



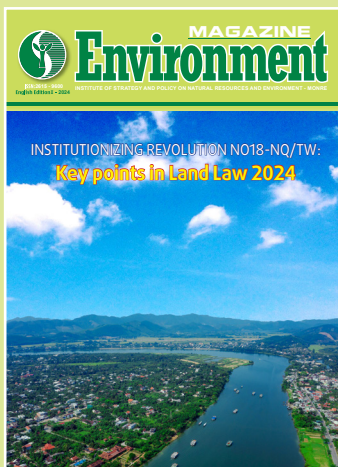
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Institutionalizing Resolution No. 18-NQ/TW: **Key points in Land Law 2024**





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International experiences in the management and utilization of urban land

TÔ NGỌC VŨ

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Abstract

In recent years, Vietnam has undergone rapid urbanization, resulting in a significant expansion of urban land to cater to the escalating housing demands of its population. This trend is expected to persist in the foreseeable future. However, the outcomes of implementing urban land planning and usage strategies have revealed several shortcomings and constraints in management, utilization, demand forecasting, policy formulation, and enforcement, particularly concerning soil classification. The primary cause lies in the absence of specific regulatory provisions within existing laws governing norms, criteria, spatial delineation, land use zoning, and preservation of natural ecosystems during the planning process across all administrative levels. Based on data analysis methods applied to the experiences of the Federal Republic of Germany, China, and Japan in urban land use planning and management, it becomes evident that future urban land planning must integrate considerations of space, land use zoning, and natural ecosystems. This necessitates a clear delineation of protection and conservation criteria, coupled with a robust implementation process. Effective execution of these measures will significantly enhance the quality of urban areas and advance the objectives of sustainable urban development. Consequently, the article presents policy recommendations tailored to Vietnam's context for urban land management and utilization during the preparation and adjustment of land use plans.

Keywords: Land use planning, urban land, land use zoning, natural ecosystem.

JEL Classification: K11, Q15, R15.

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1. INTRODUCTION

Urbanization is a global trend, most urban areas across the country have demonstrated their role as important driving forces in economic growth and development. In Vietnam, according to data from the Department of Urban Development, Ministry of Construction, Vietnam currently has 888 urban areas¹, the urbanization rate reaches 41.5% and the target is to increase to 45% by 2025 and above 50% in 2030². The process of urban expansion always goes hand in hand with the conversion of land use purposes and structures in cities, which poses requirements for planning in general and land use planning in particular. Resolution 18-NQ/TW proposed solutions to innovate and improve the quality of land use planning, which is “*land use planning must combine criteria of land types associated with space, land use zoning, natural ecosystems...*”. The establishment of urban land use planning serves as the cornerstone for guiding and advancing the urbanization process towards sustainable development, balancing economic prosperity with ecological well-being. This

1. As of September 2022.

2. Resolution No. 148/NQ-CP dated November 11th, 2022 of the Government promulgating the Action Program to implement Resolution No. 06-NQ/TW dated January 24th, 2022 of the Politburo on “Planning and construction, sustainable urban management and development in Vietnam until 2030, vision to 2045”.

article aims to emphasize the current situation, international experiences in the management and utilization of urban land, concerning spatial organization, land use zoning, and the conservation of natural ecosystems.

2. THE CURRENT SITUATION OF URBAN LAND MANAGEMENT IN VIETNAM

According to a report released by the Ministry of Natural Resources and Environment³, by December 31st, 2020, the entirety of the nation possessed 2,028.07 thousand hectares of urban land. This urban land encompasses all categories of land situated within the administrative perimeters of wards and towns, as well as new urban areas delineated within the developmental plans of districts, towns, and provincial cities endorsed by competent authorities. This urban land constitutes 6.12% of the overall natural land area.

3. Resolution No. 39/2021/QH15 of the National Assembly: Regarding the National Land Use Planning for the period 2021 - 2030, vision to 2050, 5-year National Land Use Plan 2021 - 2025

Table 1. Some land use indicators in urban land in 2020

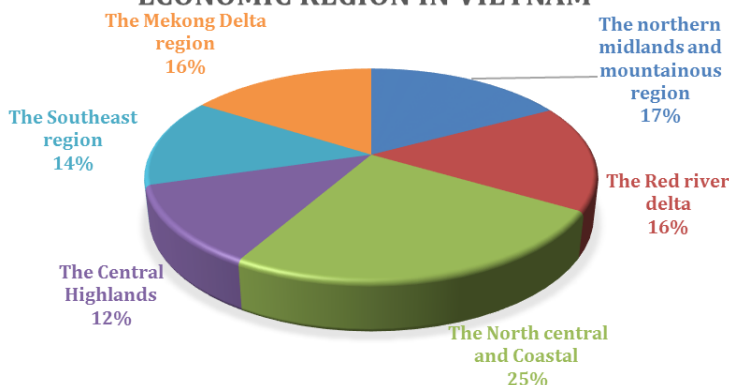
No	Land type	Unit	Total	Northern midlands and mountains	Red river delta	North Central and Coast	The Central Highlands	The South East	The Mekong Delta
I	Total urban construction land area	Thousand hectares	663.79	69.25		160.08	45.63		91.43
	Average per urban population	m ² /person	200.40	303,34		279.84	272.27		210.57
1	Land in urban areas	Thousand hectares	190.29	19.52	37.87	43.07	14.72	47.54	27.57
	Average per urban population	m ² /person	57.45	85.51	47.91	75.29	87.84	42,46	63.50
2	Specialized land	Thousand hectares	376.86	40.01	98.00	92.81	26.38	80.16	39.49
	Average per urban population	m ² /person	113.78	175.28		162.25	157.39	71.59	90.95
II	Agricultural land and unused land	Thousand hectares		279.09		345.58	199.25		233.54

(Source: Resolution No.39/2021/QH15 of the National Assembly)

In the period 2011 - 2020, there was a notable expansion in urban land area by 510.92 thousand hectares, averaging an annual increase of 51.09 thousand hectares, thereby fostering the development of a well-distributed urban network system across the nation's territories. This growth has been conducive to advancing the processes of industrialization and modernization. The average urban land per capita nationwide stands at 530 square meters, although significant regional disparities exist: the Central Highlands region boasts 1,137 square meters per person, the Northern Midlands and Mountains region 1,136 square meters per person, the Mekong Delta region 720 square meters per person, the North Central and Central Coast regions 689 square meters per person, the Red River Delta region 422 square meters per person, and the Southeast region 197 square meters per person.

In terms of socio-economic regions, there is a relatively balanced distribution of urban land: the Northern Midlands and Mountains region encompasses 348.34 thousand hectares, the Red River Delta region comprises 329.53 thousand hectares, the North Central region encompasses 329.53 thousand hectares, the Central Coast region contains 505.66 thousand hectares, the Central Highlands region spans 244.88 thousand hectares, the Southeast region encompasses 274.69 thousand hectares, and the Mekong Delta region covers 324.97 thousand hectares (structured data for each region is presented in figure 1).

URBAN LAND USE STRUCTURE BY SOCIO-ECONOMIC REGION IN VIETNAM



▲ Figure 1: Urban land use structure by socio-economic region

Investment focus on urban infrastructure, particularly in major cities, has been notable. Numerous key projects such as main arterial routes leading into and out of urban centers, radial traffic axes, urban bypasses, ring roads, significant bridges, and intersections have been undertaken and completed. Efforts in water supply, drainage, and solid waste management have yielded initial successes. Overall, the urban construction land area of the country has expanded rapidly, reaching 1.25 times the size in 2010, with a per capita allocation of 200 square meters, surpassing the 2010 target by 1.07 times, essentially fulfilling the requirement for average urban land area per person in a modern



city. However, the substantial increase in urban land has been primarily driven by administrative decisions and has outpaced the pace necessitated by economic development.

Concerning the structure of urban construction land usage, the proportion allocated to infrastructure construction remains relatively low, accounting for approximately 31.14% of total construction land, particularly with transportation occupying only about 16% of urban areas (below the desired ratio of 20 - 25%), while static traffic occupies less than 1% (falling short of the minimum requirement of 3 - 3.5% of urban construction land area). Additionally, the land set aside for water supply, drainage facilities, and green spaces is insufficient compared to prescribed standards. Moreover, the reduction of water surface areas (ponds and lakes) in many urban regions due to land leveling for housing construction has been observed. Furthermore, the allocated land for recreational areas and other public amenities is inadequate, failing to meet the needs of the populace.

The per capita residential land allocation in urban areas varies significantly across regions and localities nationwide. The utilization of residential land remains inefficient and uneconomical, primarily featuring divided lots, townhouses, and tube houses, with a low proportion of high-rise apartment buildings. Moreover, the construction of housing for low-income individuals in major urban centers falls short of requirements.

3. INTERNATIONAL EXPERIENCES ON URBAN LAND USE PLANNING

According to estimates by the United Nations, there are about 4.2 billion people in the world (accounting for more than 55% of the population) living in cities. Over the next 30 years, the global urban population could grow to about 3 billion people, meaning the proportion of people living in cities will reach nearly 70% by 2050⁴. The continual expansion in urban area, scale, and population, alongside global challenges such as climate change, economic instability, food security, and the COVID-19 pandemic, imposes demands on urban planning, particularly in urban land use planning, to effectively address the complexities arising from the process of urbanization. Many countries worldwide have introduced novel ideas and innovative strategies in urban land use planning and management to tackle social, economic, and environmental issues, aiming to optimize the urbanization process. A comprehensive approach to resource management within a long-term strategy is seen as the most effective means to promote sustainability.

In Germany, urban planning operates across five hierarchical levels, corresponding to the authority of each administrative unit: the National Spatial

Development Plan (at the Federal level), Regional Planning, Sub-regional Planning (at the State level or “Länder”), and municipal-level City Master Planning and City Detailed Planning. The Federal Spatial Development Plan pertains to the integrated, inter-regional, and inter-sectoral development of the entire territory of the Federal Republic of Germany. While the Federal Government is responsible for defining the fundamental principles and models for spatial development nationwide, as well as establishing a framework of substantive and procedural regulations through the Federal Spatial Planning Act, the States are tasked with completing, further regulating, and implementing these directives.

As per the Federal Building Code, the core concept of urban land use planning revolves around “sustainable urban and spatial development,” considering economic, social, and ecological factors within an area. In terms of authority, the enactment of urban policies and urban planning is the prerogative of each city government, granting cities independence in their planning endeavors. However, German law mandates that municipalities must prepare urban land use planning (Bauleitpläne) in instances where organizing and developing urban areas are deemed necessary. Although the State government delegates autonomy to cities in formulating and coordinating urban planning and urban land use planning, it is imperative that these initiatives align with the principles endorsed by the government. Urban land planning and management revolve around three distinct categories of areas or regions: white land areas (Außenbereich), areas designated for construction permits (Innenbereich), and areas subject to legally binding land use planning. White lands are zones where construction is prohibited, typically reserved for non-urban activities, serving the purpose of maintaining ecological equilibrium. Continuous construction areas permit development and construction without the necessity of adhering to legally binding land use planning. The remainder of the city, excluding the aforementioned zones, must undergo planning according to urban land use guidelines and align with spatial planning objectives outlined in regional planning regulations. By

4. UN Habitat (2022). World Cities Report 2022: Envisaging the Future of Cities. ISBN Number : 978-92-1-133395-4

delineating land use into these three zones, cities not only ensure appropriate land utilization and prevent disruptions to ongoing land plots and projects but also foster ecological balance, aligning with the sustainable development objectives advocated by Germany and other European nations. An exemplification of land use classification in urban land use zoning within the city of Münster, Germany, will be presented in Figure 2.



Note:

- 217 :Area with legally binding land use planning
- :White land area
- :Area where construction is allowed

Source: *Urban Development and Urban Policy in Germany - An Overview (2000)*

▲ Figure 2. Urban land use zoning in Münster city, Germany

In Asia, China and Japan are considered two countries with strict, modern urban planning and management policies, setting examples for other developing countries. China, in particular, boasts two significant national-level policies that play a pivotal role in advancing strategies related to green spaces and

urban housing: the Land Management Law of the People’s Republic of China and the standards for urban land use classification and development land planning (Junfang Xie et al., 2021). Forecasts by both domestic and international organizations indicate that over half of China’s population will reside in urban areas by 2050. This projection places pressure on ensuring a judicious allocation of land resources, while also prioritizing environmental conservation and the well-being of citizens. The Land Management Law of 2004 enshrined the provision that “Individuals have the entitlement to demand that governments at all administrative levels enforce synchronized planning and stringent management measures to safeguard and enhance land resources, preventing unlawful appropriation and misuse of land” (Chapter 1, Article 3). This policy guarantees that planning, both in a general context and specifically in land planning, must be established upon the foundation of the nation’s socioeconomic development potential, rational resource utilization, and environmental preservation.

Continuing this perspective, the Urban and Rural Planning Law mandates that city-level comprehensive planning must adhere to the following principles:

- Strict protection of farmland and keeping land for agriculture under control lest it should be occupied and used for non-agricultural construction;
- Increasing the land utilisation ratio by;
- Making overall plans for the use of land for different purposes and in different areas;
- Protecting and improving ecological environment and guaranteeing the sustainable use of land; and
- Maintaining a balance between the area of cultivated land used for other purposes and the area of land developed and reclaimed.

In accordance with the aforementioned standards and regulations, China has introduced a comprehensive set of green urban criteria and national green urban standards aimed

Table 2. Permitted ranges of per capita area and the percentages of urban land allocated for different uses

Category of urban land-use	m ² /person	Proportion in 1990 (%)	Proportion in 2010 (%)
Residential use	18.0~28.0	20~32	25~40
Industrial use	10.0~25.0	15~25	15~30
Streets and transportation	7.0~15.0	8~15	10~25
Green space	≥9.0	8~15	10~15
Administration and services	≥5.5		5.0~15

(Source: Ministry of Housing and Urban-Rural Development of China, 1990 and 2010)



at promoting widespread adoption of large-scale modern, environmentally friendly urban development projects nationwide. These standards serve as a model for fostering ecologically sound urban landscapes. Key indicators for green urban areas include per capita average public green space, green land coverage ratio, and green tree coverage ratio, with variations tailored to accommodate environmental and climatic disparities between southern and northern regions of China.

To advance sustainable development objectives, the “National Garden City” initiative has been implemented to prioritize ecological considerations within the urban planning process. This model, endorsed by the Chinese Central Government, integrates the preservation of cultural heritage with the establishment of a robust green space system, thereby advancing the overarching development objective of “constructing civilized and modern cities” in the 21st century. Key goals for the national garden city scheme was to ensure that the percentage of green spaces in urban areas should be higher than 36% and have potential opportunities to achieve more than 40% in the future. This national standard guide also established a value assessment which gives the indicator to measure the quality of green space, as well as the indicator to measure functional assessment, cultural value assessment, wildlife assessment and conservation of diversity in city.

China’s approach to formulating policies regarding green urban areas and establishing criteria for developing green cities underscores the nation’s commitment to curbing the unchecked expansion of urban spaces and ensuring the realization of conservation objectives.

This entails safeguarding the natural environment and instituting a robust monitoring system involving both the government and the public to facilitate the creation of green urban areas and cities, particularly in anticipation of more than half of China’s population residing in urban areas by 2050.

In Japan, urban planning revolves around three primary components: land use planning, infrastructure planning, and development project portfolios. According to a report on Japan’s urban planning system published by the Japan International Cooperation Organization (JICA) in 2007, the country delineates 12 distinct types of areas designated for commercial, industrial, and residential purposes. Japan’s regulatory framework encompasses specifications on permissible building types within specific areas or regions, as well as regulations governing floor ratios and building-to-land ratios. Urban planning is divided into two main areas:

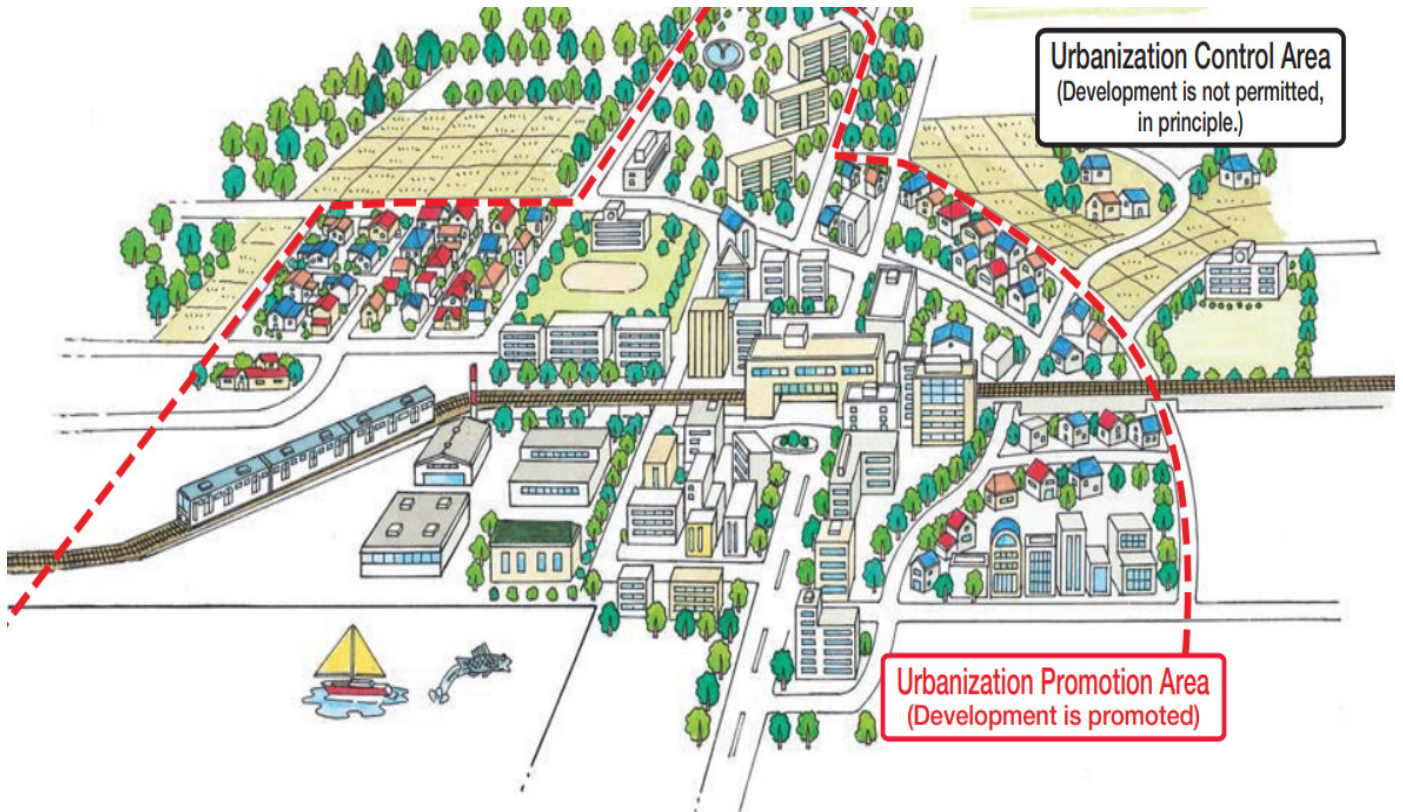
1) “Urbanized areas”, including existing urbanized areas and areas to be developed within the next ten years; and

2) “Urban control zone”, where urbanization is limited. Urbanization and urban control areas are designated within the city planning area, which includes the three major metropolitan areas and cities with populations of more than 100,000

Table 3. Main indicators for “National Garden City” in China

Basic indicators				
City indicators	Large city	Medium city	Small city	Location of the city
Average public green space for capita (m ² /person)	6.5	7	8	South of Qinling Mountains and Huai River
	6	6.5	7.5	North of Qinling Mountains and Huai River
Percentage of green land coverage (%)	30	32	34	South of Qinling Mountains and Huai River
	28	30	32	North of Qinling Mountains and Huai River
Percentage of greenery coverage (%)	35	37	39	South of Qinling Mountains and Huai River
	33	35	37	North of Qinling Mountains and Huai River
Other indicators				
			Basic achieve	Potential achieve
Percentage of green land coverage of residential area (%)	New residential area		≥ 31	≥ 35
	Old residential area		≥ 25	-
Percentage in the length of a road (%)	With road planting		≥ 95	100
	Reach greening standard		≥ 80	-
Percentage of green land coverage (%)	City main road		≥ 25	-
	Parks		≥ 70	≥ 80

(Source: Ministry of Housing and Urban-Rural Development of China, 2008)



▲ Figure 3. Diagram illustrating zoning in Japanese urban planning

Source: Ministry of Land, Infrastructure and Transport, Japan (2003)

people. Urbanized areas have a total area of approximately 1.4 million hectares, accounting for about 4% of the country's land area. About 82 million people or 66% of the country's population live in urbanized areas.

Urban planning implementation in Japan employs three main tools:

1. Land registration: City authorities rigorously scrutinize each building or project to ensure full compliance with laws such as the Urban Planning Law, Construction Law, Reconstruction of Old Towns Act, Capital Construction Act, and other relevant regulations. Should a project exceed certain thresholds in scale, owners must seek government approval to proceed with construction.

2. Directly investment in infrastructure: The government directly invests in infrastructure projects.

3. Economic incentives: The government offers subsidies or preferential policies to incentivize companies or individuals.

For areas designated for urbanization, local authorities issue specific regulations to control the volume and height of structures, as well as usage, in accordance with the provisions outlined in the Construction Standards Law. These regulations aim to prevent the amalgamation of buildings serving different purposes within a single area and to ensure a conducive environment for each specific type of land use.

4. CONCLUSION

In recent years, the urbanization process has occurred at a rapid pace and the movement to build new rural areas has been promoted. It is forecast that in the period 2021 - 2030 and beyond, the trend of urban land fluctuations will continue to increase, with a rapid increase mainly for residential land in urban areas; Conversely, land in rural areas is anticipated to experience slower growth and a tendency towards decline due to ongoing urbanization processes⁵. This trend has created requirements for allocating land funds for urban land in the process of preparing and adjusting land use planning. Resolution 18-NQ/TW of the XIII Central Committee⁶ sets out the

5. Resolution No. 39/2021/QH15 of the 15th National Assembly on National Land Use Planning for the period 2021 - 2030, vision to 2050, 5-year National Land Use Plan 2021 - 2025

6. Resolution No. 18-NQ/TW, June 16, 2022, Fifth Conference of the 13th Party Central Committee on continuing to innovate and perfect institutions and policies, improve effectiveness and efficiency land management and use, creating motivation for our country to become a developed country with high income



need to innovate and improve the quality of planning and land use plans: “*Determining land use criteria must be consistent with land use needs, avoid waste in land allocation, management and use*” and “*combining criteria of land types associated with space, land use zoning, and natural ecosystems, showing information for each plot land*”. Institutionalizing the above contents, the Ministry of Natural Resources and has formulated and finalized the revised Land Law draft, which encompasses regulations on land use norms outlined in provincial and district-level planning and land use plans. These norms will undergo further refinement and augmentation in subsequent revisions of the law.

Based on research on the experiences of the Federal Republic of Germany, China and Japan regarding urban land planning and management, it becomes evident that past practices necessitate an integration of spatial considerations, land use zoning, and preservation of natural ecosystems. This integration relies on clearly defined protection and conservation criteria coupled with management policies such as the exchange of development rights for non-agricultural investment projects. Urban land use planning hinges on two crucial elements: land use zoning for urban areas and the establishment of regulations, policies, and standards for each land use purpose. When paired with a rigorous and effective implementation process, this approach contributes to advancing urban areas towards modern, environmentally friendly standards, enhancing public transportation convenience, and realizing the objective of sustainable urban development.

Land use zoning aims to delineate boundaries and organize land use space into three categories: strictly managed areas, restricted areas, and areas with altered land use purposes. It governs the alignment of land use criteria with spatial configurations, determining the location, boundaries, land reclamation areas, and changes in land use purpose for each land parcel. In addition to zoning, research identifies criteria and standards for critical land purposes associated with spatial considerations, land use zoning, and natural ecosystems concerning residential and urban land. This comprehensive approach to urban land use planning serves as a vital foundation for accurately assessing needs, conditions, and development directions, thereby establishing specific norms for residential land at various planning levels. Ultimately, this contributes to enhancing the quality of land use planning and meeting the imperatives of sustainable development ■

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Developing ecotourism: International experiences and lessons for Vietnam

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Abstract

Ecotourism is an important component of sustainable tourism. More and more countries consider ecotourism as one of their national socio-economic development goals. In addition to helping preserve ecosystems and biodiversity, ecotourism also contributes to creating jobs and income for people and boosting the local economy. In Vietnam, there are not many policies for ecotourism development, which in the long run leads to fragmentation and lack of uniformity. This research will focus on understanding the role of ecotourism in protecting the environment and local communities. By analyzing secondary data on countries' experiences in developing ecotourism, including: Serengeti National Park (Tanzania), Galapagos National Park (Ecuador), The Toledo Ecotourism Association (Belize), Nam Et-Phou Louey National Park (Laos) and The Kapawi Ecotourism (Ecuador), research results found values that Vietnam can learn their efforts to develop ecotourism. Thereby, providing some management implications for the Government of Vietnam in maintaining and developing sustainable national ecotourism.

Keywords: ecotourism, ecosystem, environment, local community, sustainable tourism.

JEL Classification: F64, Q01, Z32.

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1. INTRODUCTION

According to Population Reference Bureau, ecotourism is responsible travel to natural areas that protects the integrity of the ecosystem and generates economic benefits for local communities in encouraging conservation. In the connection between population and environment, ecotourism is an innovative way to combine the goals of ecological conservation and economic development.

