

## Environmental protection work in Binh Gia district, Lang Son province in 2023

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**Abstract:** Environmental protection has become a critical issue in the context of global climate change, rapid urbanization, and population growth. In Vietnam, environmental challenges are increasingly urgent, especially in rural and remote areas where economic development often conflicts with sustainable development goals. Binh Gia district, located in the mountainous region of Lang Son province, faces similar environmental pressures. This paper evaluates the environmental protection efforts in Binh Gia in 2023, focusing on the implementation of national policies, local initiatives, and the outcomes in managing and preserving the environment. As an agricultural-based rural district, Binh Gia encounters significant environmental issues, including improper agricultural waste management, excessive use of agricultural chemicals, and environmental degradation. Effective local management, including law enforcement, community involvement, and capacity building for local authorities, is critical to addressing these challenges. This study employs primary data gathered through field surveys and interviews with local officials and residents, along with secondary data from national and provincial reports. The results provide an overview of the environmental situation in Binh Gia, highlighting key challenges and suggesting sustainable environmental management solutions for the coming years.

**Keywords:** Environmental Protection, Binh Gia District, Lang Son Province.

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### I. INTRODUCTION

Environmental protection has become an urgent issue in the context of global climate change, rapid urbanization and population growth (Anh Bui Nu Hoang., 2017; Le Thi Quynh Tram and Mcpherson., 2024; Mihai and Iatu., 2020). In Vietnam, environmental challenges are increasingly pressing, especially in rural and remote areas where economic development often conflicts with sustainable development goals (Tuong Duy Kien and Nguyen Thi Lan, 2020). Binh Gia District, located in the mountainous region of Lang Son Province, is no exception to these challenges. With diverse natural resources, the district faces significant environmental pressures, such as waste management, pollution from industrial activities and degradation of natural habitats (People's Committee of Binh Gia District, 2023). The purpose of this study is to assess the status of environmental protection efforts in Binh Gia in 2023, focusing on the implementation of national policies, local initiatives and achievements in environmental management and protection.

Binh Gia is a rural district with a significant agricultural base, facing problems such as improper disposal of agricultural waste, excessive use of agricultural chemicals, etc. These concerns require effective local management, including environmental law enforcement, community engagement, and capacity building for local authorities (Trung D. Dang and Thong A. Tran, 2020; Thang Nam Do and Dinh Thi Ta, 2022; Tirado et al., 2010; Van Thanh Tran et al., 2021; Viet et al., 2007). This paper uses both primary data, collected from field surveys and interviews with local officials and residents, and secondary data from national and provincial reports to present an overview of the environmental situation in Binh Gia, identify key challenges, and propose solutions for sustainable environmental management in the coming years.

### II. DATA AND RESEARCH METHODS

- Method of collecting data and documents: collecting relevant legal documents, policies of the Party and the State on state management of the environment; data on natural conditions, local socio-economics.

- Field survey method: Field survey of the research area on natural conditions, potential natural resources, socio-economics. During the field survey, combine with observation to assess the current state of environmental pollution and the implementation of state management of the environment of the commune.

### **III. RESULTS AND DISCUSSIONS**

#### **3.1. General introduction to Binh Gia district, Lang Son province**

Binh Gia is a mountainous district, located in the West of Lang Son province, in the geographical coordinates from 21044'52" to 22018'52" North latitude and from 106004'12" to 106032'32" East longitude. The total natural area of the district is 109,415.12 ha, including 18 communes and 01 town. Binh Gia district is 75 km west of Lang Son city; 62 km from Huu Nghi Quan border gate along National Highway 1B and 85 km southwest of Thai Nguyen city. The district's bordering locations are as follows:

- To the North, it borders Trang Dinh district;
- To the East, it borders Van Lang district;
- To the Southeast, it borders Van Quan district;
- To the West, it borders Na Ri district, Bac Kan province;
- The Southwest borders Thai Nguyen province;
- The South borders Bac Son district.

The unfavorable geographical location and poorly developed infrastructure, especially the transportation system, are the basic difficulties for the economic - cultural - social development exchange between Binh Gia and neighboring areas, especially the major economic centers of the region.

