respond to CC of three provinces, 2013

These programs and projects focus on building capacity, raising awareness among governments, communities and people on CC; developing plans to implement activities to cope with CC of departments, agencies and organizations; developing supporting policies, and implementing subsector CC response plans (agriculture, natural resources and environment, healthcare); supporting the planting, rehabilitation and protection of forests, especially of watershed natural forests; supporting the restructuring of crops and livestock in the context of CC; developing supporting policies for vulnerable groups (ethnic minorities) in

[78]PPC's Decision 830/QĐ-UBND dated 7 April 2010 on assigning tasks to implement NTP-RCC.

Son La and Yen Bai; building capacity in forecast and flood prevention; developing, updating databases related to CC; developing plans to respond to CC in biodiversity protection; dredging of streams; repairing and upgrading reservoirs, etc.

Despite huge proposed budgets, the actual funding for the implementation of these programs and projects in the three provincesis far smaller. Lack of budgets (central budget, local counterpart resources and other funding sources) has postponed implementation of many programs and projects. As guided, to implement programs and projects in theNTP-RCC, each province has to contribute counterpart capital which is 40% of the total amount. However, the three provinces rely mainly on the central budget (for instance, in 2015, 89.2% of Dien Bien's provincial budget is from the central budget, 78.5% for Yen Bai and 69.7% for Son La). The provincial budgets allocated to NTPs are limited (Dien Bien: 6.1%, Yen Bai: 5.1% and Son La: 5.3% of provincial budget). This is a great financial obstacle for CC response in these provinces. Besides, legal guidelines and economic-technical norms for implementation of programs on CC are insufficient or unsynchronized. Legal documents at national level usually focus on overall orientation rather than specific guidance.

In three provinces, there is no separate budget line for CC activities.DPIs and DOFs have no action plans and funds from the provincial budget. Funds are mainlyfrom the programs and projects of the central government, international projects, or from the NTP-RCC.

6.2.4 Contradictions, inconsistencies and gaps between agricultural and CC policies in the three provinces

According to Son La DARD's reports (2013), the provincial maize-planting areas have been gradually increased (average rate at 12-18%/year). The total provincial maize-planting areas expanded from 51.6 thousand hectares in 2000 to 127.6 thousand hectares in 2013 (increases by 76 thousand hectares over 12 years). The answer for this expansion is forest encroachment and deforestation by local people. Along with land invasion, people tend to use more and more chemical fertilizers to increase productivity. Approximately, 98% of the total provincial maize area is using hybrid high-yield varieties of LVN10, CP888, Bioseed, which require much chemical fertilizer, especially where land is infertile. Overuse of chemical fertilizers man also causes soil contamination and degradation.

Contradictions in agricultural and CC policies have made forestland continue to be lost. An analysis[79] showed that agricultural cultivation is the biggest among the direct causes of deforestation in the Dien Bien province. Approximately 89% of forest area was lost between 2000 and 2010 due to the expansion of agricultural cultivating land. In addition, natural population growth and migration are the causes of agricultural land expansion. The boundary between special-use forest and buffer zone is unclear and there is no milestone leading to uncontrolled forest occupation for agricultural production.

Policy on industrial crops development, especially rubber, in the surveyed provinces is also a controversial issue in recent years. According to the Dien Bien's DARD, from 2008 to 2013, the province has converted 1,325 hectares of forests land into rubber plantation, and 3341 hectares of rubber has been so far planted. According to the province's rubber planning until 2020, other 11,243 hectares need planting to reach the total planned area of 14,584 ha. Dien Bien has also issued PPC's Decision No. 532/QD-UBND dated 25 June 2012 on approving

[79]The pilot project REDD+ inDien Bien implemented by JICA from April, 2012 to September, 2013.

the Planning on development of coffee region until 2015, and vision to 2020. Accordingly, by 2020, the total coffee plantation area will reach 5,200 hectares (2,189 hectares was planted in 2010). 895 ha of the productive forest land area (mainly barren land and hills) will be used for planting coffee, accounting for 17% of total planned coffee area of the province. The Dien Bien's DARD (2013) indicated that, cultivation of coffee in the planned area without forest would contribute to fully exploiting the potential of land, increasing forest coverage and mitigating erosion soil.

6.3 National-provincial linkage in agricultural and climate change policies

6.3.1 Focal points in implementing agricultural and CC policies

There are so many steering committees co-existing at national and local level, such as Central Steering Committee for Natural Disaster Prevention and Control, NCCC, Steering Committee for NTP-NRD, and Steering Committee for the ARP at national level. There are also steering committees at the provincial level, including leaders of PPC and other departments concerned. The Office of Steering Committee is often based at Steering Committee's standing body, which will take lead and collaborate horizontally or vertically with in-line ministries, or localities. The Office staffs are normally part-time officers (such asdepartments' leaders and experts at national level; and DARD or DONRE's leaders and experts at provincial level) who not only assist the Steering Committee' Office, but also perform many taskswith regard toadministrative management. Therefore, systematization, specialization and connectivity between members remained low.

6.3.2 Guidelines on implementation of agricultural and CC policies

To develop plan for policy implementation (1) for agricultural policies and CC in agriculture: MARD provides guidance, direction and supervision to provincial steering committees, which in turn assign departments or divisions (standing body of DARD) to develop and submit the implementation plan to PPC for approval; (2) for CC policies: MONRE is the focal point to provide guidance, direction and supervision through provincial steering committees, and the standing body of DONRE develops the implementation plan. However, at national level, there is lack of detailed guidelines to integrate CC into other NTPs. For example, the NTP-NRD has developed criteria for NRD, but no criteria of CC have been combined. The integration, therefore, is a formality. There are no economic-technical norms needed for developing programs and projects to realize the NSCC at the local level, nor scientific basis due to limited involvement of research institutions and experts. The shortage of detailed guidelines from the national level is a reason for delay in policy development at local level.

6.3.3 Financial mechanisms for implementation of agricultural and CC policies

NTP-RCC has been concentrated on identifyingactivities rather than on forming a relevant financial mechanism to implement these activities. The program's financial resource is therefore mobilized from internal resource and international resources. NTP-RCC has also encouraged and created favorable environment to attract private and enterprise's investment. The program*Target-oriented budget support*can be applied to mainstream ODA capital into the state budget without formation of any project management unit or separated management mechanism. The disbursement will take place fast, with the principle of "ODA capital is mainstreamedin state budget and transferred directly to programs". This is a remarkable step to ease procedures between the Government and donors. The program *Target-oriented budget support* will be based on the operational mechanism of NTPs with changes in budget

allocation, supervision and evaluation being based on decentralization. Reporting will comply with the general process regulated by the Government which can be adjusted a little. No separate process will be created to implement the program *Target-oriented budget support.*

Funding allocated for agriculture and CC activities in provincial agencies is now merged with the provincial budget, and provincial People's Councils annually decide to allocate budget to each activity. As prescribed in Joint Circular No. 07/2010/TTLT-BTNMT-BTC-BKHĐT[80], provinces have to arrange counterpart capital to implement NTPs. Due to limited financial resources, as analyzed above, localities find it difficult to realize the programs. To implement SP-RCC, as prescribed in the Joint Circular No. 03/2013/TTLT-BTNMT-BTC-BKHĐT[81], provinces will send project proposals to MONRE for approval. Due to the recent Government's austerity program, budget allocated for CC programs and projects and action plans to respond to CC (inclusive of the central budget, local counterpart capital and other sources) is limited and behind schedule.

6.3.4 Mechanism for monitoring and feedback on implementation of agricultural and CC policies

Implementation of policies at provincial levelis supervised via reporting system. Provinces have to report to Ministries or the Government every quarter, semiannually, annually, or every 5 years. Every year, MARD holdstwo forums on CC which is an opportunity for policy makers, institutions, and international partners to evaluate the results achieved, and set the vision to cope with CC in the future. Annually, the leading agency at the national level will organize meetings (quarterly, semiannually, annually or every two or three years) to review and evaluate the implementation of programs. Provinces have to send their reports in hard copies before the meetings and just raise outstanding problems during the meetings. Besides achievements, the reports have to point out the obstacles and difficulties in the implementation (feasibility, institutional obstacles, resources ...), and propose solutions. This is the policy feedback mechanism between National and province levels. This mechanism is similar to districts-communes one, except that districts and communes are implementerswithout anauthority to issue its own policies. The survey in Son La in 2013revealed the lack of mechanism for policy feedback and mobilization of participation of different departments, sectors and localities. After the PPC enacted theprovincial Action Plan on Response to CC, DONRE has guided districts to develop their own action plans. However, half of a year since the guidance given, there has been district implementing or giving feedbacks to DONRE.

[80]Joint Circular 07/2010/TTLT-BTNMT-BTC-BKHĐT on guidelines on management and use of the state budget in implementing NTP-RCC 2009-2015.
[81]Joint Circular 03/2013/TTLT-BTNMT-BTC-BKHĐT on guidelines on management and use of funding for SP-RCC.

CHAPTER 7
OPPORTUNITIES AND CHALLENGES FOR CSA POLICIES IN VIETNAM

7.1 Climate-Smart Agriculture Overview

7.1.1 Climate-Smart Agriculture definition

Climate-Smart Agriculture (CSA) has recently been put on the high agenda of the international development community. This concept was firstly used by FAO in several reports published in 2009 (FAO, 2009). More concrete and comprehensive terminology was presented at the Hague Conference on Agriculture, Food Security and CC in 2010, where the CSA concept is defined as agriculture that "sustainably increases productivity, builds resilience to CC, reduces/removes greenhouse gas emissions to the achievement of national food security and sustainable development goals" (FAO 2010). The three main pillars of CSA are: (1) ensuring food security through sustainably increasing productivity and incomes; (2) adapting and building resilience to CC; and (3) reducing and/or removing GHG emissions in the agricultural sector. Overall food systems and agriculture need to become more efficient in the resources they use and more resilient towards certain levels of climatic changes and shocks (FAO 2013). Researchers and policymakers will need better understanding of the equilibrium between the agriculture sector's contribution to reduce GHG emissions and its ability to maintain food and nutrition security.

CSA does not impart all technical remediation to be applied all over the world, but it refers to multi elements-based approach and is closely linked to local conditions. CSA encompasses all activities taking place inside and outside the farms (along the chain) on the basic of integration of techniques, policies and investment conditions to achieve sustainable agricultural development for food security under CC.

TABLE 12: COMPARISON OF TRADITIONAL AGRICULTURAL SYSTEM AND CSA

Dimension	Traditional agricultural system	Climate-Smart Agriculture
Use of agricultural materials	Over-use and low-efficient use of agricultural materials/inputs: use of many fertilizers, high-rate use of nitrogen fertilizers, pesticides; high density of planting, which cause waste, environmental pollution and increasing greenhouse gas emissions.	High-efficient use: balanced use of fertilizers, application of integrated pest management, low costs, high effectiveness, reduced environmental pollution and decreasing greenhouse gas emissions.
Use of agricultural land	- Over-exploitation of soil nutrients without paying attention to sustain fertility of soil: intensive production, absence of prevention and remediation practices that can curtail or limit soil erosions and surface runoff. - Reclamation and deforestation deteriorate arable land and forest resources as well as erosions.	- Sustainable exploitation of arable land, restoring and enhancing fertility of land: application of soil cover, intercropping plants to protect land, etc. - Increased efficiency of land use, expanded area of forestland and forest regeneration (especially in the

Dimension	Traditional agricultural system	Climate-Smart Agriculture
		mountainous areas); protection and restoration of soil and forest resources.
Water resources	Low-efficient use: irrigational practices do not respect water-saving code, absence of good water resource management.	High-efficient use: application of water-saving code, water-saving techniques, alternating wet and dry irrigation, drip irrigation, etc.
Biological resources	Deteriorated biological resources: monoculture of a handful of high-yielding varieties that lead to loss of traditional varieties which can highly adapt to local conditions and of good quality; impairing natural enemies; increasing risks of crop failures at large scale.	Restoring and enhancing biological diversity inside and outside local production system; promoting ability to cope with natural disasters, diseases, and adverse conditions of climate and weather in an aim to reduce risk of crop failure at large scale.
Market	High monoculture and intensive production lead to distorted market for only some key products. Many agricultural products have faced risks of not being sold (facts that have happened in many localities).	Diversification of crops and livestock and diversification of market reduce commercial risks (being unsold) facing agricultural products.

