



## RESPONSE TO CLIMATE CHANGE IN VIETNAM, THE ROLE OF PREVENTION AGAINST ENVIRONMENT-RELATED CRIMES

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### ABSTRACT

Responses to climate change is approached in two ways: mitigating the effects of climate change and controlling the causes of climate change. Greenhouse gas (GHG) control is one of the essential parts of responses. In Vietnam, the issue of climate change and the risks of negative impacts on climate change are on the upswing. The reduction of criminal acts and legal violations is urgently needed in the current period. Negative impacts of climate change need to be clearly and explicitly identified and actions taken to effectively prevent these behaviors. In Viet Nam, attention should be paid to the prevention against environmental laws' violation, in which the main subjects are the Environmental Police Forces. The major activities are environmental pollution and waste management; to prevent and respond to environmental incidents; to ensure the environment in import and export; forest protection and biodiversity conservation. Therefore, measures should be taken to ensure the effectiveness of environmental protection in order to promote its role in responding climate change in Vietnam in the current situation.

**KEYWORDS** : Climate Change, Environment, Crimes, Law Violations, Response, Environment in the Police Force

### 1. IDENTIFYING THE PROBLEMS

#### 1.1. The perception of climate change and responses to climate change

Climate change is the greatest challenge of humanity and Vietnam in the 21st century, the impact of climate change on Vietnam is confirmed in the Directives of the Party and the State. In Vietnam, climate change is approached in many aspects associated with integration as well as economic development. Specifically, it is combined with problems, such as: environmental security, food security, social security, human security, national security... In order to establish a legal basis for climate change response in Viet Nam, the National Target Program on Response to Climate Change prepared by the Ministry of Natural Resources and Environment in 2008 stated: "Climate change is the change of state relative to average or fluctuation of climate maintained over a long period of time, usually several decades or longer. Climate change may be due to internal processes or external or human activities that alter the composition of the atmosphere." [3]. This is a comprehensive approach to address climate change in many aspects of climate change adaptation in Viet Nam.

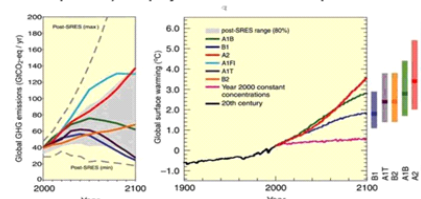
According to the Law on Environmental Protection of Vietnam 2014: "Response to climate change refers to actions that human beings may take to adapt to and mitigate the climate change" [13]. In which: climate change adaptation is the adaptation of natural or human systems to changing environment, which aims to reduce the potential for vulnerability; Mitigation of climate change is activities that reduce the intensity of greenhouse gas emissions [13].

"Climate change is a global problem, a considerable challenge for all human beings in the 21st century. Response to climate change must be placed in a global relationship; It is not only a challenge but also an opportunity to promote the transformation of the growth model towards sustainable development. Adaptation and mitigation must be carried out at the same time, in which adaptation to climate change and mitigation of natural disasters is main point." [1]. Facing the actual and potential impacts of climate change on the environment, economy and society in Vietnam, response to climate change is defined by the Communist Party of Vietnam as an important task of the whole political system, in order to promote the role of the forces, functional agencies and the whole society.

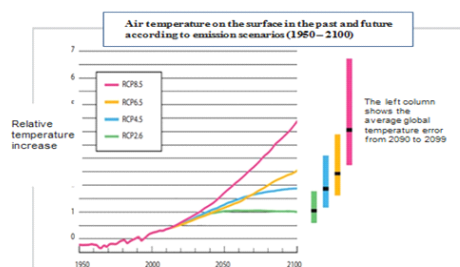
In response to climate change, specific measure to control greenhouse gases should be implemented such as: to control

greenhouse gas emission in socio-economic development; to afforest to stabilize carbon dioxide; to develop mangrove ecosystems and coastal protection forests to mitigate consequences of sea level rise, salt intrusion, storms, floods and droughts. The implementation of the above measures and solutions, based on the responsibilities and scope of the assignment, each subject should play a role in responding to climate change. Thus, the fight against environmental crime will play an essential part in responding to climate change.

**Scenarios for GHG emissions from 2000 to 2100 (in the absence of additional climate policies) and projections of surface temperatures\***



**Fig 1. Scenarios for GHG emissions from 2000 – 2100 and projections of surface temperatures (Source: International Center on Environmental Management 2017)**



**Fig 2. Air temperature on the surface in the past and future according to emission scenarios (1950 – 2100) (Source: International Center on Environmental Management 2017)**

The Asia-Pacific region is considered one of the most vulnerable regions to be hit by climate change. Many types of natural disasters, climatic events and extreme weather happen with increasing scale, frequency and extent. Figures for 2015 show that, out of a total of 90 global storms, 344 natural disasters, nearly 50% of those occur in

countries and territories in the Asia-Pacific region.

