

# Evaluating Environmental Legislation in Vietnamese Craft Villages: A Legal and Practical Analysis

Tran Thanh Khoe<sup>1</sup>, Mai Kim Han<sup>2</sup>, Nguyen Thanh Phuong<sup>3</sup>

<sup>1,2,3</sup>Nam Can Tho University, Can Tho, Vietnam

<sup>3</sup>Email: [Nguyenthanhphuong099\[at\]gmail.com](mailto:Nguyenthanhphuong099[at]gmail.com)

The research was sponsored by Nam Can Tho University in No.168, Nguyen Van Cu Street, An Binh Ward, Ninh Kieu District, Can Tho City, Vietnam.

**Abstract:** *Protecting environmental sustainability is one of three pillars aimed at developing traditional craft villages in a sustainable manner, for the goal of green growth. Within the scope of the research, the authors will focus on analyzing and clarifying the mechanism of Vietnamese law in protecting the land and water environment in traditional craft villages aiming for green growth. Through adjusted legal regulations related to environmental protection in craft villages, the author will point out shortcomings, as well as propose solutions that contribute to improving the effectiveness of protecting environmental sustainability of traditional craft villages in Vietnam in the current period.*

**Keywords:** Sustainable development, environmental protection, craft villages, green growth

## 1. Introduction

The theory of sustainable development for the goal of green development has been discussed and put into practical application in planning development policies at the national and international levels in the late 20th century. Along with the consequences of rapid population growth, the issue of environmental pollution and the risk of global ecological crisis is an urgent issue in the debate related to sustainable development aiming for green growth. The emergence of the environmental crisis factor has led to fierce debate among advocates of prioritizing economic growth first and compensating and overcoming environmental pollution later once a certain level of wealth has been reached. Those who follow the viewpoint that "we must consider the harmony of the ecological environment in the process of promoting economic development" (Huynh Tay, 2020).

Critically, most research theories show that to achieve sustainable development, national policies and institutions must place the harmony of the ecological environment in the economic development process. For example, there are some the projects such as "Our Common Future", "Caring for the Earth", and the Earth Summit of the United Nations in Rio de Janeiro (Brazil) in 1992, which also approved the sustainable development strategy and affirms that sustainable development is "a healthy socio - economic development based on the rational use of resources and environmental protection to meet the present needs without compromising the chances of future generations to meet their needs. "

In Vietnam, the Documents of the 10th, 11th and 12th Congresses of the Communist Party of Vietnam affirmed that rapid development must go hand in hand with sustainable development. . . Economic growth must be linked with cultural development and comprehensive human

development. It needs to implement democracy, advancement and social justice, create more jobs, improve lives, encourage legal wealth as well as hunger eradication and poverty reduction. Gradually, we narrow the development gap between regions. We must be aware of the great importance of protecting and improving the environment. It is necessary to improve the environment right in every step of development, without causing pollution and environmental destruction. In order to satisfy the above objectives, the mechanism for developing craft villages requires the harmonious settlement of the following benefits: promoting the development of production activities in craft villages, ensuring the lives of villagers, improving material life, ensuring the purity of air, water, soil, geographical space, landscape. . . . Ultimately, environmental sustainability in craft villages is aimed at the goal of Green growth. It mainly focuses on three aspects: (i) production and business activities in craft villages must protect the purity of air, water, land, natural landscapes, and cultural landscapes in the craft villages; (ii) exploitation of water resources, land resources, and forest resources must be maintained at a recoverable level to eliminate the risk of depletion of these resources; (iii) along with the development of craft villages, it is necessary to regularly evaluate and verify the quality of environmental factors in craft villages according to Vietnamese standards, as well as international standards (Dang Cong Cuong, 2021).

## 2. Research Context

Results of a survey on the current environmental status in some main types of craft villages show that:

Agricultural and food processing craft villages, especially those that produce starch, brew wine, raise and slaughter livestock, have very high levels of pollution. The wastewater

norm for 1 ton of product is 6 - 10 m<sup>3</sup>, with BOD<sub>5</sub> amount = 380 - 450 mg/l, COD = 600 - 650 mg/l wastewater.

Textile and dyeing villages use large amounts of water. Pollution is mainly due to production wastewater containing high levels of chemicals and dyes, with nearly 90% of the above chemicals entering the wastewater. Wastewater in the production line has a very dark color (COD = 1000 mg/l, color = 4000 Pt - Co), causing heavy surface water pollution.