Ecotourism has an extremely positive impact on the community, it helps reduce pressure on the environment and limits the exploitation of natural resources for tourism. Ecotourism has come to the fore as a form of tourism that can minimize the physical, social and cultural damage of tourism to the environment (Yildirim & Tekeli, 2023). Ecotourism focuses primarily on experiencing and learning about nature, landscapes, flora, fauna and habitats, as well as indigenous cultural artifacts. Ecotourism helps community development by providing alternative sources of livelihood for local communities that are more sustainable. According to the United Nations Environment Program, ecotourism takes place in natural environments rooted in three basic principles: conservation, community and education.

Three basic principles in ecotourism

Ecotourism not only contributes to local economic development but also encourages the preservation of traditional values and natural landscapes (Özcan et al., 2009). Countries around the world pay more

attention and have policies to develop ecotourism. According to Traveloka, the Top 10 ecotourism destinations in the world include: Komodo National Park, Way Kambas National Park and Raja Ampat (Indonesia), Serengeti National Park (Tanzania), Great Barrier Reef (Australia), Gunung Mulu National Park (Malaysia), Jeju Island National Park (South Korea), Galapagos Islands (Ecuador), The Himalayas (Nepal), Kinabalu National Park (Malaysia).

On the other hand, ecotourism is often combined with other types of outdoor activities and other types of cultural and recreational tourism (Amanda et al., 2019). Estimates by the World Travel and Tourism Council show that ecotourism is growing at a rate of 10-15% per year.

Recent research by Donohoe & Needham (2006) shows that the following factors influence ecotourism development: (1) nature-based, (2) preservation/conservation, (3) education, (4) sustainability, (5) distribution of benefits and (6) ethics/responsibility/awareness. Conservation approach in ecotourism can be divided into four steps: Setting priorities, Developing strategies, Taking action and Measuring success.



CONSERVATION

Ecotourism emerges as a beacon of hope for safeguarding and enriching the world's biodiversity. This approach aims to offer long-term, sustainable solutions by fostering responsible travel that minimizes environmental impact while providing economic benefits to local communities.

COMMUNITY

Ecotourism serves as a catalyst for positive change. It helps increase employment opportunities for local and indigenous communities. When well-executed, ecotourism can fight against global social issues (like poverty and inequality) and fund sustainable development projects.

EDUCATION

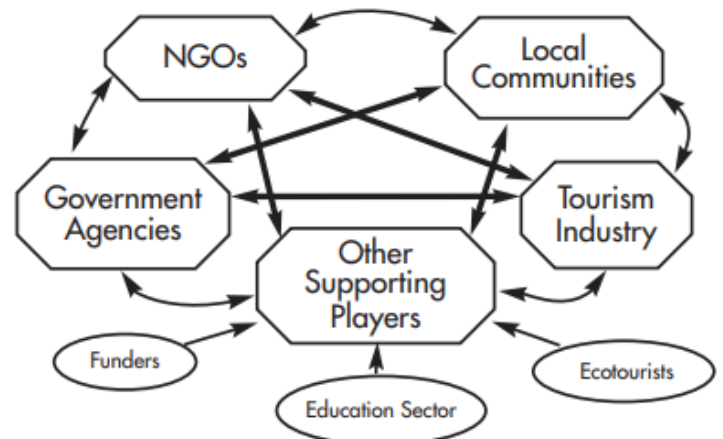
Ecotourism not only offers a unique opportunity to experience breathtaking landscapes and encounters with wildlife, but also to gain invaluable knowledge and appreciation for the natural world. Education is an important element of responsible ecotourism.

Four steps conservation approach in ecotourism

(Source: Drumm et al., 2005)

Approach	Detail plan
Setting priorities	<ul style="list-style-type: none"> • Identify targets (eg. priority species) • Set goals for number and distribution of conservation targets • Assemble information and relevant data • Design a network of conservation areas to meet goals
Developing strategies (Conservation Area Planning)	<ul style="list-style-type: none"> • Systems (the conservation targets) • Stresses (eg. soil erosion) • Sources of stresses (eg. tourism-related impacts) • Strategies <ul style="list-style-type: none"> - Identify and evaluate possible tourism related threat mitigation strategies - Identify and evaluate ecotourism development potential • Stakeholder consultation • Success measures - Establish indicators for success
Taking action	<ul style="list-style-type: none"> • Prepare agreements with partners • Build partner capacity • Provide training, technical assistance and resources <ul style="list-style-type: none"> - Tourism-based conservation finance - Threat mitigation - Community enterprise development.
Measuring success	<ul style="list-style-type: none"> • Biodiversity health • Threat abatement <ul style="list-style-type: none"> - Success of mitigation strategy • Partner capacity • Financial management • Adjust priorities, strategies, workplans (through participation in annual budget and goal setting)

Promotion of local livelihoods through ecotourism has been widely considered as an important policy instrument for biodiversity conservation (Madhumita & Bani, 2015). According to the United States Agency for International Development, tourism development is associated with the responsibility to preserve and promote natural areas, including preserving the environment and improving the well-being of local community. Research by Kiper's (2013) shows that ecotourism is a type of environmentally responsible tourism that aims to explore and experience wild nature, while contributing to conservation and sustainable development. Ecotourism often takes place in natural areas that are relatively pristine, little affected by humans such as forests, mountains, seas, lakes, rivers,...



▲ Ecotourism partnerships needed for success
(Source: Drumm et al., 2005)

For ecotourism to be optimally effective, conservation area staff must be able to work and understand local communities, government agencies, travel operators, travel agent, tour guide. Reserve staff must be able to guide some conflicting interests of all ecotourism participants so that they work together for the benefit of the reserve and its conservation goals. In some cases, it may be useful for NGOs to take on this role, often at the request of protected area management.



Ecotourism is part of the protected area management strategy. Through identifying the tensions, sources and real threats to the natural and cultural integrity of the region, the level of ecotourism activity depends on the priorities of local area managers. In general, ecotourism is a type of tourism that is important to the environment and local communities, thereby promoting understanding of different cultures. Ecotourism development strategies are designed to minimize impacts on the environment and local community.

2. INTERNATIONAL EXPERIENCE IN ECOTOURISM DEVELOPMENT

2.1 Serengeti National Park (Tanzania)

Serengeti National Park is one of the most famous national parks in the world, which is located in northern Tanzania. The park is known for its breathtaking landscapes, rich fauna and the world's largest migration of herbivores.

Serengeti National Park is an important tourist destination in Tanzania. The park attracts millions of visitors each year, bringing significant income to the local economy. Visitors spending on accommodation, transportation, guided safaris and local products spurs job creation and income generation for local communities. Serengeti National Park is committed to maintaining a delicate balance between tourism, wildlife and ecological sustainability by the following solutions:

Firstly, promote responsible tourism. Serengeti National Park promotes reduced ecological footprint through sustainable tourism initiatives, educating visitors about wildlife conservation and encouraging ethical behavior when observing wildlife.

Secondly, cooperate with local communities. Serengeti National Park empowers local communities through capacity building, training and opportunities to directly participate in the tourism value chain. It both benefits the community's livelihood and enhances the sense of ownership and responsibility for the conservation of the park's natural resources.

Thirdly, improve local infrastructure investment through increased development of roads, airports and accommodation services. Besides, encouraging scientific research, innovation and technological advancement in the park can further enhance conservation efforts and visitor experiences.

Fourthly, establishing partnerships with international organizations, conservation agencies and tourism agencies can strengthen Serengeti National Park's position as a global leader in nature tourism. Collaborative efforts in promoting national parks, sharing best practices and leveraging resources can further enhance the

status of national parks, attract more visitors and promote exchange knowledge to develop sustainable tourism.

2.2 Galapagos National Park (Ecuador)

Galapagos National Park represents responsible tourism model development. Nestled on the equator, 1,000 kilometers off the coast of Ecuador, the Galapagos Islands are a living laboratory of evolution and a haven for unique wildlife. Recognizing the extraordinary value of this ecosystem, the Galapagos National Park was established in 1959, followed by the creation of the Galapagos Marine Reserve.

While the park's official creation happened in 1959, active management and tourism didn't begin until 1968. A collaboration between park administrators and tourism representatives recognized the need for responsible tourism to preserve the islands' unique characteristics. In management strategies, a comprehensive management plan, implemented in 1974, established visitor sites and tourism zones. The park service, along with the Charles Darwin Research Station, implemented a licensed naturalist guide system in 1975, ensuring visitor education and enforcing park regulations.

Despite the challenges, the initial visitor limit of 12,000 per year was quickly surpassed, reaching a current level of approximately 100,000. Efforts to establish a carrying capacity proved challenging due to the complex nature of tourism in the park. Instead of a fixed limit, park authorities focused on managing individual site capacities and closely monitoring visitor impact. Additionally, increased entrance fees allowed the government to capture more revenue for conservation efforts.

In marine conservation, illegal fishing in the marine reserve led to the adoption of participatory management, where stakeholders collaborate to manage the marine ecosystem. This approach resulted in a Special Law for the Galapagos in 1998, addressing marine reserve and tourism issues.

The Galapagos National Park's story highlights the continuous effort to balance responsible tourism with conservation. Through collaboration, education and adaptation, the park has established a sustainable model for preserving this irreplaceable natural treasure. Although tourism in the Galapagos predates the concept of ecotourism, the park has evolved to closely represent its principles. This success is the result of collaboration between park managers, tourism industry representatives and the local community, ensuring the future protection of this unique ecosystem.



2.3 The Toledo Ecotourism Association (Belize)

One of the experiences in ecotourism development comes from the community-based approach to ecotourism in the Toledo district of Belize. The Toledo District in southern Belize boasts a unique mix of cultures, with Creoles, Garifunas and Mayans sharing its lush rainforests and rich heritage. Despite its beauty, the region remains one of the poorest in Belize, with residents relying primarily on farming and fishing. However, tourism has emerged as a potential source of income, albeit limited by accessibility and minimal development.

Recognizing Belize's growing reputation as a nature tourism destination, local residents formed the Toledo Ecotourism Association (TEA) in 1990. Their "Village Guesthouse and Ecotrail Experience" program equips communities to plan, develop and manage guesthouses. A key feature is a rotating system that distributes tourists among participating villages, ensuring equitable economic benefits and minimizing environmental impact. Currently, about 12 of the 30 villages actively participate, with varying levels of experience. An impressive 80% of tourism revenue stays within the community, directly benefiting service providers. The remaining 20% goes to TEA, supporting health, education and conservation projects, along with administrative and marketing expenses.

While visitor numbers remain modest at around 500 annually, the program shows promise. However, challenges have emerged. Original TEA members who invested heavily in the project feel new members should contribute similarly. Additionally, the concern exists that expanding tourism income to more villages could dilute individual profits. To address these concerns and increase revenue, TEA is expanding its marketing efforts. This necessitates strengthening the association's administrative capacity to manage the growing responsibilities of monitoring tourism's impact on residents and the environment.

In essence, the Toledo Ecotourism Association demonstrates a successful community-driven approach to sustainable tourism development. Balancing economic benefits with cultural preservation and environmental responsibility remains key as the program continues to evolve.

2.4. Nam Et-Phou Louey National Park (Laos)

The Nam Et-Phou Louey National Park (NEPL) is one of the largest and most biodiverse protected areas in Laos. NEPL showcases a unique approach to ecotourism that ensures equitable distribution of benefits among participating villages. This model focuses on two key activities: Service provider groups and Ecotourism Benefits Fund (EBF).

With service provider groups, each participating family can join only one service group, providing diverse employment opportunities. Fees are pre-determined and transparent, ensuring fair compensation for services like guiding, cooking and accommodation. These wages are supplemented by a bonus system based on visitor satisfaction and wildlife encounters, further motivating service providers. All payments are distributed directly to villagers in the presence of visitors, fostering trust and transparency.

With EBF, this fund pools a portion of tourism revenue and distributes it annually to all ecotourism villages based on the number of households. Instead of individual cash payments, the EBF supports small-scale development projects chosen by each village through a democratic voting process. This approach ensures the fund caters to the specific needs and priorities of each community. Past projects funded by the EBF include a medicine bank, school infrastructure improvements, water sanitation projects and micro-finance initiatives.

To ensure long-term sustainability, the NEPL model incorporates both positive and negative incentives. In positive incentives, participation in service groups provides alternative livelihoods, reducing dependence on unsustainable resource use. The bonus system further incentivizes conservation efforts and responsible behavior towards wildlife. Additionally, the EBF enables communities to invest in projects that improve their quality of life and well-being. In negative incentives, to deter rule-breaking, any household caught violating the protected area's regulations risks losing their position in the service groups. At the same time, villages involved in violations face a reduction in their annual EBF allocation. Therefore, it discourages illegal activities and promotes collective responsibility for conservation.

Overall, the NEPL ecotourism model demonstrates a successful approach to balance economic development with environmental protection. By combining equitable benefit sharing with strong incentives and disincentives, the program empowers communities to become active stewards of their natural resources while improving their livelihoods. This model holds valuable lessons for other ecotourism initiatives seeking to achieve both conservation and community development goals.



2.5 The Kapawi Ecolodge (Ecuador)

Kapawi is an innovative ecotourism project located in the remote southeastern corner of Ecuador, inhabited by the indigenous Achuar people. This project provides an example of how private capital investments can be integrated with minimal environmental and cultural impacts into a local community, even in cultures that still function in primarily non-monetary economies.

A model of sustainable ecotourism about Kapawi lodge in the Ecuadorian Amazon rainforest. This project is run by CANODROS S.A., an Ecuadorian tour operator, in collaboration with the Achuar people. For sustainability, Kapawi minimizes environmental impacts by using technologies like solar energy, trash management and black water treatment. For economic benefits, this project provides direct employment for Achuar people and generates income through tourism activities and sales of handicrafts. For cultural preservation, Kapawi respects and encourages the Achuar political system and incorporates their knowledge about their culture and environment. In the long term, this project aims to transfer ownership and management to the Achuar people over a 15-year period, sharing benefits and providing them with the know-how and installations to manage the project independently after time has expired.

Besides, Kapawi contributes to the creation of a not-for-profit organization that supports Achuar projects aimed at improving their ability to manage integration with the modern world and defend their lands. Kapawi emphasizes training Achuar people in various skills to ensure long-term autonomous management of the project. Project minimizes environmental impacts such as solar energy, waste management and black water treatment. Kapawi has created jobs for Achuar people and generated income through tourism activities and sales of handicrafts, respects and promotes Achuar culture and traditions.

In general, Kapawi is a successful model for sustainable ecotourism that benefits both the local community and the environment. It demonstrates how private capital can be invested in a way that respects local cultures and promotes self-determination.

3. LESSONS FOR VIETNAM

Vietnam is one of the countries with the highest biodiversity in the world, with 13,000 species of flowers, more than 15,000 species of animals and three recently discovered species of megafauna. Vietnam's national/world species ratio is 6.3%, much higher than the global average. Recently, the socio-economic report for 9 months of 2023 that the General Statistics Office (Vietnam Ministry of Planning and Investment) announced, in the first 9 months of 2023, Vietnam's service and tourism sector grew by 6.24%, contributing up to 53.34% in the overall growth of the economy's GDP. Based on the online tourism statistics database of the Vietnam National Authority of Tourism, ecotourism

in our country has over 30% international visitors and nearly 50% domestic visitors.

It can be said that our country has many foundations to develop ecotourism. For example, as reported by Vietnam National Authority of Tourism, the Ministry of Culture, Sports and Tourism, the Mekong Delta provinces have a lot of potential in building and developing ecotourism models such as: Tan Lap Floating Village Ecotourism Area (Long An), Con Phung Tourist Area (Ben Tre), Khmer Cultural and Tourism Village, Ba Dong Beach Tourist Area (Tra Vinh), Sa Dec City (Dong Thap), Cai Rang Floating Market (Can Tho), Phong Dien Garden (Can Tho), Wind Power Field (Bac Lieu), Chau Doc Market, Tra Su Melaleuca Forest (An Giang). Some lessons learned for the development of ecotourism in the future are as follows:

Firstly, the Government agencies need to cooperate with each other to ensure sustainable ecosystem protection. Taking the typical example of the development policy of Galapagos National Park (Ecuador), the model shows the connection between tourism managers, tourism industry representatives and local communities. This connection process will help orient ecotourism development more synchronously and consistently among localities.

Secondly, establish a national ecotourism development monitoring agency. Vietnam can learn this model from the Toledo Ecotourism Association (TEA). For long-term development of ecotourism, the Government is required to build a monitoring agency to strengthen management and ensure responsibility for the impact of tourism on environmental protection and local community welfare.

Thirdly, develop community capital, especially private capital for ecotourism development. The community is the subject of ecotourism, so it is necessary to raise community awareness about the role of community capital in ecotourism development. From there, the community will actively participate in mobilizing and using community capital effectively. Similar to the Kapawi Ecolodge (Ecuador), the connection of ecological projects with indigenous communities brings many values in economic efficiency, environmental efficiency and social efficiency. The government needs to develop programs



and policies to support the development of community capital, such as preferential loan support, vocational training support,... to help the community have favorable conditions to mobilize and use community capital effectively.

Fourthly, it is necessary to affirm that local infrastructure is an important factor to attract tourists, especially eco-tourists. Therefore, improving local infrastructure and enhancing partnerships with international organizations will contribute to sustainable ecotourism development. In the case of Serengeti National Park (Tanzania), ecotourism requires relatively complete infrastructure to serve tourists, including: transportation, electricity, water, motels, restaurants, amusement parks, entertainment,... Improving local infrastructure will help tourists easily access ecotourism destinations, while improving the quality of tourism services, creating an interesting experience for tourists.

Fifthly, management agencies need to periodically evaluate results to allocate appropriate resources in each locality. Besides, consider the experience of The Nam Et-Phou Louey National Park (NEPL) in empowering communities to become active managers of natural resources in localities. This ensures that local people will receive fair compensation for related services and a salary sufficient to cover their daily lives. At the same time, establish a positive reward system to encourage conservation efforts and responsible behavior towards wildlife in each local community.

On the other hand, the establishment of local ecological support funds, similar to the Ecotourism Benefits Fund (EBF), is also a long-term solution for people to access healthy national financial resources. In addition, in Vietnam, the policy bank model including the Vietnam Bank for Social Policies (VBSP) and Vietnam Development Bank (VDB) can combine with local ecological support funds in connect to promote loans aimed at conservation and community development.

4. CONCLUSION

According to the Resolution 08-NQ/TW of the Politburo, the goal is that by 2030, tourism in general and ecotourism in particular will become a key economic sector, contributing to strongly promoting the development of other industries and fields. Vietnam belongs to the group of countries with the most developed ecotourism industry in Southeast Asia. In particular, each locality builds its own ecotourism development project.

With much development potential, ecotourism plays an active role in protecting the environment and indigenous communities. Through the experiences of other countries in developing ecotourism, the article summarizes some lessons for Vietnam in developing a sustainable tourism economy and contributing to change the landscape and environment, improving the material and spiritual cultural life of local communities ■

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Alternative solutions of rice straw open burning in An Giang province

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Abstract

An Giang has a rice output of over 4 million tons/year, ranking first in the country, thus generating a very large amount of straw. However, people still have the habit of burning straw after harvest, causing environmental pollution. Currently, a number of straw reuse models have been applied to replace open burning to improve economic efficiency and reduce environmental pollution. The current paper describes the results of pilot studies of 07 mushroom cultivation, 15 treatment of straw with urea for fodder production, and 14 composting farms. The main research methods applied include experimental implementation on a household scale, straw collected from fields, chemicals (i.e. lime, formaldehyde, urea etc.) and microbial products (*Trichoderma*) is purchased on the market; economic efficiency assessment is based on statistical analysis of actual measurement data; assessment of the greenhouse gas emissions based on the Decision 2626/QĐ-BTNMT. The study results shown that all models had a return on investment value close to or less than 1 year and the benefit-cost-ratio as low as 38%. This is very important for the farmers as they do not have much capital to invest.

Keywords: Open burning, mushroom cultivation, fodder production, composting.

JEL Classification: F64, O13, Q53.

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1. INTRODUCTION

An Giang Province is located in the Mekong River Delta. The province has abundant freshwater resources, which favours the development of agriculture. Crop fields occupy some 250 thousand hectares, which is 70% of the total area of the province. Over 4 million tons of rice are produced in An Giang every year, which is more than in any other provinces of Vietnam. Rice straw is the by-product of rice cultivation. Producing 1 ton of rice usually results in producing 1-1.5 tons of straw. So the total amount of straw produced in An Giang every year could be up to 6 million tons. Presently most of the rice straw is burned in the fields, which creates pollution problems, decreases soil fertility. Farmers burn the straw because for them it saves labour in preparing the fields for the next season and this way they burn some pests.

In 2023, the price for a roll of straw was 37,000 VND/roll. At times the price may reach 50,000 VND/roll including the transport fee. The main problem for the straw collection is the cost of the straw

rolling machine, which is about 350 million VND. But it is still about 20% cheaper to rent such machines than hire labour going to do it manually. Farmers usually rent the straw collection machines for 6,000-8,000 VND per roll (or 0.9 to 1.2 million VND per ha) if there is local demand for the straw. If there is no demand, the farmers burn the straw in the field. Therefore, as long as there is enough demand in the market for the straw the farmers would rather sell it than burn it.

In recent times, there have been many research projects related to alternatives to open burning: mushroom cultivation, treatment of straw with urea for fodder production, and - composting [01-03]. However, there is a lack of research evaluating the economic efficiency and greenhouse gas emission reduction effectiveness of these models. Therefore, this research is necessary.

2. METHODOLOGY

2.1. Mushroom growing

Straw preparation for mushroom planting

Clean straw that does not have any mould must be washed with plenty of water and left for 5-7 days. The properly prepared straw should not have any sour smell and must have a dark yellow colour and moisture level of 70-75%. Otherwise, the edible mushrooms will not grow.



The prepared straw is mixed with cotton fibre. The added amount of cotton fibre is about 10% of the weight of the straw. The cotton fibre is prepared by dipping in lime water with pH=12. As it was found in prior research the addition of the cotton fibre increases the speed of the mushroom growth and the duration of production [01]. On a substrate with cotton fibre mushrooms could be harvested in 9 days, while without cotton fibre the mushrooms are harvested in 13 days. The duration of the harvest season increases from 15 days to 24 days.

The building for mushroom growing

In order for the building to grow mushrooms to keep moisture, it is necessary to insulate its inner walls and roof with foam panels and blue plastic. The room should be dark and have a concrete floor. The prior research indicated that increased moisture may double the mushroom yield.

For the purposes of ventilation, there should be a gap of 5-10 cm between the roof and the walls. Additional ventilation holes or windows could be made. Without proper ventilation, the lack of oxygen could ruin 40-100% of the mushroom harvest.

The ideal temperature for growing mushrooms is 35-39°C according to Nguyen Lan Dung (2010) [01]. When the mushrooms are about to sprout, it is necessary to ventilate the room 3-4 times a day for 10-30 minutes.

The columns of mushroom straw substrate are installed on the concrete floor in a square formation about 1.2m apart from one another. The columns are installed on foundations made from PVC pipes and zinc poles. PVC pipes are placed 10cm deep into the concrete floor, leaving 5cm above the floor. Then the 1.5m long 21mm in diameter zinc poles are installed. The detachable zinc poles can hold the weight of the 50kg mushroom column and can be easily removed when it is necessary to replace the straw substrate. The zinc poles are usually dried in the sun to kill any unwanted bacteria before placing the straw substrate.

After each mushroom harvesting season, it is necessary to disinfect the building to ensure that no diseases are passed to the next season. The building is washed with water and soap (0.1kg/m²), then the cement floor is treated with

oil paste (0.7kg/m²), then the room is sprayed with formaldehyde solution (1L of formaldehyde per 30L of water) and sealed for 12 hours. This procedure reduces the risk of diseases by 80%.

Economic efficiency assessment is based on statistical analysis of the actual measurement data presented in tables 1 and 2. Assessment of greenhouse gas emissions is based on the Decision 2626/QD-BTNMT [04].

2.2. Treat straw with urea for animal feed

The straw normally has a lower nutritional value than grass. The treatment of the straw with urea increases the protein content and makes it better for the digestion of cows.

Urea, also called carbamide (because it is a diamide of carbonic acid), is an organic compound with the chemical formula CO(NH₂)₂. Urea serves an important role in the metabolism of nitrogen-containing compounds by animals and is used as a component of animal feed, providing a relatively cheap source of nitrogen to promote growth.

The animal feed preparation in the study was based on Nguyen Van Bac's research (National Agricultural Promotion Centre) [02] in which 100kg of dry straw was mixed with 4kg of urea and 80-100L of fresh water. If the straw is fresh, then only 60-70L of water is added. This mix is kept in a plastic bag for 7-10 days but could stay in the plastic bag ready to use for up to 6 months.

After 7-10 days, the mixed straw can be fed to the cows. At first about 1-2 kg are given to each cow in mix with other foods, in order to get the cows used to this new type of feed. Then the amount of straw is increased every day by up to 7-10kg.

Economic efficiency assessment is based on statistical analysis of actual measurement data presented in table 3. Assessment of the greenhouse gas emissions is based on the Decision 2626/QD-BTNMT [04].

2.3. Composting straw to produce organic fertiliser

The straw, including the spent straw from mushroom growing, can be composted and turned into organic fertiliser. The fungi used in this study is the commercial version of the *Trichoderma* genus, which has over 90 species and is found in most types of soil. The fungi grow at optimal temperatures of 25°C to 30°C, which is suitable for An Giang climate. *Trichoderma* is a good option for the composting process it has the capacity to degrade cellulose and suppress other fungi that infect plants and cause diseases.