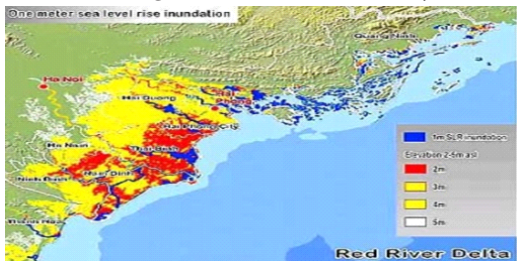
In particular, Vietnam is considered one of the countries heavily affected by climate change due to the long coast. According to climate change scenarios of Vietnam, by the end of the 21st century, there will be about 40% of the Mekong River Delta, 11% of the Red River Delta and 3% of the local area. other coastal areas will be submerged. At that point, 10-12% of Vietnam's population will be directly affected, with a loss of about 10% of GDP. In particular, HCMC will be inundated over 20% of the city.

**Table 1. The 10 provinces most severely affected by the sea level rise**

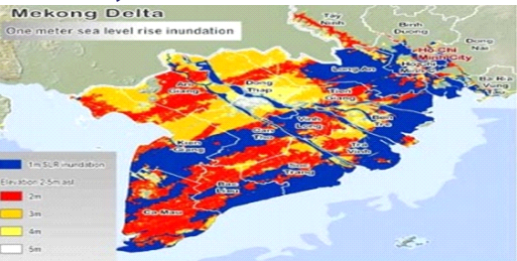
THE 10 PROVINCES MOST SEVERELY AFFECTED BY THE SEA LEVEL RISE			
Provinces	Total areas	flooded area (km2)	% flood percentage
Ben Tre	2,257	1,131	50,1
Long An	4,389	2,169	49,4
Tra Vinh	2,234	1.021	45,7
Soc Trang	3,259	1,425	43,7
Ho Chi Minh city	2,003	862	43,0
Vinh Long	1,526	606	39,7
Bac Lieu	2,475	962	38,9
Tien Giang	2,397	783	32,7
Kien Giang	6,224	1,757	28,2
Can Tho	3,062	758	24,7
Total	29,827	11,474	38,5

**Judge Jeremy Carew-Reid - Director of the International Center for Disease Prevention and Control**

**Environmental Management (ICEM). Picture: Jeremy Carew-Reid**



**Figure 3. According to forecasts, many areas in the RRD such as Hai Phong, Thai Binh, Nam Dinh, Ninh Binh will be submerged from 2-4m in 100 years (Source:ICEM)**



**Figure 4. According to forecasts, many areas in the Mekong Delta such as An Giang, Dong Thap, Tien Giang, Vinh Long, Ca Mau... will be submerged from 2-4m in 100 years (Source:ICEM)**

**1.2. The perception of prevention against environment-related crimes in responding to climate change**

According to Point i, Clause 3, Article 142 of the Law on Environmental Protection 2014: "The Minister of Public Security is responsible for organizing, directing activities of environmental crime fighting and ensuring security in the area of environment..." [13]. Therefore, the prevention against crimes and violations of environmental legislation in accordance with the law is the responsibility of the Minister of Public Security. In order to

concretize the above-mentioned issues, the task of preventing against environment-related crimes shall be assigned to the Environmental Police Forces of the Ministry of Public Security. According to the provisions of the Ordinance on Environmental Police in 2014: "Environmental police is a branch of the police specialized in preventing, detecting, fighting against criminal and administrative offenses related to environment; proactively and cooperatively preventing, fighting against crimes and violations of law related to natural resources and food safety related to environment" [16].

On the basis of law, the environmental police forces have taken measures to prevent, detect and handle crimes and violations of environmental legislation. Particularly, the violations such as: waste discharge, violating regulations on waste management, violating regulations on prevention and response to environmental incidents, violating regulations on forest protection... The prevention against crimes and environmental offenses has contributed to controlling greenhouse gas emissions, improving the quality and covering density of forest, protecting ecosystems of watershed and coastal forest... These direct and indirect activities contribute to effective response to climate change in Vietnam. In the coming time, there should be solutions to maintain and ensure the effectiveness of prevention against environmental law violations of the police force.