Craft villages producing construction materials: Pollution is mainly due to the use of fuel such as coal and firewood. Exhaust gas contains pollutants SO<sub>2</sub>, NO<sub>2</sub>, CO, dust and causes thermal pollution in surrounding areas. Dust content exceeds TCCP by 12 times, gasses such as SO<sub>2</sub> and CO are 1.8 - 2 times greater than TCCP.

Handicraft villages cause pollution mainly to the air environment due to dust, organic solvent vapors. . . In lacquer craft villages, concentrations of paint and polishing solutions at a village is 10 - 15 times larger than the TCCP. Craft villages using chemicals such as silver plating also pollute water with heavy metals. In some silver carving craft villages, the wastewater contains high levels of toxic substances, heavy metals (Zn<sup>+2</sup>, Pb<sup>+2</sup>), and suspended solid TDS is many times higher than TCCP because the work uses a certain amount of acid to process the metal surface (Dang Kim Chi, 2022).

Waste recycling craft villages cause pollution to the air, water, and soil environments (due to solid waste), the level of pollution is light and heavy, depending on the type of product. For example, plastic recycling (air pollution due to dust and organic vapors, wastewater pollution due to COD, TDS, solid waste), paper recycling (high water consumption, air pollution, solid waste. . .), recycling lead - acid batteries, recycling aluminum, causing dust and heavy metal pollution in the air and water environment. . . In some plastic recycling craft villages, the concentration of toxic gas vapors mostly exceeds the allowed standards, specifically: dust content of about 0.45 - 1.33 mg/m<sup>3</sup> exceeds the TCCP 1.5 - 4.4 times, THC = 5.36 mg/l exceeds the TCCP 1.16 times. In the mechanical craft village, the dust content in the central area exceeds the TCCP 3 times, SO<sub>2</sub> exceeds the TCCP 5 times. Wastewater contains acid, heavy metals, CN - content exceeds 65 - 117 times the TCCP. Although many documents have been issued in Vietnam, aiming at environmental protection in traditional craft villages, many documents are outdated compared to the current social context, and many violations have not yet been thoroughly punished, the level of penalties for violations is not adequate, leading to violations continuing to occur (Le Thi Chau, 2022). In this context, the authors will focus on clarifying legal regulations and proposing useful solutions for Vietnam in the period of 2021 - 2025.

### 3. Research methods

The research is going to focus on legal regulations on environmental protection in Vietnam. From there, the author aims to analyze, evaluate, and detect acts of environmental pollution in traditional craft villages in Vietnam, and propose solutions improving environmental laws in general

and environmental protection in craft villages in particular, contributing to improving national laws. The research is a reliable source of information for stakeholders, lawmakers, and entities implementing and applying environmental laws in Vietnam currently.

In the research, the authors are going to use the inductive research method. The authors are going to analyze real problems occurring in craft villages in Vietnam related to the environmental field to demonstrate gaps and inadequacies in legal regulations, thereby developing proposals and recommendations for legal amendments. In addition, the article also uses a qualitative research method, which is developed based on the inductive method to research and propose hypotheses to explain issues related to the environment (Pham Duy Nghia, 2014), environmental protection in craft villages in Vietnam and regulatory laws related to this issue. Finally, the authors use black letter methods, logical methods, systematized information and data, analysis, synthesis, evaluation, and comments accurately as a basis of solutions to handle the researched issue.

### 4. The current status of the law on water source protection in Vietnamese traditional craft villages

Traditional craft villages have the characteristics of rural Vietnam. Statistics in 2019 from the Ministry of Natural Resources and Environment of Vietnam showed that in Vietnam there were more than 1, 300 recognized craft villages out of 3, 200 operating. They contribute to socio - economic development in localities. Besides the positive aspects (Vu Hong, 2019), there are problems that need to be overcome when more than 70% of craft villages are located interspersed in residential areas with rural infrastructure such as roads, sewers, ditches of wastewater do not meet the needs of production development. . ., leading to the consequence that many of them are agents of environmental pollution, affecting human life and health. According to the National Environmental Report, most of their environmental quality still does not meet standards, causing workers to be exposed to risks harmful to human health, of which 95% comes from dust; 85.9% from heat and 59.6% from chemicals (Vu Dung - Thanh Tam, 2022). From the above issue, there are some regulations related to environmental protection with a focus on the issue of waste discharge in craft villages at the moment. Specifically, the Article 37 of the Law on Water Resources 2012 indicates some institutions related to wastewater treatment systems in them. However, since the Law on Environmental Protection 2020 was passed, this has been abolished and is specifically guided in Article 56 of the Law on Environmental Protection 2020. According to this regulation, these are required to *"have wastewater and rainwater collection systems ensuring drainage needs of craft villages; The centralized wastewater collection, drainage and treatment system (if any) ensures to treat wastewater meeting the environmental protection requirements."*