An equivalent of 20 rolls of straw, about 500kg of spent straw from growing mushrooms are mixed with 100kg of manure and 100kg of rice husk ash or coconut fibre. The 3kg of *Trichoderma* is added to the mixture. The proportions were determined and based on prior research.

It is important to mix the compost pile every 15 days. The spent straw from mushroom growing could be ready as fertiliser in 30 days.

Economic efficiency assessment is based on statistical analysis of actual measurement data presented in table 4. Assessment of the greenhouse gas emissions is based on the Decision 2626/QD-BTNMT [04].

3. RESULTS AND DISCUSSION

3.1. Mushroom growing

Seven households that grow mushrooms in Chau Thanh District, An Giang Province under the project research team's supervision were observed. One household grew mushrooms the traditional way (Control), and the other six used the indoor mushroom column method developed by the research team. Five of them were started and funded by the study in March

2023. The other one was a previously established bigger operation with 8 mushroom growing locations sites 30 m² each. The details of each case study are summarised in Table 1.

The summary statistics of the survey results are provided in Table 2. All farms that used the project model clearly required much less straw than the traditional model (90% less) and used less space (80-90% less). The amounts of capital investments are similar, but better disease control allows having more harvests each year.

The profit per harvest is similar for control and the new method farms. But since the new method allows having more harvests each year at a lower cost it brings much more money and pays off faster. The Return on Investment (ROI) and the Benefit-

Table 1: Revenue and cost of the control and the 6 case-studies

Items	Unit	Control	Farm 1	Farm 2	Farm 3	Farm 4	Farm 5	Farm 6
Site area	m ²	300	60	60	40	30x8	26	35x2
Amount of straw used for each harvest	Rolls/kg	500/ 10,000	40/ 800	50/ 1,000	50/ 1,000	40x8/ 6,400	30/ 600	30x2/ 1,200
Capital investment of 1st year	million VND	30	12	50	N/A	232	15	35
Number of harvests per each year	-	2	3	2	5	5	6	5
Cost per harvest per year	million VND	15/30	4/12	9 /18	6.2/31	2.6x8/ 13x8	2.5/15	7.7/38.5
Profit for each harvest per year	million VND	6 /12	7/21	12/24	6/30	3.6x8 /18x8	3/18	9.6/48

Note:

*Control: Vinh Hoa B Hamlet, Can Dang Commune
 Farm 1: Farm 6: Vinh Quoi Hamlet, Vinh An Commune
 Farm 2: Phuoc Thanh Village, Vinh Binh Town
 Farm 3: Tan Thanh Hamlet, Vinh Thanh Commune
 Farm 4: Thanh Hung Hamlet, Binh Thanh Commune
 Farm 5: Vinh Phuc Hamlet, Vinh Hanh Commune*

Table 2: Revenues and costs of the control and the 6 farms

No	Item	Unit	Control	Average (Range)
1	Site area	m ²	300	47.7 ± 18.1 (26 to 70)
2	Amount of straw used for each harvest	Rolls/kg	500/ 10,000	45.0 ± 10.5 (30 to 60) 900±210 (600 to 1,200)
3	Initial investment	million VND	30	28.2 ± 15.5 (12 to 50)
4	Number of harvests per year	Batches	2	3.3 ± 1.5 (2 to 6)
5	Cost per harvest	million VND	15	5.3 ± 2.7 (2.5 to 9)
6	Profit per harvest	million VND	6	6.9 ± 3.5 (3 to 12)
7	Profit per year	million VND	12	26.5 ± 11.4 (18 to 48)
8	Annual Return on Investment (ROI)	%	40	108 ± 53 (48 to 175)
9	Return on investment	Years	2.5	1.2 ± 0.7 (0.6 to 2.1)
10	Benefit-Cost Ratio (BCR)	%	40	131 ± 26 (97 to 175)



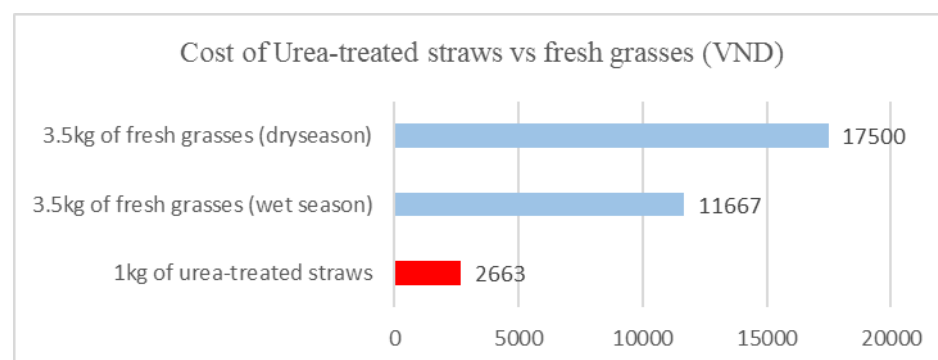
Cost Ratio (BCR) are much higher for the new method farms. The higher BCR gives the growers room to better manage the fluctuations in the process for straw and mushrooms. The farmers will still make money in cases if the prices for mushrooms drop and/or the prices for straw increase.

The analysis of the costs and benefits of the studied model of mushroom growing is complicated because of big individual differences between farmers and their households. That depends on the initiative and attitude of the farmers and their families. It is also hard to assess the exact labour costs because it is difficult to quantify the inputs of senior people and children. Still, the study results showed significant financial advantages of the studied mushroom growing model, which should provide an incentive for the farmers in An Giang Province to adopt it.

The project conducted a survey participated by 30 local farmers in 4 communes (An Hoa, Hoa Binh Thanh, Vinh Binh, and Can Dang). According to the survey, 16 out of 30 farmers expressed interest in trying the proposed mushroom-growing model (53%). Ten farmers requested technical support and inquired about possible financial support for the initial investment (33%).

3.2. Straw treatment with urea

The 14 farmers who participated in the study indicated that the main benefit of feeding the straw treated to urea to cows is that it saves time and labour required to find and deliver fresh grass. The straw treated with urea is cheaper than the grass and has a higher nutritional value. It is accepted that the nutrition value of 1 kg of treated straw is equivalent to 2.0 kg of fresh grass [03].



▲ Figure 1: Cost of urea-treated straw versus fresh grasses

It was calculated that it costs 2.13 million VND to produce 800kg of treated straw. The cost per kg is 2,663 VND. The cost of fresh grass (based on labour cost of 200,000 VND per day and harvest of roughly 30-70kg a day depending on the season) is 2,857-6,667 VND/kg. Figure 1 shows the comparison of the costs of urea-treated straw versus fresh grass.

The straw treatment pilot study was initially conducted in 10 farms in Vinh Loi Hamlet (Vinh Nhuan Commune), Hoa Loi 2, Hoa Loi 4 Hamlets (Vinh Loi Commune), Hoa Phu 2 Hamlet (An Chau Town), Binh

Table 3. Summary statistics of the straw treatment with urea for fodder preparation in 14 pilot farms

No	Item	Unit	Average (Range)
1	Site area	m ²	15.5 ± 3.8 (10 to 24)
2	Amount of straw used for each batch	Rolls/kg	18.1 ± 14.5 (8 to 60)
3	Initial investment	millions VND	362±290 (160 to 1,200)
4	Number of batches per year	Batches	9.6 ± 5.8 (3 to 20)
5	Cost per each batch	millions VND	8.4 ± 5.6 (3 to 20)
6	Profit per each batch (estimated saved labour time)	millions VND	1.4 ± 0.4 (0.5 to 2.0)
7	Profit per year (estimated)	millions VND	4.7
8	Annual Return of Investment (ROI) (estimated)	%	39.7
9	Return of investment (estimated)	Year	365
10	Benefit-cost ratio (BCR) (estimated)	%	0.3
			338

An 1 Hamlet (An Hoa Commune), An Phu Hamlet (An Hoa Commune), and Vinh Phu Hamlet (Vinh An Commune). Four more farms were included in the study since March 2023. Table 3 shows the summary statistics of the collected data.

The calculations of profits, ROI and BCR in this study are based on the estimate of saved labour, which otherwise would have been spent on cutting and delivering grass.

The research team has surveyed 30 local farmers in 4 communes (An Hoa, Hoa Binh Thanh, Vinh



Binh, Can Dang). Nine out of 30 (equivalent to 30% of them) expressed interest in the straw treatment model and 5 of them asked to consider them for providing technical support and some financial support.

3.3. Composting straw to produce organic fertiliser

The conducted study indicated that composting straw may increase farmer's income and could be done during between crop cycles.

The study was conducted in 15 farms in Vinh Hoa A, B Hamlets (Can Dang Commune), Hoa Phu 2, Hoa Long 3 Hamlets (An Chau Commune), An Phu Hamlet (An Hoa Commune), Vinh Phuc

Note:

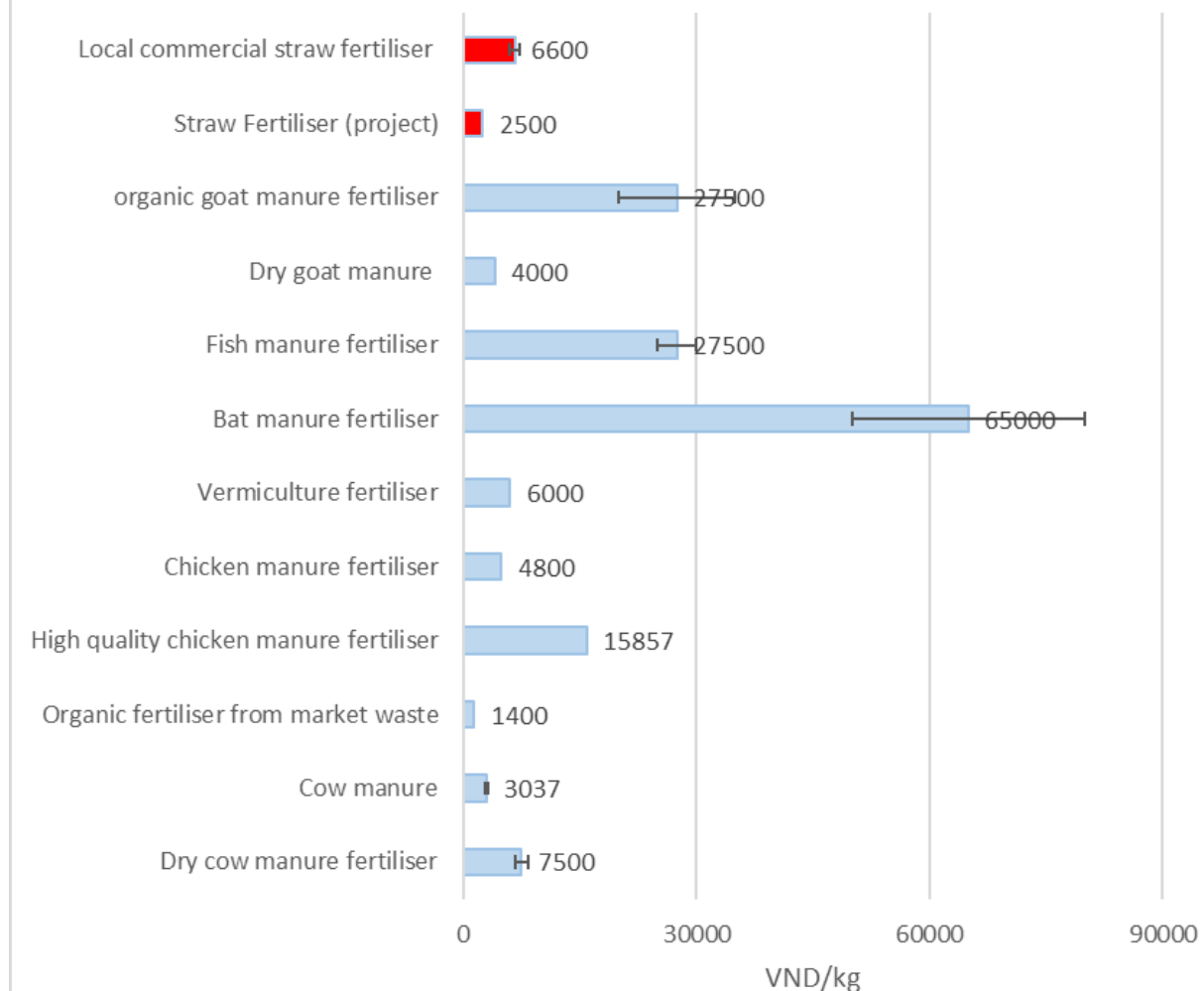
(*) One farm used 600kg of loose straw, and another used 200 rolls of spent straw from mushroom growing.

(**) Four farms didn't sell the compost but used it for their gardens.

Table 4. Summary statistics of the straw composting in 15 pilot farms

	Items	Unit	Average (Range)
1	Site area	m ²	11.4 ± 4.2 (7 to 20)
2	Amount of straw used for each batch	Rolls/kg	38.1 ± 14.9 (20 to 80) ^(*) 762 ± 298 (400 to 1,600) ^(*)
3	Initial investment	millions VND	4.6 ± 2.0 (2 to 10)
4	Number of batches each year	Batches	2.3 ± 1.0 (1 to 4)
5	Cost per batch	millions VND	3.3 ± 2.1 (1.5 to 10.0)
6	Profit per batch	millions VND	5.3 ± 3.1 (3.1 to 14.0) ^(**)
7	Profit per year	millions VND	8.7 ± 2.5 (5 to 14)
8	Annual Return of Investment (ROI)	%	219 ± 84 (140 to 320)

Costs of straw fertiliser versus other local organic fertilisers



▲ Figure 2: Cost of the straw fertiliser versus the prices for other commercial organic fertilisers



Hamlet (Vinh Hanh Commune), Vinh Phu Hamlet (Vinh An Commune), Vinh Thuan, Vinh Loi, Vinh Hoa Hamlets (Vinh Nhuan District), Hoa Loi 2,3 Hamlets (Vinh Loi Commune).

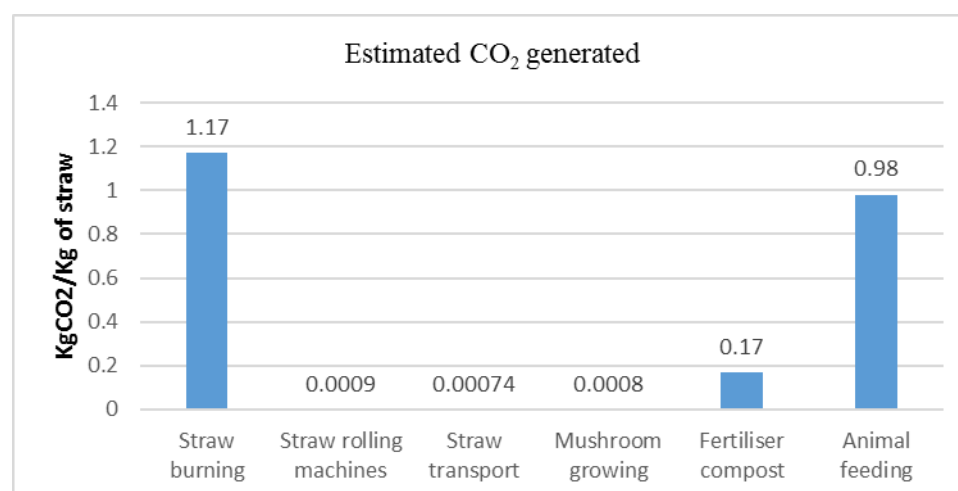
The studied straw composting model showed high values of ROI and low initial investment costs. At the same time, the Benefit-Cost Ratio does not include the farmer's labour and the costs of the area used for composting. Often the composting process is set up right within farmers' residences. The compost product is not uniform in quality and not as easy to store as commercial fertiliser. It leads to the conclusion that overall, the process of straw composting provides additional income opportunities for farmers, but also has some issues that may prevent its wide adoption.

Figure 2 below shows the comparison between the costs of the produced composted straw fertiliser (2000-kg batch of straw) versus other local fertilisers. As Figure 2 shows the cost of making compost fertiliser from straw is much lower than all other available organic fertilisers.

The research team has surveyed 30 local farmers and 15 of them expressed interest in the straw composting model. Five farmers were asked to consider them for providing technical support and some financial support.

Table 5: The amount of CO₂e generated from transporting straw in Chau Thanh and An Giang Province in 2022 [05]

Item	Number of trips		Amount of straw (tons)		CO ₂ e generated (tons)	
	Chau Thanh District	An Giang	Chau Thanh District	An Giang Province	Chau Thanh District	An Giang
By boats	2,075	8,720	51,883	217,993	26.2	109.9
By trucks	8,071	33,910	121,061	508,651	101.7	427.3
Total	10,146	42,630	172,944	726,644	127.9	537.2



3.4. CO₂ emissions of each model versus open burning

Based on greenhouse gas emission factors [04], the CO₂ emissions included estimates of CO₂ generated from straw transportation for 10 km on average from the field are calculated. Table 5 below shows the CO₂ emissions from transportation.

Figure 3 below shows the estimates of CO₂-eq generation from the three studied models, straw rolling transportation, and burning. The calculations were done using assessments from the literature [05]. The calculations show that in all studied models the CO₂ generation is much lower compared to open burning.

As can be seen in Figure 3 the amount of CO₂-eq generated from treated straw is quite high. But considering that a similar amount of CO₂-eq is released if cows are fed other food.

4. CONCLUSION

Each studied alternative to open burning in this study proved to be relatively easy to implement for the farmers in An Giang Province. It is anticipated that the farmers will continue these practices after the end of the project. The study results indicate that each alternative provides financial incentives for farmers. Each mushroom growing site provided income of 18-30 million VND per year

and each composting operation provided 5-14 million VND per year. The calculated ROI and CBR values were high. The straw urea treatment model for fodder production did not bring income in the form of money, but it saved a lot of time and labour for farmers.

If such alternatives to open burning are replicated across An Giang Province it would increase the demand for straw and reduce the burning of straw in the fields.

▲ Figure 3: Estimated CO₂-eq generated from different models of straw uses in An Giang province [05]



As indicated by the farmers the biggest challenges to continuing and spreading these practices could be the changes in prices and quality of rice straw in the market throughout the year. Most farmers do not have warehouses for storing the straw and will have to depend on the supply of the straw from the unstable rice straw market. Another problem is the quality of the straw. It could be contaminated with pesticides, which will make it unsuitable for use to feed animals or grow mushrooms.

In the future, the research team plans to continue optimising the mushroom growing and straw composting methods. It is also important to assess the potential contamination of straw with pesticides and heavy metals.

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1. INTRODUCTION

Plastic is a lightweight, hygienic, and durable material that can be molded in a variety of ways and used in various applications. Most plastics are non-biodegradable, they only photodegrade into small pieces called microplastics. The plastic products mentioned in this study are plastics of fossil origin, not plastics of biological origin. Among single-use plastic products, plastic bags are the world’s leading products in popularity among consumers and are considered a symbol of “disposable” culture.

In the effort to protect the earth from plastic waste, many countries in the world have been applying regulations to limit and eventually ban the use of single-use plastic products such as cups, plates, cutlery, spoons, etc., and replaced with environmentally friendly products. The ban on single-use plastics has been coming into force in many countries in the world today. Since 2020, 170 countries have committed to “significantly reducing” the use of plastic from now until 2030.

International experience gained includes both successes and failures in reducing and eliminating the use and discharge of nondegradable plastic bags and single-use plastic products in distribution systems, including countries that have succeeded in voluntarily agreeing to reduce nondegradable plastic bags and single-use plastic products such as Austria and South Korea; countries that have succeeded in taxing and collecting fees for using plastic bags such as Ireland and Japan; countries that have succeeded in implementing a ban on single-use plastic products and nondegradable plastic bags include Antigua and Barbuda, Australia, and the United States; countries failed to implement the ban on single-use plastic products and nondegradable plastic bags such as Rwanda, South Africa, Bangladesh and countries with similar characteristics to Vietnam such as China and Thailand.

Currently in the world as well as in Vietnam, the use of plastic bags and plastic products in business and consumption activities is quite popular because of the conveniences they bring. When released into the environment, a plastic bag can take up to 500 -1000 years to completely decompose. So to date, there are more than 9.1 billion tons of plastic waste accumulated on earth. The abuse of non-biodegradable plastic bags and single-use plastic products has left various negative consequences on human health, the environment and ecosystem, etc, hindering the sustainable development goal set by the international community and nations.

According to data from the Ministry of Natural Resources and Environment, the amount of plastic waste and plastic bags in Vietnam is currently quite high, accounting for about 8-12% of household solid



Solutions to reduce non-biodegradable plastic bags, single-use plastic products in the retail distribution system

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Abstract

Waste from non-biodegradable plastic bags and single-use plastic products with sustainable characteristics in nature are posing a significant threat to the environment and human health. Therefore, the implementation of the study “Research on scientific basis, propose solutions to reduce, eliminate the use and discharge of non-degradable plastic bags, single-use plastic products in markets, supermarkets and shopping centers” will contribute to Vietnam’s efforts to combat plastic waste. The main research method of the study is based on the study of documents, international experience, and surveying the current situation in Vietnam. The study has investigated and surveyed the current use and discharge of non-biodegradable plastic bags and single-use plastic products in the retail distribution system (including markets, supermarkets, and shopping centers) in Vietnam. Based on international experiences and the actual situation of using and disposing of plastic bags, single-use plastic products at markets, supermarkets, and commercial centers in our country, the study has clearly demonstrated the urgent matters that Vietnam needs to address in the near future. On the basis of theoretical and practical framework, the study has proposed 6 solution groups with tasks and activities to be implemented in order to reduce and eliminate the use and discharge of non-biodegradable plastic bags and single-use plastic products at markets, supermarkets, and shopping centers. The results of the study need to be widely disseminated to help government agencies as well as businesses and consumers have appropriate solutions to reduce and eventually eliminate non-biodegradable plastic bags, single-use plastic products and replaced by other biodegradable, environmentally friendly products in business activities and consumption at commercial business establishments.

Keywords: Plastic bags, plastic products, environment, trade.

JEL Classification: F64, Q21, Q53.

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waste, approximately 2.5 million tons/year. Counting plastic bags alone, it is estimated that Vietnam uses and disposes of more than 30 billion bags each year. Plastic bags are still the top priority choice for packaging and transporting goods in supermarkets, shopping centers, traditional markets, etc. The use of plastic bags and disposable plastic products is still common and it is mainly due to insufficient awareness of the harmful effects of plastic waste by production enterprises, distributors, and consumers; Propaganda work has not been organized regularly and is not highly effective; the distribution system for environmentally friendly products has not yet been established; the implementation of solutions and policies to reduce and eliminate the use and discharge of plastic bags and single-use plastic products, as well as policies and solutions to support and promote enterprises manufacturing products using environmentally friendly packaging in the retail distribution system are lacking and have numerous gaps...

To realize the goals and orientations of reducing and eliminating plastic bags and single-use plastic products, replacing them with environmentally friendly products in markets, supermarkets, and shopping centers, it is necessary to research and find solutions, develop policies to widely apply from production, distribution to consumption activities in the retail distribution system. For the above reasons, the project “Research on scientific basis, propose solutions to reduce, eliminate the use and discharge of non-biodegradable plastic bags, single-use plastic products at markets, supermarkets and shopping centers” focuses on main topics as follows: (1) Theoretical and practical basis, international experience in minimizing and eliminating the use and discharge of nondegradable plastic bags, single-use plastic products;

(2) Evaluate the current status of policies on minimizing, eliminating the use and discharge of nondegradable plastic bags and single-use plastic products in Vietnam; (3) Investigate, survey and evaluate the current status of use and discharge of nondegradable plastic bags and single-use plastic products at markets, supermarkets and shopping centers in Vietnam; (4) Viewpoints, orientations and proposed solutions to reduce and eliminate the use and discharge of nondegradable plastic bags and single-use plastic products at markets, supermarkets and shopping centers in Vietnam in the coming time.

2. METHODOLOGY

- Document research method, inheriting previous research results: Systematic collection of documents to clarify the theoretical and practical basis for minimizing, eliminating the use and discharge of nondegradable plastic bags, single-use plastic products at markets, supermarkets, and shopping centers in Vietnam.

- Methods of collecting secondary documents and translating documents: Find and compile documents on countries' experiences in minimizing and eliminating the use and discharge of nondegradable plastic bags and single-use plastic products to draw lessons learned for Vietnam.

- Statistical, analytical, and collected methods: Process, analyze, and synthesize collected information and data and evaluate the current status of the use and discharge of nondegradable plastic bags and single-use plastic products at markets, supermarkets, and shopping centers in Vietnam.

- Comparison and forecasting methods: Used to evaluate the current situation, compare and forecast among different development periods.