Source: (Tuong, 2015).

7.1.2 The trends of CSA-related models in Vietnam

The International Center for Tropical Agriculture (CIAT) and the World Bank have built up a CSA profile for Vietnam. Accordingly, this paper encompasses: (1) Resume of factors related to agriculture and CC, brief profile of Vietnam's agriculture and food system; foresight of impacts of CC on agriculture and farmers; (2) Identification of current situation and potential for CSA practices, current situation of management of sustainable production system, as well as potentials for applying CSA in Vietnam; (3) Description of institutional structure at both national and local level to clarify basic nexus in formulating and implementing CSA policies in Vietnam; (4) Identification of financial mechanism supporting agriculture sector and CC, including budget from Government, multi-lateral organizations, international donors; (5) Keys to integrating CSA vision and strategies into Vietnamese context.

Besides, there are many different CSA-related techniques and practices for sustainable farm management that can be applied in the livestock sector (FAO, 2013). Integrated crop-livestock-fish pond system can be realized in Vietnam. Application of such integrated system can enhance biological diversity, forest protection and restoration of soil fertility with an aim to increase agricultural output and to sustain agricultural system. Integrated crop-aquaculture production system-based approach is a good model for enhancing production, product quality and creates an effective food source for aquaculture production (Da Silva and Soto, 2009; FAO, 2013).

Some current and potential production models related to CSA practicesare as follows:

The System of Rice Intensification (SRI): Following effective and efficient application in the Red River Delta, on 15 October 2007, the Ministry of Agriculture and Rural Development (MARD) issued the Decision 3062/QD-BNN-KHCN on acknowledgement of SRI as technical advance in rice production in the Northern provinces. The MARD then launched the Decision 3073/QD-BNN-KHCN dated on 28 October 2009 regulating temporary norms applied in extension programs for models linked to integrated intensive farming in rice production (SRI). SRI has been implemented in 29 provinces and cities, mainly in the Northern provinces. In 2014 winter-spring crop, total SRI-based area was recorded at 394,894 ha (of which SRI area of direct seedling was 42.403ha) with participation of 1,813,201 farm households. Results of applying SRI in 23 Northern provinces show that SRI outperformed traditional farming, such as: rice seed reduced by 70% to 90% (transplanting), by 39-65% (direct seedling); nitrogen fertilizers are reduced by 20-28%; average yield increased by 9-15%; expenditures on plant protection (pesticides, herbicides) were cut by 39-62%. Profits earned from SRI fields have grown up by 15-35% on average. SRI farming constitutes ecological field sub-region unfavorable for pest development (sheath blight, yellow snails, stuffy roots diseases, pests, etc.) while favorable to better resistance of rice plant to pests and diseases as well as water saving of about 30-35%. Moreover, SRI farming has reduced significantly GHG emissions compared to traditional farming. According to the measurement of GHG emissions from SRI fields and non-SRI fields made by Soils and Fertilizers Research Institute during the 2013 Summer – Autumn Crop in Binh Dinh and Quang Binh province, it is reported that GHG emissions in SRI fields are lower than non-SRI fields: CH_4 decreases by 21-24%, N_2O decreases by 15-22%, CO_2 decreases by 22-27%; global warming potential (GWP) of traditional fields is higher than SRI field from 26 to 32%. Reduction of GHG emissions results from reduced nitrogen fertilizers and alternative water withdrawal method. By applying SRI, rice plant has stronger resistance to extreme weather events since deeper roots and stronger plant help rice less shaken in stormy and draught conditions. SRI farming enables water saving, which can be very useful in rice production in areas of water shortage. SRI farming is evaluated to be very efficient and optimal in context of large-scale fields ("Cánh Đồng Lớn") which are now promoted by MARD (PPD, 2014).

Agro-Forestry Model has been introduced and applied in mountainous region of Vietnam for a long time. Although this model does not encompass all features of CSA, it is an integrated farming system adaptable to CC, socio-economic conditions and agricultural ecology. This model also contributes to strengthened agricultural production in perspective of food security (FAO, 2010).

Model "Three Reductions, Three Gains" for rice production (3R-3G): MARD issued the Decision 1579/BNN-KHCN dated on 30 June 2005 on acknowledgement of 3R-3G method to raise economic efficiency of rice production in the Mekong River Delta. On 7 April 2006, MARD issued the Directive 24/2006/CT-BNN on further promoting the program 3R-3G across the country. Then MARD issued different documents on 3R-3G program: Decision 2575/QD-BNN-TCCB dated on 6 September 2006 on setting up a Steering Committee coordinating 3R-3G programs; Decision 3073/QD-BNN-KHCN dated on 28 October 2009 on temporary norms applied in extension programs on 3R-3G rice production in the Southern provinces. Up to now, 3R-3G model has been nation-wide applied, but with a concentration in Southern provinces of total area of 770,000 – 800,000 ha (equivalent to 45-48% total 3R-3G area).

*Model "One Must, Five Reductions" for rice production (1M5R): t*his model is developed based on the success of 3R-3G campaign. Additional studies were conducted to prove that reduced inputs (water, energy, seeds, fertilizers, and pesticides) and post-harvest loss without impacting yield could be realized by extending 3R-3G. This method encourages use of certified seeds (which is considered as "a must"). Five reductions refer to reducing use of water, energy, post-harvest loss, fertilizers, and pesticides. 1M-5R model has been replicated in 7 provinces of An Giang, Can Tho, Soc Trang, Bac Lieu, Binh Duong, Ninh Thuan and Lam Dong with a total 1M5R area of 4,000 ha (DPP, 2014).

*Alternate wetting and drying (AWD)*has been piloted in some provinces of the Mekong River Delta. With efficient use of nitrogen and application of organic inputs to dry soil, the practice can reduce emissions even further, enhance nutrient efficiency, and deter insect infestation. AWD is highlighted as one of the improved cultivation techniques for rice production to be adopted for 0.5 - 1 million hectares of rice cultivation areas by 2020.

VietGap: Currently, about 14,500 hectares of crops (vegetables: 1,290 ha, fruits: 6,979 ha, rice: 1,100 ha, tea: 4,574 ha, etc.) are cultivated following certified VietGap practices. Furthermore, hundreds of hectares of crops are cultivated following different quality standards: 8,500 hectares of Bac Giang litchi are cultivated following VietGap practices, more than 200,000 ha of coffee and cacao are certified 4C and UTZ; more than 2,000 hectares of tea are certified Rainforest Alliances; nearly 500 hectares of fruits and vegetables are certified GlobalGAP (DCP, 2014)

7.2 Challenges facing CSA policies in Vietnam

7.2.1 Policy gaps and inconsistencies in agriculture and CC policies creating challenges for CSA policies.

CC response has been recently mainstreamed into agricultural policies. Scope of these policies and strategies imparts clearly the development of agricultural sector towards improved competitiveness, higher added value, response to CC, food security and sustainable development. However, specific policies of sub-sectors and localities focus more on improved yield and productivity, food security, better income and poverty reduction than CC adaptation and mitigation issues (such as integrating CSA policies in these policies). Furthermore, in these policies, specific models, farming processing which are adaptive to CC have not been identified for each production zone. At provincial level, indicators for integrating CC responses into agricultural and rural development are not clearly defined and stated due to lack of technical guidance and assistance from central ministries and line departments. Financial mechanism for CC actions still exhibits many shortcomings so that everything is just in form of programs and projects (MONRE will manage all programs and projects). Since Ministries, line departments and provinces are those who will build programs and projects as soon as proposals are endorsed and approved, 'ask-and-give' mechanism will be enacted. At provincial level, especially poor provinces and remote areas that the local budgets are not auto-balanced and much dependent on the central budget, with counter-capital currently regulated in the NTP-RCC, provinces will find difficult to mobilize finances for their own CC response policies).

Currently, Vietnam has no formal legal framework for CSA. CSA-based models have been built on the basis of projects and pilot models for a long time; so that institutionalized texts impart guidance on production or program implementation (for example, the MARDDecision

3062/QD-BNN-KHCN on acknowledgement of SRI as technical advance to be adopted in the Northern provinces). New incentives are just limited to regional or sectorial texts (the MARD Decision 3073/QD-BNN-KHCN dated on 28 October 2009 presenting temporary norms for extension activities on SRI farming). Issues of agriculture and CC have not been fully integrated into National Target Programs (for instance, NTP-NRD encompasses all concerns and matters in rural areas and 19 criteria need to be monitored in different rural aspects; however, criteria for CC response have not been yet aligned.)

Vietnam still lacks detailed information about CC, namely scenarios on CC responses by regions and sub-regions, detailed profileof climate trends (extreme weather event, climatic indicators, etc.), influential factors, future CC trends, pre-emptive remediation, and responses to CC. Absence of information and data about CC trends does not enable to point out CSA models by regions and sectors. Surveys in three provinces shows that, there have been no provinces to build scenarios for local CC trend. All three provinces have only listed weather extreme events and occurrences without research and analysis;thus that they do not have CC scenarios for response strategies. Accordingly, there is not a concrete evidence to build up a smart agriculture in line with CC at both sectorial and provincial level. For example, data on changes in rainfall, flash floods, erosions, temperature, humidity, etc. in the northern mountainous region are not available. Both MARD and provinces all are in need of CC scenarios by regions with an aim to work out relevant plans and specific actions to constitute an agricultural sector responsive to CC, of which CSA is the prioritized option (Thanh, 2015).

In fact, in context of small-scale and scattered agriculture, which is characterized by weak management and products of poor reputation, integration of CSA is limited. The MARD's Program of GHG emissions reduction in the agriculture and rural development sector by 2020 captures many aspects of the agricultural sector. However, alignment of reducing GHG emissions in agricultural policies is exposed to obstacles since all practices reducing GHG emissions prevent farmers from earning profit in the short run and from selling products at higher prices whereas it is likely that their production costs are higher. On the other hand, CSA is quite new to and less perceived by policy makers and scientists as well as less imparted to businesses and communities.

Discussions with senior experts at national and local levels reveal that CSA favors sustainable development as long-term gain. CSA can make agricultural development more sustainable, and enable CC adaptation and mitigation, but reduce immediate and short-term income of farmers. For instance, in the case of Son La province, to reduce maize growing on slopes by switching to other sustainable farming such as agro-forestry farming, it is certain that immediate income of farmers will be reduced which strongly affects livelihood of farmers and the poor.

7.2.2 Coordination, communication, consultation mechanisms in support for effective CSA policies

At the national level, unclearly defined roles and responsibilities of Ministries and lines lead to low effectiveness and efficiency in developing and implementing CC policies. Coordination mechanism and information sharing among three ministries (MONRE, MPI, and MARD) involved in CC and sustainable development are highlighted. Poor and overlapping coordination can be seen (Hoc, 2013): MONRE coordinates CC-related programs and projects, while MARD controls over projects on natural disaster management. Information

shortage and capacity gap of ministries and central agencies in developing, implementing and monitoring CC policies have significant impact on the realization of CC projects and programs (AKF, 2011). Some pilot NAMA projects in Vietnam such as NAMA biogas, NAMA wind power are now under management and conduct of MONRE; whereas MARD has been implementing national biogas program in livestock sector and MOIT is mandated to manage wind power. It is said that some CC projects under management of MONRE have been delayed or blocked due to shortage of professional workers. For instance, Mekong River Delta Plan is aimed at improving CC response capacity of MRD in view of sustainable socio-economic development for the next 100 years by integrating on-going strategies, planning, schemes, projects, sectorial action plans, etc. This is an integrated project; nonetheless, experts of MONRE have only been able to address some aspects. Project's delay is explained by insufficient quality of professional workers.)