**2. RESEARCH METHODOLOGY**

**2.1. The method of collecting, synthesizing and analyzing data**

Collecting and studying the policies and regulations of Vietnam's law on environmental protection and response to climate change in order to clarify relevant perspectives and perceptions... Collecting and exploiting data on climate change, the impacts of climate change, data on crimes and violations of environmental law in Vietnam from functional agencies such as: Ministry of Natural Resources and Environment, Ministry of Agriculture and Rural Development, The Department of Environmental Police... On the basis of the collected data, analyzing and evaluating in order to clarify research contents.

**2.2. The method of case study**

Studying typical reports on climate change, impacts of climate change in some key areas. Investigating cases and of environmental legislation typically in localities in a number of activities such as greenhouse gas emissions, waste management, forest management and protection, wildlife protection, natural ecosystem conservation. Some localities were selected for case study such as Hai Phong, Hanoi, Nghe An, Quang Nam, Dak Lak, Ho Chi Minh City.

**2.3. The method of expertise**

Interviewing, consulting experts in environmental protection, in Agriculture and Rural Development, in Natural Resources and Environment. Consulting staff involved in practical work in the fields of waste management, forest protection and development, biodiversity, rural areas and handicraft villages ... under the Environmental Police Department, the Environmental Police Division of the provincial/municipal Public Security.

**3. THE RESULTS OF RESEARCH**

Globally and regionally, climate change is having a more dramatic impact through an increase in average global temperatures. There less cold days in East Asia and South Asia; the average rainfall tends to increase, however, Central Asia alone appears to decline in the summer. Extreme weather events occur more frequently and there is a sharp increase in intensity. In Vietnam, according to the Ministry of Natural Resources and Environment, in the period 2016 - 2020, climate change continues to have complicated changes in nature and extent of impact. Climate change has a huge impact on many areas, threatening agricultural issues, food security, the implementation of hunger elimination and poverty reduction policies and the country's sustainable development goals. Similar to other countries in Asia and Southeast Asia, these effects are

manifested through extreme weather events such as typhoons, floods, droughts, hot suns, sea level rise, salt water immersion... and other impacts of climate change on socio-economic - environment ...

The negative side of the industrialization - modernization in Vietnam has had a clear impact on the complexity of the crime situation and the violation of environmental law. The current situation makes it difficult to control greenhouse gas emissions and to protect forests in response to climate change. Discharge acts cause pollution to the water environment and air environment in many typical areas such as Hanoi, Ho Chi Minh City, Dong Nai ... In the North Central Coast, South Central Coast, Central Highlands, Mekong River Delta, the illegal exploitation of forests leads to a decrease in the area of watershed protection forest and coastal forest. Thus, the ability prevent the invasion of the sea is also decreasing... Facing this situation, the Environmental Police Forces have carried out specific activities in the prevention against crimes and violations of environmental legislation, which are defined as: To grasp the situation of crimes and violations in the field of environment; To identify causes and conditions of crimes; To develop plans and solutions to prevent environment-related crimes; To implement measures in limiting causes, detecting and investigating cases of environmental legislation..

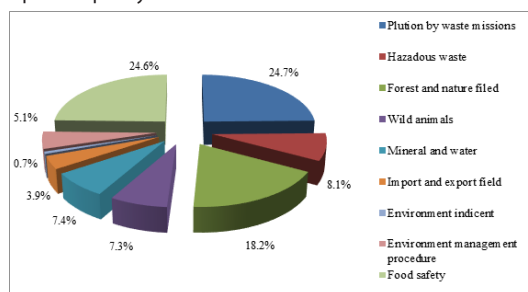
In the period of 2013 - 2017, the Environmental Police Forces have discovered and handled 73,614 cases of crimes and violations of the law on environment, resources and food safety. Of which, 75,606 people have been handled; 32,112 individuals and 12,092 organizations have been administratively handled with over billions VND; 1,341 cases with 1,982 individuals have been prosecuted [12]. Violations of regulations on discharge of waste, violations of regulations on waste management, violations of regulations on forest management and protection, account for more than 50% of all violations reported annually. The prevention has contributed to detecting and dealing with many serious violations, which directly relate to greenhouse gas emissions and forest protection... Typically, in 2014, the Hao Duong Company (Hiep Phuoc Industrial Park in Ho Chi Minh City) has been treated with the act of discharging wastewater up to 10 times to allowable limit, with the amount of 600 m3 - 800 m3 /day and night; In 2016, in Lam Dong province, the Environmental Police Department detected violations of the law on forest protection, Le Hong Ha (Loc Bac, Bao Lam, Lam Dong) led in exploiting and transporting over 1000 m3 of wood of various types.