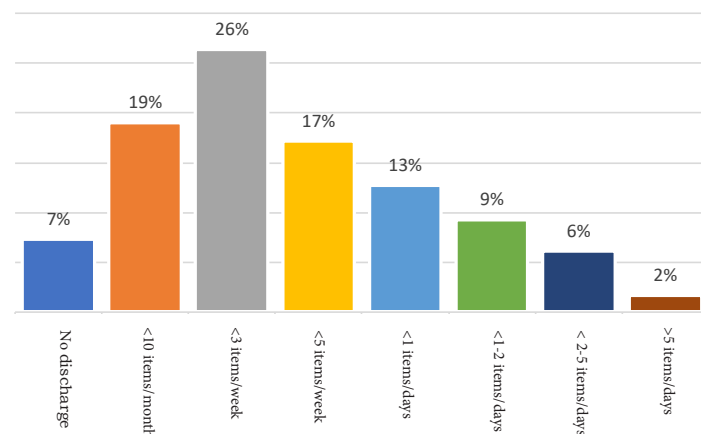
- Investigation and survey methods: To consolidate and update practical information and data to serve the analysis and assessment of the current situation of use and discharge of nondegradable plastic bags and single-use plastic products at markets, supermarkets, and shopping centers in Vietnam. The actual investigation and survey method is conducted on the basis of pre-built questionnaires, interviews, discussions, and work with 3 groups of survey subjects: (1) consumers; (2) enterprises and business households; (3) management agencies and organizations in 6 provinces and cities across the country including Ha Noi, Hai Phong, Da Nang, Can Tho, Ho Chi Minh City and Dak Lak. Workshop method, asking for expert opinions: Organizing workshops to get opinions from leaders, scientists, and environmental experts working at universities and research institutes, relevant ministries and agencies, businesses, and relevant organizations and individuals to supplement and complete the final research results report.

3. RESEARCH RESULTS

The survey shows some features of the current situation of use and discharge of nondegradable plastic bags and single-use plastic products in the retail distribution system including markets, supermarkets, and shopping centers in Vietnam currently, specifically:

Regarding the number of single-use plastic products discarded, since the price of single-use plastic products is still low as compared to consumers' payment willingness, a large amount of plastic waste still arises. According to survey results, up to 26% of surveyed consumers said they threw away less than 3 items per week, and only 7% said they did not throw away single-use plastic items. The number of single-use plastic items discarded by consumers is presented specifically in the chart below.

Number of disposable plastic products thrown away

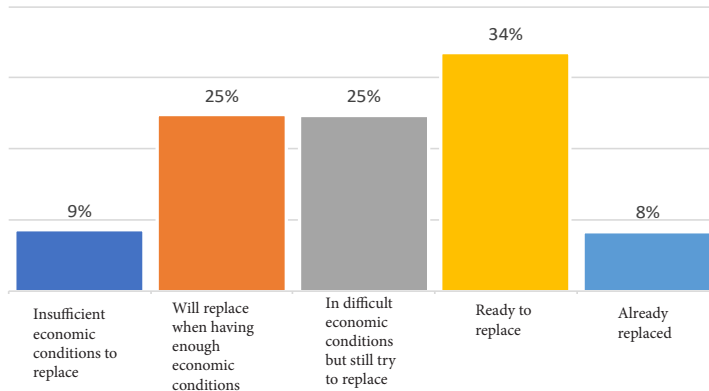


▲ *Figure 1. Number of disposable plastic products thrown away*

Regarding payment willingness for solutions to replace plastic bags and single-use plastic products, survey results show that up to 67% of surveyed consumers said they are willing to pay for environmentally friendly solutions to replace plastic bags and single-use plastic products, of which only 8% have made substitutions. The remaining 34% of consumers feel that economic conditions are still difficult so they will not be willing to pay, because current alternative solutions are still much higher priced than affordable disposable plastic products with the distribution for free.



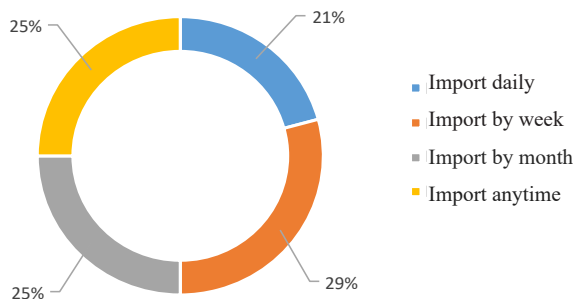
Payment willingness for alternatives to plastic bags and single-use plastic products



▲ Figure 2. Payment willingness for alternatives to plastic bags and single-use plastic products

Regarding the consumption of plastic bags and single-use plastic products for enterprises and business households at markets, supermarkets, and shopping centers, survey results of enterprises and business households at markets and supermarkets, commercial centers in 6 provinces and cities: Ha Noi, Hai Phong, Da Nang, Dak Lak, Can Tho and Ho Chi Minh City show that up to 41% of respondents said that the source of importing plastic bags and single-use plastics products is from distribution units. Details on the source and frequency of importing plastic and single-use plastic bags are shown in the following Figure 3.

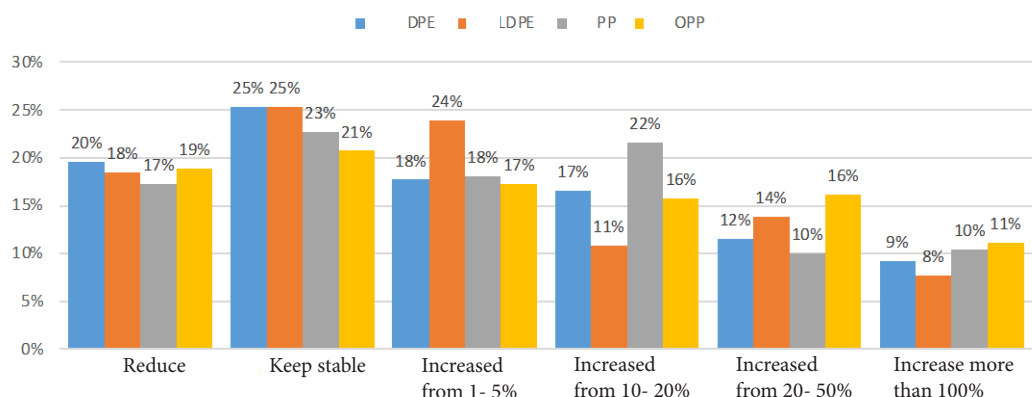
Frequency of importing plastic bags and single-use plastic products by business households



▲ Figure 3. Frequency of importing plastic bags and single-use plastic products by business households

Survey results show that the demand for all types of disposable plastic products of enterprises and business households tends to increase in the near future with a quite high selection rate, detailed in the following Figure 4.

Demand for plastic bags in the coming time



▲ Figure 4. Demand for plastic bags in the coming time

4. RECOMMENDATIONS

Given the current situation of using and disposing of plastic bags and single-use plastic products at markets, supermarkets, and shopping centers and lessons learned, urgent issues need to be resolved in the coming time, including:

Firstly, it is necessary to continue promoting propaganda and awareness raising for consumers, retailers, and manufacturers about the harmful effects of plastic bags on the economy, environment, and public health, as well as orientations in the production and use of environmentally friendly bags.

Secondly, develop and deploy policies and general management measures, implement specific solutions in parallel, from guiding and encouraging organizations and businesses, especially in markets and commercial centers to set a limit on the use of nondegradable plastic bags and replace them with environmentally friendly materials.

Thirdly, research and apply scientific advances, reuse technology transfer, and recycle non-degradable plastic bag waste and single-use plastic items into useful, environmentally friendly products.



Fourthly, seek international cooperation and apply advanced models of plastic waste management in general and at markets, supermarkets, and shopping centers in particular. Provide additional funding sources and encourage socialization of separation at source, recycling of household solid waste, and minimizing the use of nondegradable plastic bags.

Fifthly, develop a roadmap of specific tasks and activities to be carried out to limit the use and discharge of non-degradable plastic bags and single-use plastic products, and replace them with eco-friendly products that are able to decompose quickly in natural conditions (such as wood, rattan, bamboo...).

Sixthly, promote the implementation of inspection and supervision of business activities, production, import, distribution, and use of nondegradable plastic bags and single-use plastic products, especially in retail establishments such as markets, shopping centers, and supermarkets across the country.

5. CONCLUSION

In summary, we could not deny the role of plastic bags and disposable plastic products in modern life, but it is time to look back at the consumption and disposal of single-use plastic products and nondisposable plastic bags because they are causing serious consequences to organisms, the environment, the landscape, and human health. The project “Research on scientific basis, propose solutions to reduce, eliminate the use and discharge of non-degradable plastic bags, single-use plastic products in markets, supermarkets, and shopping centers” was carried out to contribute to Vietnam’s efforts to combat plastic waste.

Given the results of the survey on the use and discharge of nondegradable plastic bags and single-use plastic products in the retail distribution system in Vietnam in the current period, the project has evaluated the current situation of use of non-degradable plastic bags, single-use plastic products in markets, supermarkets, and shopping centers and draw out urgent issues that need to be resolved in the near future.

In addition, through international experiences collected on banning/restricting the use and emission of nondegradable plastic bags and single-use plastic products in the retail distribution system of goods, the research team drew lessons for Vietnam and proposed solutions to reduce and eliminate the use and discharge of non-degradable plastic bags and single-use plastic products in markets, supermarkets, and shopping centers in Vietnam in the coming time.

Given the research results, the research team has proposed tasks and activities that need to be implemented to reduce and eliminate the use of nondegradable plastic bags and single-use plastic products in markets, supermarkets, and shopping centers in Vietnam in the coming time.

Research results need to be widely disseminated in the form of handbooks and guidance documents to help the government as well as businesses and consumers have appropriate solutions to minimize and eliminate non-degradable plastic bags and single-use plastic products and replace them with other biodegradable, environmentally friendly products in business and consumption activities at commercial business units ■

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Institutionalizing Resolution No. 18-NQ/TW: Key points in the Land Law 2024

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Conference of the 13th Party Central Committee, Resolution No. 18-NQ/TW was promulgated to advance institutional and policy innovations and enhance operational efficacy in the realm of land management and utilization. The resolution delineated a strategic trajectory aimed at propelling the nation towards the status of a high-income developed country, encompassing five perspectives, three overarching objectives, six clusters of strategies, and eight principal policy domains geared towards refining the legislation governing land usage. This resolution constitutes a pivotal political framework and a fundamental doctrinal compass guiding the formulation and refinement of the Land Law 2024, which occupies a preeminent position in the legal landscape, bearing significant ramifications for political, socio-economic, defense, security, and environmental spheres, and exercising a profound influence across diverse sectors and the commercial sphere, as well as intersecting with numerous other legislative frameworks.

The process of crafting and finalizing the Land Law 2024 witnessed a conscientious, thorough, and meticulous approach by the relevant bodies of the National Assembly, governmental institutions, and affiliated agencies and organizations. Extensive consultations were conducted with the populace, institutions, organizations, experts, and scholars, culminating in four deliberative sessions within the 15th National Assembly, where the draft underwent rigorous scrutiny and elicited diverse perspectives. Subsequently, on January 18th, 2024, during the fifth extraordinary session of the 15th National Assembly, the Land Law 2024 was ratified through a decisive vote, marking a watershed moment in the evolution of land policies and legislative frameworks, tailored to meet the exigencies of socio-economic development in the context of advancing industrialization, modernization, and the socialist-oriented market economy, while facilitating seamless integration into the global economic landscape and ensuring the country's socio-political equilibrium.

Comprising 16 chapters and 260 articles, the Land Law 2024 represents a substantive augmentation from its predecessor, the 2013 Land Law, featuring two additional chapters — one dedicated to the development of land resources and another bifurcating the chapter about land reclamation, requisition, compensation, and resettlement support. Moreover, the Land Law 2024 introduces several innovative provisions, aligned with the ethos of Resolution No. 18-NQ/TW of the 13th Party Central Committee, and responsive to the collective aspirations of the populace and the business community. Within the confines of this discourse, a selection of these pioneering provisions will be expounded upon.

1. RIGHTS, RESPONSIBILITIES AND OBLIGATIONS REGARDING LAND

The delineation of rights, responsibilities, and obligations concerning land within the legal framework is aimed at institutionalizing the policies and directives laid out in Resolution No. 18-NQ/TW of the Party Central Committee. The ambit of the Land Law 2024 encompasses the regulation of the powers and duties vested in the State to act as the custodian of the collective land ownership of the populace and to ensure the cohesive management of land, alongside elucidating the rights and obligations of citizens and land users within the territorial jurisdiction of the Socialist Republic of Vietnam.

With the delineation of State powers and responsibilities and the concomitant rights and obligations of citizens, the Land Law 2024 has undergone revisions and enhancements to distinctly articulate the mandates of agencies and the decentralization of authority associated with overseeing and enforcing regulations. This includes ensuring a harmonized approach to land management across central and local levels, and the supplementation of regulations about the roles and obligations of entities such as the Vietnam Fatherland Front and its constituent organizations in land governance. Additionally, specific provisions have been introduced to delineate the State's obligations concerning land matters affecting ethnic minority groups, as delineated in Article 16. Further augmentations include regulations governing state management

tasks in determining land prices, as well as provisions concerning the development, management, and utilization of land funds, and the national land information system, as articulated in Article 20. A novel addition to the legislation is the incorporation of a new section (Section 3) addressing the rights and obligations of citizens regarding land.

Concerning the rights and obligations of land users, the Law introduces expanded and additional entitlements, such as the regulation of distinct groups of land users, including household members and individuals. Furthermore, provisions are made to regulate the land use rights of groups of users that cannot be subdivided and to facilitate the transfer or donation of rice land use rights to individuals not directly involved in agricultural production. The Law also permits the transfer of agricultural land use rights within the same provincial administrative unit. Notably, Vietnamese citizens residing abroad are granted land-related rights akin to those enjoyed by domestic citizens. The legislation further supplements and completes regulations concerning the exercise of rights such as conversion, transfer, lease, sublease, inheritance, and donation of land use rights, as well as mortgage or capital contribution with land use rights. Criteria for the transfer or donation of land use rights are outlined in Clause 1, Article 45, while additional conditions for transferring land use rights in real estate projects with technical infrastructure are stipulated under relevant laws.

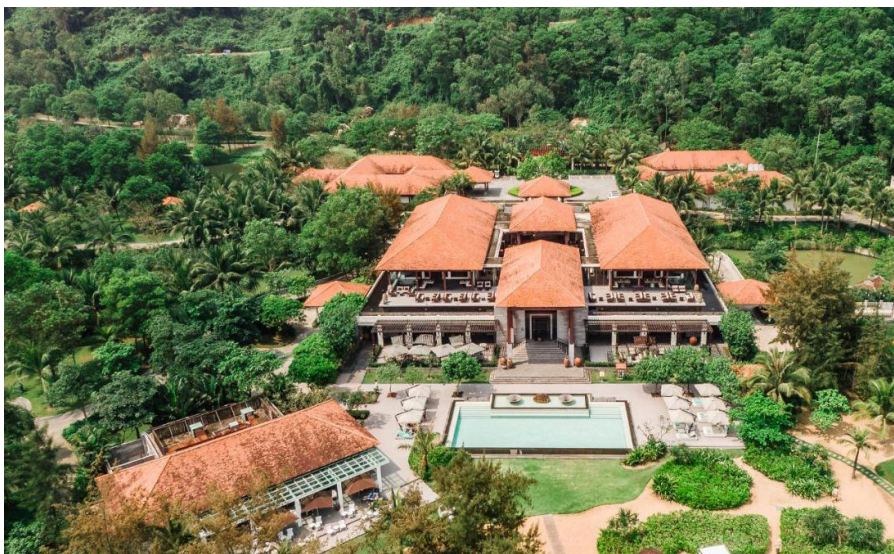
Under Resolution No. 18-NQ/TW, which advocates for the formulation of suitable policies to prioritize the allocation of land to ethnic minorities lacking productive land, and emphasizes the establishment of effective mechanisms to curb post-allocation land transfers, the Land Law 2024 delineates the State's obligations concerning land allocation for ethnic minority communities (Article 16). Additionally, the legislation reaffirms the State's commitment to ensuring communal land tenure for ethnic minorities, tailored to accommodate the unique customs, practices, beliefs, cultural identities, and contextual realities prevailing in each region. To facilitate the realization of land support initiatives for ethnic minorities, the Law mandates that district-level planning and land use plans incorporate criteria for delineating land types suitable for residential and agricultural purposes specific to ethnic minority communities (Clause 2, Article 66). Furthermore, the Law mandates the execution of projects aimed at arranging residential and agricultural land for ethnic minorities (Clause 3, Article 67). Additionally, the legislation regulates instances of land recovery to facilitate projects aimed at allocating residential and productive land to ethnic minorities in furtherance of land support objectives (Clause 29, Article 79).

2. LAND USE PLANNING

In alignment with Resolution No.18-NQ/TW, Chapter V of the Land Law introduces comprehensive regulations concerning land use planning and plans, aimed at enhancing the quality and efficacy of land utilization strategies. The legislation augments and refines the guiding principles underpinning land use planning, while innovating and refining the structure of the land use planning system across three administrative tiers: national, provincial, and district levels, alongside defense and security land use planning considerations.

The legislation introduces novel provisions

regarding the content of national land use planning, delineating specific land use criteria encompassing various categories such as agricultural land, non-agricultural land, rice-growing land, special-use forest land, protective forest land, production forest land (including natural forest areas), national defense land, and security land (Article 243, Clause 1). Additionally, regulations about provincial-level land use plans are integrated into the framework of provincial-level land use



▲ *The Land Law 2024 introduces amendments concerning construction land*



planning (Article 65, Clause 2). Notably, separate provincial-level land use plans are mandated solely for centrally administered cities, with other provincial-level land use planning requirements subject to specific stipulations (Article 243, Clause 2). Moreover, defense and security land use plans are regulated and integrated within the ambit of defense and security land use planning considerations (Article 243, Clause 2).

Furthermore, the legislation delegates the authority to approve national land use plans to the Government, while endowing Provincial People's Councils with the prerogative to decide on provincial land use plans. This decentralization of decision-making authority aims to foster initiative and flexibility in governance at both the central and local levels.

3. LAND ACQUISITION

The new Land Law delineates the conditions under which land may be reclaimed, emphasizing its imperative necessity for the realization of socio-economic development projects geared towards national and public welfare, aimed at optimizing land resources and enhancing land utilization efficiency. These initiatives encompass the development of contemporary socio-economic infrastructure, the execution of social security policies, environmental preservation efforts, and the safeguarding of cultural heritage. The Law delineates three distinct sets of criteria governing land recovery for socio-economic development endeavors serving national and public interests (Article 79). Correspondingly, the legislation enumerates 31 categories of projects and undertakings necessitating land reclamation by the State. Moreover, the Law includes a provision empowering the National Assembly to amend or supplement land recovery conditions for projects or undertakings serving national or public interests not covered by the aforementioned criteria, expediting responses to evolving socio-economic needs and facilitating land utilization in consonance with the exigencies of ongoing projects. This provision underscores the imperative to adapt to evolving socio-economic dynamics and to promptly address emerging land utilization requirements amidst the backdrop of the

nation's deepening integration into the global economy.

Of particular note, the legislation specifies criteria governing land reclamation for investment projects aimed at constructing mixed-use urban areas equipped with comprehensive technical and social infrastructure, as well as housing provisions in compliance with construction laws for urban redevelopment or revitalization efforts. Additionally, provisions are made for "rural residential area projects" to guide land recovery initiatives (Article 79, Clause 27). Furthermore, the legislation introduces provisions pertaining to land recovery in cases where forests have undergone reclamation in accordance with forestry laws, aimed at streamlining administrative procedures and ensuring the expeditious progression and timely completion of projects and construction endeavors (Article 82, Clause 1).

4. COMPENSATION, SUPPORT, AND RESETTLEMENT FOR LAND RECOVERY IN VIETNAM

The new Land Law introduces supplementary provisions aimed at refining and enhancing the principles governing compensation, support, and resettlement procedures when the State recovers land. Emphasis is placed on upholding democratic, objective, fair, transparent, and timely processes by legal frameworks, to advance the collective welfare and foster sustainable, civilized, and modern community and regional development. Special attention is directed towards social policy beneficiaries and direct participants in agricultural production.

Of particular note, the supplementary law specifies that in instances where the State reclaims land and the remaining area of the land parcel falls below the minimum threshold stipulated by the Provincial People's Committee, consent from the land user facilitates the State's authority to execute land reclamation and administer compensation, support, and management by prevailing legal provisions. Furthermore, the supplementary legislation mandates that in cases where a compensation, support, and resettlement project is delineated as an independent venture according to the provisions of public investment laws, the associated processes of land recovery, compensation, support, and resettlement shall adhere to the parameters outlined within the present Law (Article 93).

5. LAND ALLOCATION, LAND LEASE AND CHANGE OF LAND USE PURPOSES

Institutionalizing Resolution No. 18-NQ/TW, which addresses the refinement of regulations about land allocation, land lease, and alterations in land use purposes, the Land Law 2024 embodies substantive innovations. Among these, the Law supplements and enhances regulations governing the grounds for land allocation, land lease, and permissions for changes in land use purposes (Article 116). Notably,



amendments include provisions allowing for the conversion of agricultural land into residential land within residential areas, as well as the transformation of non-residential agricultural land into residential land, contingent upon the approval of district-level land use planning authorities. Additionally, the Law broadens the scope of land allocation recipients subject to land use fee collection, extending eligibility to individuals of Vietnamese origin residing abroad and economic entities with foreign investment capital engaged in commercial housing projects, by housing laws, or involved in real estate project transfers, as per real estate business regulations.

Regarding land-lease scenarios, the supplementary legislation stipulates that public service entities opting to utilize allocated land for production, business, or service provision may elect to transition to state land leasing arrangements, subject to annual land rental fees for the allocated area. Furthermore, the Law streamlines land use management by eliminating intermediary bodies in land allocation and leasing, conferring authority solely to the State, thereby enhancing administrative efficiency and oversight.

In delineating procedures for land allocation and lease, the Law distinguishes between cases involving auctioning or bidding for land use rights for project implementation (Articles 124 and 125). It introduces specific criteria for auctioning and bidding processes, emphasizing transparency and fairness. Similarly, in instances where investors are selected through bidding to execute land-based projects, the legislation outlines conditions, including provisions for foreign investor participation, stipulating that successful bidders establish economic entities to oversee project implementation, in compliance with investment, bidding, and related legislation.

Moreover, the Law introduces provisions for socio-economic development project implementation through land use agreements (Article 127). It retains regulations from the Land Law 2013 and specifies instances where such agreements apply, particularly in commercial housing projects where only residential land use rights may be acquired. Additionally, the Law grants land user's autonomy to execute projects, subject to provisions outlined in Clause 7, Article 127.

In addressing alterations in land use purposes, the Law delegates authority for approving such changes, particularly concerning rice cultivation land, protective forest land, special-use forest land, and production forest land, to provincial People's Committees. This decentralization aims to streamline administrative processes, expediting project progress, particularly for public investment ventures. Furthermore, the legislation mandates alterations in land use purposes for residential and other land types to accommodate commercial housing projects, safeguarding land user rights.

For lands designated for multiple purposes, stringent management measures are imposed to regulate purpose conversions. Specific provisions outline permissible scenarios for combined use, emphasizing the retention of the primary land use purpose. Moreover, where multiple-purpose land use is sanctioned, the preparation and submission of land use plans to competent state agencies for approval are mandated, ensuring compliance and oversight.

6. LAND FINANCE, LAND PRICING

Under the directives outlined in Resolution No. 18-NQ/TW of the 13th Party Central Committee, the Land Law 2024 undergoes revisions, augmentations, and refinements concerning land finance and pricing mechanisms, aimed at fostering a harmonious alignment of interests among the State, land users, and investors. Key amendments include the annulment of governmental regulations about land price frameworks, alongside the specification of principles and methodologies governing land price determination. Notably, the Law mandates the annual compilation, public announcement, and application of land price lists commencing January 1 of each calendar year. Moreover, a provision is introduced stipulating the stable application of annual land rents over 5 years following the State's decision to lease land, allowing for adjustments associated with changes in land use purposes concurrent with the transition to state land leasing arrangements. Subsequent land rent calculations are predicated on the land price list applicable for the ensuing period.

The legislation delineates specific methodologies for land valuation, encompassing the comparison method, income method, surplus method, and land price adjustment coefficient method, alongside specifying the circumstances and prerequisites for the application of each valuation approach (Article 158). Furthermore, provisions are made for the development of land price lists contingent upon value area categorizations and standardized land plots, leveraging digital cadastral maps and land price databases to facilitate accurate valuation (Article 159). To enhance transparency and objectivity in the valuation process, the composition of the Land Price Appraisal Council is expanded to include representatives from the People's



Council, the Vietnam Fatherland Front Committee, and advisory organizations, alongside land price experts, in addition to specialized agencies under the purview of the People's Committee (Article 161).

The Law also introduces amendments, supplements, and refinements concerning exemptions and reductions of land use fees and rents. Notably, domestic organizations allocated land by the State or those leasing land are afforded exemptions or reductions in land use fees or rents for the entire lease term, provided they comply with regulations governing project implementation, thereby preserving their rights and obligations akin to those not benefiting from such exemptions or reductions (Clause 3, Article 33). Furthermore, additional exemptions and reductions are extended based on investment incentive criteria encompassing specific fields, regions, and policy subjects. Importantly, land users qualifying for exemptions or reductions in land use fees and rents are relieved of the obligation to undergo procedural formalities to secure such exemptions or reductions (Clause 2, Article 156).