Besides, the Article 1 of Circular 04/2015/TT - BXD guiding the implementation of Decree 80/2014/ND - CP on

drainage and wastewater treatment issued by the Minister of Construction provides solutions for wastewater treatment in them. Accordingly, there will be different treatment methods depending on the nature and scale of the amount of water discharged into the environment. For example, the business households in there with a total wastewater volume of less than 50m<sup>3</sup>/day and night are required to have wastewater treatment equipment/stations located right on the premises of the drainage household. In case, the business households in craft villages located close to each other with total wastewater volume from 50 m<sup>3</sup>/day and night to 200 m<sup>3</sup>/day and night, it requires that the wastewater treatment station is located on the premises of a sewerage household or in a separate depending on specific conditions as long as it is convenient to collect wastewater from sewage households. In addition, if within a certain administrative boundary with a total wastewater volume from 200 m<sup>3</sup>/day to 1000 m<sup>3</sup>/day, the location of the wastewater treatment station/plant is bound to the construction or drainage planning approved by the competent authority.

According to this mechanism, the Provincial People's Committee relies on the generated waste source, receiving source, economic conditions, topography, qualifications and capacity to manage and operate the drainage system in the locality to decide appropriate decentralized wastewater treatment solutions. However, there is still much debate surrounding wastewater treatment measures in those areas due to the following arguments:

*Firstly*, the current law still has unclear regulations. Particularly, it does not state about who will pay the installation cost of the treatment system. The households for those are still small businesses, investing in wastewater treatment systems is not feasible in certain cases. For example, most craft villages are located in residential areas, so it is challenging to equip a settling tank system to collect wastewater and rainwater, so installing a wastewater treatment system is difficult due to lack of space. In addition, in spite of financial difficulties, most household businesses do not have systems to collect all of the waste and sewage. Therefore, it is necessary to develop and promulgate mechanisms and policies to provide financial support to people in collecting and treating them. Collecting them for centralized treatment is very expensive, while people have no precedent for paying for drainage and wastewater treatment services. Therefore, it is necessary to develop specific mechanisms and policies to collect fees from those residents for drainage and wastewater treatment services as a polluter according to the principle of Decree No.80/2014/ND - CP on drainage and wastewater treatment.

*Secondly*, currently there is a lack of preferential mechanisms and policies to encourage investors to do business in environmental activities so it is not attractive to investors, especially in the field of wastewater, exhausted gasses treatment or applying clean production to environmentally friendly technology. As a result, it is recommended that the State needs to create favorable mechanisms to attract investors to build the systems in those areas, Accordingly, the provincial administrators will support investors with relevant budgets to do the treatment systems, collect the fees from people producing in craft

villages to maintain the operation of the wastewater treatment system. Furthermore, local authorities need to classify types of craft villages in the areas, which models can operate in residential areas, and which patterns must be separately operated in the industrial zones. From there, the Authorities develop policies to help and encourage the relocation of these to centralize production areas in order to operate independently to avoid environmental pollution in craft villages. . . (Minh Phuong, 2020).

*Thirdly*, Vietnamese laws only require craft villages to be equipped with a wastewater collection system, thereby equipping a treatment system before being discharged into the environment. However, there have not been specific regulations on the standards of waste water discharged into the environment. The nature of craft villages in our country diversifies from food production, recycling, slaughtering cattle. . . , so the atmosphere of wastewater in each craft village will be very different. From this issue, there will be separate measures depending on the types of craft village and local economic conditions. In particular, there should not be the same standards for them. In fact, the criteria for recognition of a craft village is if It can design and build its collection system, but in cases where construction cannot be carried out, the craft village must be separated from the residential areas. Many experts believe that wastewater concentrated in craft villages will essentially have the same treatment measures as industrial wastewater. And, water discharged into the environment must meet certain standards and regulations. Therefore, the local environmental management agencies where craft villages are located need to soon develop specific criteria on wastewater discharge for each craft village and have strict monitoring and management measures (Vu Dung - Thanh Tam, 2022).