At provincial level, gaps in scientific activities in the field of CC adaptation and mitigation in the agricultural sector are quite huge (AKF, 2011). In addition, technical and scientific advices from the central government in developing agricultural and CC policies are very limited. Regarding management institutions and policy implementation, there is still some ambiguity and unsolidity. Task forces on CC response set up at provincial level are only established within environment sector without the participation of ARD sector. Besides, low capacity for building and implementing policy on CC response is putting forward a challenge for the CSA approach.

7.2.3 Knowledge and capacity

Many researchers, policy makers, and management staff at all levels and farmers have engaged in CSA-related activities and assignments. CSA stakeholders express their difficulties in understanding CSA as well as clear distinction between CSA farming and other policies. Awareness of CSA is limited at both national and local level, especially of the specific criteria for implementing CSA, farming, attracting investments, and encouraging application of science and technology.

CSA is a new concept in the world as well as in Vietnam, despite the fact that CSA-related agricultural models have been done in Vietnam for a long time. Thus, it is crucial to connect scientists and researchers who work on grassroots evidences to policy makers who institutionalize evidence-based policies. These policies can constitute operational mechanism supporting models, or give guiding or obligatory practice norms to be applied by farmers.

7.2.4 Availability and accuracy of data, baselines and appropriate inputs for policy formulation

In general, data source on CC at the national and regional scales mainly embraces changes of temperature, rainfall, flood, and salinity degree to be a basis for general assessment of CC trends. However, the national data about the general degradation of soil quality and desertification level is limited. Insufficient number of hydro-meteorological stations explains the shortage of specific data, particularly the flood magnitude and frequency, at sub-regional level. Regarding soil quality, frequent monitoring and evaluation of erosions and surface runoffs is executed. At provincial level, there is deficiency in data on CC to be a basis for mapping out climate trends at local level, especially in mountainous provinces with various

microclimates.

Vietnam has data on nationwide farmers from Census of agriculture, forestry and fishery, VHLSS, but these surveys do not capture strategies of farm households and their decisions under CC scenarios, particularly community actions organized to adapt to disasters and CC.

Overall, Vietnam lacks data on CC at national, regional, and sub-regional level. The CC scenarios are general, imprecise and short of specific details. Unspecified factors influential to CC and absence of parameters of agricultural change adapting to CC are challenges facing the design of regional and sub-sectorial policies and strategies towards CSA.

Since CSA is a new concept, assessment of current situation must be done based on indicator set. There are many researches, studies and evaluation of CSA factors in Vietnam. However, to have a concrete theoretical and empirical grounds for building CSA policies in Vietnam, comprehensive assessment of CSA-related models, analysis of technical factors, analysis of costs and benefits of CSA models, and identified potentials for CSA models is still needed.

7.2.5 Stakeholders' participation and linkages

CC issues are still being considered, from national to local level, to be the work of the natural resource and environment sector as well as the agricultural sector. In all three surveyed provinces, the DOST is barely involved and less interested in CC and CSA, which are rarely presented in research proposals. Meanwhile, staff and professionals of the DPI and DOF are not equipped with CC understanding. Inactive participation and weak vertical linkage between state agencies have hindered the implementation of CSA policies.

Despite Resolution on CC being passed by the Party Central Committee, Action Plan on CC approved by the Government and MARD's strategies, and policies, provinces have not showed active involvement in the policy formulation. Policy implementation depends on public funding. Without budget transferred from the central government, CSA policies would not be implemented. Mass organizations are structured as vertical network from the central to the village, but they have little involvement in policy advocacy, and play the supporting role with limited available funding.

Involvement of private sector (farmers, enterprises, etc.) in CC activities remained blurred since CC adaptation and CSA interventions are only seen as State's role and responsibility. Weak motivation of private sector in formulating CC adaptation and CSA incentives create a huge challenge to CSA exercise in Vietnam.

Weak and absent professional organizations (cooperatives, production associations, etc.) have led to limited participation of these agents in CSA exercise. Vietnam Cooperative Alliance and other vocational business associations are less engaged in formulating CSA policies. For many local and international NGOs, they only carry out CC projects within their operation portfolios rather than voluntarily pioneer CSA models.

7.3 Opportunities for CSA policies in Vietnam

7.3.1 CSA drivers: locally and internationally

In the framework of UN Climate Summit, the Global Alliance for Climate-Smart Agriculture (GACSA) founded in 2014 aims at strengthening international cooperation on CC response

in the agricultural sector. Vietnam has officially become one of 22 member countriesin this institution, showing the Vietnamese Government's determinations towards sustainable agricultural development (food security, CC adaptation and mitigation), which will facilitate institutionalizing CSA in Vietnam. Through GACSA, Vietnam can benefit from information and experience sharing, technical support as well as financial resources for CSA development in the coming time.

The identification of the CSA contents will bring a good opportunity to have an orientation for agricultural development in the context of CC, and harmonious combination among food security, increased incomes and CC mitigation and adaptation. CSA will serve as a tool to facilitate better horizontal linkages (among different policy groups, different ministries, between the State and private sector, and among non-governmental companies) and vertical connection among policy makers from the central to local government. In NTP-RCC, NTP-NRD, ARP, Program 135-III, and Program 30a, CSA can be considered as a nexus for agricultural development. Accordingly, all activities that are designed based on CSA approach will link different program components and programs together.

With a number of big projects in the agricultural sector, CSA can be used as a tool to coordinate different projects such as "large-scale field" program, project on national products, project on public-private partnership and strategy on agricultural development adaptive to CC in connection with other thematic programs.

Many new development plans, projects, and programs on agricultural development for the next 5 years have been under construction, so CSA can be mobilized to become a policy-controlling tool, especially in the context of economic and institutional reforms.

CC adaptation, which has received outstanding attention of the CCP and the Government, has brought some important preliminary results. Implementation apparatus constituted by the Government, Ministries, and MARD's consistent and timely CSA-oriented guidance are favorable to policy dialogues and mobilizing resources to CSA-orientated strategies.

7.3.2 Needs and political supports

There is a huge need for supporting formulation and implementation of agricultural and CC policies in the context of wide international integration in order to ensure food security, improve income for farmer and respond to CC. The Party's Resolution on CC, the Government's strategy on CC and strategy of agricultural sector should be specified into policy frameworks, operational mechanisms and institutions to be consistently implemented at local level. Joining GACSA emphasizes the Vietnamese Government's expectations and determination to enhance sustainable agricultural sector, contributing to implementing the NSCC towards green growth and sustainable development. In the approved ARP, pilots in eight provinces[82] representing different regions of the country will be prioritized. Accordingly, streamlining CSA models in agriculture of these provinces is necessary and relevant to provide persuasive evidences to CSA policy makers in Vietnam.

[82] Decision 508/QD-TTG dated on 17 April 2015 of the Prime Minister on setting up inter-sectorial Steering Committee for agricultural restructuring; targeted provinces for pilot: Lao Cai, Quang Ninh, Nam Dinh, Thanh Hoa, Ha Tinh, Binh Dinh, Lam Dong, Dong Thap.

7.3.3 International experience, knowledge sharing and support

With experiences of FAO, CIAT, IRRI and other UN organizations, CSA has been considered a priority in agricultural development. CSA offers Vietnam a great opportunity to leverage experiences and knowledge with FAO and UN organizations.

Many countries and international organizations are especially interested in responding to global CC, which creates a compelling need for urgent measures and remediation to reach sustainable development. CC opens up opportunities to global, multilateral, and bilateral cooperation; therefore, Vietnam is able to get access to new operational mechanism for financial support, capacity building, low-carbon agriculture, and technology transfer from developed countries. Outstanding attention and positive cooperation are delivered to CC response in agriculture and rural areas aiming at food security, poverty reduction and GHG emissions reductions as well as social-political-economic stability.

Commitments of international organizations (WB, ADB, AFD, IFAD, etc.) to support modernization of Vietnam agricultural sector offer great opportunities for scaling up CSA in Vietnam. Performance of CSA in Vietnam can be valorized from experiences and aids from international organizations such as IFAD's experiences in food security and sustainable development from 20 IFAD-funded development projects across Vietnam or AFD's supports for the development of agricultural commodity chains towards competitiveness and sustainability associated with CC adaptation, etc. In addition, further cooperation opportunities on CSA can be aligned with ISG forum's working agenda initiated by MARD.

7.3.4 International cooperation

In 2014, Vietnam became a full member of GACSA, an alliance with gathering more than 100 members from government, inter-governmental organizations, NGOs, businesses, farmer organizations, production units, research institutes, civil societies, etc. Vietnam has also received great financial and technical support from international organizations to carry out some CSA-related projects.

The World Bank has listed 10 projects, which have been currently implemented in Vietnam pertaining to agriculture, agro-industry and CC. They are: (1) the Vietnam Irrigated Agriculture Improvement Project aimed at improving the sustainability of irrigated agriculture production systems in selected central coastal and northern mountainous provinces of Viet Nam; (2) the Agriculture Competitiveness Project aiming to assist and strengthen the competiveness of smallholder farmers through enhancing agricultural technology and dissemination of sustainable farming practices; (3) the Project "Vietnam Livestock Competitiveness and Food Safety" attempts to increase the production efficiency of livestock producers, reduce environmental impacts of livestock production, and improve food safety in livestock supply chains in some provinces.

The Asia Development Bank has had 16 projects approved in the agriculture and natural resource category over the last 10 years. Some on-going projects are directly associated to CSA, such as: (1) the Project "Climate Resilient Rural Infrastructure in the Northern Mountain Provinces" attempts to rehabilitate rural infrastructure of the country until 2020; (2) the Project "Development of the Northern Chu and Southern Ma Rivers Irrigation System" focuses on constructing and improving approximately 58 kilometers of main canals for

irrigation systems in the Chu and Ma rivers; (3) the Project “Low Carbon Agricultural Support” is to reduce air, water and soil pollution by supporting Climate Smart Agricultural Waste Management Practices (CSAWMP), with emphasis on treating livestock wastes through the expanded use of biogas and bio-slurry processing technologies in 10 provinces(Lao Cai, Son La, Phu Tho, Bac Giang, Nam Dinh, Ha Tinh, Binh Dinh, Tien Giang, Ben Tre, and Soc Trang) (APMB, 2015).

Other multilateral institutions that have been operating in Viet Nam and assisting with agricultural projects related to CC mitigation and adaptation strategies are UNDP, UNEP, GEF, etc. For instance, UNDP has conducted programs such as the Strengthening National Capacities to Respond to CC in Viet Nam, and Reduce Vulnerability and Control GHG Emissions.

AusAid (DFAT) of the Australian Government: The CC Initiative Framework of the Mekong River Commission is a six-year project (2009-2015), which addresses shared CC adaptation strategies with other lower Mekong Basin countries. Another R&D project on CC adaptation in the Mekong River Delta has been implemented by the Australian Center for International Agriculture Research (ACIAR) and various local government agencies. This program emphasizes on collaborating with small farmer rice-based systems to adapt to climate variability and change (ACIAR 2013).

Norwegian Official Development Assistance: The 3-years Climate-Smart Agriculture project (2013-2016) implemented at the Viet Nam Academy of Agricultural Sciences (VAAS) specifically focuses on current and future impacts on rice production in Viet Nam. Scope of the project embraces examination of climatic scenarios, analysis of CC impacts on rice production, solutions to improved soil and water management practices, and better fertilizers utilization in view of better adaptation to climatic variability and mitigated GHG emissions.

CHAPTER 8
CONCLUSION AND RECOMMENDATIONS

8.1 Conclusion

Overview of agriculture and CC

Agriculture play crucial role in economic development of Vietnam as it ensures national food security and livelihood for more than 70% of the country's population. After nearly 30 years of *Doi moi* (economic reforms), the agricultural sector has reached many encouraging achievements. However, together with achievements, agricultural development has shown many shortcomings such as: growth in width (in number), gradually decreasingly growth rate in recent years, low added value, internal structure of agricultural sector not reflecting comparative advantages (crop production still dominates), inefficient use of land and water resources, and abuse of inputs leading to environmental degradation. Vietnam is one of 10 countries which are the most affected by CC around the world, especially the 2 deltas of Red River and Mekong River, the two most crucial food and foodstuff production zones of Vietnam. Effects of CC on agricultural production will result in food insecurity, changes in water flows (droughts, floods, and salinity), degraded ecological system and biological diversity, and increasing risks generated by extreme weather events. Every year, Vietnam has to suffer significant human and material losses and damages due to extreme weather events. Facing huge effects of these natural hazards and CC predictions, the Vietnamese Government has developed a number of solutions and remediation on CC response to ensure agricultural development, national food security as well as measures adaptive to CC and low-carbon agricultural models.