#### **3.2. Current status, changes in environmental components and environmental issues**

##### **3.2.1. Current status of environmental components**

Fluctuations in land area: Divided into 03 main land groups: Agricultural land, non-agricultural land and unused land, in which: The total agricultural land area of the district is 105,204.65 ha, accounting for 96.15% of the total natural area. The agricultural land area is mainly from agricultural production land with an area of 6,213.93 ha, accounting for 5.68% of the total natural area. (The rice-growing land area accounts for a small proportion with 3,224.62 ha, accounting for only 2.95% of the total natural area), forestry land with 98,879.51 ha, accounting for 90.37% of the total natural area. (In which the area of protective forest land: 9,881.85 ha, accounting for 9.03% of the total natural area). However, the forestry land area serving the production of the people today is mainly natural forest with low wood reserves, poor wood quality, newly planted young forests that have not reached the exploitation period, so the economic value is low, and the people in Binh Gia district live mainly on agriculture. Non-agricultural land is 3,466.73 ha, accounting for 3.17% of the total natural area; unused land is 743.74 ha.

Industrial and handicraft production in the area continues to be maintained and increased compared to the same period. Facilities for the production of raw materials, electricity, water for daily life, production, and basic construction are guaranteed to meet the needs of some key products.

In general, the level of environmental pollution in Binh Gia is insignificant. However, in the district, the potential risks affecting the environment mainly come from production and service business activities such as petroleum trading, mineral exploitation, construction material trading, etc. Littering into the environment still occurs in some places, especially in rural areas.

- Main sources of waste: Domestic waste; Domestic wastewater, wastewater from other activities; Environmental pollution in aquaculture; Environmental pollution due to livestock farming; Pollution from the abuse of chemical fertilizers, pesticides, and growth stimulants in agriculture.

- The environmental pollution situation is mainly in concentrated residential areas such as towns and densely populated areas due to rapid urbanization; livestock and poultry farming activities of households are not hygienic, there is still the phenomenon of raising livestock and poultry under the floor, the system of collecting manure and wastewater from livestock has not been focused on and handled promptly; agricultural production activities such as the treatment of used pesticide packaging have not been carried out regularly according to regulations; excessive use of chemical fertilizers, agricultural by-products after harvest have not been collected and handled properly, in addition to forest fires, slash-and-burn farming by farmers, and straw burning. - Therefore, when implementing works and projects in the district, it is necessary to carry out well the propaganda and dissemination of environmental protection laws and sub-law instructions to organizations, individuals and people in the district to raise the sense of responsibility of the community in environmental protection and well implement Directive No. 03/CT-TTg dated January 18, 2021 of the Prime Minister on strengthening the control of air pollution.

There are currently no remaining pollution points of chemicals and pesticides in the district.

##### **3.2.2. Waste generation situation**

On November 4, 2022, the District People's Committee issued Decision No. 3690/QD-UBND approving the budget estimate and contractor selection plan for the service of collecting, transporting domestic waste and treating urban solid waste in Binh Gia district in 2023 and assigning the District Department of Natural Resources

and Environment and related units to be responsible for organizing the implementation of the project and selecting contractors according to the approved contractor selection plan to ensure compliance with current regulations.

Status of collection and classification of domestic solid waste: In 2023, waste collection in the district will be carried out according to the contractor selection plan, collecting waste in Binh Gia town and some villages in Hoang Van Thu commune, Tan Van commune. The collection of domestic solid waste in rural areas has also been focused on in recent years, however, it is mainly concentrated in rural areas, mountainous areas, due to living habits, domestic waste is still mostly collected and treated by households by burning.

The current situation of air pollution in the district is generally less affected, the reason is that the district does not have any craft village or handicraft production activities and has a large forest area, with a high coverage of over 73.7%, so the air is generally less polluted.

In addition, in Binh Gia district, there is 01 large river flowing through, the Bac Giang river, according to geological documents, in the district there is placer gold in the Bac Giang river basin; Common mineral materials such as sand and gravel are quite concentrated, currently there is no illegal sand mining in the area. Mineral resources in Binh Gia district are not many, with small reserves.

Currently, in Binh Gia district, there are 03 mineral exploitation facilities including: Tien Hieu Mineral and Trading Company exploiting and processing peat, No. 1 Agriculture and Forestry Cooperative and No. 4 Hong Phong Quarry, exploiting limestone, which have made commitments to protect the environment and monitor the environment according to regulations.