*Fourthly*, aiming for a sustainable development environment in developed countries helps to form the mindset of turning pollution into resources. Specifically, the application of biotechnology solutions, especially using microorganisms to treat wastewater, is a trend in the world today. For example, Vietnamese Canna Noodle in So village, Tan Hoa commune, Quoc Oai district, Hanoi city is known as a Doai countryside specialty made from 100% pure arrowroot powder. On average, a production household can make 1 - 1.5 tons of canna noodle per day, which means a very large amount of wastewater originating from arrowroot residue is discharged into the environment. Understanding this process, scientists have applied cleaning technology and reused wastewater for agricultural activities such as growing mushrooms in combination with wastewater sludge to produce organic fertilizer for agricultural crops, creating a closed production cycle. Or, applying biological products to treat straw in potato growing using minimum tillage method, helps increase potato yield by 1.5 times, this saves fertilizer as well as not having to use pesticides. There are a very large number of craft villages producing agricultural products and food, most of them are being wasted and are the cause of water and soil pollution for farmers around the area.

From the above situation, in addition to promulgating preventive regulations, it is necessary to promote biotechnological solutions in wastewater treatment of various types of craft villages. To do this, scientists need to

promote research and perfect technological solutions, local governments create appropriate conditions and mechanisms, and individuals must be aware of the importance of sustainable production in the current context. Applying new technologies to this process can be an opportunity to help craft villages producing agricultural and food products without causing environmental pollution (VOV Traffic Information Portal, 2020).

## 5. The current status of the law on land protection in craft villages

The Section 3 from Article 15 to Article 19 of the Law on Environmental Protection 2020 indicates institutions related to land environmental protection. Particularly, the outstanding issue is specified in Clause 1, Article 15 of the Law on Environmental Protection 2020 that *"planning, plans, projects and activities using land must consider the impact on the land environment, propose solutions to prevent environmental pollution and degradation, and protect the land environment."* Accordingly, production establishments and households in craft villages must comply with regulations on environmental impact assessment stipulated in Article 34 of Decree 08/2022/ND - CP guiding the Law on Environmental Protection. This regulation helps authorities have enough databases to take measures on protecting the environment, as well as have enough basis recognizing and granting licenses to them, etc., Regarding land resources, if establishments or households in craft villages commit acts of destroying land in their production and business, they may be prosecuted for administrative liability according to Article 15 of Decree 91/2019/ND - CP in the following cases of deforming the terrain or degrading land quality, the form and level of fine can range from 2, 000, 000 - 150, 000, 000 depending on the area destroyed. The form and level of penalties for pollution violations as stated in the regulations on sanctions of administrative violations against environmental protection. At the same time, the law also requires the subject of the violation to restore the original condition of the land before the violation. These are the initial settings to help them operate sustainably, towards the goal of green growth although there are still some issues that need to be discussed as follows:

*Firstly*, one of the steps to be recognized as a craft village requires passing an environmental impact assessment process. According to international practice, the cost of creating an environmental impact assessment report often accounts for 1 - 3% of the total project investment capital (Luong Thi Thoa, 2020). Particularly for projects requiring environmental impact assessment in Vietnam, this cost is only 1% - 10% compared to the international average. The question is that the investment projects have capital to pay for the environmental impact assessment whereas who is responsible to pay for environmental impact assessment in craft villages. Currently, the law has no regulations to identify this payment. Besides, evaluating environmental impact requires a certain amount of time. However, the current laws do not state clearly about the duration, criteria of the environmental impact assessment for these issues. It can be assumed that the process is only planned and done in one day, one week. . ., there will not be enough basis to predict all the factors that the craft village will affect the

living environment. From the above, the law needs to set out duration to assess the environmental impact of craft villages, so as to have the most general view related to the issue.

Regarding the environmental impact assessment mechanism of craft villages, it is recognized that the law has not anticipated all possible problems. For example, objectively evaluating the Environmental Impact Assessment - EIA mechanism of projects or craft villages is just a scientific subject, and could only predict the project's impact on the environment. If projects or craft villages need an overall assessment of what the project's impact will be, implemented in an area, this scientific subject needs to cover many other parameters to have a comprehensive perspective. From there, the law needs to detail the environmental impact assessment that needs to be implemented based on the criteria and how craft villages impact society (which is the task of another scientific subject called Social Impact Assessment - SIA), to human health (belonging to the tasks of the science subject of Health Impact Assessment - HIA); Above all, we must forecast risks and incidents caused by the project (belonging to the task of the science subject of Risk Assessment - RA). This will be fully done if scientific subjects such as EIA, SIA, and RA are conducted independently according to their own scientific methodology (Nam Khanh, 2016).