Agricultural and CC policy landscapes

Acknowledging urgent issues related to unsustainable agricultural development and increasing adverse impact of CC, the Government of Vietnam has issued many policies to ensure agricultural development in a more sustainable manner. Regarding agricultural policies, the ARP towards enhanced value added and sustainable development has been under implementation. The Government also launched many national strategies and action plans such as NTP-RCC, national strategy on green growth, national strategy on sustainable development, national strategy on natural disasters prevention and mitigation, etc. This basic legal framework enables Vietnam to fulfill MDGs on sustainable development. National strategies have been developed in line with action plans and national target programs to ensure achievement of strategic goals. In addition to the legal framework, an operational system dealing with agricultural and CC policies are set up from national to local level in the form of Steering Committee (from the Prime Minister to leader of People's Committee of all levels). In reality, Vietnam has bountiful legal texts for agriculture and CC, but it is difficult to perform those policies due to financial shortage, knowledge and capacity deficiencies of policy makers and lack of full-time professionals and officers in charge of CC. Wide scope of policies expose huge shortcomings; policies are formulated to call for external support rather than the country's own resources.

Agriculture and CC policymaking process at national and provincial levels

The process of developing agricultural and CC policies in Vietnam is institutionalized in legal

texts and provisions of laws including: developing proposals to make legal text, conducting research (upon content and scope of the legal texts, research organizations are invited to consult or leading agency is in charge of feasibility assessment), drafting texts, and consulting concerned parties and possible beneficiaries for comments. Nevertheless, the GovernmentDecree 24[83] stipulated that participation of scientists in policy-making process is not mandatory. Therefore, it would be better if the drafting body has budget for hiring research organizations; otherwise, scientists can be voluntarily involved as observers.

In fact, agricultural and CC policies, at national level, have been formulated with relatively full participation of different stakeholders, especially technical assistance of international organizations experienced in these fields. Agricultural policies have been integrated with CC response and sustainable development. Many policies have been developed based on scientific evidences and rationales withdrawn from professional research institutes. However, on the contrary to the national level, formulating Agriculture and CC policies at provincial level has not engaged key stakeholders such as researchers, international agencies (including technical assistance and funding), and private sector .

Stakeholders in agricultural and CC policy processes

Considering roles of actors participating in formulating and implementing Agricultural and CC policies at national level, it is reckoned that the coordinating roles of two sectors are separated. MARD takes lead in formulating and implementing agricultural policies so it is perceived as significantly important and influential to agriculture-related policies. MONRE, mandated by the Government to act focal point in CC, takes lead in formulating, implementing, and monitoring CC policies. Other stakeholders such as MPI, MOF play an important role to Agricultural and CC policies since they are responsible for financial resources to policy implementation. Due to limited budget, despite full and comprehensive proposals prepared by other ministries and lines, MPI and MOF can only allocate a modest budget, so that many policy contents are not fully implemented.

At provincial level, Agricultural and CC policies are transmitted via PPC (provincial steering committees of NTPs). Observations from three studied provinces show that not many scientists, donors, private sector and community participate in the process of formulating and implementing agricultural and CC policies. Regarding agricultural policies, DARD takes on important role of performing policies. Meanwhile, DONRE is in charge of formulating, coordinating and implementing CC policies; thus, DONRE is the most influential actor of CC policies at provincial level. Besides, the role of DOF and DPI are obvious as they are in charge of resources allocation. The feasibility of agricultural and CC policies depends on financial resources.

Agricultural and CC policy implementation instruments

Regarding agricultural policies, the Government has realized development shortcomings and drawbacks such as decreasing growth rate, inefficient use of resourcesand low added value. Therefore, under the ARP, which was launched 2 years ago, a Steering Committee has

[83] Decree 24/2009/NĐ-CP dated on 5th March 2009 of the Government regulating process to make Government Decree and Prime Minister's Decision

recently set up at national level. This Plan will be piloted in eight provinces representing different ecological regions. The Plan highlights public private partnership to mobilize resources from private sector to fulfill target of higher added value and sustainable development of the agricultural sector. Yet, many provinces have not yet adopted their own agriculture restructuring plans.

It is observed that, in only a short time, Vietnam has built up a relatively complete legal framework for Agriculture and CC response, covering the Party and Government's visions and Ministries and lines' policies. A huge number of legal texts on CC do not capture general issues as well as integrated aspects of CC responses. Many NTPs have been developed together with their own steering committees. However, policy contents are not highly appreciated and resources mobilized to implement policies are inadequate (capacity of local officials, financial shortage, etc.). Some implemented policies have only brought out local and sectorial benefits. Cooperation among stakeholders, from sharing information to co-implementing policies vertically and horizontally remained limited. In general, agricultural policies are more slowly implemented than Government's expectations.

Opportunities and challenges for CSA policies in Vietnam

CSA is a new concept in the world as well as in Vietnam; so researchers, policy makers and communities have not yet had full understanding of this concept. However, CSA-based modelshave been introduced and built in Vietnam for a long time ago in the form of programs and projects. Institutionalization of this agricultural production process has not been well done. In spite of being a new incentive and initiative, CSA has been paid much attention by the Vietnamese Government. Vietnam has become a full member of GACSA alliance, an outstanding signal to put CSA in practices of agricultural policies in Vietnam. In recent years, Vietnam has received significant financial support from governments, international financial institutions, and donors to implement many programs and projects such as agriculture competitiveness, low-carbon agriculture, CSA farming applied to livestock sector, etc. Recent strong commitments from concerned parties to the agricultural restructuring encourage big programs to aim at restructuring the agricultural sector such as the WB's VNSAT project on sustainable development of the rice and coffee sector (total budget of about USD 300 million), the ADB's project for low-carbon agriculture, etc. They offer a great opportunity for Vietnam to fully integrate CSA into the ARP which will be piloted in 8 provinces, representing different ecological zones of the country, prior to institutionalization of CSA and scaling up CSA nation-wide. Apart from financial supports, technical assistance from international organizations to address issues of agricultural development and CC responses is valuable to the expansion of CSA in Vietnam.

In brief, the development of CSA in Vietnam is exposed to many advantages. However, like agricultural and CC policies, there are still many hindrances for research capacity, policy formulation and implementation, comprehensive and full understanding of the CSA and availability of good CSA studies. Another important factor is limited and uncertain financial resources from the Government, as well as from international supports. Poor streamlining of CSA-based models in programs and projects and small-scale, fragmented agricultural production are other factors impeding CSA multiplication in Vietnam.

8.2 Recommendations

Recommendations regarding policy instruments

There is a growing concern about enhancing the integration of CC into social and economic plans at national, sectorial, and provincial levels. We recommend that mainstreaming CC into national, sectorial, and local development planning is compulsory process. This is essential to accelerate the integration process that is rather slow currently.

It is necessary to have a more effective horizontal coordination at national and provincial level, vertical linkage among national and local Steering Committees in conducting Agricultural and CC policies in general and CSA policies in particular.

Recommendations regarding participation of stakeholders in policy formulation and implementation

The policy formulation needs to ensure greater consistency in policy content across agricultural and CC policies, more detailed and institutionalized guidelines for formulation and implementation, less time-consuming process and greater transparency. Institutional arrangements need to be reconsidered to avoid overlapping and trade-offs (i.e. biodiversity is managed by MONRE while natural forest is managed by MARD). Stronger coordination among governmental agencies in the policy-making/implementation processes is recommended, especially in terms of follow-up action. It is highly recommended that the NCCC should have representatives of other key ministries (for example MARD, MOIT) rather than merely the representative of MONRE to support NCCC in decision making process. Similarly, MARD needs to upgrade the role, position, authority, independence, and human resources of the OCCA. OCCA should have the capacity to coordinate vertically and horizontally in order to be more effective and aligned agriculture development & CC policies.

The policy formulation needs to involve various stakeholders from government and non-government organizations at provincial level to ensure that policies are implementable. The policy should be designed in a way to ensure trade-off between general and specific criteria and indicators for monitoring and evaluation. Decentralization of policy making to different ecological regions might be an option to ensure implement ability, efficiency, and activeness.

Recommendations regarding policy processes

It should constitute an operational mechanism to better integrate CC into policy-making process of ministries and departments. At provincial level, formulating, developing agricultural and CC policies should be based on adequate and convincing scientific evidences with active participation of donors and private sector.

Policy implementing ability needs to be improved by greater emphasis on practical solutions and guidelines for mobilization of the resources to be used, obtaining consensus on priorities across agricultural development and CC institutions/stakeholders at each level and across levels. Better instructions are needed in policy document on how to concretely formulate and implement measures and actions. This can help to speed up policy development processes at all levels. Incentives should also be presented in policies in order to attract resources even from the private sector and to promote adoption of desired actions. It is not an easy task to involve enterprises in CSA; research should be done to pave the way for their participation. Baseline studies on CC will necessitate comprehensive CC policies.

Since the current horizontal coordination among stakeholders (mainly ministries) is not efficient, it is recommended that policy should clearly demonstrate roles and responsibilities for each ministry and each individuals. Measures should also be taken in policy documents to ensure strong coordination horizontally.

Agricultural development under CC requires a huge investment, particularly in infrastructure but also changes required in production systems. It is strongly recommended that the PPP cooperation mechanisms should be studied and applied.

M&E system for policy implementation need to be designed to ensure policy linkages (top-down implementation and bottom-up feedback, as well as across agriculture and CC help to drive formulation). This is currently a big gap and there is currently no methodology for how these linkages can be tracked.

Top policy makers are highly aware of CC impacts and their immediate policy action has been on the right track. However, more detailed awareness is needed on specific issues not just CC in general. This is important to have policy makers in the drafting groups.

Inputs on baseline situations for policy formulation need to be well prepared and ready for the policy-making process. Research is needed to clarify the CC scenarios in each region of Vietnam, especially the trend of future changes on factors that have an impact on agricultural development. This is important for ecological regions that are deemed suitable for the CSA research and development.

Recommendations on supportive policies for CSA

Regarding potential R&D in the CSA domain, it is recommended to have a multidisciplinary research projects to obtain an integrated evaluation of agricultural, CC, socio-economic, cost benefit analysis data to underpin technology, policy and investment choices. The evaluation might also include potentials of farming systems across the country, socio-economic efficiency, capacity to adapt, and resilience to CC and the potential mitigation of GHG emissions. Challenges and opportunities for farmers to shift to CSA is also a vital issue of concern. Under the EU-FAO project, three provinces of Dien Bien, Son La and Yen Bai agree to cooperate with FAO and MARD to formulate strategies for agricultural development towards CSA. Besides these three provinces, coffee-base agroforestry systems can be offered as an attractive CSA option[84] for the Central Highlands where coffee and forest systems have clashed. MARD may wish to consider integrating CSA into the ARP. Lessons learned from the north mountainous areacan guide approaches in other provinces and can underpin works on a national CSA strategy:

+ To put CSA in practice in Vietnam, a clear roadmap is needed (studying on current situation and potentials, especially full analysis of benefits of CSA models as evidences to convince policy makers; building pilot models to be integrated into provinces' ARP and project supporting the agricultural restructuring (for instance, VNSAT project for rice and coffee); capitalizing lessons and experiences learnt for further institutionalization and scaling up).

[84] Coffee-based agroforestry models with durian and pepper climbing on shade trees in Dak Lak province have 247.2% and 157.3% higher in economic output than the pure consecutive coffee plantation. Available online at: http://www.cares.org.vn/webplus/attachments/22648fcc2354149a1309b5630818c0f3-08.pdf

+ Capacity building should be carried out for MARD, researchers, policy makers, agricultural extension officers where technical knowledge gaps can be filled. They should also be trained to ensure a shift to real policy implementation on the ground rather than just “on paper”. Policymaking should be realistic, implementable, and traceable with appropriate monitoring and evaluation provisions.