### **3.3. Results of state management of environmental protection**

#### ***3.3.1. Organizational structure and resources for environmental protection***

\* District level

In 2023, the Department of Natural Resources and Environment was assigned a total of 07 positions, the number of positions present from the beginning of the year: 05 positions, by June 2023, 01 position was added, and in September 2023, 01 position was added. Thus, the total number of positions currently available is 07/07 assigned positions. In 2023, the Department of Natural Resources and Environment assigned 01 specialist in charge of the field of environmental protection. Advise the district People's Committee to develop plans and contents related to environmental protection work.

\* Commune level

In 2023, 19 communes and towns in Binh Gia district have 19 commune cadastral officers directly advising the People's Committees at the commune and town levels on environmental protection in the communes and towns.

\* Number of officers trained in professional environmental protection.

Officers and civil servants of the Department of Natural Resources and Environment, leaders and civil servants of Hong Phong and Tan Van communes are trained in the law on environmental protection in 2023 in conjunction with the implementation of environmental criteria for new rural areas.

#### ***3.3.2. Issuance of guiding documents, regulations, conventions, and village covenants on environmental protection; promulgation of regulations, programs, and plans on environmental protection according to authority***

Issuing documents requesting the People's Committees of communes and towns, and relevant functional branches to properly perform their functions, tasks, and powers according to the provisions of law in environmental protection work.

In conjunction with the implementation of the national target program on new rural construction in the 2021-2025 period, the district People's Committee has directed specialized agencies to guide the People's Committees of communes to develop conventions and village covenants in villages associated with environmental protection and environmental sanitation, and monthly environmental sanitation campaigns; including environmental criteria in the hard criteria for evaluating and classifying cultural families at the end of the year.

Currently, all communes and towns in the district have conventions and village covenants approved by the People's Committees of communes and towns.

#### ***3.3.3. Organizing the implementation of legal regulations on environmental protection***

*a. Results of inspection, examination and handling of violations of environmental protection laws by organizations and individuals engaged in production, business and service activities in the area*

Binh Gia District People's Committee strengthens the inspection of compliance with environmental protection laws by projects, production, business and service establishments in the district. Annually, it conducts inspections of the implementation of environmental protection commitments and environmental protection plans of establishments. The inspection results show that establishments have been aware of environmental protection in accordance with the provisions of law.

The District People's Committee always pays attention to directing, inspecting and strictly handling illegal mineral exploitation activities that affect the environment. In general, state management of the environment in the district continues to be maintained, and environmental quality is controlled.

*b. Communication, dissemination and education of policies and laws on environmental protection*

Coordination between agencies, units and socio-political organizations in implementing environmental protection communication work has been strengthened. Regularly organize coordination in environmental protection work between sectors and organizations in the district such as directing the departments: Department of Natural Resources and Environment in coordination with the Department of Agriculture and Rural Development of the district to advise the district People's Committee to coordinate with the People's Committee of Thien Hoa commune to organize the campaign launching ceremony of the movement "Cadres, party members, civil servants, public employees, soldiers, armed forces spend Saturday going to the grassroots to build new rural areas" in Hong Phong commune, Binh Gia district, attracting thousands of participants. In addition, coordinate with the Department of Natural Resources and Environment of the province, the People's Committee of Binh Gia town to organize the launching ceremony of the 2023 Plastic Waste Prevention Campaign in conjunction with implementing environmental criteria in building new rural areas; organize sanitation, sweep, clear sewers; Support the construction of toilets, bottle pits... and other activities in the communes and towns.

The District People's Committee coordinates with the Department of Environmental Protection to promote the use of biodegradable plastic bags, distributing more than 1,000 kg of biodegradable plastic bags to communes, towns and markets.

*c. Control of pollution sources*

The District People's Committee strengthens the direction of agencies and units to effectively carry out the inspection and supervision of sources of potential environmental pollution of organizations and individuals engaged in production, business and service activities to promptly detect and handle them in accordance with regulations. In 2023, the district will have no hot spots of environmental pollution, and no business activities causing environmental pollution.