**Table 2. Situation of law violations on the environment, resources and food safety from 2013 to 2017**

Year	Crimes and law violations (cases)	Prosecuted (cases)	Administratively handled (cases)	Other forms of sanction (cases)
2013	13386	455	10345	2568
2014	12192	308	7263	4041
2015	13784	232	8205	5579
2016	14855	129	9847	3827
2017	19397	217	15805	2296
Total	73614	1341	51465	18311

Results of treatment in the period of 2013 - 2017: Violations of polluting the environment account for 24.7%, violations of nature and forest protection accounts for 18.2%, violations of hazardous waste management account for 8.1%. Although there has been no summary and statistics on the level of detecting violations to specific tasks of response to climate change, which are: greenhouse emission control, forest protection and development... However, the above statistics on show that the operation of the Environmental Police Forces have directly contributed to limiting and preventing the risk of causing environmental pollution. Also, limiting greenhouse gas emissions into the environment in industries such as transportation, construction, craft villages; maintaining and developing the area and quality of protective forest and special-use forest; consolidating the greenhouse gas

absorption capacity.



**Chart 1. Result of the Environmental Police in handling by filed in the period of 2013 - 2017**

In order to bring into play the role of the prevention against environmental crimes in ensuring effective response to climate change in Vietnam, the following issues need to be addressed:

To improve the policies on the prevention and combat against crimes infringing upon environmental law. Specifically, the function and authority of the Environmental Police must be provided in inspecting, administratively sanctioning, prosecuting, investigating violations such as discharge of wastewater, violating regulations on forest protection and development, violating regulations on waste management ... To improve the coordination mechanism with agencies of Natural Resources and Environment, Agriculture and Rural Development... in controlling environmental pollution, waste management, forest management and protection.

It is necessary to focus on the prevention against violations in waste management in the industrial zones, the handicraft villages, especially the plastic, steel and paper craft villages. To pay attention to violations occurring in the forms of large-scale industries such as cement industry, production of building materials, metallurgy, thermal power, ceramics.

To implement measures to proactively grasp the situation, detect and promptly handle criminal acts on forest management, especially for activities with high risks such as: Conversion of land use purpose to develop traffic, hydropower, irrigation, mineral exploitation, coastal aquaculture. To strictly deal with acts of damaging protective forests. To thoroughly resolve hot flashpoints and complicated situation on forest exploitation.

To ensure the efficiency of international cooperation in the combat against environmental crimes and violations. Through international cooperation, to enhance the capacity and experience of prevention. To support and exchange information on transnational environmental crimes in the trafficking of waste.

To invest in equipments for environmental inspection, to build laboratories and systems for monitoring environmental quality and waste discharge quality in service of the environmental crime prevention in localities. It should focus on supporting the environmental police forces in localities, especially in two key economic regions in the north and south..

**4. SOLUTION**

In order to respond effectively to climate change, in the future, the Ministry of Public Security, especially the Environmental Police Force need to focus on implementation of the following tasks:

Continue to organize propaganda and education to raise awareness of climate change to response capabilities; Replication deployment, training on the prevention and control, rescue, recovery from natural disasters, accidents, environmental pollution for officers of the People's Police and the community.

Continue the survey, building assessment report on the impact of climate change fields of work and struggle of the Police force as a



basis for a draft action plan to respond to climate change in the coming years under from 2012 to 2017 and vision to 2020, 2030.

Replication of waste, hazardous waste at the offices and establishments crowded with people as the camp office, the detention facilities, hospitals, schools and police establishments producing people in order to reduce environmental pollution, reduce greenhouse gas emissions, fuel supplies run generators, lighting, cooking ...

The planning of camps and detention facilities systems, warehouses, factories and enterprises to adapt to climate change impacts. Renovation of internal roads, water supply systems, preventing surges, saline intrusion in the premises ... sensitive, vulnerable by climate change impacts.

Application solutions and clean technology solar, wind, sea waves, biogas ... for living, work and struggle of the people's police force.

Research, review, build and integrate the work of responding to climate change into planning and program development plans of the police units and localities in particular, the police general.

Problem adapt and cope with climate changes are complex issues, the global nature and long-term impact. Hence, the Ministry of Public Security especially the Environmental Police Force need to strengthen cooperation issues in coordination with other ministries and localities to study and assess the impact and the solutions proposed, the implementation plan is needed to improve and effective incident response to climate change by now and the future.

## 5. THE CONCLUSION

Response to climate change is a complex problem, which requires systematic and multidisciplinary implementation. The role of prevention against environmental crimes in responding to climate change can be approached in different ways. The scope of research mainly refers to the general view, based on the prevention of the environmental police forces. On the basis of policies, strategies, legal provisions in responding to climate change and the practical results of environmental crime prevention, there should be more specific studies and evaluations to promote the role of this work in the coming time.

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