+ A National Advisory Committee on CSA or integration of CSA into existing mechanisms could be considered to advise MARD based on the international experiences, support for policy design and social dialogue, and formulation of CSA technical guidelines.

+ Institutionalization of policies should mobilize full and active participation of concerned parties who provide technical and financial supports and policy beneficiaries to ensure high feasibility of policies at both central and provincial levels.

+ Full-time professionals and officers are required to be in charge of building and implementing agricultural and CC policies.

+ Consideration will also need to be given to the best institutional arrangement within MARD for CSA coordination of governmental agencies/other stakeholders and sub-sectors,

+ Political social organizations such as FU, WU, SMEA, etc. at all levels can play a critical role and seemingly appropriate bodies to help MARD and INGOs to advocate toward a CSA production.

+ Since there is little research or assessments of CC impacts on local production systems, MARD and MONRE need to take the lead role and to involve national/international institutions to carry out further studies on major crops/system in the main ecological regions.

+ Finally, there are quite a few CSA case studies and pilot projects across the country as well as numerous related studies on crops/farming systems done by VAAS and ICRAF Vietnam[85], which might be documented on a knowledge sharing platform or a new CSA platform. Public media is an efficient way to convey CSA to local communities and people.

[85] ICRAF Vietnam has implemented several AG&CC project in Yen Bai and Ha Tinh. One of that is the PROJECT ON Adaptation to the Extreme Climate by Sustainable Land Management in Southeast Asia, CRP6.4.

Annex

Annex 1: List of projects supporting CC response period 2008-2012[86]

	Project name	Budget (USD)	Donor	Type of fund
Agriculture				
1	Agriculture adapting to CC	1 million USD	FAO/EC	Non-refundable aid
2	Productive Rural Infrastructure Sector Project in the Central Highlands	1.8 million USD	ADB	Non-refundable aid
3	Climate smart agriculture: synergies among adaptation, and mitigation and food security	1 million USD	European Commission through FAO:	Non-refundable aid
4	Technical support for CCA for sustainable agricultural development in the Mekong River Delta	3.5 million USD	JICA:	Non-refundable aid
5	Low Carbon Agricultural Support Project	74 millionUSD	ADB	Loan
Forestry				
1	UN-REDD Vietnam Program: Technical support	30 million USD	FAO, UNDP and UNEP	Non-refundable aid
2	Support to REDD+ readiness	3.8 million USD	FCPF/WB	Non-refundable aid
	Improving understanding of the measures to enhance C reservation; biodiversity preservation in REDD +		BMU, SNV	Non-refundable aid
4	Program on synthetic protection of coastal areas and mangrove forests to adapt to CC in the Mekong Delta province /CC and coastal ecosystems in the Mekong River Delta (ICMP/CCCEP)	22 million EUR	Australian Government and the German Government	Non-refundable aid
4	Vietnam Forests and Deltas Program (VFD)	25-30 million USD	USAID	
5	Project on Restoration and sustainable management of upstream protection forests in 11 Provinces of the Central Vietnam (from Thanh Hoa to Binh Thuan, Quang Nam excluded)	about 100 million USD	Japanese Government	Concessional loan
Fisheries				
1	Sustainable development of fisheries resources	100 million USD	World Bank	Loan
Disaster Risk Management				
1	Strengthening National Capacities to Respond to CC in Vietnam, Reducing Vulnerability and Controlling GHG emissions	4.6 million USD	UNDP	Non-refundable aid
2	Strengthening Institutional Capacity For Disaster Risk Management In Viet Nam Including CC Related Risks	4,7 million USD	UNDP and Australia	Non-refundable aid
3	Strengthening capacities of disaster	900,000	GFDRR-WB	Non-refundable

[86]Workshop minutes "Vietnam Agriculture Respond to CC: Opportunities and Challenges" by the Office of the Steering Committee for Action Program on CCA of MARD, held by in Hanoi on 10 September, 2013.

	Project name	Budget (USD)	Donor	Type of fund
	risk management	USD		aid
4	Management and Mitigation of Flood and Drought Risk in the Greater Mekong Sub region	63.9 million USD	ADB loan: 45 million, Australia aid: 5.5 million)	
5	Disaster Management	150 million USD	WB	Loan

Source: Workshop minutes "Vietnam Agriculture Respond to CC: Opportunities and Challenges" by the Office of the Steering Committee for Action Program on CCA of MARD, held by in Hanoi on 10 September, 2013.

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Annex 2: Tasks and capital needs to implement Action Plan on Responseto CC in the agricultural sector

	Tasks	No of specific tasks	Capital need (billion VND)
1.	Impact assessment of CC and sea level rise for each subsector of agriculture and rural development	16	109
2.	Development of programs/projects appropriate for each subsector in different localities to respond (mitigate and adapt) to CC and create opportunities for sector development	11	72
3.	Raising awareness, and participation of all levels of subsectors, industries, localities and communities	4	27
4.	Training and capacity building for human resources in the sector, and subsectors to deal with the challenge of CC and create development opportunities.	4	43
5.	Integrating CC and sea level rise into the action plan, policy, strategy, planning, and development plan of subsectors, industries, and localities.	12	101
6.	Cooperation with governments, international organizations to mobilize resources, knowledge, experience and funding to implement the action plan to cope with CC.	5	35
7.	Monitoring, inspection and evaluation of the implementation of objectives and tasks of the Action Plan	2	15
	Total	**54**	**402**

Source: the Action plan to response to CC in Agriculture and Rural Development period 2011 - 2015 and vision to 2050

Annex 3: List of prioritized investment projects to response to CC which are implemented in the phase 2011-2015

#	Prioritized investment projects	Capital need (billion VND)
1	Capacity building in flood and storm prevention	2,000
2	Forestry	4,000
3	Agriculture	5,000
4	Fisheries	3,000

5	Anti-flooding works for urban areas, and densely populated areas	25,000
6	Removing people from areas that have a high risk of natural disasters	1,000
7	Consolidate and upgrading of river and sea dykes	10,000
8	Supporting the NTP on safe water on sanitation	1,000
9	Program on improving, upgrading on-farm irrigation works	10,000
10	Irrigation works serving aquaculture	1,000
11	Construction of estuary works to control saltwater and tide	5,000
12	Rural infrastructure	5,000
	Total	**72,000**

Source: the Action plan to response to CC in Agriculture and Rural Development period 2011 - 2015 and vision to 2050

Annex 4: CC response measures integrated in the agricultural policies

Policies	Adaptation	Mitigation
Resolution 26 of the Party's Central Committee on agriculture, farmers and rural areas	Construction of infrastructure to adapt to CC Capacity building in disaster prevention, and mitigation Relocation of residents in areas affected by disasters Rearrangement of structures of plants, crops and varieties	Encouraging forest protection and development Rural environmental protection
NTP-NRD 2010 – 2020	Integrating the NTP on CC into performance of NTP-NRD without concrete measures	
5 year plan 2011-2015 of agriculture and rural development	Construction of dykes and reservoirs regulating flood and sea dikes, and river dikes Relocation of residents in areas affected by disasters Raising people and communities' awareness in disaster prevention Investments in research, forecast of CC impacts Rearrangement of structures of plants, crops and varieties	Protection and development of forests
MPAD	Construction of works of drainage, flood control, tide control, preventing saltwater, adapting to CCA Preventing and mitigating damages caused by natural disasters	Development of protective forests to protect environment
ARP	Adoption of science and technology, quality and high-yield breeds that are disease-tolerant and adaptive to CC Production planning associated with	Strengthening pollution management and control, environmental protection in animal

	responding to CC	husbandry, fisheries, and forestry Forestry development to increase the economic value and environmental protection Development of renewable energy from livestock by-products

Source: synthesis by author, 2015.

Annex 5: List of agricultural policies, activities to response to CC and compatibility with CSA

Sub-sector	Increasing productivity and income	Adaptation	Reduction of GHG emissions
Crop	+ Adoption of good agricultural practices (VietGAP) in agriculture, forestry and fisheries[87] + Planning to maintain 3.8 million hectares of rice land, of which 3.2 million hectares of 2-crop land to ensure national food security + Converting a portion of inefficiency rice-cultivating land into industrial plants that have low GHG emission and higher economic efficiency + Implementation of the rice-shrimp model in the Mekong Delta	+ Adjustment of crops and plant varieties to adapt to CC in eco-regions + Building some CC response models: coastal aquaculture to cope with CC; community actively preventing and mitigating adverse impacts of natural disasters	+ Research and selection of plan varieties that have low GHG emission + Building a rice cultivation model of decreasing GHG emissions, through irrigation systems that save water; model of collecting and processing crop byproducts to reduce GHG emissions in rural areas in the RRD + Reducing GHG emissions through new rice cultivation techniques (SRI), 3 down- 3 up, 1 must- 5 down to save inputs + Collection, treatment, reuse and prevention of burning straw to reduce GHG emissions in rice cultivation
Livestock	+ Promoting the adoption of VietGAP in livestock	+ Adjustment of livestock structure to response to CC in eco-regions	+ Research and selection of breeds that have low GHG emission + Treatment of livestock waste by anaerobic composting to reduce GHG emissions

[87]Decision 01/2012/QĐ-TTg dated 9 January 2012 of the Prime Minister on some policies supporting the adoption of VietGAP.

Sub-sector	Increasing productivity and income	Adaptation	Reduction of GHG emissions
			+ Adoption of biogas
Fisheries	+ Adoption of VietGAP for main aquaculture products	+ Implementation of Program on building storm shelters + Adjustment of crops in aquaculture to have higher yields, quality, to avoid risks, and reduce environmental pollution	+ Technical and technology innovation in aquaculture to reduce GHG emissions + Building a model to organize production and services in fisheries to reduce GHG emission
Forestry	+ Promote forest reforestation, forest restoration, regeneration and forest enrichment	+ Implementation of programs/projects that improve quality of upstream forests and mangroves, waves protecting forests, and coastal wind sand protecting forests The implementation of the Government Decree 99 on payment for forest environmental services	+ Integrating and coordinating implementation of Program on reducing GHG emissions through deforestation and forest degradation (REDD+)
Irrigation, disaster prevention and reduction		+ Develop the master plan on irrigation in key regions period 2012 - 2020 and vision to 2050 in the context of CC and sea level rise and submit to the Government for approval[88] + Project on raising community awareness and community-based disaster risk management + Integration of CC and sea level rise into the implementation of programs on upgrading sea dykes, and into technical standards of irrigation	+ Enhancing the performance of pumping stations for irrigation systems to save fuel, and reduce GHG emissions

Source: synthesis from MARD and UNDP by author, 2013

Annex 6: Current process of integration of CC into agricultural policiesat provincial level

Step 1: Assessing CC impacts, identifying vulnerability of sectors and regions

[88]Master Plan on irrigation in the Mekong Delta (Decision 1397/QĐ-TTg dated 25 September 2012); Red River Delta (Decision 1554/QĐ-TTg dated 17 September 2012); the Central (Decision 1588/QĐ-TTg dated 24 October 2012).

After PPC sends directives on guidelines on development of 5-year plan, which contain integration of disaster reduction into socio-economic development of the province, and sectors, to departments, districts, the DARD's Division of Planning and Finance will prepare documents and send the form of making 5-year plan on socio-economic development and the form 'Assessment of vulnerability and making plan on disaster prevention and mitigation' to subordinate units of DARD (forestry, fisheries, horticulture, livestock, irrigation), and all divisions of ARD of districts/cities in the province to collect related information to make plans using participatory methods.

Step 2: Synthesizing information

Units under DARD and all divisions on ARD of districts/cities in the province collect information and submit subsector's reports to the DARD's Division of Planning and Finance.

Step 3: Drafting plan on ARD

Financial Planning Division of the Department of Agriculture and Rural develops a draft plan on ARD

Step 4: Consulting

Organizing workshops to make comments on the draft Plan using participatory methods, group discussion by topics to complete the plan. Cross-cutting issues are identified during the assessment of vulnerability in the subsectors: (i) Horticulture, (ii) Livestock, (iii) Aquaculture, (iv) Forestry, (v) and other inter-sector issues. ...