*d. Waste and scrap management*

From the beginning of the year, the district People's Committee has directed specialized agencies and commune People's Committees to propagate and mobilize people to well implement criterion No. 17 on the environment in new rural construction, specifically to well implement environmental sanitation, waste classification, collection, treatment, and waste recycling and reuse. Thereby increasing the rate of classification, collection, treatment, and reuse of solid waste at the source, specifically:

- The current collection of domestic solid waste in Binh Gia district is only carried out in the urban area of Binh Gia town, and some villages in Hoang Van Thu and Tan Van communes. By the end of December 31, 2023, the total volume of collected waste was 2,364.56 tons. The rate of domestic solid waste in rural areas in 18 communes collected and treated reached over 32.09%. In addition, in communes and small-scale households, waste collection is done by households themselves, and is processed by burning or burying in areas far from water sources.

- There is no waste treatment site in the district, waste is collected and then gathered at a transfer site, then transported to Lan Tang landfill in Bac Son district for treatment.

- Collection of hazardous waste arising from agricultural production: The district People's Committee directs the People's Committees of communes to determine the location and build tanks to store used pesticide shells and packaging in the fields, and to propagate, guide and mobilize people to collect hazardous waste arising from agricultural production in accordance with regulations. Up to now, 09 communes and 01 town have completed the construction of tanks for storing used pesticide packaging, with a total of 270 tanks put into use, with a volume of about 92kg of pesticide packaging. The remaining communes are continuing to implement the collection of used pesticide packaging to ensure compliance with the instructions in Joint Circular No. 05/2016/TTLT-BTNPTNT-BTNMT dated May 16, 2016 of the Ministry of Agriculture and Rural Development and the Ministry of Natural Resources and Environment.

- The proportion of medical waste at commune health stations in the district is collected and contracted for transportation and treatment with the district health center to ensure compliance with regulations, with a collection and treatment rate of 100%.

- The common industrial solid waste in the area is mainly waste generated from construction activities, part of which is reused by people as landfill materials, the rest is brought to planned dumping sites according to regulations.

*e. Pollution treatment, environmental quality improvement*

Organize propaganda, raise public awareness about the harmful effects of climate change and water pollution in concentrated residential areas such as towns and densely populated areas; livestock and poultry farming activities of households are not hygienic, there is still the phenomenon of raising livestock and poultry under the floor, the system of collecting manure and wastewater from livestock has not been focused on and treated promptly; agricultural production activities such as the treatment of used pesticide packaging has not been carried out regularly according to regulations; excessive use of chemical fertilizers, and improper collection and treatment of agricultural by-products after harvest. Potential risks affecting the environment from production and

service business activities such as gasoline trading, mineral exploitation, construction material trading, etc. Littering indiscriminately into the environment still occurs in some places, especially in rural areas.

Direct the Department of Natural Resources and Environment to coordinate with the Department of Agriculture and Rural Development and the People's Committees of communes to review the actual collection of used pesticide packaging in the fields to propagate, mobilize and mobilize support sources in the form of socialization and state budget sources to build collection tanks.

*f. Prevention and response to environmental incidents*

In 2023, the District People's Committee directly directed communes and steering committees for flood and storm prevention, search and rescue to strengthen environmental sanitation during and after storms to limit the outbreak of epidemics.

*g. Protecting the environment, natural heritage, biodiversity*

Implementing measures to protect biodiversity, national biodiversity conservation strategies in the community such as: participating in disseminating policies, laws, management institutions, strengthening the capacity to enforce laws on biodiversity, continuing to raise awareness of responsibility and mobilizing the participation of the whole society in the conservation and sustainable use of biodiversity; promoting the integration and implementation of biodiversity conservation requirements in policy making, public investment projects, linking biodiversity conservation with forest protection and new rural construction in the locality.

*h. Other environmental protection activities*

In order to ensure the implementation of environmental criteria in the communes of the new rural construction model in 2023, the district People's Committee assigned the district Department of Natural Resources and Environment to coordinate with agencies, units, and commune People's Committees to propagate, guide, inspect, review, and evaluate the current status of environmental criteria in the communes, to ensure compliance with the instructions and effective implementation of criterion 17 on the Environment in the National Criteria Set for new rural areas and advanced new rural areas. Coordinate with the Department of Environmental Protection to train on environmental protection work and guide the implementation of environmental criteria in new rural areas and advanced new rural areas for 160 delegates of 02 communes of Hong Phong and Tan Van. Up to now, through the results of the district's self-assessment, in the district, 09/18 communes have met criterion 17 on the environment, which is being maintained regularly and improved in quality; The remaining communes are being directed and continue to implement.