7. LAND-USE REGIME

In line with the directives outlined in Resolution No. 18-NQ/TW of the 13th Party Central Committee, the Land Law 2024 introduces amendments concerning the land use regime, focusing on broadening the scope of eligible recipients and thresholds for the transfer of agricultural land use rights, as well as refining regulations to meet practical exigencies and facilitate optimal land resource utilization. Specific amendments encompass the enhancement of mechanisms and policies governing the management and utilization of agricultural land, with a particular emphasis on expanding the permissible limits for transferring agricultural land use rights to no more than 15 times the local land allocation threshold. Furthermore, eligibility criteria for transferring rice land use rights are extended to encompass economic entities and individuals not directly engaged in agricultural activities, thus facilitating access to land for entities possessing capital and technical acumen to invest in commercial agricultural endeavors, while mitigating the risk of land abandonment or underutilization. The Law additionally permits agricultural land users to integrate agricultural activities with trade, services, animal husbandry, and medicinal plant cultivation, supplementing regulations to incentivize the consolidation and aggregation of agricultural land parcels, thereby mitigating fragmentation and fostering an environment conducive to investment and the adoption of mechanization and advanced agricultural technologies.

Concerning non-agricultural land, the Law integrates land designated for long-term stable use into residential land without distinction between land users. Additionally, it abolishes regulations governing the allocation and leasing of land by Airport Authorities,

High-Tech Park Management Boards, and Economic Zone Management Boards, transferring this authority to the State.

Moreover, the Law introduces amendments concerning underground construction land, including provisions of sea reclamation activities and multi-purpose land use. Specific regulations stipulate requirements to ensure the prudent utilization of land for the construction of underground infrastructure and outline procedures for the allocation and leasing of land for the construction of surface infrastructure to support the operation, exploitation, and utilization of subterranean facilities. Furthermore, the Law incorporates an article addressing sea reclamation activities, establishing a legal framework to harmonize land and maritime laws, with an emphasis on encouraging capital investment, technical innovation, and the implementation of incentive policies for investors engaged in such activities. Additionally, a new article on multi-purpose land use outlines permissible land types and requisite conditions for land utilization, including the preparation of combined land use plans for commercial and service-oriented activities.

Furthermore, the Law introduces regulations governing land use rights contributions and land readjustment, aimed at facilitating the exercise of land user rights in scenarios involving the consolidation of agricultural land for agricultural production, rural residential area development projects, rural road expansion, and enhancement initiatives, urban area beautification projects, and the renovation, expansion, or reconstruction of apartment buildings.

These innovations underscored in the Land Law 2024 necessitate meticulous examination and adherence to the legal frameworks and guidelines set forth by competent state agencies. Ensuring the accurate and comprehensive implementation of land law policies is imperative to enhancing the efficiency and efficacy of land management and utilization, thereby fostering the conditions conducive to the transformation of the nation into a high-income developmental entity in consonance with the spirit of Resolution No. 18-NQ/TW of the 13th Party Central Committee ■



Innovating regulations on land use bidding in the Land Law 2024

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Bidding in general and bidding for projects involving land use specifically are activities of a market economy with the principle of adopting a market economic model under state management, where land becomes valuable. Bidding for projects involving land use will help curb corruption in land allocation and leasing. Through bidding for projects involving land use with strict constraints on rights and obligations, many entities will have the opportunity to access and register to participate, allowing them to choose the land-use projects to bid on, and the investors with the best technical and financial capabilities to carry out the projects. Combined with existing land resources, projects will be implemented quickly and smoothly, bringing benefits to the state, investors, and society. However, organizing the selection of land-use projects for bidding at the local level still faces various issues such as lack of specific criteria for project selection, unclear coordination between land management agencies and related organizations, and challenges in land procedures such as land fund management, land clearance compensation, land recovery, compensation prices for land users, and land use forms for investors. Therefore, the Land Law 2024 has innovated legal provisions regarding bidding for land-use projects to enhance the efficiency of land management and utilization, ensuring a harmonious balance of interests among the state, investors, and land users in the context of Vietnam's international economic integration.

1. COMMON ISSUES IN LAND USE BIDDING

Currently, the issue of bidding for projects involving land use is receiving a lot of attention from investors. This activity not only promotes the competitiveness of investors both domestically and internationally but also indirectly drives the economic development of each country. This will bring transparency and efficiency in land management and utilization. However, to have a better understanding of bidding for land-use projects, it is necessary to clarify some of the following issues:

The concepts relating to bidding for land use bidding

According to legal regulations: "Bidding is the process of selecting contractors to sign and implement contracts for providing consulting services, non-consulting services, goods procurement, construction; selecting investors to sign and implement investment project contracts in the form of public-private partnerships, land-

use investment projects based on ensuring competition, fairness, transparency, and economic efficiency" [1].

A land-use investment project is a comprehensive set of solutions in economics - finance, construction - architecture, engineering - technology, organization - management to use existing resources rationally, including land use, to achieve certain economic - social results and objectives in the future.

Bidding for land-use investment projects is one of the methods to manage the establishment and implementation of investment projects, through which investors are selected to meet the project requirements based on competition among investors. Therefore, bidding for land-use investment projects can be understood as the process of selecting investors to sign and implement land-use investment project contracts based on ensuring competition, fairness, transparency, and economic efficiency.

Objectives of bidding for land-use projects

Bidding for land-use projects aims to: enhance competition in bidding; standardize the management of project investment expenditure; transparency in bidding; ensure fairness in bidding; ensure the effectiveness of bidding activities; prevent corruption in bidding.

Principles of bidding for land-use investment projects

Bidding for land-use investment projects is carried out basing on four fundamental principles: efficiency principle in finance and time effectiveness; competition principle: creating conditions for investors to compete with each other to the widest extent possible; fairness principle: ensuring equal treatment of participating bidders; transparency principle: this is the most important but difficult and challenging principle to implement and verify.



Role of bidding for land-use investment projects

Bidding for land-use projects plays a role in ensuring four contents: efficiency - competition - fairness - transparency. Efficiency can be in terms of financial or time aspects or any other criteria depending on the project's objectives. To ensure project efficiency, it is necessary to create conditions for open competition in the broadest possible scope to create fairness and ensure benefits for all parties. For projects with large total investments, economic or social value, the bidding process is an essential step that cannot be overlooked, and bidding must comply with state regulations or financial organizations providing capital loans. Bidding brings significant benefits to investors and the national economy as a whole.

2. THE CURRENT STATUS OF LEGAL REGULATIONS ON LAND USE BIDDING

Legal provisions on bidding for land-use projects before the Land Law 2024

The Land Law 1987, the Land Law 1993 did not have provisions regarding the bidding work for land-use projects, until Decree No. 04/2000/NĐ-CP dated February 11, 2000 on the implementation of the Law amending and supplementing some articles of the Land Law introduced provisions on bidding for land-use projects to raise funds for infrastructure construction. Article 22 of Decree No. 04/2000/NĐ-CP stipulates the establishment and approval of land use project plans to raise infrastructure construction funds, which are established by provincial People's Committees and approved by the Prime Minister, including a list of projects using land funds for infrastructure construction; land use plans for infrastructure construction. Article 23 of Decree No. 04/2000/NĐ-CP regulates the procedure for implementing land use projects to raise infrastructure

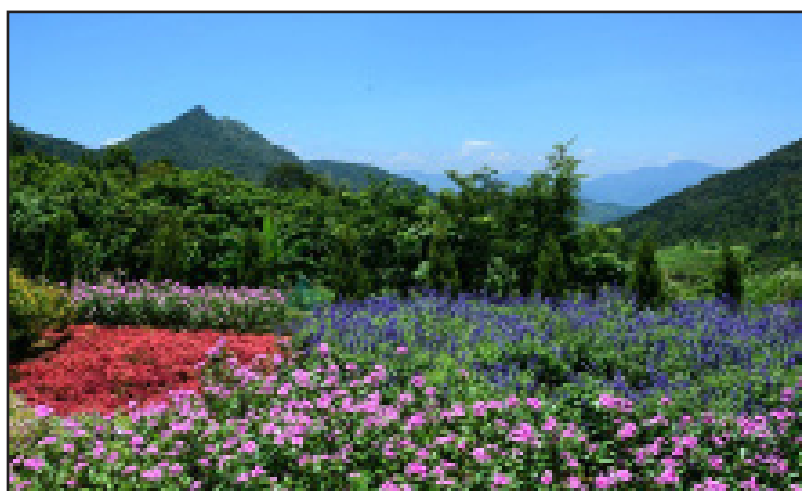
construction funds, including organizing bidding to select investors to implement projects, if multiple units participate. In cases where only one unit applies to implement a project, direct appointment is allowed. Although the Land Law regulates bidding for land-use projects, in practice, for projects involving land use during this period, mainly direct appointment rather than widespread bidding is prevalent.

Article 58 of the Land Law of 2003 stipulates that the State allocates land with land use fees, leases land through auctioning land use rights or bidding for land-use projects in the following cases: Investing in residential construction for sale or lease; investing in infrastructure construction for transfer or lease; using land funds to raise funds for infrastructure construction; using land for commercial production and business premises; leasing agricultural land within agricultural land funds for public purposes for agricultural production, forestry, aquaculture, salt making; other cases as prescribed by the Government [2].

The Land Law of 2003 regulates bidding for projects involving land use and is detailed in Decree 181/2004/NĐ-CP, Article 62 which regulates bidding for projects involving land use. Article 139 of Decree 181/2004/NĐ-CP regulates the procedures for issuing land use rights certificates to the winning bidder of land-use projects.

The Bidding Law of 2005 and specific regulations on bidding have been established, leading to significant changes in state capital utilization activities to enhance competitiveness, fairness, transparency, and economic efficiency. The enactment of the Bidding Law is a crucial prerequisite for unifying bidding regulations. Improving and unifying the system of legal documents on bidding contribute to creating conditions for implementing agencies to confidently enforce policies, reduce guidance on handling situations arising from differences and inconsistencies between legal documents.

Legal documents provide guidance on selecting investors for land-use projects including: Important investment projects identified in sectoral planning linked to land use rights, land funds with geographical advantages and high commercial value attracting interest from two or more investors; Investment projects using land areas with geographical advantages and high commercial value included in detailed construction plans at



▲ *Bidding to select investors to implement projects involving land use complies with the Land Law and bidding work regulations in general.*



a scale of 1/2000 at the local level; Investment projects requiring investor selection for commercial residential construction, real estate business linked to land use rights as regulated by housing laws, real estate business laws, land laws; Investment projects using land areas managed by state agencies, localities, state-owned enterprises if not auctioned off land use rights can select investors as regulated.

Furthermore, legal provisions set certain conditions for selecting investors for projects involving land use including: Having approved detailed construction plans at a scale of 1/2000; Projects included in the announced list as prescribed; Having an overall plan for compensation, support and resettlement for the land area to select investors for project investment; Having an approved investor selection plan; Having an invitation to bid document or approved request document.

During this period, some localities such as Hanoi, Ho Chi Minh City, Hai Phong City,... have started to organize bidding for land-use projects according to the aforementioned regulations but encountered difficulties in determining the land fund for bidding, too many procedures when conducting bidding causing difficulties for investors. Implementing bidding according to both the Land Law and Bidding Law regulations has left management agencies and enforcement agencies confused in handling tasks...

Challenges in regulations and implementation of land use bidding

Although the legal provisions on bidding for land-use projects have achieved certain results at this stage, there are still existing challenges and obstacles, specifically:

Firstly, the implementation process shows that there are still some other related content regarding the work of bidding for land-use projects being adjusted by various documents, leading to inconsistent application in different localities, causing difficulties in bidding that affect the project implementation progress and businesses' access to land.

Secondly, the professional expertise in bidding is uneven and limited in some localities. Strong decentralization enables investors to be more proactive in the bidding process. However, strong decentralization also means that some units may not meet the requirements for professional capacity. This is a reality for units at the commune level, especially in remote areas.

Thirdly, the quality of some bidding preparation work is low. Delaying in budget preparation and approval leads to some bidding packages being organized but unable to select a contractor due to higher bidding prices than the approved package prices, requiring re-bidding. There are still many shortcomings in bid invitation document preparation, low quality bid invitation documents leading to bid cancellation.

Fourthly, regarding bidding organization and bid evaluation. The bidding organization process is quite clearly regulated in the Bidding Law and guiding decrees,

and implementing units have largely complied with these regulations. However, there are still cases where some provisions are not fully adhered to: late submission of bid documents by contractors but still being opened and evaluated, contractors violating prerequisite conditions but not being eliminated, contractors not meeting technical requirements but still being evaluated financially, contractors exceeding bid prices not being evaluated technically, adjusting bid invitation documents after bid opening, still organizing bidding when the total value has exceeded the total investment amount...

Fifthly, post-bidding management issues are not regularly implemented. According to reports from localities, in some cases, contract implementation management (signed between the investor and the winning contractor) has not been adequately emphasized.

Sixthly, while the 2013 Land Law does not regulate bidding for land-use projects, the 2013 Bidding Law does address bidding for land-use projects to overcome shortcomings and limitations in implementing the 2005 Bidding Law and provides an important legal basis to ensure competitive, fair, transparent, and economically efficient principles for bidding activities.

The procedural sequences related to bidding for land-use projects are regulated in the 2013 Bidding Law and guiding documents. After selecting the investor through bidding, procedures related to land such as compensation, land clearance, land leasing, issuance of land use rights certificates are carried out according to the provisions of the Land Law and related guidelines [3].

3. REGULATION CHANGES ON THE LAND USE BIDDING

Land is a significant resource that plays a decisive and irreplaceable role in the socio-economic development and national security of the country. Therefore, land must be managed and utilized efficiently, preventing waste and loss. Implementing Resolution 18-NQ/TW dated June 16, 2022 of the 5th Central Executive Committee of the 13th term has set forth tasks and solutions: "Implementing land allocation and leasing primarily through auctioning land use rights, bidding for projects involving land use..." The Land Law of 2024 has been



amended to address limitations and shortcomings. This is a solution to eliminate administrative interference in land transactions, establish legal provisions towards complying with market rules in land allocation and leasing to serve state management, and meet the requirements of the strong ongoing socio-economic development. Specific additional and innovative contents regarding the selection bidding of investors to implement land-use projects are as follows:

Firstly, supplementing citizens' rights regarding land, in Article 4 of Article 23 of the Land Law 2024 clearly stipulates that citizens have the right to participate in bidding to select investors to implement land-use projects according to legal regulations. This is a completely new addition compared to previous land laws, ensuring the full rights of citizens in general and citizens' rights regarding land in particular.

Secondly, clear provisions on approving the list of project works involving land use for selecting investors through bidding. Article 5 of Article 72 of the Land Law 2024 stipulates the authority to decide, approve land use planning, plans, including stipulations before approving annual land use plans at district level, provincial People's Committees must submit to the provincial People's Council for approval of the list of works, projects that need land recovery, including projects to recover land for auctioning, bidding.

Thirdly, supplementing the basis for land allocation, leasing, allowing land use change in Article 2 of Article 116 of the Land Law of 2024 stipulates the basis for land allocation, leasing through bidding to select investors to implement land-use projects is the document approving the investor selection result for projects organizing bidding to select investors to implement land-use projects according to legal regulations on bidding.

Fourthly, supplementing Article 126 of the Land Law 2024 stipulates clearly the land allocation, leasing through bidding to select investors to implement investment projects involving land use, including 10 items, including: specific provisions on cases where the State allocates land with land use fees, leasing land through bidding to select investors to implement investment projects involving land use; Land Fund for bidding to select investors to implement land-use projects; conditions for bidding to select investors to implement land-use projects; for projects involving land use, they must also meet conditions as prescribed by sectoral laws and regulations; conditions for organizations participating in bidding to select investors to implement projects involving land use; conditions for foreign investors when participating in bidding to select investors to implement projects involving land use; responsibilities for announcing the list of land areas for bidding for investment projects involving land use, organizing detailed planning, organizing and implementing compensation plans, support, resettlement, land recovery, land allocation, leasing for winning investors or economic organizations

established by winning investors according to regulations; time limit for recognizing bidding results, signing contracts and regulations on canceling bid results; sequence, procedures for bidding to select investors to implement projects involving land use in accordance with legal regulations on bidding. This content marks and demonstrates the important role of the land management sector in selecting investors to implement projects involving land use in effectively managing and using land resources, especially during the current strong socio-economic development process.

Fifthly, supplementing Article 160 of the Land Law 2024 stipulates specific land prices applied in cases where the State allocates land with land use fees for winning investors selected through bidding to implement investment projects involving land use. This helps businesses access land transparently, fairly, and leverage land resources effectively [4].

Bidding to select investors to implement projects involving land use complies with the Land Law and bidding work regulations in general. Therefore, to complete procedures related to land concerning bidding for investment projects involving land use in the Land Law 2024 has been supplemented and is completing a system of guiding documents for implementing the Land Law 2024 in general and regulations on bidding to select investors to implement projects involving land use concurrently with implementing the Bidding Law. This innovation is a significant step towards creating a unified legal normative document system between the Land Law, Investment Law and Bidding Law, avoiding overlapping and conflicting provisions regarding investment projects ■

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Regulations of land use plans and plans in the Land Law 2024

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The Land Law 2024 has regulated a number of new contents for land use plans and plans, creating a legal basis to improve the efficiency of land use plans and plans. However, in order to implement effectively land use plans and plans, it is necessary to specify a number of legal regulations as well as have effective organizational solutions.

1. THE MAIN CONTENTS IN REGULATIONS ON LAND USE PLANS AND PLANS

The Land Law 2024 has regulated many new contents to meet the country's socio-economic development needs in the current period; including important innovations in the field of land use plans and plans. Compared to previous regulations on land use plans and plans, the Land Law 2024 has regulated important and new contents to improve the effectiveness and efficiency of land use plans and plans. Some outstanding innovations in land use plans and plans are as follows:

1.1. Regarding the principles of land use plans and plans:

(1) Must ensure principles and relationships between types of planning according to the provisions of the Planning Law; land use plans and plans are implemented not only according to the provisions of the Land Law but also according to the provisions of the Planning Law; (2) National land use planning must ensure specificity and regional connection; ensure balance between land use needs of industries, fields, and localities and in accordance with the country's land potential to use land economically and effectively; (3) Ensure consistency and synchronization in land use planning; land use plans of the higher-level level ensures land use needs of the lower level; lower level's land use plans must be consistent with higher-level's land use plans; (4) The

content of land use plans must combine land use criteria associated with space, land use zone and natural ecosystems; (5) Land use plans at all levels is prepared simultaneously; higher-level of land use plans must be decided and approved before lower level of land use plans.

1.2. Regarding the system of land use plans and plans:

When the Planning Law No. 21/2017/QH14 dated November 24, 2017 was promulgated, in the land use planning system, there was no longer a separation of "provincial land use plans" but it has been integrated into the provincial plan. The Land Law 2024 has regulated a system of national land use plans and plans including: National land use plans and plans; provincial land use plans and plans; district-level land use plans, annual district-level land use plans; national defense land use plans; security land use plans. Thus, land use plans at administrative levels includes levels: national, provincial, district; in particular, district-level land use plans and plans have detailed contents to the commune level.

A completed system of land use plans and plans will ensure uniformity in both content and organization of implementing planning and land use plans. National land use plans and plans must ensure suitability, consistency for land's sectors and fields, synchronization, close connection, and mutual promotion for development. The land use planning system is established at the national, provincial and district levels, defense land use plans, and security land use plans will meet the requirements of implementing the Economic Development Strategy - fast, sustainable society; ensure national defense and security; protect the environment and adapt to climate change in the spirit of Resolution No. 18-NQ/TW.

Regarding land use plans and plans at the provincial and district levels, it is necessary to note a number of regulations: (i) Provinces that are not centrally run cities do not have to prepare provincial land use plans but must phase land use planning for each 5-year planning period; (ii) If a centrally run city has an approved general plan according to the law on urban plans, it is not required to prepare a provincial-level land use plans, but based on the general plan to prepare plan for provincial-level land



use; (iii) districts, cities, towns under centrally run cities, cities and towns under provinces that have a general planning or zoning planning approved in accordance with the law on urban planning, then it is not necessary to prepare district-level land use planning but based on the general planning or zoning planning and land use norms that have been allocated from the provincial land use planning and local land use norms to prepare annual land use plans at district level.

1.3. Regarding the period of planning and land use plans:

If the 2013 Land Law was only regulated that the land use planning period is 10 years and the land use plan period is 5 years, the Land Law 2024 has more specific and complete regulations on the period and vision of land use planning and plans at all levels. Specifically: the period and vision of national land use planning, defense land use planning and security land use planning shall comply with the provisions of the Planning Law (planning period is 10 years, planning horizon is from 30 to 50 years); the period and vision of the provincial land use planning are consistent with the period and vision of the provincial planning (10 years and 20 to 30 years, respectively); the district-level land use planning period is 10 years and the vision is 20 years. Specific regulations on the period and vision of land use planning create conditions for planning to be more stable and long-term oriented.

1.4. Regarding the content and methods of planning:

The Land Law 2024 has regulations to innovate the process, content, and methods of land use planning and plans. These include regulations to enhance publicity, transparency, and people's participation in land use planning through organizing consultation; supplement and complete regulations on the exercise of land users' rights in planning areas. Regarding planning content, the law specifically regulates the content of land use planning at administrative levels and national defense and security land use planning. In particular, it is worth noting that the law regulates "The content of national land use planning shall comply with the provisions of law on planning" and "The content of national defense land use planning and security land use planning shall comply

with the provisions of law on planning"; at the same time, the contents of national land use planning, defense land use planning, and security land use planning according to the law on planning have also been amended and supplemented in the Land Law 2024 (Article 243) to ensure uniformity in the content of land use planning.

The law regulated that national land use planning only controls the main land use criteria: protective forest lands, special-use forest lands, production forest lands that are natural forest, defense land, security land...; assign localities to determine land use criteria in their local land use planning; integrate the content of provincial land use plan into the content of provincial land use planning; land use plan for defense and security will be regulated and integrated into the content of land use planning for defense and security; continue to regulate district-level annual land use planning, but the content of the district-level annual land use plan are simpler (compared to the old regulations), not require inclusion in the annual land use plan at the district level, the need to change the purpose of land use associated with residential land plots of households and individuals, and at the same time specify some cases that do not have to be added to the annual district-level land use plan.

1.5. Regarding the authority to approve land use planning and plans:

The Land Law 2024 has regulated the authority to appraise and approve land use planning and plans at all levels, national defense and security land use planning. Compared to corresponding regulations in previous periods, the law has decentralized the authority to approve national land use plan to the government, and to approve provincial land use planning to the Prime Minister. The innovation of these regulations is to ensure consistency in planning approval authority in general (in accordance with the corresponding planning approval authority under the Planning Law); at the same time, create more favorable conditions for organizing and implementing the preparation, appraisal and approval of land use planning and plans.

1.6. Regarding reviewing and adjusting land use planning and plans:

The Land Law 2024 specifically regulated principles for adjusting land use planning. The competent planning agency is responsible for organizing the review of land use planning periodically every 05 years to make adjustments in accordance with the socio-economic development situation in each period; more specifically regulate the bases for adjusting land use planning at all levels. These regulations create conditions for adjusting land use planning and plans to ensure that they are based on regulations and are decided by competent authorities; at the same time, improve the efficiency of reviewing and adjusting land use planning and plans.



The innovative content of regulations on land use plans and plans will be the foundation for making land as truly an input resource for the socio-economic development process; create a complete and strict legal basis to properly implement land use plans and plans, improve the effectiveness and efficiency of land management and use, create the driving force for our country to quickly become a developed country with high income.

2. THE ISSUES IN IMPLEMENTING REGULATIONS ON LAND USE PLANNINGS AND PLANS

From the period of the Land Law 1987 until now, regulations on land use plans and plans have been increasingly innovated and supplemented to suit the socio-economic development requirements of each period. Land use plans and plans are increasingly becoming an indispensable tool, playing a great role and an important position in concretizing the socio-economic development guidelines, policies and strategies of Party and Government. However, with the complex nature of land use plans and plans, these are likely a method for spatial organization of socio-economic activities, including territorial spatial organization and infrastructure system, distribution of urban and rural residential areas, arrangement of industrial zones and key projects, land use allocation, urban system development, industry development... these are also the activities comprehensive political, economic, cultural, social, legal and technical aspects. Therefore, organizing the implementation of legal regulations in the field of land use plans and plans according to the Land Law 2024 requires direction, guidance, and organization of strict and consistent implementation with the full participation of relevant entities including competent state agencies, organizations, individuals and the participation of the people according to the provisions of the Law.

Although the Land Law 2024 has relatively comprehensive and innovative regulations on land use plans and plans, create a legal framework to improve the quality and efficiency of land use plans and plans. However, besides the specific regulations, there are also principled regulations that need to be concretized in guiding documents as well as appropriate implementation measures to enter into the life. Therefore,

in order to properly implement regulations on land use plans and plans according to the Land Law 2024, in our opinion, we need to solve the following issues well:

2.1. Fully promulgate regulations specifying and guiding the implementation of the Law:

The Land Law 2024 has Chapter V including 18 articles (from Article 60 to Article 77) regulated land use plans and plans; excluding some regulations in other articles and clauses related to land use plans and plans (such as Article 243, Article 253). In particular, in Article 65 on provincial land use planning, there is a regulation "The Government shall detail this Article" and in Article 76 on organizing the implementation of land use plans and plans, there is a regulation "The Government shall detail this Article and the preparation, appraisal, adjustment, consultation, approval, and announcement of national land use plans, provincial land use plans, district land use plans, district annual land use plans.

Thus, in addition to detailed regulations on the content of land use plans and plans at all levels, documents guiding the implementation of the laws need to specifically regulate and guide issues related to many contents such as the preparation, consultation, appraisal, approval, adjustment, and public announcement of land use plans and plans at all levels. These regulations need to be issued by decrees that implement the Law of the Government and guiding documents of Ministry of Natural Resources and Environment

2.2. Ensuring the consistency and synchronization in land use plans:

The law regulated the principle of "ensuring consistency and synchronization; the land use plans of the higher-level ensures the land use needs of the lower level; land use plans of lower levels must be consistent with land use plans of higher-level levels. To implement this principle, the Law also regulated a method for determining land use targets in land use plans at all levels: the higher-level plans allocates land use targets to lower-level plans, and at the same time, the lower-level plans are determined additional land use criteria in their own level plans in addition to the targets allocated by higher-level plans.