Step 5: Finalizing plan and submitting for approval

The Financial Planning Division of DARD gathers comments and finalize the plan on ARD and submit the plan to DARD's Director for approval.

Step 6: Sending plan to PPC and units concerned

DARD sends plans to the PPC, DPI, MARD, and relevant units (DOF and provincial Offices of Statistics).

Annex 7: Terms of Reference

Agricultural and CC policies: processes, decision-makers and implementation instruments in Vietnam

I. Background

CC and food security are increasingly recognized as two of the greatest challenges of our time. These two challenges intersect in the agriculture sector, which is highly climate-sensitive, a source and sink of greenhouse gases and at the same time the main source of livelihoods, growth and foreign exchange earnings in developing countries with agriculture-based economies. CC is expected to have negative impacts on food security and agricultural development in many of these countries, including the partner countries for the EC-FAO Climate-smart Agriculture project.

An important task facing these countries is to formulate policies, which facilitate the uptake/up-scaling of agricultural practices that increase adaptation to CC, in order to ensure agricultural development and food security. If this can be accomplished with a lower than business-as-usual emission level, which does not compromise development and food security goals, a mitigation co-benefit could also be generated for which climate financing may be possible. However, country-specific synergies and trade-offs, as well as the existing institutional, stakeholder and policy context needs to be carefully considered. Such considerations and the direct incorporation of CC adaptation and mitigation into agricultural

development planning and investment strategies form part of an evolving approach referred to as “climate-smart agriculture” (CSA) by FAO.

EU and FAO are supporting the Governments of Malawi, Vietnam and Zambia, through their Ministries of Agriculture, in collaboration with other relevant Ministries, with the project: *Climate Smart Agriculture (CSA*: *Capturing the synergies between Mitigation, Adaptation and Food Security*“, which is to be achieved through four outputs:

1. Establishing an evidence base on CSA practices and policy;
2. Formulation of country-owned CSA strategies, if they do not already exist;
3. Development of CSA investment proposals and identification of financing mechanisms; and
4. Building capacity across these areas. A key feature of the project is strengthening the capacity of the government and other stakeholders to take decisions on CSA, using multidisciplinary research findings, more coordinated institutional arrangements and coherent policy instruments to integrate CC into agricultural planning, policy and investment.

II. Objective of the Assignment

Agricultural and CC policies provide strategic direction on what to prioritize. Priorities in turn guide action contained in strategies and investments that enable implementation of this action. Implementation of CSA approaches will only be achieved and sustained through supportive and coherent decision-making processes. It is envisaged that the work proposed here will contribute to a better understanding of how agricultural and CC priorities are set, who shapes them and how. To this end, it will map an important subset of stakeholders, who shape agricultural and CC priorities and with whom the project will need to interact in exploring policy, strategy and investment

The specific objective of the assignment is therefore to:

1. examine policy formulation and decision-making processes relating to agriculture and climate change
2. identify who are the key stakeholders at national and provincial levels[89] involved in these processes.
3. assess the extent to which national policy is reflected in national policy implementation instruments
4. examine national-provincial linkages relating to the translation of national policy into provincial policies and policy implementation documents and how provincial policy issues are reflected in national policy, what processes, mechanisms and means are used for these “transfers” and who is involved?

III. Specific Assignment

[89]Provinces to be addressed are: Son La, Dien Bien and Yen Bai.

(a) Describe the processes being used to develop agricultural and climate change policies (both national and provincial levels).

- What are the main purposes, drivers and output(s) of the processes and who are the intended users?
- How are the processes structured/organized? For example, what is the cycle of the process, including duration and frequency?
- What is their perceived importance (in terms of budget allocations, institutional support received and the level of person clearing the policy output)?
- What are the substantive bases informing outputs (do policy processes have access to the information and relevant analysis they need) and how are these transformed into policies?
- How are policy outputs identified and how are they prioritized within these processes?
- How is consensus reached on the outputs, and to whom are they sent for final clearance?
- Are the agricultural development and climate change policy processes sequential, connected in any way or entirely separate? And if connected, in what way are they connected?

Methodology: To answer the above-mentioned questions, after reviewing relevant official documentation as a starting point, the consultant can obtain information through key informant interviews, stakeholder group discussions with relevant staff from Ministries of agriculture, environment/climate change and finance, Provincial Government officials, academics, donors, representatives of NGOs, private sector and intergovernmental organizations (IGOs) as well as through reviewing secondary sources about the formulation and decision-making processes used to develop key policy documents[90].Both national and provincial level processes would have to be addressed. The information gathered could be presented in both table (to facilitate comparison) and narrative forms.

(b) Who (institutions, but also people) are the participants in these processes, who leads/coordinates the process and who ultimately decides on their outputs? Who, outside of these processes, can exert influence on policy processes and their outputs?

The aim of this task is identify which are the most influential institutions (but also people/posts) that are directly involved in agricultural and climate change policy processes at both national and provincial levels(e.g. ministries – agriculture, environment/climate change, finance/investment, planning - research institutes, universities, and other stakeholders). These are the “hub” nodes.

[90] In Vietnam, these would be Action Plan Framework for Adaptation to Climate Change in the Agriculture and Rural Development Sector period 2008-2020,**National Target Program in Response to Climate Change**, National Climate Change Strategy, Provincial Actions Plan to respond CC.

However, others that are not participating in these formal processes may informally influence them (e.g. farmer unions, extension services, donors, NGOs, IGOS, other actors?).

What kind of influence do both groups have on policy development and decision-making (coordination influence, decision making influence, financial support influence, information and advisory influence?)

Methodology: Drawing on the example of Net-Map [see Net-Map Brochure at http://netmap.files.wordpress.com/2008/04/netmap_brochure.pdf and IFPRI, Addis Ababa University, University of Hohenheim A stakeholder Map[91] for Climate Change Adaptation in Ethiopia's Agricultural Sector, 2011]determine which institutions are influential [coordination influence, decision making influence, financial support influence, ability to attract funding information and advisory influence, formal supervisory role, ability to exert political pressure], in both agricultural and climate change policy development,

1. who takes the lead/coordinating role for policy development processes?
2. who are the ultimate decision-makers on policy?
3. who provides/seeks funds to/from whom?

who gives/seeks advice to/from whom? [Advice is defined as information given with the intention to recommend some action. It could be initiated by the advisor or recipient. Advice should be related to agricultural and climate change policy formulation, decision-making and implementation.]

Draw lines between actors to show their interactions (i.e. who seeks advice from whom/who seeks funds from whom). A hub-and-spoke structure is likely to result in mapping the network of actors involved in policy development processes, with (i) and (ii) constituting the hub.

In order for the information to be useable in extending invitations to project activities participatory scenario building), it would be useful if the names and coordinates of key policy decision-makers/formulators could be provided.

c. Policy and Policy Implementation Instruments

Analyze the extent to which national agricultural and climate change policy priorities are reflected in national agricultural and climate change plans, strategies and investment plans, as well as in broader development planning, strategy and investment plan documents.

Methodology: Compare the contents of national agricultural and climate change policy instruments with agricultural and climate change sector plans, strategies and investment plan documents, as well as with development planning, strategy and investment plan documents.

d) National/provincial linkages

(i) Assess to what extent national agricultural and climate change policy priorities, are reflected (or not reflected) in agricultural and climate change policies, plans, strategy

[91] Net-Map is an interview-based mapping tool that helps to understand situations in which many different actors influence outcomes, through examining power, goals and perspectives of various institutions/people, as well as how they interact with each other.

and investment plan documents at provincial level, as well as in broader development plans, strategies and investment plans at provincial level. To what extent are provincial level policy issues reflected in national policies?

Methodology: Analyze and **c**ompare national and provincial policy documents related to issues covered by the project[92] to ascertain the uptake of national policies in provincial policies and whether provincial policies influence national policies (attention will need to be given to the sequence of formulation processes and translation/consultation mechanisms).

(ii) What processes/mechanisms/modalities/measures are used to ensure linkages between national policies and provincial policies and policy implementation documents?

- What coordination mechanisms are used?
- What consultations are held?
- What directives are made?
- What other means are used?

Methodology: Same as point (a) to answer the questions posed above:

(iii) Who (institutions, but also people) is responsible/participates in translating policies from the national into policies and policy implementation documents at the provinciallevel?Who leads/coordinates processes to this end?

The aim of this task is to identify which institutions (but also people/posts) are directly involved in transferring national agricultural development and climate change policies to the provincial level (e.g. ministries, donors, NGOs, IGOS, provincial government officials)and others who may indirectly influence the translation from national to provincial level. The institutions with the greatest and most direct influence will be the “hub” nodes.

*Methodology: Same as in point (b), d*rawing on the example of Net-Map but addressing the following questions:

1. Who takes the lead/coordinating role/participatesinprocesses, mechanisms, measures for
2. Translating national policies into policies or policy implementation documents at the provincial level?
3. Whoare the key implementers of national policies at provincial level?
4. Who provides/seeks funds to/from whom from the national to the provincial levels?

IV. Deliverables

The consultant will prepare a report that:

(i) Describes and compares the processes for development and decision-making on agricultural and climate change policy, using the methodology indicated in Section III (a)

[92] Issues covered by the project refers to identified CSA practices for Vietnam i.e. possible diversification into high value crops (tea and coffee), sustainable land management, including of maize and agro-forestry.

above or a similar one to be agreed upon in consultation with technical coordinators and CSA team to answer the questions formulated in this same section, and present this information in both table and narrative forms.

(ii) Identifies who (people, posts, institutions) lead/coordinate agricultural development and climate change policy processes, develop and decide on their outputs (policies) and who, outside these processes influence policy development-decision-making. It is suggested to use the methodology indicated in Section III (b) above or similar one to be agreed upon in consultation with technical coordinators and CSA team, to map the comparative influence of these institutions on policy decision-making. Specifically identify the names and coordinates of key policy decision-makers/formulators.

(iii) analyzes, using the methodology in Section III (c) above, the extent to which national agricultural and climate change policy priorities are reflected in national agricultural and climate change plans, strategies and investment plans as well as multispectral development plans, strategies and investment plans, and

(iv) identifies, using the methodology in Section III (d) (i) what processes/mechanisms/means are used to translate national policies into relevant provincial policies, plans, strategies and investment plans (both sector and development) and, using the methodology in Section III (d) (ii), who leads, coordinates, participates in these processes/mechanisms/means?.

Annex 8: Glossary

Extreme weather event: Extreme weather is when a weather event is significantly different from the average or usual weather pattern. This may take place over one day or a period of time.

Disaster: an event that results when a hazard impacts a vulnerable community in a way that exceeds or overwhelms the community's ability to cope and may cause serious harm to the safety, health or welfare of people, or damage to property or the environment. A disaster may be triggered by a naturally occurring phenomenon that has its origins within the geophysical or biological environment or by human action or error.

Hazard: a potentially damaging physical event, phenomenon or human activity that may cause the loss of life or injury, property damage, social and economic disruption or environmental degradation. Natural Hazard is a source of potential harm originating from a meteorological, environmental, geological or biological event.

Probability: in statistics, a measure of the chance of an event or an incident happening.

Risk: the combination of the likelihood and the consequence of a specified hazard being realized; refers to the vulnerability, proximity or exposure to hazards, which affects the likelihood of adverse impact.

Risk Management: the use of policies, practices and resources to analyze, assess and control risks to health, safety, environment and the economy.

Vulnerability: a condition or set of conditions determined by physical, social, economic and environmental factors or processes that increase the susceptibility of a community to the

impact of hazards. Vulnerability is a measure of how well prepared and equipped a community is to minimize the impact of or cope with hazards.

Mitigation: actions taken to reduce the impact of disasters in order to protect lives, property and the environment, and to reduce economic disruption. Mitigation includes structural mitigating measures (e.g. construction of flood ways and dykes) and non-structural mitigating measures (e.g. building codes, land-use planning and insurance incentives). Prevention and mitigation may be considered independently or one may include the other.