**3.4. Existence, limitations and causes**

**3.4.1. Existence, limitations**

- In rural areas, there is still the practice of leaving livestock and poultry under houses, irregular sanitation, not creating a cool space, having a foul smell, causing unhygienic conditions, affecting human health and the environment.

- Improper use of pesticides causes water pollution, affecting the growth of plants, affecting human health and carrying many other dangerous pathogens...

- In the district, there is no waste treatment site, only organized collection in the town and some villages in neighboring communes of the town such as Hoang Van Thu, Tan Van, waste is transported to Lan Tang landfill, Dong Y commune, Bac Son district for treatment, the rest of the households collect and treat by burying, or burning in manual incinerators of the households.

**3.4.2. Reasons**

Binh Gia District has a large area, complex terrain, scattered population, not concentrated, difficult transportation, low economic life, limited educational level, people's living habits; rural environmental issues in the area have not received due attention and care from the people. The awareness of environmental protection of people in the community is not high; some local Party committees and authorities have not regularly paid attention to leading and directing environmental protection work.

**3.5. Proposed solutions to implement state management of environmental protection in the coming time**

**3.5.1. The key tasks of the District in the coming time are:**

- Continue to appraise dossiers of environmental procedures according to authority, according to the Law on Environmental Protection 2020 and guiding Decrees to implement in accordance with the provisions of law.

- Focus on completing environmental indicators in new rural construction in key communes of the province.

- Focus on environmental protection in mineral exploitation activities.

- Continue to direct the organization to effectively implement the Party and State's policies and guidelines on state management of environmental protection and minerals in the district; Improve professional capacity in state management of environmental protection.

**3.5.2. Main solutions:**

- Strengthen inspection and supervision of compliance with environmental protection regulations by organizations, households and individuals, promptly handle environmental violations.
- Strengthen propaganda and education to raise awareness and responsibility for environmental protection. From propaganda, dissemination and education of environmental laws to change people's awareness. Coordinate with the Provincial Department of Environmental Protection, mass organizations such as the Women's Union and the Farmers' Association to organize training courses on the Law on Environmental Protection, environmental protection in new rural construction.
- Promote socialization of environmental protection activities; focus on building village and hamlet conventions, and commitments of residential communities to environmental protection.
- Strengthen measures to protect surface water sources, build domestic water systems for people. When destroying and burying diseased animals, it is necessary to ensure hygiene and safety for water sources and the environment. Instruct farmers on the use of pesticides, strictly control the use of smuggled pesticides and veterinary drugs. Strengthen forest protection, afforestation, forest fire prevention; prevent hunting, transporting, consuming wild animals and illegal exploitation of forest products.

## II. CONCLUSION

The year 2023 marks a significant phase in Binh Gia's efforts toward improving environmental protection. Despite facing a number of environmental challenges, such as waste management issues, pollution from agricultural practices, and the limited capacity of local governance, the district has made substantial progress in addressing these problems. Key actions, including the development of waste collection systems, the enhancement of local regulations for environmental management, and the promotion of public awareness campaigns, have contributed to a gradual improvement in the local environment. The establishment of waste collection points and efforts to manage agricultural waste and hazardous materials have helped mitigate the adverse impacts of human activity on the environment.

However, as this study has shown, many challenges remain. The current system of waste management is still in the early stages of development, particularly in rural areas where disposal practices are still largely informal. Moreover, the district's dependence on agriculture and natural resource exploitation, combined with limited economic alternatives, poses a long-term risk to the sustainability of the local environment. Going forward, it is essential for Binh Gia to continue strengthening its governance structures, particularly by improving coordination among local authorities and community organizations, and by expanding education on sustainable practices. Additionally, resources should be allocated more effectively to ensure that the legal frameworks on environmental protection are not only enacted but also enforced at all levels. It is clear that the success of these efforts will depend on the collaborative engagement of all sectors of society, from government officials to local residents, to achieve the dual goals of economic development and environmental sustainability.

### Conflict of interest

There is no conflict to disclose.

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