Since the previous period, land use plans was implemented the higher-level plans to allocate land use targets to lower-level plans, and the lower-level plans determine additional land use criteria in their planning plans. However, in addition to the achieved results, the allocation of land use criteria from higher-level plans to lower-level plans is sometimes not consistent with local conditions and potential land; the determination of land use criteria in the planning plans of each level does not have complete criteria, so there are still limitations, making the planning plan's feasibility is still low.

To ensure consistency and synchronization in land use plans at all levels, it is necessary to have appropriate organizational and implementation solutions in the process



of land use plans at all levels; strengthen the relationship between land use plans at higher-level and lower-level; higher-level land use plans must collect full information, requirements, and capabilities of lower-level; land use plans at lower-level is fully and promptly reflected to higher-level; while ensuring top-down planning principles, it is also necessary to refer to bottom-up factors, especially in allocating targets and determining land use criteria in planning plans.

2.3. Ensuring simultaneity in planning and approval time for land use plans at all levels:

Article 60 on principles of land use plans and plans in Clause 9 regulated: "Land use plans at all levels is prepared simultaneously; higher-level land use plans must be decided and approved before lower-level land use plans. Clause 4, Article 69 also stipulates; "Land use plans are approved in the first year of the planning period".

Thus, along with hierarchy and uniformity, land use plans at all levels is also regulated to be "made simultaneously" and must be approved in the first year of the planning period. This is a very difficult regulation to implement if there are no appropriate and effective implementation solutions. In fact, land use plans in recent times has showed that the majority of land use plans and plans in particular, and plans in general are prepared and approved late, even later 2-3 years than required. This situation reduces the feasibility and effectiveness of plans.

In order to simultaneously implement the principal requirements of land use plans that are unified, synchronous, prepared at the same time and approved in the first year of the planning period, it is necessary to have regulations, solutions that fit key requirements include:

- Specify the content, responsibilities, and deadlines for carrying out the work of each agency with planning authority at all levels; specify coordination to ensure consistency, synchronization, simultaneous preparation between planning levels;

- Each level of land use plans and plans needs to develop a plan to implement specific tasks, ensure on time and deadlines for implementing the stages: preparation, consultation, appraisal, and approval of the planning according to regulations;

- Have specific regulations and instructions on the content and methods of implementing land use plans and plans to ensure

consistent implementation and limit difficulties and problems that arise when performing.

- Regularly pay attention to and perform well the work of inspecting, urging and handling difficulties in the process of formulating, consulting, appraising and approving land use plans and plans at all levels.

2.4. Supplement transitional regulations for cases where there is no approved provincial plans:

In Clause 2, Article 253 of the Law, it regulated: "For localities that have had their provincial plans approved for the period 2021 - 2030 according to the provisions of law on plans before the effective date of this law, they may continue to use land allocation and zoning plans in provincial plans to carry out land management until the end of the planning period.

However, there are no specific regulations for cases where a locality does not have an approved provincial plans for the 2021 - 2030 period (if any), how to handle it, which needs to be researched, supplemented, and guided for local authorities to implement.

2.5. Regarding review and adjustment of land use plans and plans:

Article 73 of the Land Law 2024 regulates the main contents of principles and responsibilities for organizing the review of land use plans, basis for adjusting land use plans as a basis for reviewing and adjusting land use plans and plans. However, the basis for adjusting land use plans and plans is mainly only "qualitative" and not specifically "quantitative". Therefore, in our opinion, more specific regulations are needed, especially regulations on the basis for adjusting land use plans.

It is very important to regulate the bases with specific criteria to decide whether to adjust land use plans and plans and to what extent, avoiding arbitrariness in adjusting. Decisions to adjust land use plans and plans correctly will promptly meet the requirements of socio-economic development, ensuring national defense, security, and environmental protection; at the same time, limit unnecessary adjustments.

Thus, in order to properly implement the regulations on land use plans and plans that regulated in the Land Law 2024, to land use plans and plans can truly bring great efficiency to socio-economic development, ensure national defense, security and environmental protection, it is necessary to pay attention to synchronously implementing measures from specifying regulations to organizing implementation; create conditions to improve the feasibility and effectiveness of planning and land use plans at all levels ■

REFERENCES:

1. Land Law 2013.
2. Planning Law No. 21/2017/QH14 dated November 24, 2017.
3. Land Law No. 31/2024/QH15 dated January 18, 2024.
4. Some draft documents of Decrees implementing the Land Law 2024.



The Law on Water Resources 2023: Improve effectiveness and efficiency in state management of water resources

NGÔ MẠNH HÀ

Department of Water Resources Management

The Law on Water Resources 2023 was officially passed by the 15th National Assembly on 27 November 2023 with 468 National Assembly delegates voting unanimously, accounting for 94.74% of the total number of delegates. This is a big step forward in thinking, approach, and changing water resources governance methods in the context that Vietnam's water sources are considered "too much, too short, too dirty" and ensuring that water resources are managed as public property owned by the entire people with the State representing the owner and unified management in accordance with the 2013 Constitution.

The Law on Water Resources 2023 includes 10 Chapters and 86 Articles. The scope of regulation of the Law stipulates the management, protection, regulation, allocation, restoration, development, exploitation and use of water resources; prevention, combat against and overcoming of consequences and harmful effects caused by water within the territory of the Socialist Republic of Vietnam. Ground water, seabed water and sea water in the exclusive economic zone and continental shelf of the Socialist Republic of Vietnam; natural mineral water and hot water are not in the scope of regulation of this Law.

FOUR IMPORTANT POLICY GROUPS OF THE LAW

The Law has institutionalized new viewpoints, guidelines and policies of the Party and State on the management and protection of water resources through four policy groups, including: (1) Ensuring water sources security; (2) Socializing the water sector; (3) Water resources economics; (4) Protecting water resources; preventing, combating against and overcoming consequences and harmful effects caused by water.

Four policy groups are expressed throughout the Law in provisions on: (1) principles of management, protection,

regulation, allocation, development, exploitation, use of water resources; prevention, combat against and overcoming of consequences and harmful effects caused by water; (2) baseline survey of water resources, strategy and planning of water resources; (3) protection and restoration of water sources; (4) regulation and allocation of water resources; (5) exploitation and use of water resources; (6) prevention, combat against and overcoming of consequences and harmful effects caused by water; (7) economic instruments, policies, and resources for water resources management and protection activities; (8) international cooperation on water resources; (9) inspection and control of water resources; (10) state management responsibility for water resources.

MAIN CONTENTS OF THE LAW

Managing water resources in an integrated and unified manner: As one of the core principles of the Law, water resources must be managed in an integrated and unified manner in quantity and quality, between surface water and ground water, between upstream and downstream; clearly assign and decentralize state management responsibility for water resources and water sources with state management responsibility for planning, construction, and operation of irrigation, hydropower, urban and countryside water supply works; resolve overlaps, conflicts, and gaps in laws to improve the effectiveness and efficiency of state management of water resources and ensure national water resources security.

The Law is developed in the direction of stipulating all contents on management, protection, exploitation and use of water resources, prevention, combat against and overcoming of consequences and harmful effects caused by water. The Law also clearly stipulates what to manage, how to manage it and who will manage it. Accordingly, the responsibility of the Ministry of Natural Resources and Environment, Ministry of Agriculture and Rural Development, Ministry of Industry and Trade, Ministry of Construction, Ministry of Transport, Ministry of Health, Ministry of Finance... has been specified in accordance with assigned functions and tasks in laws related to water resources to ensure synchronization, consistency, and improve effectiveness and efficiency in water resources management.

The Law has resolved practical problems and overlaps between the Law on Water Resources and other laws to unify survey, management, exploitation



▲ The 15th National Assembly passing the Law on Water Resources 2023

and use from Central to local levels, and unify management of water resources, assign management responsibility to ministries and sectors in accordance with functions and tasks in laws related to water resources such as: irrigation, hydroelectricity, water supply, water transportation...

Ensuring national water sources security: This is a guideline during the development process until the National Assembly passes the Law on Water Resources. Policies related to water sources security are expressed throughout the Chapters and Articles of the Law. The goal by 2030 is to raise the level of national water resources security to the group of countries that effectively ensure water resources security in the Southeast Asia region and approach advanced countries in the world. Ensure the quantity and quality of water to serve people in all situations, meeting water use needs for socio-economic development, defence, security, environmental activities and minimizing risks, harmful effects from man-made and natural disasters related to water.

This is also a big and very timely change, especially in the context of water resources being increasingly at risk of degradation, depletion, and pollution under the strong impact of socio-economic development of upstream countries because most of Vietnam's water sources depend on international

river water sources as well as the great influence of climate change. Besides, water is gradually being considered a national asset and has very high socio-economic value, therefore, fundamentally changing the awareness and responsibility of people, businesses and all levels in exploiting and using water economically and effectively and protecting national water resources is essential.

The Law has specified provisions focusing on preventing, controlling and restoring degraded, depleted and polluted water sources; clearly defining the

responsibility for management of water sources and water exploitation projects at both the Central and local levels to overcome legal overlaps and conflicts.

In addition, special attention is paid to ensuring domestic water sources security. The Law on Water Resources 2023 has supplemented provisions in Article 26, including the control of activities that have the risk of polluting domestic water sources. At the same time, assign: (1) The Ministry of Construction to preside over and coordinate with the Ministry of Public Security, ministries, ministerial-level agencies and local authorities to develop a list of especially important domestic water supply works to submit to the Prime Minister for approval; (2) The Ministry of Public Security develops and organizes the implementation of a plan to protect especially important domestic water supply works.

At the same time, there are preferential policies for investment projects to exploit water for domestic use and production for people in areas with scarcity of fresh water, ethnic minority areas, mountainous areas, border areas, and islands and areas with difficult and extremely difficult socio-economic conditions; facilitate access to domestic water for the poor, women, children, people with disabilities and other vulnerable groups.

In addition, the management, protection, regulation, allocation, restoration, development, exploitation and use of water resources; prevention, combat against and overcoming of consequences and harmful effects caused by water,... are implemented with the basic principle of being consistent with the Water Resources Planning. National sector master plans, technical and specialized master plans with the content of exploiting and using water resources; surface water environmental quality management plan; plans, programs, and projects for socio-economic development, national defence, and security must be linked to the capacity and function of water sources, protection of water resources, and ensuring the maintenance of a minimum flow, not exceeding ground water exploitation threshold...



Regulating and allocating water resources: This is one of the core instruments in effectively managing, using, and protecting water sources, ensuring water sources security. The Law on Water Resources 2023 has supplemented provisions in Article 35 and Article 36 on regulation and allocation of water resources, which specifically stipulate the development of water sources scenarios; planning for exploitation and use of water resources; development and organization for implementation of water resources regulation and allocation plans; organization for implementation of measures to respond and minimize damage caused by droughts and water shortages in river basins. In particular, the Law stipulates the responsibility of the Ministry of Natural Resources and Environment, ministries, and provincial People's Committees in developing and implementing plans to regulate and allocate water resources and measures to respond and overcome water shortages.

Modernizing and professionalizing water resources management: Towards national water resources governance on a digital technology platform through national water resources information systems, databases, and decision support tool systems - This is one of the highlights of the Law on Water Resources 2023. Digital technology platform will be promoted in application to support management agencies in the process of deciding on water resources regulation, allocation, operating reservoirs and inter-reservoirs, minimizing harmful effects caused by water, especially when droughts and water shortages occur in river basins. At the same time, reduce human resources, operation and management costs.

Managing water resources with economic instruments: Gradually shifting from management with administrative instruments to management with economic instruments is a modern approach, applied in many advanced countries around the world like France, Australia, Korea, America....

The Law on Water Resources 2023 supplements provisions on fees, charges, and money for granting rights to exploit water resources to raise awareness of water resources protection and economical use of water among water users; amends and supplements provisions on money for granting rights to exploit water resources to accurately and fully calculate the value of water resources; supplements provisions on water resources accounting to calculate the correct value of water resources in socio-economic development activities for the regulation of water resources allocation in river basins. In particular, in cases of droughts or water shortages, limit the allocation of water resources to activities that use a lot of water and are not urgent and give priority to activities that use water economically and effectively.

Promoting socialization in the field of water resources: Mobilizing resources for water resources management is focused in the context of limited State resources - The Law on Water Resources 2023 has supplemented provisions on resources to protect and develop water resources, including socialized capital; provisions on investment

activities for development, water storage and water sources restoration prioritized in the form of socialization and priority policies.

With the view that economic development is associated with "reinvestment" in the protection and development of water resources, improve landscape and conserve of the value of water-related ecosystems.

Restoring and reviving "dead rivers": This is one of the issues that needs to be prioritized in the coming years. In order to restore water sources, create flows, improve the ecological landscape and environment, the values of water resources that have been lost due to rapid economic development, rapid urbanization, increased industrial and agricultural production activities leading to wastewater discharge activities, especially wastewater that has not been treated to meet standards and regulations discharged into water sources has been causing increasing and serious pressure on water resources of rivers, streams and aquifers.

To have a specific legal corridor, the Law on Water Resources 2023 has supplemented many provisions and policies related to river restoration and to ensure scientificity and feasibility, the Law has clearly stipulated mechanisms and policies on finance for water resources restoration activities to have a basis for mobilizing and allocating resources to restore degraded, depleted, and polluted water sources (Articles 34, 72 and 74).

The Law also supplemented provisions on developing plans, programs and schemes to restore degraded, depleted and polluted water sources; prioritize the restoration of "dead rivers" to restore water sources, create flows, and improve the ecological landscape and environment, including priority programs, schemes, and projects to revive rivers (as being implemented for the Bac Hung Hai River, Nhue River, and Day River through the construction of weirs to create flows).

Supplementing new provisions: In addition to the above highlights, the Law on Water Resources also amends and supplements many important contents such as: provisions on ensuring the maintenance of minimum flow on the river, exploitation threshold for ground water; provisions on functional zoning of water sources; provisions on prevention and control of landslides in river and lake banks and beaches; specific provisions on the preparation and publication of a list of lakes, ponds and lagoons that cannot be levelled; provisions on water exploitation and use... ■



Promulgate the Plan to implement the Law on Water Resources

The Law on Water Resources No.28/2023/QH15 was approved by the 6th National Assembly, 27th Session on November 11th, 2023 and will come into effect on July 1st, 2024. To implement the Law on Natural Resources timely, synchronously, uniformly and effectively, Prime Minister promulgates the Plan to implement the Law on Water Resources with the purpose of: Determine specific work contents, deadlines, completion progress and responsibilities of relevant agencies and organizations in implementing the Law on Water Resources; Determine responsibilities and coordination mechanisms between ministries, ministerial-level agencies, Government agencies and localities in carrying out activities to implement the Law on Water Resources nationwide.

The requirement is to ensure unified direction of the Government and Prime Minister; Close and effective coordination between ministries, ministerial-level agencies, Government agencies, People's Committees of provinces and centrally-run cities and relevant agencies and organizations in implementing the Law on Water Resources; Determine a specific roadmap to ensure that from July 01st, the Law on Water Resources and detailed documents guiding the implementation of the Law on Water Resources are implemented uniformly and synchronously across the country.

The Prime Minister requested the Ministry of Natural Resources and Environment to preside and coordinate to organize a conference and disseminate the Law on Water Resources and documents detailing a number of articles of the Law at the Central level. Implementation time is in 2024.

The People's Committees of provinces and centrally-run cities preside over and coordinate to organize conferences and disseminate the Law on Water Resources and documents detailing a number of articles of the Law in localities. Implementation time is from 2024 to 2025.



▲ Law on Natural Resources will come into effect on July 1st, 2024

The Ministry of Natural Resources and Environment organizes in-depth training on the Law and documents detailing a number of articles of the Law for officials, civil servants, and people working in advisory and state management roles about water resources.

The Provincial People's Committee organizes in-depth training on the Law and documents detailing a number of articles of the Law for officials and civil servants of provincial, district and commune-level departments and branches. Implementation time is in 2024 and the following years.

The Prime Minister requested the Ministry of Natural Resources and Environment to preside over the development of a Decree regulating penalties for administrative violations in the field of water resources according to Resolution No. 01/NQ-CP dated January 05th of the Government. Government on main tasks and solutions to implement the socio-economic development plan and state budget estimates for 2024. Time for submission to the Government is in December 2024.

The Ministry of Agriculture and Rural Development and the Ministry of Construction, according to their assigned state management functions, preside over the development of a Decree regulating the production, supply and consumption of domestic water according to the provisions of Clause 5, Article 43 of the Law on Water Resources. Time to submit to the Government is before 2026.

In addition, review and promulgate other legal documents assigned in the Law on Water Resources. Specifically, the Ministry of Construction reviews documents containing regulations on standards and technical regulations to ensure safety, use economical and efficient water, and minimize the rate of water loss. Implementation time is from 2024 to 2026■

CHÂU LOAN



National marine spatial planning aligns with sustaining environment, marine resources

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Vietnam has a coastline of more than 3,260 km with more than 3,000 large and small islands, its large sea area ranks 27th among 157 coastal countries and island nations. According to the 1982 United Nations Convention on the Law of the Sea, Vietnam's sea area is three times larger than its land area, accounting for about 30% of the East Sea area. Vietnam's sea is recognized as an area rich in natural resources with an important economic, geopolitical, defence and security position in the region and the world. However, besides the great economic and geopolitical values, Vietnam's sea and islands are facing a series of problems, such as: Degradation of marine and coastal landscapes, ecosystems; coastal marine environmental pollution; marine environmental incidents; increased negative impacts due to natural disasters, climate change and sea level rise; conflicts in exploitation and use of marine resources and space between relevant sectors and parties. Therefore, there is a need for a marine spatial master plan to properly arrange space for different industries and sectors to exploit and use, establish an optimal option and resolve inadequacies, overlaps and conflicts over the use of marine space, ensure balance between the needs of economic development, national defence, security and protection of marine ecosystems and environment.

POTENTIAL AND ADVANTAGES OF VIETNAM'S MARINE RESOURCES

Vietnam's sea is an important part of the East Sea with nearly 3,000 large and small islands and the Hoang Sa and Truong Sa Archipelagos. Vietnam's mainland coast is over 3,260 km long from Mong Cai (Quang Ninh) to Ha Tien (Kien Giang); the ratio between coastal length and land area is classified as high in the world, about 1 km of coastline/100 km² of land, 6 times the world average. The coast has a meandering shape, with many straits, bays, and lagoons; there are 114 estuaries that flow into the sea and on average there is an estuary every 25 - 30 km of coastline contributing to creating great value in ecology, economics, defence and security. Vietnam's sea is strongly influenced by the Northeast and Southwest monsoon regimes, surface currents and waves change in direction and intensity according to the monsoon season of the year, contributing to forming diverse geocological areas and marine resources.

Vietnam's sea has diverse and rich positional resources and differences between sea areas including geonatural resources, geoeconomic resources, geopolitical resources, playing an important role that

the main subjects are marine space, water surface and seabed, channels, bays, coastal land, peninsulas and islands, tidal flats, sandy beaches, rocky shelves, cliffs, caves. The combination of positional resources has greatly contributed to socio-economic development, ensuring national defence and security of Vietnam. Vietnam's marine biological resources and aquatic resources are also quite rich, with more than 2,000 aquatic species, of which 130 species have high economic values. In the Vietnam's sea, about 11,000 species of creatures have been discovered living in more than 20 typical ecosystem types, belonging to 6 different marine biodiversity regions, bringing large aquatic resources; in the entire Vietnam's sea area, nearly 1,700 aquatic species have been identified, belonging to more than 730 breeds, 260 families and 55 ordines. In the period of 2016-2020, the total resource reserves of fish, crustaceans and cephalopods are about 3.9 million tons. By sea area, resource reserves in the Gulf of Tonkin are estimated to account for more than 17%; central fishing grounds account for about 19%; Southeast fishing grounds account for about 25%; Southwest fishing grounds account for more than 13% and the middle of the East Sea fishing grounds account for more than 23%. The spatial distribution of aquatic objects depends on the ecological characteristics of each species and aquatic group. However, aquatic resources and the living environment of aquatic species in particular and marine aquatic species in general are being declined in both diversity of species and quality of aquatic resources mainly due to overexploitation of fisheries especially in coastal areas, waste discharge sources from socio-economic activities of coastal industrial parks, urban areas, and tourist areas.

In addition, coastal wetland ecosystems with a total area of over 1.9 million hectares are very diverse in types. Along the coast of Vietnam, there are about 114 estuaries and creeks flowing into the sea (about 25-30 km of coastline has an estuary), contributing to



creating diverse ecosystems. The coral reef ecosystem is widely distributed from North to South over an area of about 1,200 km², concentrated in the South-Central coast, Hoang Sa and Truong Sa Archipelagos. However, in the past 15 years, about 15-20% of the area of coral reef has been lost, mainly in populated areas such as Ha Long Bay, Central provinces and some islands in the Truong Sa Archipelago. Some areas have developed coral reef such as the Western region of the Gulf of Tonkin, Hoang Sa and Truong Sa Archipelagos, Central coast and islands in the Southwest Sea.

Compared to other countries in the region, Vietnam ranks third in diversity of seagrass species, just behind Australia (20 species) and the Philippines (16 species). The area of seagrass beds in Vietnam is quite large compared to other surrounding countries in the East Sea region. Seagrass beds in Vietnam are distributed at depths from 0 to 20 m, the number of species living in seagrass beds is usually 2 - 8 times higher than in the sea outside. Seagrass beds are distributed from North to South and along the islands, concentrating heavily on the edges of Phu Quoc Island and some estuaries and lagoons in the Central region (Tam Giang - Cau Hai lagoon, Thuy Trieu lagoon). Vietnam's seagrass has 14 species, with diverse species composition and abundance in quantity. The summary results show that about 1,500 species of creatures live in Vietnam's seagrass beds, with more than 1,000 species in coastal beds alone. The level and speed of seagrass degradation varies in each region, depending on the natural environment and socio-economic development of each locality. Seagrass beds along the North Central coast are being degraded at an average rate of 6 - 7%/year (level II-III) such as Ly Son, Nha Trang Bay; South Central region about 3 - 5%/year (level I-II) such as Hon Cau, Phu Quy; Southern region about 3%/year such as Phu Quoc and Con Dao.

In addition, mangrove ecosystems are most distributed in the Mekong Delta (81.2% of the country), followed by the Red River Delta (17.7%), North Central and Central Coast regions (> 1.0%). The quality of mangrove forests is still very low, mainly secondary forests and planted forests. The area of Vietnam's mangrove forests decreased continuously until 2015, but then were newly planted and recovered 2 - 3 times since 2016.

Vietnam has great prospects for oil and gas with a total potential of nearly 6 billion m³ of oil equivalent. 8 offshore sedimentary basins with oil and gas prospects include the Red River, Phu Khanh, Cuu Long, Nam Con Son, Malay - Tho Chu, Tu Chinh - Vung May, Hoang Sa Archipelago, Truong Sa Archipelago. Of these, 4 basins with oil and gas output include: Cuu Long, Nam Con Son, Malay - Tho Chu and Red River. Minerals discovered in coastal areas and seabed include iron, ilmenite placer, zircon, coal, building materials, especially sea sand from Binh Thuan to Soc Trang. In the deep sea, a number of promising areas of iron-manganese crust rich in cobalt, nickel and iron-manganese nodules have been discovered (Southwestern East Sea lowland), flammable ice (Tu Chinh - Vung May, Nam Con Son, Hoang Sa and Phu Khanh basins)...

CURRENT STATUS OF EXPLOITATION AND USE OF VIETNAM'S MARINE SPACE

With more than 10 years implementing Resolution No. 09-NQ/TW dated 9 February 2007 of the 10th Central Executive Committee on Vietnam's Marine Strategy to 2020 and 5 years implementing Resolution No. 36-NQ/TW of the 12th Central Executive Committee on the Strategy for Sustainable Development of Vietnam's Marine Economy to 2030 with a vision to 2045, Vietnam has had great achievements, exploited the potential and advantages of the sea, gradually turned Vietnam into a country strong and rich in the sea with sustainable development, prosperity, security and safety, specifically as follows: (1) Awareness of the position and role of the sea and islands in socio-economic development, protection of national sovereignty are enhanced; national sovereignty and security at sea are maintained; (2) The marine economy makes a major contribution to the economic development of the whole country, marine and coastal areas continue to become the driving force for national development; a number of new professions and sectors related to the sea have appeared. The island economy has had positive changes, contributing to firmly protecting national sovereignty, sovereign rights and jurisdiction; (3) The infrastructure system of marine, coastal and island areas has been invested in and built, forming marine urban areas and economic centres; (4) Marine scientific research, baseline surveys, and human resource development are initially given attention; maritime culture is restored and promoted; (5) Management, exploitation, use and protection of marine environmental resources, response to climate change and sea level rise are emphasized; (6) National sovereignty and security at sea are maintained; law enforcement at sea is basically effective; international cooperation on the sea is strengthened.