Qualitative Assessment: a risk assessment method that assigns non-statistical values to risks. A qualitative assessment produces narrative, descriptive or comparative information about risks. It can be based on limited information, numerically incomparable data or complex non-linear relationships.

Quantitative Assessment: a risk assessment method that assigns statistical values to risks.

Resilience: the capacity of a system, community or society to adapt to disruptions resulting from hazards by persevering, recuperating or changing to reach and maintain an acceptable level of functioning. Resilience is built through a process of empowering citizens, responders, organizations, communities, governments, systems and society to share the responsibility to keep hazards from becoming disasters.

Annex 9: Research Methodology

In order to describe and analyze **policy formulation and decision-making processes** relating to agriculture and climate change, the questions posed in Section III (a) of the Terms of Reference will be answered.

Methodology: To answer the above-mentioned questions, after reviewing relevant official documentation as a starting point, the consultant can obtain information through key informant interviews, stakeholder group discussions with relevant staff from Ministries of agriculture, environment/climate change and finance, Provincial Government officials, academics, donors, representatives of NGOs, private sector and intergovernmental organizations (IGOs) as well as through reviewing secondary sources about the formulation and decision-making processes used to develop key policy documents[93]. Both national and provincial level processes would have to be addressed. The information gathered is to be presented in both table (to facilitate comparison) and narrative forms.

In order to identify who (institutions, but also persons), at national and provincial levels, are participants and stakeholders in these policy process, who decides on their outputs, and who outside these processes exerts influence on the processes and their outputs, the most influential institutions (but also people/posts) that are directly involved in agricultural and climate change policy processes at both national and provincial levels (e.g. ministries – agriculture, environment/climate change, finance/investment, planning - research institutes,

[93] In Vietnam, these would include those mentioned in the brief "Policy Processes in Malawi, , Vietnam and Zambia, as well as any other CSA-relevant policy documents (e.g. Action Plan Framework for Adaptation to Climate Change in the Agriculture and Rural Development Sector period 2008-2020, **National Target Program in Response to Climate Change**, National Climate Change Strategy, Provincial Actions Plan to respond CC.)

universities, and other stakeholders) will be identified (the "hub" nodes). Others that are not participating in these formal processes but who may informally influence them (e.g. farmer unions, extension services, donors, NGOs, IGOS, private sector, other actors?) will also be identified. The kind of influence that both groups have on policy development and decision-making (coordination influence, decision making influence, financial support influence, information and advisory influence?) will be analyzed.

*Methodology:*Interviews, key informants, group meetings of stakeholders and institutional/stakeholder mapping (drawing on the example of Net-Map or a similar methodology [see Net-Map Brochure at http://netmap.files.wordpress.com/2008/04/netmap_brochure.pdf and IFPRI, Addis Ababa University, University of Hohenheim A stakeholder Map[94] for Climate Change Adaptation in Ethiopia's Agricultural Sector, 2011] will be used to determine which institutions are influential [coordination influence, decision making influence, financial support influence, ability to attract funding information and advisory influence, formal supervisory role, ability to exert political pressure], in both agricultural and climate change policy development and decision-making. Particular attention will be given to

1. Who takes the lead/coordinating role for policy development processes?
2. Who are the ultimate decision-makers on policy?
3. Who provides/seeks funds to/from whom?
4. Who gives/seeks advice to/from whom? [Advice is defined as information given with the intention to recommend some action. It could be initiated by the advisor or recipient. Advice should be related to agricultural and climate change policy formulation, decision-making and implementation.]

Draw lines between actors to show their interactions (i.e. who seeks advice from whom/who seeks funds from whom). A hub-and-spoke structure is likely to result in mapping the network of actors involved in policy development processes, with (i) and (ii) constituting the hub.

In order for the information to be usable in extending invitations to project activities (participatory scenario building), it would be useful if the names and coordinates of key policy decision-makers/formulators could be provided.

In order to **ascertain if national policy instruments provide strategic orientation for national policy implementation documents (plans, strategies, programs, investments),** the extent to which national agricultural and climate change policy priorities are reflected in national agricultural and climate change plans, strategies and investment plans, as well as in broader development planning, strategy and investment plan documents will be analyzed.

Methodology: Compare national agricultural and climate change policy priorities contained in policy instruments with priorities of agricultural and climate change sector plans, master plans, strategies and investment plan documents, as well as with those of development planning, strategy and investment documents.

In order to understand national-provincial linkages relating to the translation of national policy

[94] Net-Map is an interview-based mapping tool that helps to understand situations in which many different actors influence outcomes, through examining power, goals and perspectives of various institutions/people, as well as how they interact with each other.

into provincial policy implementation documents and how provincial policy issues are reflected in national policy, including what processes, mechanisms and means are used to facilitate this and who is involved, the following methodology will be used.

*Methodology:*Analyze and compare national policy and provincial policy implementation documents, particularly those issues covered by the project[95] to ascertain the uptake of national policies in provincial policy implementation instruments and whether provincial policies influence national policies (attention will need to be given to the sequence of formulation processes and translation/consultation mechanisms). Also identify and analyze the effectiveness of processes/mechanisms/modalities/measures used to link national policies and provincial policy implementation What coordination mechanisms are used? What consultations are held? What directives are made? What other means are used?

Annex 10: List ofPolicy Documents reference

- ***The Central Documents***

1) Decision No. 2139/QĐ-TTg dated 5/12/2011 of the Prime Minister on approving the National Strategy on Climate Change.
2) Directive No. 809/CT-BNN-KHCN dated 28/3/2011 of the Minister of Agriculture and Rural Development on mainstreaming CC issues into the strategic development and implementation, plans, programs, projects, development projects in the agricultural and rural development sector, 2011-2015.
3) Decision No. 1410/QĐ-TTg onThe National Strategy on CC: issued together with Decision No. 2139/QĐ-TTg dated 5/12/2011 of the Prime Minister.
4) Decision No. 447/QĐ-TTg dated 8th April, 2010 of the Prime Minister to issue the operational regulations of the Management Board of The National Target Programto respond to climate change.
5) Decision No. 899/QĐ-TTg dated 10 June 2013 of the Prime Minister to approved “Agricultural Restructuring Plan”.
6) Decision No.124/QĐ-TTg dated 2 February, 2010 of the Prime Minister to approved “Master plan of agricultural development production by 2020, vision 2030”
7) Decision No. 1410/QĐ-TTg dated 16th August, 2011 of the Prime Minister approving the 3rd period policy matrix (2011) of the Support Program-Responses to Climate change
8) Resolution No. 26-NQ/TW of the Party Central Committee. The 10th Conference of the Party Central Committee Term X on “Agriculture, Farmer and Rural”
9) Resolution No. 24-NQ/TW dated 03/6/2013 – The 7th Conference of the Party Central Committee Term XI on “proactivity responding to CC, strengthening natural resource management and environmental protection”

[95] Issues covered by the project refers to identified CSA practices for Vietnam i.e. possible diversification into high value crops (tea and coffee), sustainable land management, including of maize and agro-forestry.

10) The national Target Program on response to CC (NTP-RCC), issued together with Decision No. 158/QĐ-TTg dated 02/11/2008 of the Prime Minister.

11) The national Action Plan on response to CC period 2012-2020 (Decision No. 1474/QĐ-TTg dated 5/10/2012).

12) The Action Plan Framework to respond to CC in the Agricultural and Rural Development sector for the period 2008-2020 (Attached to Decision No. 2730/QD-BNN-KHCN 05,September, 2008 of the Minister of Agriculture and Rural Development).

13) The Action Plan on response to CC of the Ministry of Agriculture and Rural Development for the period 2011-2015, with a vision to 2050 (Decision No. 543/QD-BNN-KHCN on 23/3/2011) .

14) Scheme on reducing greenhouse gas emissions in agriculture and rural areas in 2020 (Decision No. 3119/QD-BNN-KHCN dated 16.12.2012): greenhouse gas emission reduction of 20% in agriculture and rural areas in 2020 (equivalent to 18.87 million tons CO2e); while ensuring the sectorial growth objectives and poverty proportion reduction.

15) MARD, 2013: Agricultural restructuring plan, approved by the Government

Dien Bien province

16) Report No. 83-BC/TU of Dien Bien provincial Party Committee, dated 23/10/2012 on situation of response to CC and natural resources and environment protection

17) Action plan on Response to CC of Dien Bien province for period 2011-2015, vision to 2025

18) Report on Formulating and deploying action plans to respond to CC in Dien Bien province.

19) Project summary report on Evaluating the CC level and formulating CC and sea level rise scenarios

20) REDD+ Action Plan of Dien Bien province (the second draft)

21) Report No. 414/BC-SNN of the Department of Agriculture and Rural Development of Dien Bien province, dated 7/5/2010 on the implementation of National Assembly's Resolutions on project of planting 5 million hectares of forest between 1999 and 2009

22) Resolution No. 26-NQ/TW dated 12/3/2003 on continuing to renew policies and laws on land

23) Resolution No. 41-NQ/TW dated 11/15/2004 of the Politburo on protecting environment in the period of industrialization and modernization of the country

24) Resolution No. 02-NQ/TW dated 25/4/2011 of the Politburo on strategic orientation of minerals and mining industry by 2020

25) Resolution No. 03-NQ/TU dated 12/1/2005 of Provincial Party Committee on Action plan to implement the Resolution No. 37-NQ/TW on orientation of socio-economy development,and ensuring of national defense and security of the Northern midland and mountain areas by 2020

26) Resolution No. 07-NQ/TU dated 7/3/2007 of Executive Board of Provincial Party Committee on Program of concentrated commodity production and export commodity resources in agro-forestry in the period 2007-2010.

27) Plan No. 333/KH-UBND dated 27/4/2006 on implementation of Resolution No. 41-NQ/TW of the Politburo on protecting environment in the period of industrialization and modernization of the country

28) Decision No. 18/2007/QD-UBND dated 2/10/2007 on the issuance of the environmental protection regulation in provincial area; Decision No. 19/2007/QĐ-UBND dated 2/10/2007 on the issuance of the water resources management and use regulation in provincial area

29) Plan No. 1368/KH-UBND dated 20/8/2010 on action plan of biodiversity conservation in Dien Bien province by 2015, with orientation to 2020

30) Plan No. 559/KH-UBND dated 22/4/2011 on Deployment Plan to implement the Decree No. 99/2010/ND-CP of the Government and Decision No.2284/QD-TTg of the Prime Minister on payment for forest environmental services in the provincial area.

31) Decision No. 1663/QD-UBND dated 11/11/2008 on Approval for action plan to implement the national strategy for disaster prevention and mitigation by 2020.

32) Decision No. 140/QD-UBND dated 3/2/2010 on Approval for plan to raise community awareness and manage disaster risk based on community.

33) Decision No. 1084/QD-UBND dated 29/11/2012 on Approval for action plan to response to CC in Dien Bien province for period 2011-2015, vision to 2025.

34) Decision No. 89/QD-UBND dated 20/2/2013 on the establishment of the Steering Committee and the Supporting Group of the National Target Program on response to CC in Dien Bien province

35) Decision No. 226/ QD-BCĐ dated 24/4/2013 on the issuance of operation regulation of the Steering Committee of the National Target Program on response to CC in Dien Bien province

36) Decision No. 1701/QD-UBND dated 17/11/2008 on regulations to implement the rice subsidy policy for ethnic minorities in areas planting protection forests and production forests to replace the upland in the provincial area

37) Decision No. 355/QD-UBND dated 19/3/2009 on approval of investment support norm of forest protection and natural regeneration and new protection forests and special use forests plantation of the project to plant new five-million-hectare forest for the period 2009-2010

38) Decision No. 262/QD-UBND dated 8/3/2010 on the approval to convert the area among kinds of protection forests, special use forests and production forests in Dien Bien province.

39) Decision No. 10/2011/QD-UBND dated 22/4/2011 on issuance of the investment support norm for the forest development and protection for period 2011 - 2015.

40) Decision No. 684/QD-UBND dated 26/6/2007 on approval for the scheme on mass commodity production and for export commodity sources in agricultural and forestry subsector of Dien Bien province, for period 2007- 2010

41) Decision No. 11/2010/QD-UBND dated 30/7/2010 on policies to support the agricultural-forestry-fishery production in the provincial area of Dien Bien.