*Secondly*, when craft villages come into operation, it can lead to the problem of some individuals committing acts of degrading land quality and causing land pollution, causing the loss or reduction of the ability to use land for the intended purpose. Thus, the State applies sanctions against these individuals. The sanctions are specified in Decree 91/2019/ND - CP on sanctioning administrative violations in the land sector or Decree 45/2022/ND - CP regulating penalties for administrative violations in the field of environment. Although the acts of land pollution punished according to Decree 45/2022/ND - CP will be more of a deterrent, the provisions in the two Decrees have overlapped. Specifically, the Clause 3, Article 3 of Decree 91/2019/ND - CP stipulates:

*"3. Land destruction is the act of deforming the terrain or degrading land quality or polluting the land, causing the loss or reduction of the ability to use the land according to the determined purpose, in which:*

*c. Soil pollution is the case of applying toxic substances or microorganisms or parasites that are harmful to plants, animals, and humans to the soil".*

Actually, it can be inferred from this provision that if business entities in craft villages apply toxic substances into soil, they are punished according to Article 15 of Decree 91/2019/ND - CP. However, Clause 2, Article 15 of Decree 91/2019/ND - CP identified that the form and level of penalties punishing pollution violations comply with the law on sanctions for administrative violations against environmental protection, specifically Decree 45/2022/ND - CP. It is not consistent leading to the consequence that each locality has different sanctions when basing on the applicable laws on sanction administrative violations for the acts of polluting the land environment. From the above

issue, the authors believe that there needs to be unified and specific regulations to transition to Decree 45/2022/ND - CP instead of being scattered between two Decree as at present when punishing the acts polluting the land environment.

Thirdly, Article 24 of Decree 45/2022/ND - CP, it has been determined that leaking and discharging toxic chemicals into the soil environment will be punished from 40, 000, 000 to 150, 000, 000 depending on the severity. In addition, an increased fine from VND 130, 000, 000 to VND 150, 000, 000 may be applied for environmental pollution in cases of more than one violation or already applied one of administrative sanctions but continues to be repeated and the time for remedying the consequences of the violation has expired without being remedied. This regulation is highly deterrent in terms of penalty norms. However, many opponents believe that this regulation needs to be adjusted to be more realistic. Because the title of Article 24 of Decree 45/2022/ND - CP is specifically "Acts of polluting land, water and air; *causing long - term environmental pollution*". It can be inferred from this that the authorities only have the right to sanction administrative violations for land pollution, if this behavior lasts long and is repeated many times. The issue causes a lot of debate, because the provision does not show how many times the violation and how long it will last before the authorities impose penalties. This problem will cause difficulties during the application process. The authors believe that the sanctioning should be based on the basis, parameters, and indicators of land pollution; it should not be based on the long - term nature of the act, because it will be difficult to determine when this act starts. From this inadequacy, it is thought that the title of Article 24 of Decree 45/2022/ND - CP should omit the phrase "long - term", this helps law enforcement to be implemented uniformly, avoiding problems that may occur.

## 6. Conclusion

In addition to the issues as presented above, it is found that the current law does not have clear decentralization related to authority and responsibility for local authorities at all levels in the issue of environmental protection in craft villages, many people believe that the regulations on environmental protection in craft villages are not detailed enough to suit the characteristics of craft villages compared to other production and business models, making it difficult to implement, as well as punishing if any violations occur in reality. In general, "according to current decentralization, craft villages must be managed by many specialized levels such as: Department of Agriculture and Rural Development manages trades and labor; The Department of Industry and Trade manages craft village industrial groups and product consumption; The Department of Construction manages the construction of waste treatment infrastructure; The Department of Natural Resources and Environment manages the environment; The Department of Culture, Sports and Tourism manages tourism; The Department of Information and Communications manages culture. According to the Law on Environmental Protection 2020, the environmental protection mechanism will be directly managed by the Ministry and the local Natural Resources and Environment sector; However, reality shows that environmental protection issues in craft villages will be in charge and

managed by the Department of Agriculture and Rural Development. At that time, the craft village industrial groups will be managed by the Department of Industry and Trade. . . If this management model is maintained, it will be very difficult to solve the current situation of environmental pollution in craft villages" (Dang Cong Cuong, 2021).

Besides the legal obstacles, there is no clear decentralization and delineation of rights and responsibilities for inspection, supervision, urging, evaluation and responsibility for implementing and complying with environmental protection laws in craft villages. It is the main cause leading to the high rate of craft villages causing environmental pollution. From the above issue, it is thought that the law needs to clearly delineate the powers and responsibilities of the government level and the specialized agencies that preside and are responsible for acts of environmental pollution in craft villages. This will help detect violations in craft villages. It is prevented and handled promptly towards the goal of sustainability and green growth in craft villages. /.

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