Besides the achieved results, there are still some limitations, difficulties and challenges in sustainable development of the marine economy and organization for management, exploitation and use of marine space such as: Marine space has not been exploited and used effectively; position and potential have not been promoted as a



gateway to the world to promote economic development. Spatial overlaps and conflicts over sea use are complicated and have not been well controlled and resolved. Regional links between marine, coastal and inland areas, coastal localities and non-coastal localities, and between sectors and fields still have a lack of coherence and ineffectiveness. Some key marine economic sectors have not met the set requirements, some lack competitiveness, and their contribution to the economy is low. The gap between rich and poor among coastal people tends to increase. Marine environmental pollution, climate change, sea level rise, and coastal erosion are serious in many places. Marine ecosystems and biodiversity are declined. Some marine resources are overexploited...

NATIONAL MARINE SPATIAL MASTER PLAN FOR THE PERIOD OF 2021 - 2030 WITH A VISION TO 2050

Implementing the Government's Resolution No. 22/NQ-CP dated 24 July 2020 approving the task of developing the National marine spatial master plan, the Ministry of Natural Resources and Environment has presided over and coordinated with ministries, sectors, agencies of central government, provinces and centrally run cities with coastal areas to survey the current status and use needs of marine space, supplement information and data to develop the National marine spatial master plan. Accordingly, the Ministry of Natural Resources and Environment has established a Steering Committee for Planning, a multi-sectoral expert group to advise on professional contents during the planning process; organized consultation workshops in some localities, working sessions and discussions with ministries, sectors, international organizations and experts; coordinated to update, process and integrate information and data for development of the National marine spatial master plan. This is a multi-sectoral, comprehensive master plan that is "dynamic and open", "leading" and "integrative", orienting activities to exploit and use marine and island resources in a sustainable manner, contributing to solving the above problems, having important significance, creating a structural unity in the country's development planning system.

Based on the comments of the Central Committee of the Vietnam Fatherland Front, ministries, sectors, central agencies and people's committees of coastal provinces and centrally run cities, the Ministry of Natural Resources and Environment has accepted the explanation, supplemented and completed the National marine spatial master plan document and submit it to the Government. Implementing the Prime Minister's instructions, the Ministry of Natural Resources and Environment has: (i) Coordinated and sought opinions from a number of relevant ministries and sectors on some main contents of the master plan, especially the Ministry of National Defence, Ministry of Foreign Affairs, Ministry of Public Security; at the same time, updated and supplemented new information related to the orientations of the Politburo and the Government on socio-

economic development and ensuring national defence and security for coastal localities until 2030 with a vision to 2050, national master plan for the period of 2021 - 2030 with a vision to 2050; reviewed and updated information and data from national sectoral master plans, regional master plans and master plans for coastal localities; (ii) Completed the National marine spatial master plan document for the period of 2021 - 2030 with a vision to 2050.

In addition to the introduction and conclusion sections, the Draft national marine spatial master plan for the period of 2021 - 2030 with a vision to 2050 includes 2 sections and 9 chapters. The master plan aims to concretize the Party's orientations and policies and the State's legislation on the management, exploitation and use of marine space for sustainable development of the marine economy, making a nation strong and rich from the sea; ensure synchronization and unity on the basis of integrating relevant master plans to create motivation for socio-economic, culture development, environmental protection, marine conservation; ensure national defence and security based on natural conditions, marine and island ecosystems and the use needs of sectors, fields and coastal localities; maintain the function, structure, resilience, and carrying capacity of marine ecosystems, areas and regions; ensure the ability of marine ecosystems and environment to provide essential products and services for human life and the development of marine economic



▲ *Vietnam's sea has diverse and rich positional resources*



sectors; ensure marine socio-economic development based on integrated, intersectoral management and sustainable exploitation and use of marine and island resources, improve transparency, responsibility and participation of relevant parties in the management, exploitation and use of marine space; mobilize all resources, especially non-state budget financial sources for focused investment in marine economic development; prioritize state budget investment in research, baseline survey of marine resources and environment, completion of database, training of marine human resources to implement the master plan...

Accordingly, the objective of the Draft master plan to 2030 is to create a basis for rapid and sustainable marine economic development, contribute to the formation and development of strong marine economic sectors, create many effective livelihoods for the people; ensure national defence and security, maintain national sovereignty, sovereign rights and jurisdiction and interests in the sea areas; protect the environment, conserve biodiversity and cultural values, gradually turn Vietnam into a strong, rich country from the sea. Vision to 2050: All sea areas of Vietnam are effectively managed and sustainably used in space and over time, meeting the requirements of socio-economic development, ensuring national defence and security, environmental protection, marine conservation; accomplishing the objective to make Vietnam a strong and rich country from the sea. In particular, the specific objective is to effectively allocate, manage, and minimize conflicts in the exploitation and use of marine space to achieve sustainable development goals. Regarding marine economy: Contribute to purely marine economic sectors to reach about 10% of the country's GDP; the GDP of 28 coastal provinces and cities reaches 65 - 70% of the country's GDP and the average income per capita is 1.2 times the national average; expand land fund through sea reclamation activities and island expansion in places with suitable conditions; develop coastal and island urban areas; develop coastal economic zones and eco-industrial parks. At the same time, effectively manage and protect marine, coastal and island ecosystems, control the exploitation of marine resources within the resilience and carrying capacity of marine ecosystems; increase the area of marine and coastal conservation and protection areas towards reaching 6% of the natural area of the national sea; prevent, minimize and control marine environmental pollution; prevent, avoid and limit the impact of natural disasters, effectively respond to climate change, contribute to implementing Vietnam's commitment at COP 26 to reach net "zero" emissions by 2050...

To meet the above objective, the marine spatial master plan has proposed 5 key issues that need to be resolved, contributing to ensuring national defence and security: (i) Institutional and policy improvement; (ii) Strong marine economic development; (iii) Cultural and social development; (iv) Protection of the marine and island environment; (v) Development of resources and 4 breakthrough stages: (1) Strong focus on building a multi-purpose, synchronous and modern coastal and island

infrastructure system and logistics services, creating motivation to attract resources, promote sustainable development of marine economic sectors, ensure national defence and security, meet the requirements of responding to natural disasters, climate change, sea level rise and the marine environment incidents; (2) Development of sustainable, responsible and creative sea and island tourism associated with green and smart island urban development; (3) Promotion of the development of aquaculture economy in a green, circular, low-carbon, highly resilient direction, associated with marine conservation and marine and island culture, ensuring national defence and security; (4) Rapid and sustainable development of clean energy from the sea, prioritizing the development of offshore wind power, ensuring energy security and transforming the energy structure towards increasing green energy sources; overall research and assessment of the potential and development of the oil and gas industry, solid minerals and building materials on the seabed.

Based on the results of functional zoning, principles and criteria for use zoning and the results of handling spatial overlaps and conflicts of use, Vietnam's sea areas are divided into 4 socio-economic zones with different use zones including: 123 no-exploitation zones with a total area of about 75 thousand hectares; 413 conditional exploitation zones with a total area of about 21,411 thousand hectares; 253 areas that need special protection with a total area of about 2,055 thousand hectares; 190 priority areas for development encouragement with a total area of about 1,052 thousand hectares; potential areas that need survey and research for zoning and use according to development promotion purposes with a total area of about 34,614 thousand hectares; multi-purpose areas that have a total area of about 38,395 thousand hectares.

Obviously, the National marine spatial master plan is an important tool to concretize the "National master plan" and create a basis for managing activities of exploitation and use of natural resources and protection of environment, conservation of marine ecosystems effectively, contributing to the formation of strong marine economic sectors, creating more livelihoods for people, ensuring national defence and security, maintaining national sovereignty, sovereign rights and jurisdiction at sea ■



Draft Decree on compensation, support and resettlement upon land recovery by the State

The Land Law (amended) has been passed by the National Assembly, effective from January 1, 2025. The law consists of 16 chapters, 260 articles, including the amendment and supplementation of 180/212 articles of the Land Law 2013 and the addition of 78 new articles. In order for the Law to be implemented early and effectively, on March 5, 2024, the Prime Minister issued a Plan for the implementation of the Land Law of 2024 along with Decision No. 222/QĐ-TTg. Accordingly, the Prime Minister assigned the Ministry of Natural Resources and Environment to lead, coordinate with relevant ministries and sectors to develop a Draft Decree on compensation, support, and resettlement upon land recovery by the State, to be submitted to the Government for issuance in May 2024. This Decree details a number of articles and clauses of the Land Law on compensation, support and resettlement upon land recovery by the State. The subjects covered include state agencies exercising the rights and responsibilities of representing the collective ownership of land by the people, carrying out the unified task of state land management; land users as specified in Article 4 of the Land Law; and other relevant parties involved in compensation, support, and resettlement upon land recovery by the State.

The draft Decree consists of 3 Chapters: Chapter I: General provisions (from Article 1 to Article 7); Chapter II: Detailed provisions on compensation, support, and resettlement upon land recovery by the State (from Article 8 to Article 45); Chapter III: Implementation organization (from Article 46 to Article 49). Specifically, it stipulates the cases eligible for stable livelihood support; support for stable production, business, and regulations on the minimum resettlement quota when the State recovers land. In particular, Chapter II of the draft Decree divides the sections according to each content: Section 1: Compensation for residential land, other land within residential land, residential houses, and structures serving livelihoods (from Article 8 to Article 45); Section 2: Compensation for agricultural land (from Article 16 to Article 19); Section 3: Compensation for non-agricultural land not used for residential purposes (from Article 20 to Article 23); Section 4: Compensation for property damage, investment costs in land (from Article 24 to Article 32); Section 5: Support (from Article 33 to Article 40); Section 6: Resettlement (Article 41); Section 7: Budget allocation and payment of compensation, support, and resettlement (from Article 42 to Article 45).

According to the Decree, the responsibilities for organizing the implementation of compensation, support, and resettlement by central agencies, units, and provincial People's Committees are as follows: (1) Ministries, ministerial-level agencies, government-attached agencies, economic groups, general corporations, and centrally-run public non-business units with investment projects must be responsible for directing and organizing the inspection and examination of the implementation of compensation, support, and resettlement; coordinating with provincial People's Committees and organizations in charge of compensation and site clearance during the implementation process; ensuring funding for compensation, support, and resettlement as prescribed by the Decree. (2) Provincial People's Committees are responsible for issuing compensation rates for damages to houses, construction works, crops, livestock, directing the land recovery, compensation, support, and resettlement according to the stipulation of the Decree. (3) Ministry of Natural Resources and Environment is responsible for directing, organizing, guiding, inspecting and supervising the implementation of compensation, support, and resettlement as stipulated in the Decree and resolving any arising issues based on proposals from provincial People's Committees.

Once approved and issued, this Decree is expected to replace Decree No. 47/2014/NĐ-CP dated May 15, 2014 of the Government for regulating compensation, support, and resettlement when the State recovers land and Decree No. 06/2020/NĐ-CP dated January 3, 2020 of the Government for amending and supplementing Article 17 of Government Decree No. 47/2014/NĐ-CP. Ministers, Heads of ministerial-level agencies, Heads of government-attached agencies, Chairpersons of People's Committees at all levels, organizations, and individuals concerned are responsible for implementing the Decree.

The full text of the Draft Decree is being posted on the Government's electronic information portal www.chinhphu.vn; Ministry of Natural Resources and Environment's electronic information portal www.monre.gov.vn to gather feedback from agencies, organizations, individuals inside and outside the country ■

BÀO BÌNH



Draft Decree detailing the implementation of certain provisions of the Law on Water Resources 2023

Carrying out the assigned task of leading development of the Decree detailing the implementation of certain provisions of the Water Resources Law 2023 under the Government's Program for Building Legal Documents in 2024 of Government, on December 7, 2023, the Ministry of Natural Resources and Environment issued Decision No. 3726/QĐ-BTNMT on the establishment of the Drafting Board, the Editorial Team for the Decree, with members including representatives from relevant ministries, sectors, the Vietnam Chamber of Commerce and Industry. At the same time, conduct reviewing 20 laws, 22 decrees, and 2 international treaties in the field of water resources that Vietnam is a member to develop a report reviewing relevant legal documents and to build policy impact assessment report. Based on the provisions of the Water Resources Law and reports, the Ministry of Natural Resources and Environment has organized to develop the Draft Decree.

On December 18, 2023, the Ministry of Natural Resources and Environment organized a meeting with the Drafting Board and Editorial Team to discuss, provide feedback, make adjustments, and finalize the draft. By December 28, 2023, the Draft Decree (second version) was posted on the Government's electronic information portal, the Ministry of Natural Resources and Environment's website to gather feedback from agencies, organizations, and individuals as regulated (Official Dispatch No. 11049/BTNMT-TNN) and sent for feedback from ministries, ministerial-level agencies, People's Committees of centrally-run provinces and cities, and the Vietnam Chamber of Commerce and Industry (Official Dispatch No. 11050/BTNMT-TNN dated December 28, 2023). Subsequently, on January 30, 2024, the Ministry of Natural Resources and Environment continued to send Official Dispatch No. 706/BTNMT-TNN urging localities and relevant ministries to provide feedback on the Draft Decree. Based on the feedback received from ministries, agencies, and localities, the Ministry of Natural Resources and Environment completed the Draft Decree (third version). On February 28, 2024, the Ministry sent Official Dispatch No. 1231/BTNMT to the Ministry of Justice requesting an appraisal of the Draft Decree (third version). Following the results of the appraisal council meeting of the Ministry of Justice on March 8, 2024, the Ministry of Natural Resources and Environment finalized the draft according to the opinions of the council members and submitted it to the Party Committee's Standing Board on March 25, 2024.

The draft Decree consists of 8 Chapters, 126 Articles: Chapter I: General provisions (from Article 1 - Article 3). Chapter II: Basic investigation of water

resources and comprehensive river basin planning (RBP) (from Article 4 - Article 33). Chapter III: Protection of water resources and water source restoration (from Article 34 - Article 53). Chapter IV: Regulation, distribution, exploitation, and use of water resources (from Article 54 - Article 71). Chapter V: Prevention, control, and mitigation of water-related impacts (from Article 72 - Article 97). Chapter VI: Information system, water resources database and objects, scale, regime, parameters, monitoring indicators for water resources exploitation, water quality (from Article 98 - Article 124). Chapter VII: Implementation provisions (from Article 125 - Article 126).

The draft Decree is developed based on the principle of ensuring consistency, coherence, and alignment with the water resources law and other relevant legal provisions; inheriting and retaining appropriate provisions in the detailed implementation decrees of the Water Resources Law 2012, addressing overlapping and conflicting contents with other related legal provisions, while detailing the matters assigned to the Government by the Law; administrative procedures are specified to ensure clarity, specificity, ease of understanding, and transparency. Additionally, it specifically regulates remaining issues and challenges in the detailed decrees of the 2012 Water Resources Law, aligning with the provisions of the Water Resources Law 2023 to ensure completeness, comprehensiveness, feasibility, and convenience for sectors, levels, agencies, especially for organizations and individuals involved in water exploitation and use in complying with water resources legal provisions.

The decree detailing the implementation of certain provisions of the Water Resources Law 2023 will provide detailed regulations on Article 7, paragraph 3 of Article 9, paragraph 4 of Article 9, Article 10, Article 17, Article 19, Article 23, Article 30, paragraph 3 of Article 31, Article 35, Article 37, paragraph 4 of Article 38, point a of paragraph 7 of Article 38, paragraph 8 of Article 38, paragraph 9 of Article 38,



Article 51, paragraph 6 of Article 63, paragraph 1 of Article 66, paragraph 2 of Article 66, Article 71, and Article 81 of the Water Resources Law on the national water resources information system and database; basic water resources investigation activities; establishment, appraisal, approval, and adjustment of comprehensive planning for basic water resources investigation; organization for conducting basic water resources investigation; preparation, appraisal, approval of inter-provincial river basin comprehensive planning; list of inter-provincial river basins requiring planning; review and adjustment of inter-provincial river basin comprehensive planning; water source protection zones; determination of groundwater exploitation thresholds; groundwater protection; water resource regulation and distribution; project scale, procedures, authorization for approving water transfer plans; operation procedures for dams, reservoirs, inter-reservoirs; objects, scale, regime, parameters, monitoring indicators for water resources exploitation, water quality and implementation roadmap; list of lakes, ponds, reservoirs, areas not to be filled in; prevention of erosion, landslides along riverbanks and lakeshores; water resource accounting and implementation roadmap; coordination, monitoring of water resource exploitation, use, protection activities; prevention, control, and mitigation of water-induced damages; organization and activities of river basin organizations.

The Decree applies to agencies, organizations, communities, households, and individuals engaging in activities related to the provisions specified in the decree on the territory of the Socialist Republic of Vietnam ■

TRẦN TÂN

1. INTRODUCTION

The vacant land tax is proposed by countries as a tool to reduce speculation, encourage land transactions to ensure the efficient overall use of land in cities. This perspective has a traditional origin from Henry George, the first to propose the idea of taxing vacant land in his work “Progress and Poverty” in 1879. He believed that holding vacant land was one of the causes of social inequality and economic crises at that time. According to Henry George, imposing a vacant land tax would encourage landowners to use the land for development purposes and make the overall economy more efficient, creating more wealth for society to address inequality. Today, from the perspective of urban development, many economists continue to support the use of this tool to change the behavior of private areas and prevent speculation, increase the housing supply. World Bank research (2016) on the vacant land tax in some countries shows that while the motivation for implementing a vacant land tax in developed countries is to address declining investment, in developing countries it is to combat speculation. In developing countries, although vacant land exists in cities for various reasons, rapid population growth along with urbanization processes make speculation the main reason for unused land. This is reflected in cases in Brazil, China, Colombia, South Korea, the Philippines, and Taiwan...

In Seoul (South Korea), when land prices increased by 136% in 1978 mainly due to speculation, the government responded by imposing a tax on vacant land. Any plot of vacant land left for more than two years would be subjected to a high real estate tax of 5%, 7% if vacant for 3 years, and 8% if vacant for 5 years, instead of the standard 2% if not left vacant. In 1979, the city of Pittsburgh (Pennsylvania, USA) imposed a vacant land tax six times higher than the tax on land in use, which resulted in positive outcomes in bringing land into use. Pittsburgh's building permits increased by 70.4%, while the average of 15 other cities decreased by 14.4% from 1979 to 1989. Washington DC also implemented an annual additional tax of 5%, higher than the basic tax rate of 0.83%. Similarly, Bogotá (Colombia) applied a tax rate of up to 30% for unused land. Furthermore, there were regulations stating that vacant land for more than two years could be reclaimed by the city and put up for public auction. As a result, in 2003, it was estimated that after the implementation of the vacant land tax, only 2,000 - 2,200 hectares out of the total 36,000 hectares in Bogotá remained vacant (Arujo de Larangeira 2003).

Real estate tax in general and vacant land tax in particular, besides their role in combating speculation, are also proposed to increase revenue for the city government (except for some exceptions like Latvia and Chile where it is a source of revenue for the central government). This stems from the tax management aspect, where compared to the central government, local governments understand the location, characteristics, and reasons for vacant land in order to design appropriate vacant land taxes. From a benefit-based tax perspective, there is a direct connection between the public services provided by local governments, which residents benefit from through local real estate taxes, making it easier for residents to accept.



Taxing urban vacant land: International experiences and policy implications for Vietnam

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Currently, the Ministry of Finance is studying the draft Law on Real Estate Tax, which includes provisions for taxing second homes and taxing vacant houses and land in accordance with international practices. This article provides a perspective from international experience on vacant urban land, also known as vacant land tax (VLT). This type of tax is primarily issued by local governments with the aim of generating additional revenue for the city government and combating speculation, especially in developing countries.

2. URBAN VACANT LAND TAXATION METHODS

Tax on land value: Tax on land value in general has been tested in about 30 countries (Dye and England 2010). In essence, this is an “implicit automatic” mechanism to significantly higher tax vacant land, as there is no distinction between vacant land and developed, used land (valuable houses or other construction works).

Tax based on market value: This type of tax is levied on a reasonable estimated market value including the land value and the value of assets attached to the land (land improvement value). Although the market value can be reflected through sales transactions, in reality, it is very difficult to separate the value of land and the value of land improvements.

Apply additional tax on vacant land: This type of tax is based on market value, where the land value is estimated separately from the land improvement value to expand the tax base, or impose a higher tax rate.

Taxation by area: Real estate taxation based on area often includes tax tables calculated per square meter for real estate clusters in different areas. In this system, additional tax on vacant land may apply a simple rule such as doubling the tax rate for vacant urban land. Area-based taxation is commonly used in countries where the real estate market is underdeveloped, making it difficult to determine market values.

Real estate transfer tax: This type of tax is applied in most countries and is based on the total transaction value. However, to limit speculation in rapidly developing cities, the tax can be imposed on net profit, meaning taxing the difference between the purchase and sale values. To do this, clear records of land transfers over a long period are required.

3. EXPERIENCE ON TAXING VACANT URBAN LAND

Different countries have different ways of defining vacant land and different priorities for vacant land tax.

In fact, in many countries, vacant urban land is rarely green vacant lots in developed cities. Instead, vacant urban land often appears in the form of commercial properties such as parking lots. In Seattle, USA, 12.5% tax has been imposed on parking lots since 2010 to encourage owners to bring these plots to the market and allow developers to build high-value real estate. Developed cities often do not have much vacant land; instead, building investors need to demolish old buildings, clear the land to construct new buildings such as apartments, offices, commercial buildings, or industrial facilities.

Among these cities, Bogotá city (Colombia) has successfully developed a vacant land tax: In 2003, it was estimated that only about 2,000 - 2,200 hectares out of the total 36,000 hectares of the city were still vacant. The success of the tax is attributed to strict time constraints, which means that vacant land will face a tripled tax rate over a 10-year period if there is no development. There is also a provision that land left vacant for no more than two years can be reclaimed by the city and put up for public auction.

Despite economists not denying the potential use of vacant land tax as a tool to guide land use, prevent speculation, many people believe that unused land is not necessarily a market malfunction signal, and vacant land tax is not entirely an effective tool to encourage efficient urban land use. Taxing vacant land may be neutral for owners in encouraging them to use it immediately or continue holding the land for future use. Landowners may choose to keep the land vacant and pay the tax if the opportunity cost of putting the land into use is higher than the annual land tax. A World Bank study (2016) highlighted the difference between growing cities with increasing populations and stagnant cities with declining populations. For example, some cities in the US have a lot of vacant land, but taxing vacant land for owners weakens rather

**Table 1: Experience in identifying vacant land and tax rates**

Localtion	Type of land subject to vacant land tax	Tax rate
Harrisburg City, Pennsylvania, America	Property tax is divided into: - Land applies to all types of land - Asset attached to land	- Land: 3% of assessed land value -Asset attached to land: 0,5% of assessed asset value
Seoul city, South Korea	- Surcharge tax on vacant properties. - Vacant land for at least 2 years.	2% for used land 5% if land left vacant for 2 - 3 years. 7% if land left vacant for more than 3 years 8% if land left vacant for more than 5 years 9% if land left vacant for more than 7 years 10% if land left vacant for more than 10 years
Marikina city, Philippines	The land area is larger than 1,000 square meters, half of which is still unimproved. Residential plots, regardless of land area, half of them is still unused or unrenovated.	Additional tax at the rate of 2.5% per annum on the assessed value of the property
Bogotá city, Colombia	Zoning: Land that is urbanized but not yet developed, land that is urbanized but has no construction work.	2004: - Vacant land: tax rate 1.2%–3.3% of assessed land value. - For land that has been used in urban areas, the rate is from 0.4% (residential use) to 1.5% (financial institutions) In 2016, for vacant urban land, the tax rate is 30%
Ireland	The tax applies to land that is vacant, suitable for the provision of housing and located in an area where there is a need for housing	In 2018, the tax rate was increased from 3% to 7% of the market value of vacant land.
Washington DC, America	Vacant land	In 2017, the tax rate is 5% of the market value of vacant land

(Source: World Bank 2016)

than improves the development of the city. Minneapolis - Saint Paul (USA) faces economic stagnation, the population shifts from the city center to the suburbs, so taxing vacant land becomes counterproductive. In particular, San Francisco has a tax incentive program to transform vacant lots into public gardens, serve the community instead of imposing additional taxes on vacant land.

In terms of increasing revenue for the city government, many economists also doubt the feasibility of vacant land tax. Real estate taxes in general, and vacant land tax in particular, are politically sensitive, and designing and implementing vacant land tax is very complex. Political challenges have led to more than 30 countries worldwide applying land value taxation, but not all of these countries have a specific tax on vacant land (Dye and England 2010). The Democratic Republic of the Congo is an example, the Land Tax Law stipulates taxing vacant land in different localities based on the attractiveness for settlement, so different tax frameworks exist for each area, and the responsibility for paying this tax lies entirely with the landowners. However, land evokes a sense of familiarity and land use is closely tied to many cultural aspects in people's lives. In reality, in 2008, less than 1% of the revenue collected

by the Tax Department was from land tax, and very little was from vacant land tax due to political sensitivity and enforcement difficulties (Nwezwanga 2009).

Designing and implementing vacant land tax is always a challenge for every country. This is because the necessary information to identify unused land, assess land value may not always be readily available, especially in many developing countries (Bird and Slack 2004). In reality, taxing vacant land requires a lot of time and effort from experts to distinguish between the value of the land and the value of the structures on the land, and without sufficient land and real estate transaction records, it is almost an impossible task. These challenges require enhancing the capacity of land administration and valuation officials. Developing and maintaining a land management system to implement fair and efficient vacant land tax will increase compliance costs, but it is a prerequisite to be able to bring policies into life.