42) Decision No. 1534/QD-UBND dated 30/12/2005 on approval of outline and funding of the Shantea development planning project in 4 communes including Sin Chai, Ta Sin Thang, Ta Phinh, Sinh Phinh of the Tua Chua district, Dien Bien province for period 2006-2015, vision to 2020

43) Decision No. 532/QD-UBND dated 25/6/2012 on approval of the coffee region development planning by 2015, vision to 2020

44) Decision No. 1035/QD-UBND dated 30/7/2009 on approval of the plan of rubber development planning in the provincial area of Dien Bien for period 2008-2020

45) Decision No. 16/2011/QD-UBND dated 30/5/2011on issuance of temporary policies to support the development of rubber trees in the provincial area, for period by 2020.

Yen Bai province

46) Action plan on response to CC in Yen Bai province for period 2011-2015

47) Resolution of the 17th Congress of Yen Bai Party Committee (October 2010), identified the task of natural resources and environment protection for period 2011-2015

48) Action Program No. 25-CTr/TU, dated 10/6/2003 on the implementation of Resolutions of the 9th Conference of the Party Central Committee

49) Action Program No. 35-CTr/TU, dated 14/4/2005 on the implementation of Resolution No. 41-NQ/TW of the Politburo (Term IX) on environmental protection in the period of industrialization and modernization of the country

50) Implementation plan of Directive No. 29-CT/TW dated 21/01/2009 of the Secretarial Committee on continuing to implement the Resolution No. 41-NQ/TW of the Politburo

51) Action Program No. 1006/CT-UBND dated 2/6/2008 on the implementation of the National Strategy for disaster protection and mitigation from 2008 to 2020

52) Document No. 1464/UBND-TNMT dated 14/7/2010 of Yen Bai Provincial People's Committee on the implementation of the National Strategy for disaster protection and mitigation 2008-2020.

53) Decision No. 2385/QD-UBND dated 15/10/2010 of Yen Bai Provincial People's Committee on assessing of the implementation of Decision No. 79/2007/QD-TTg and deploying the tasks of the National Target Program on response to CC

54) Decision No. 2141/QD-UBND dated 20/12/2010 of Yen Bai Provincial People's Committee on assigning capital plan of the National Target Program on response to CC in 2010 of Yen Bai province

55) Decision No. 287/QD-UBND dated 30/3/2011 on the approval of action plan to response to CC in Yen Bai province

56) Decision No. 485/QD-UBND dated 9/4/2011 on the establishment of the Steering Committee of the National Target Program on response to CC of Yen Bai province; Decision No. 1504/QD-UBND dated 10/10/2011 on consolidation of the Steering Committee of the National Target Program on response to CC of Yen Bai province

57) Decision No. 304/QD-UBND dated 30/3/2012 on issuance of Action plan to response to CC in Yen Bai province

58) Plan 120/KH-UBND dated 31/10/2012 on the implementation of the National Target Program on response to CC of the province for period 2013-2015.

59) Decision No. 1247/QD-UBND dated 7/8/2008 of Yen Bai Provincial People's Committee on approval of the plan to review residential layout master planning.

60) Decision No. 487/QD-UBND dated 9/4/2010 on Approval for Scheme to raise community awareness and manage disaster risks based on community.

61) Decision No. 1066/QD-UBND dated 8/7/2010 on the issuance of policy framework to support the remedies caused by the disasters and floods in the provincial area of Yen Bai

62) Decision No. 419/QD-UBND dated 25/4/2012 on the establishment of Yen Bai Forest Protection and Development Fund.

Son La province

63) Action plan on response to CC in Son La province by 2020.

64) Discussion report of Department of Agriculture and Rural Development of Son La on assessing the deployment process of agriculture and CC policies of Son La province, at the Seminar on the process to implement the CC policies in agricultural sector dated 20/6/2013 at Son La City, Son La province.

65) Decision No. 830/QD-UBND dated 7/4/2010 on assigning the implementation of the National Target Program on response to CC (Assign the Department of Agriculture and Rural Development to be the standing unit of the Program)

66) Decision No. 1001/QD-UBND dated 22/5/2012 on issuance of action plan on response to CC by 2020, orientation to 2025.

67) Plan No. 89/KH-UBND dated 30/10/2012 on the implementation of the National Target Program on response to CC for period 2013-2015.

68) Decision No. 2400/QD-UBND dated 4/10/2010 on issuance of implementation plan of Resolution No. 27/NQ-CP ona number of urgent measures in the State management on Natural Resources and Environment

69) Decision No. 30/QD-UBND dated 6/1/2011 on issuance of implementation plan to Resolution 324/2010/NQ-HDND dated 8/7/2010 of provincial People's Council on a number of measures to enhance the implementation of Law on Environmental Protection.

70) Decision No. 2842/QD-UBND dated 15/11/2008 on approval of National Target Program on disaster prevention and mitigation by 2020

71) Decision No. 179/QD-UBND dated 21/1/2010 on the assignment to implement the Action Program of disaster prevention and mitigation strategy by 2020;

72) Decision No. 713/QD-UBND dated 29/3/2011 on approval of disaster prevention and mitigation from 2010 to 2015 and vision to 2020.

73) Decision No. 1422/QD-UBND dated 26/5/2009 on approval for the plan to review and supplement the residential arrangement planning of Son La province for period 2007-2010 and orientation to 2015

74) Decision No. 1084/QD-UBND dated 21/1/2010 on Approval for the plan to raise community awareness and manage disaster risks based on community of Son La province.

75) Decision No. 2439/QD-UBND dated 28/10/2011 on Issuance of action plan to implement the Resolution No. 10-NQ/TU dated 30/6/2011 of the Provincial Party Committee of Son La on enhance the Party's leadership toward the forest protection and development activities by 2015

76) Decision No. 1094/QD-UBND dated 13/5/2011 on issuance of investment support level for forest plantation, regeneration and forest protection under programs and projects in the area of Son La province; Decision No. 1031/QD-UBND dated 25/5/2012 on the amendment and supplementation of Decision No. 1094/QD-UBND dated 13/5/2011

77) Decision No. 3304/QD-UBND dated 26/12/2008 on approval for rubber development planning in the areas of Son La for period from 2007 to 2011 and vision to 2020;

78) Decision No. 1736/QD-UBND dated 19/6/2009 on regulating the investment rates of seeds, fertilizers for some crops, implementing policies on supporting the production of agricultural, forestry and fishery subsectors, pursuant to the Guideline No. 08/2009/TT-BNN dated 26/2/2009 of the Ministry of Agriculture and Rural Development

79) Plan No. 599/KH-SNN dated 30/6/2011 on environmental protection plan in 2012 of the agricultural and rural development sector; plan No. 396/KH-SNN dated 18/5/2012 on environmental protection plan in 2013 of agriculture and rural development sector

80) Resolution No. 26-NQ/TW dated 12/3/2003 on continuing to renew policies and laws on land

81) Resolution No. 41-NQ/TW dated 11/15/2004 of the Politburo on environmental protection in the period of industrialization and modernization of the country

82) Resolution No. 02-NQ/TW dated 25/4/2011 of the Politburo on orientation of minerals and mining industry policies by 2020

83) Resolution No. 10-NQ/TU dated 30/6/2011of the Provincial Party Committee of Son La on enhancing the Party's leadership towards forest protection and development activities by 2015

84) Resolution No. 218/NQ-HDND dated 21/7/2008 of Son La Peoples Council (tern XII) on approval for forest protection and development planning of Son La province by 2015

85) Resolution No. 20-NQ/TU dated 18/6/2007 of the Provincial Party Committee of Son La onprotection and development of aquatic resources by 2010 and by 2015.

86) Resolution No.258/2008/NQ-HDND dated 12/12/2008 of the People's Council of Son La province term XII on the issuance of policies to support the development of cattle breeding in the provincial area for the period from 2009 to 2015; Resolution No. 362/2011/NQ-HDND dated 18/3/2011 on adjusting and supplementing the Resolution No. 258/2008/NQ-HDND;

87) Resolution No. 363/2011/NQ-HDND dated 18/3/2011 of the provincial People's Council on policies for the development of rubbers in the areas of Son La;

88) The programs, schemes and projects to implement the environmental protection tasks such as: the project on planning mass safety fruit production regions for period 2012 -2020; the project on reviewing and supplementing the rubber development planning for period 2012-2015; the Planning on safe tea production regions by 2020; the Planning onforest protection and development for period from 2012 to 2015, the Planning on raw cotton material regions by 2020; the Planning on spawning grounds and young aquatic organisms of Son La hydropower for period 2012-2015, the Planning on the development of the bamboo and rattan material regions by 2020; the Project on enhancing the quality management of agricultural, forestry and fishery products to ensure food safety for period 2012-2015.

Annex 11: List of Key Respondents

No.	Name	Institution
1	Lê Quốc Doanh	Vice Minister – MARD
2	Đào Xuân Học	Former Vice-Minister of MARD
3	Tô Đình Mai	Former Senior Policy Expert –MARD's Dept. of Legislation
4	Phạm Xuân Phương	Former Director General of Dept. of Legislation, MARD
5	Phạm Mạnh Cường	Vice Director of International Cooperation Dept. cum MARD's REDD+ Coordinator
6	Đinh Ngọc Minh	Vice Director – Dept of Agriculture Economy - MPI
7	Le Thị Mai	Vice Director – Dept of Biodiversity Conservation – MONRE
8	Nguyễn Thanh Quang	SNV Senior Advisor for CC and REDD+
9	Nguyen Van Linh	Head of Legislation Divisions – Dept. of Meteorology and CC
10	Hoàng Xuân Hiền	MARD's Center for Natural Disaster Reduction
11	Lê Văn Minh	Coordination Unit – SP-RCC
12	Hoàng Thị Bích Hợp	Centre for Environment Research Education and Development
13	Nguyễn Thị Kim Tú	Directorate of Fisheries – MARD
14	Ngô Thị HồngUyên	Crop Production Department – MARD
15	Đinh Vũ Thanh	Department of Science, Technology and Environment MARD
16	Đặng Quang Minh	Disaster Management Center – MARD
17	Đào Bạch Vân	Department of Meteorology, Hydrology and Climate change – MONRE
18	Nguyễn Trường Giang	Department of Science, Technology and Environment
19	Phạm Quốc Hùng	Vietnam Administration of Forestry
20	Nguyễn Thành Công	Disaster Management Centre – MARD
21	Hoàng Liên Sơn	FEREC – Forest Economic Resource Education Center
22	Dương Ngọc Thí	Deputy Director General of Institute of Policy and Strategy for Agriculture and Rural Development
23	Cao Vĩnh Hải	Center for Environment Resources and. Rural Poverty Alleviation
24	Phạm Quang Hà	Institute of Agricultural Environment

25	Trần Đức Lâm	Yen Bai Department of Agriculture and Rural Development
26	Nguyễn Hữu La	Deputy Director General – NOMAFSI
27	Lưu Ngọc Quyến	NOMAFSI Deputy Director General
28	Nguyễn Văn Kiến	Yen Bai Department of Agriculture and Rural Development
29	Lê Thị Thủy	Son La Department of Natural Resource and Environment
30	Đỗ Xuân Hòa	NOMAFSI
31	Phạm Thị Sến	NOMAFSI
32	Phan Hiền	Dien Bien Department of Natural Resource and Environment
33	Ngô Xuân Bình	Dien Bien Department of Natural Resource and Environment
34	Vũ Hoàng Lâm	NOMAFSI
35	Trần Văn Quân	Son La Department of Agriculture and Rural Development
36	Đàm Duy Đức	Yen Bai Department of Agriculture and Rural Development
37	Nguyễn Đỗ Anh Tuấn	Deputy Director General of Institute of Policy and Strategy for Agriculture and Rural Development
38	Nguyễn Hoàng Anh	Officer of OCCA, MARD
39	Nguyễn Hoàng Đan	Officer of Planning Department, MARD
40	Nguyễn Lanh	Director of Climate change Division, ISPONRE, MONRE
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