4. POLICY IMPLICATIONS FOR VIETNAM

Based on the experience of some countries in designing urban vacant land tax policies, Vietnam needs to focus on the following points:

(1) Real estate tax can be created in the direction of implementing progressive tax rates and separately assessing land, real estate on the land for taxation. Taxing based on progressive tax rates for each part will ensure a high regulatory goal with large-valued houses and land, and be fairer to those with lower real estate values. In particular, it is necessary to impose very high tax rates on urban vacant land in densely populated, developed cities to limit land speculation in cities such as Ha Noi and Ho Chi Minh City.

(2) Regarding the individual income tax policy on real estate transfers, which currently stands at 2% of the total transaction value, this is a simple and transparent tax calculation method that many countries apply. However, to ensure the policy's main goal of market regulation, prevent land speculation, and fairness for investors, the Ministry of Finance needs to study taxing intonet profits (transfer price minus purchase price and related expenses) when the real estate market is professionally managed and transparent, and land and real estate on the land of the people can be digitally managed.

(3) It is necessary to specify the requirements of Resolution No.18-NQ/TW dated June 16, 2022, which is "establish mechanisms and methods for determining land prices based on market principles" in the regulations guiding the implementation of the Land Law (amended). The responsible agency drafting these regulations needs to thoroughly study the methods of determining land prices and the applicable cases and conditions, thereby ensuring the stability and feasibility of the regulation.



▲ Urban vacant land taxation is primary issued by local governments

(4) To encourage local governments to pay attention to real estate tax revenue in general and urban vacant land in particular, it is necessary to allow localities to use 100% of this tax revenue to develop the economy and ensure social equity (for example, developing housing markets for low-income individuals).

(5) Enhance the capacity of local governments in investigating, collecting information about land parcels, market land prices, and land valuation methods... is crucial in determining the success of real estate tax in general and vacant land tax in particular ■

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Global Resources Outlook 2024: Pathways to a liveable planet as resource use spikes

Global Resources Outlook 2024 was written under the auspices of the International Resource Panel (IRP) of the United Nations Environment Programme (UNEP) and Janez Potočnik, Izabella Teixeira - co-chairs of the IRP, the members of the IRP and its Steering Committee. The report shows that it is both possible and profitable to decouple economic growth from environmental impacts and resource use.

Sustainable resource use and consumption can reduce resource use and environmental impacts in wealthier countries, while creating the space for resource use to grow where it is most needed. It is important to note that the circular models we must follow are not just about recycling; they are about keeping materials in use for as long as possible, and rethinking how we design and deliver goods as well as services, thereby creating new business models. If the policies and shifts outlined in this report are followed, the 2060 picture will be significantly rosier than under current models. We could have a global GDP three per cent larger than predicted and reduced economic inequalities. Growth in material use could fall by 30 per cent. Greenhouse gas emissions could be reduced by more than 80 per cent. Such results would be a huge win for people and planet. The bottom line is that sustainable and responsible resource use and consumption is a key enabling factor for the success of virtually every international agreement and initiative aimed at carving out a better future – from the new Global Framework on Chemicals and upcoming legally binding instrument on plastic pollution to the Paris Agreement and the Sustainable Development Goals.

1. TRANSFORMATION IN RESOURCE CONSUMPTION AND PRODUCTION






The global economy is consuming ever more natural resources. The prevailing resource extraction and use models are a contributing and major causal factor of what is known as the triple planetary crisis (climate change, biodiversity loss and pollution). Moreover, natural resource use is highly unequal and creates strong differences in the distribution of costs and benefits, with the poor particularly disadvantaged throughout the cycle of use. The current model also fails to deliver acceptable human development conditions for many on the planet. Without a systemwide shift towards sustainable resource use, the current trajectories will contribute further to the surpassing of planetary boundaries and the inequalities that are characteristic of the global economy. This has also been framed as humanity transgressing a safe operating space. This Global Resources Outlook 2024 report brings together the best available data, modelling and assessments to analyse trends, impacts and distributional effects of resource use. It also describes the potential to turn negative trends around and put humanity on a trajectory towards sustainability.

2. DRIVERS, PRESSURES, AND NATURAL RESOURCE USE TRENDS

The growing global population, expanding economy, rapid urbanization and a growing middle class have increased the demand for resources such as materials, water and land, putting pressure on these natural resources. This report delves into the effects of these factors, including economic and population growth, as well as urbanization and industrialization, by evaluating global trends in the demand for materials, water and land.

Box 1.1. Resource categories covered by this report

This report studies natural resources which are essential for producing goods and services to meet human needs, based on the following categories (see also the glossary):

-  **Biomass:** crops for food, energy and bio-based materials, as well as wood for energy and industrial uses
-  **Fossil fuels:** including coal, gas and oil
-  **Metals:** such as iron, aluminum and copper
-  **Non-metallic minerals:** sand, gravel, limestone and minerals used for industrial applications
-  **Land**
-  **Water**

Throughout the report, assessments refer to material resources (biomass, fossil fuels, metals and non-metallic minerals), also referred to as "materials".

Figure 1.1: Natural resources and the SDGs.

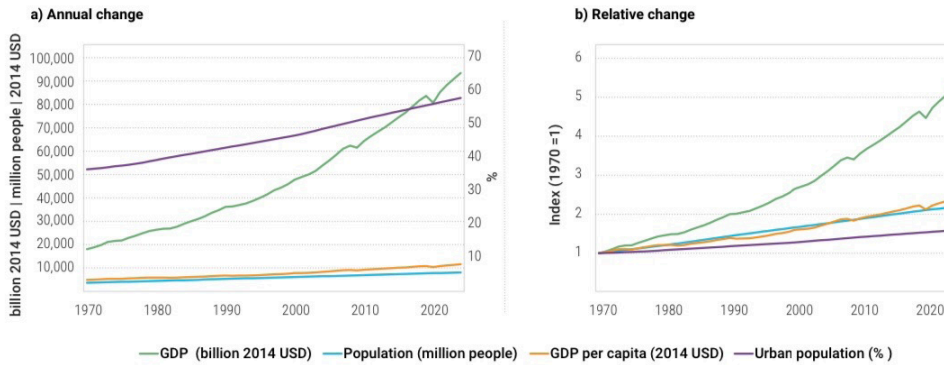


Source: Adapted from IRP (2022) and IRP (2019a).

▲ Natural Resources and the Sustainable Development Goals (SDGs)



Figure 2.1: Global changes in population, GDP, GDP per capita and urban population



▲ Figure 2.1: Global changes in population, GDP, GDP per capita and urban population

Source: United Nations Department of Economic and Social Affairs (UN DESA World Population Prospects 2022; UN DESA National Accounts 2022).

According to the report, over the past 50 years, there have been notable changes in economic output, population trends, individual income and urbanization patterns. In 1970, global GDP stood at approximately 18 trillion US dollars (based on 2014 prices). This figure is projected to surge by over five times, reaching USD 93 trillion by 2024, as shown in Figure 2.1. By comparison, global population rose from 3.7 billion to 8.1 billion during this time frame. These shifts in economy and population led to an increase in GDP per capita from USD 4,882 in 1970 to USD 11,591 by 2024. This economic growth significantly enhanced the material wellbeing and quality of life for millions, especially in the Global South. As the world further urbanizes and industrializes, the strain on environmental systems intensifies, leading to exacerbated environmental consequences. Between 1970 and 2024, the proportion of the global population residing in cities is projected to rise from 37% to 58%, as depicted in Figure 2.1. Such trends imply profound consequences for the consumption of natural resources and environmental transformations, both on a global and regional scale.

3. SUSTAINABLE RESOURCE MANAGEMENT IS URGENTLY NEEDED

The triple planetary crisis of climate change, biodiversity loss and pollution increasingly threatens the future of society. Climate change impacts are already evident worldwide, but national pledges for greenhouse gas reductions still fall short of meeting the required level to maintain the Paris target (UNEP 2021b). Similarly, species extinction rates are tens to hundreds of times higher than the average rate over the past 10 million years, and the pace is accelerating (IPBES 2019a). Resource extraction, processing and use make a significant contribution to these and other environmental impacts. This report provides an update of the development of resource-related impacts up to 2022 and shows the gap in terms of reaching targets for climate change and biodiversity loss impacts. It also shows which impacts are caused by provisioning systems. This helps to understand the status quo, historic trajectories, environmental hotspots, improvement potential and the need for action for sustainable global resource management, with the

goal of achieving a high level of well-being while keeping impacts to an acceptable level and in line with global environmental goals.

4. CALL TO ACTION FOR SUSTAINABLE RESOURCE USE

In 2024, the world faces sustainability challenges of unprecedented proportions, posing increasing impacts and risks. This report demonstrates how the triple planetary crisis of climate change, biodiversity loss and pollution is strongly connected to the use and production of natural resources. At the same time, resources are critical for delivering human development across the globe. The report also shows how inequitable, ineffective and inefficient current resource use patterns are: while there has been progress in delivering on some of the Sustainable Development Goals (SDGs), global action is not on track to meet goals on ending hunger, access to clean drinking water and sanitation or access to clean energy, among many others by 2030 (SDG tracker 2023). The systems providing us with food, mobility, energy and shelter are responsible for the majority of resource related global impacts including 70% of climate impacts, more than 75% of biodiversity loss and almost 80% of health burden impacts due to pollution. Furthermore, these impacts greatly exceed internationally agreed climate and biodiversity targets. Moreover, this report shows the unequal distribution of the benefits and impacts from resource use along the value chain: on a per capita basis, high-income countries cause more than 10 times more climate impacts to obtain provisioning systems of food, energy, mobility and built environment than low- and lower middle-income regions. In 2022 alone, more than half of global land-related biodiversity loss occurred in Africa and Latin America due to the extraction of biomass for agriculture and



forestry, a great share of which was consumed in higher income countries. However, less than 5% of global value added was generated in those regions. Conversely, almost half of the total global value added of resource use was generated in Europe and North America, while less than 10% of global water stress and biodiversity loss occurred in these regions. Addressing this reality, based on evolving concepts of a just transition, is an essential part of any credible and justifiable way forward (see Box 5.1). While policy responses to mitigate environmental pressures have proven successful in some cases, the scenario modelling undertaken in this report shows that without fundamental changes it will not be possible to achieve multilateral global climate, biodiversity, pollution and land degradation goals and agreements. For instance, the Historical Trends scenario (which includes current policies agreed to by countries) shows that current Nationally Determined Contributions under the UN Framework Convention on Climate Change (UNFCCC) will still lead to an overshoot of 2 degrees Celsius warming. Loss of natural habitats is also expected to increase

5. RECOMMENDATIONS FOR SUSTAINABLE RESOURCE USE

It is vital to explicitly recognize and integrate the use and production of resources at the core of the global sustainability agendas of climate, biodiversity and pollution, while acknowledging the resource-use implications of existing multilateral climate and biodiversity goals. It is also essential to understand which resource-use paths could meet the goals of these

interconnected sustainability agendas. This report gives some recommendations for sustainable resource use:

Global and national institutionalization of resource use in sustainability agendas and environmental agreements: The effectiveness of implementing such a recommendation will depend on the quality of governance institutions at country level and of resource governance mechanisms in particular, for which the picture is very uneven across countries.

Defining global and national resource use paths: It is essential to define resource use paths and targets at the global, national and other governance levels in order to monitor progress towards sustainable resource use. Setting targets is an effective way to lead transitions, at least when the implementation instruments are coherent. Targets need to be sufficiently ambitious and be clearly and authentically linked to climate, biodiversity, land degradation and pollution impacts and goals. These targets could be translated into an internationally agreed pathway for resource use (materials, land and water), considering the differential impacts of different resource categories.

Internalizing the environmental and social costs of resource extraction: Regulation, such as a tax on impacts caused by virgin resource extraction, would help to incentivize the use of secondary materials and increased efficiency in production, as well as internalizing environmental and social costs. As well as encouraging resource efficiency, this also enables a modest shift of taxation away from income and consumption. Ideally, such a tax would take into account the impacts of resource extraction, rather than being purely based on tonnes extracted.

Redirecting, repurposing and reforming public subsidies for sustainable resource use: Aligning public spending with humanity's long-term interests means aligning subsidies with sustainable resource use. This means redirecting, repurposing, reforming or eliminating economic incentives that contribute to unsustainable resource use and drive the triple planetary crisis, as well as scaling up subsidies for sustainable resource use practices.

Figure 5.1: Six critical aspects for the transitions towards sustainable resource use.



▲ Figure 5.1: Six critical aspects for the transitions towards sustainable resource use



Channelling private finance towards sustainable resource use: Besides scaling up public finance for sustainable resource use, public and private actors can channel private financial flows in the same direction. Frameworks can play an important role in scaling up sustainable finance. To overcome these weaknesses, an overarching taxonomy for sustainable resource use should aim to: correspond to specific sustainable resource use objectives, in alignment with other environmental goals (such as the Paris Agreement and Post-2020 Global Biodiversity Framework); monitor achievement against specific indicators; and shift from voluntary to mandatory transparency against specific resource-related targets.

Incorporating resource-related risks in public and central bank mandates: Redefining finance for sustainable resource management involves a consideration of financial system regulators, public financial regulatory bodies and central banks. Central banks should make reducing resource-related risk and priority in their mandates – as some pioneering central banks are doing for climate and biodiversity risk.

Trade governance for fair and sustainable resource use: Changes to trade governance that recognize and reflect the (externalized) environmental and social costs of resource extraction could help extractors and producers to implement sustainable production practices. Incorporating these externalities would create a level playing field, preventing a race to the bottom on environmental standards along resource value chains.

Enabling local resource value retention in producer countries: Local communities and host governments in producer countries are looking for real shared value from resource extraction, as opposed to the current unequal exchange. They seek to use their non-renewable resources to achieve long-term and sustainable growth in living standards, while also safeguarding their natural environments through local value added (for instance by retaining monetary value in resource-extraction areas).

Developing action plans to improve access to affordable and sustainable goods and services: Action plans to ensure that sustainable goods and services are available and affordable should include measures to make sustainable options accessible, economically competitive and socially acceptable. This would require regulation, a shift towards resource pricing to reflect the environmental cost of resource extraction and use as well as removing harmful subsidies and channelling of subsidies towards low-resource intensive, low-impact options. Reducing prices could be particularly challenging for some products and services.

Raising awareness and regulating marketing practices that lead to overconsumption: For sustainable alternative goods and services to thrive, they also need to be desirable and socially accepted. Currently, enormous amounts of money are invested in advertising resource-

intensive products. It is therefore crucial to guide marketing practices towards sustainable options, including business-to-consumer and business-to-business marketing, and covering both physical and e-commerce. Removal of information barriers to sustainable consumption is needed for that.

Setting up monitoring and evaluation systems to establish priorities and developing ambitious action plans for a circular economy: There is often little quantitative evidence for the effectiveness of circular economy strategies to mitigate impact. Moreover, assessments often refer to potential savings rather than real effectiveness. In addition, circular economy measures assessed by the literature often focus on incremental rather than systemic changes. Therefore, one important priority is to develop monitoring systems to establish priorities for action and to serve as a basis for developing action plans.

Developing and reinforcing regulations to boost circular economy business models: To increase energy and material efficiency, reduce waste generation and ensure that the products brought to market are safe and more circular, the regulatory framework needs to favour circular economy business models. It should also promote the development of innovative approaches and demonstrative examples, which could then be scaled up.

Building circular economy capacity and coalitions: It is essential to build capacity and adapt skills to develop and scale up new practices, technologies and business models. Deploying resource efficiency and circular economy strategies is expected to increase jobs in the relevant sectors (OECD 2020d). New skills will be needed for bridging the technology, labour and information requirements of new forms of processing materials and products. Less industrialized countries could benefit from building on existing circular business models including those that have emerged in the informal sector. To support capacity building, research and innovation should be encouraged across public and private sectors. It is also crucial to prioritize the development and/ or reinforcement of platforms for sharing resource efficiency and circular economy ideas and making use of existing ones ■

NHÂM HIỀN

(Source: *Global Resources Outlook 2024*)



South Korea's Volume-based Waste Fee system: Challenges and Solutions

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1. INTRODUCTION

In the 1970s - 1980s, in South Korea, due to rapid economic growth, industrialization, and urbanization, the amount of waste continuously increased and became a major social challenge. In 1987, the South Korean Government proposed a plan to build garbage incineration plants, sanitary landfills and intermediate treatment plants across the country. However, this plan has encountered many difficulties due to lack of investment capital, increased land prices, and civil complaints of residents because of problems related to the living environment where waste treatment areas located nearby. In that context, in 1995, the Volume-based Waste Fee System (VBWF) was implemented, contributing to solve the challenges. Accordingly, households and small-scale commercial establishments are required to buy specified bags for trash disposal, meaning that the more you throw, the more you pay; only recyclables are collected for free. This system aims to: (1) Reduce waste at source; (2) Form the behavior of collecting garbage and recyclable materials before throwing them away; (3) Reduce dependence on waste treatment facilities such as incinerators and landfills. During the implementation process of the VBWF system, the South Korea encountered many difficulties, however, they were able to come up with appropriate solutions and became a typical example of applying environmental policy based on market. For the time when we have conducted our paper, this system has set an example of a success by making landmark changes in waste generation models, public awareness, and behavior of consumers as well as manufacturers.

2. WASTE CLASSIFICATION ACCORDING TO THE VBWF SYSTEM IN SOUTH KOREA

Wastes in South Korea can be categorized by the following basic types:

For recyclable waste: In principle, recyclable waste is marked as 4-5 types, including: paper/newspaper, metal cans, glass bottles, plastic, other metals and those are collected free of charge. However, recyclable waste can also be divided into 2 - 3 types, if local authorities have difficulty with equipment and human resources. Recyclables are collected from households using collection bins, or at designated areas on a certain day.

For food waste: Food waste contains high levels of organic matter and nutrients, so one of the best solutions is recycling (composting) to gain value from this organic resource. In South Korea, currently, food waste is thrown away in collection bins, or specified

bags just for food waste. This garbage is collected daily, or every two day, depending on the capacity of local authorities.

For large-sized waste (bulky waste): This type of waste can be weighed and identified separately such as household appliances, electronics, furniture... For bulky waste that can be recycled, people just need to notify the recycling center run by the local government and this trash will be collected for free. Other types of bulky waste need to be properly labeled before being disposed of. This label (sticker) can be purchased from the local administrative agencies, or the garbage collectors. Each city/locality will have its own regulations on the price of stickers, depending on the type and size of waste.

3. DIFFICULTIES AND CHALLENGES WHEN APPLYING THE VBWF SYSTEM IN SOUTH KOREA

Public negative sentiment

This system did not receive public support, as it was quite inconvenient for people. Therefore, when participating in discussion during the introduction of the system, civil groups did not react very positively for the idea, due to concerns about illegal dumping as well as assumption that people will have to bear the full cost of waste treatment and recycle.

Handling recyclable waste

After collection, recyclable has become a burden for the South Korean Government. The most difficult problem is how to take advantage of non-PET plastic containers (PE, PP, PS or PVC). Although these types of plastic containers were designated as recyclable waste, but at that time, South Korea did not yet have the infrastructure to recycle this type of plastic. Furthermore, manufacturers are not responsible for recycling of this type of plastic waste because waste disposal costs are already applied to most plastic containers.

Food waste disposal

The amount of food waste generated in South Korea is huge, not only due to the increase in consumer demand, but



also due to the South Korean's traditional cuisine and characteristics of food. Koreans believe that entertaining guests with a hearty meal is a sign of hospitality, and kimchi - Korea's most popular side dish - creates a numerous food waste when prepared. In addition, during the first years of implementing the VBWF system, authorities received many complaints about unpleasant odors in landfills and during waste transportation to treatment facilities. This nauseating smell is caused by food waste, and this problem has become even more serious since the VBWF system was put into operation. The reason is that the paper used to wrap food has been classified as recyclable waste and is no longer disposed of according to regulations for wrapping paper.

Implementation on a nationwide scale

The legal basis for the VBWF system is the "Waste Management Act", which includes penalty provisions for those who dispose of waste illegally. However, in reality, it is not simple to apply this act because each locality has different natural and social conditions, as well as average income per capita, characteristics of production and consumption...

Illegal dumping

One of the most concerning side effects of the VBWF system is illegal dumping to avoid paying fees. In fact, some people threw household waste or business waste into public trash bins on the street, dumped trash in remote/abandoned areas, or into regular bags, not a VBWF bag.

4. SOUTH KOREA'S SOLUTIONS

Raise people's awareness about the VBWF system

To change habits, as well as raise people's awareness about the VBWF system, the Korean Government has made efforts to introduce *policy and mechanisms* to eliminate institutional *barriers*; identify the benefits, evaluate the impact of the system, as well as the problems



▲ Wastes in South Korea can be categorized

of the VBWF system through pilot projects, and convincing people therefore.

In addition, authorities have also cooperated closely with civil groups. After participating in monitoring pilot projects of the VBWF system, civil groups began to change their attitudes. They have regularly participated in evaluating pilot projects and evaluating the effectiveness of implementing the system after the first, second and tenth years. This has contributed to changing the media attitude and public perception of the VBWF system.

Managing recyclable waste

The problem of recyclable waste was resolved in 2003 when the South Korean Government introduced policies to support plastic recycling companies (e.g., providing financial support to install and operate recycling facilities, or requiring the public sector to procure recycled plastic products rather than new plastic products). At the same time, Korea also introduced regulations that manufacturers must be responsible for collecting and processing recyclable waste, this regulation is called the Extended Producer Responsibility (EPR) program. Manufacturers must take responsibility for handling costs at the final stage of the product life cycle, thanks to that, the supply and demand problem of recyclable waste has been significantly improved.

Food waste disposal

However, at first, applying EPR to food waste encountered many difficulties, so since 2013, the Seoul Metropolitan Government has applied the VBWF system in food waste treatment. For types of food waste that are heavier than regular waste, the Government has proposed that authorities apply a Weight-Based Waste Fee System (WBF) instead of based on volume (volume-based), thanks to which, food waste has been reduced by 10 to 30%. Under the WBF system, the weight of food waste generated by each resident/household is recorded and costs are calculated monthly based on the corresponding weight tracking records. However, this system did not apply to all households, but only to some apartment complexes, because installing



and operating weight measuring devices is quite expensive and requires enough space for equipment installation. For households and restaurants, people often use standard bags specifically for food, or standard trash cans with chips attached.

The problem of unpleasant odors from food waste is also solved by regulating separate collection of food waste, and the Korean Government has implemented large-scale reform of the food waste treatment system. Accordingly, since 1998, the Government has begun building food waste treatment facilities. Seoul city alone has put into operation five public food waste treatment facilities and authorized additional private facilities to manage food waste. In particular (2005), the Korean Government issued regulations banning the direct burial of food wastes.

Apply the VBWF system on a national scale

To strengthen waste management, the Korean Government has decided to empower each locality, meaning that based on the “Waste Management Act”, each local government will issue specific, detailing regulations in separate ordinances to implement the VBWF system, including regulations on types of waste under the VBWF system; treatment methods; types/colors/materials of standard garbage bags (VBWF bags); supervision of production and management of standard garbage bags; designation and guidance for buying bags and conditions for canceling contracts with bag sellers (dimensions, materials, durability and type of bags are determined according to standards of the Korea Federation of Plastic Industry Cooperatives (KFPIIC), all of these specifications must be followed, if not, the bag will not pass inspection).

Illegal dumping

To prevent indiscriminate waste disposal, some local authorities in South Korea have installed reflectors and surveillance cameras in vulnerable places; planted flowers; moved public trash bins in the city center. At the same time, the local government also required garbage collection facilities not to collect trash bags of the wrong type. After a while, the area will be polluted due to long-term storage of garbage, making people living in that area responsible for monitoring waste discharge to prevent illegal dumping. As a result, violations of regulations have been significantly reduced, thereby contributing to minimizing environmental pollution. In addition, the Korean Government also prescribed fines for violations.

5. CONCLUSION

In reality, although implementing the VBWF system is not easy, the South Korean Government has been determined and tried to achieve effectiveness in applying this system. Currently, Vietnam is in a comparable situation as South Korea of about 30 years ago, when the waste landfill rate was up to 96%, so we can refer to experience from South Korea.

However, some issues need to be considered:

- To create uniformity in management, it is necessary to unify a single national management and create a legal basis for the system with a single law. In addition, to adopt with the actual situation, the government should give responsibility, self-determination to local authorities and provide a roadmap to increase the price of VBWF bags in stages to keep up with market changes.

- The Government should research carefully to produce options and plans suitable for each locality, each period and prepare for the sudden increase in waste right before implementing the VBWF system. In addition, management agencies should put in motion pilot projects to observe the impact of this system before starting a large-scale application.

- The VBWF system will fail if it does not contribute to increase the recycling rate, because people then waste their time sorting waste without bringing out practical results. Therefore, the Government should provide support for recycling companies, and also need to require manufacturers to be responsible for recycling.

- This system is based on the support and people's self-awareness, so the management agency should implement appropriate instructions and communication so that people can properly perceive the problem and make innovation of habits and culture of consumption. In addition, the Government also should build a transparent VBWF system to create conditions for people/civil organizations to participate in by comments and supervision throughout the entire process starting from preparing to applying and then improving the system ■

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Tackling the global water crisis

The global water crisis threatens the well-being of billions of people and the stability of nations worldwide. Key drivers include unsustainable usage, climate change, pollution, lack of infrastructure, poverty, weak governance, and transboundary disputes. The multiple impacts span public health, food and energy security, economic growth, and geopolitical conflicts.

GLOBAL WATER CRISIS

The United Nations predicts that by 2025, 1.8 billion people will be living in countries or regions with absolute water scarcity. With the existing climate change scenario, almost half the world's population will be living in areas of high-water stress by 2030. In addition, water scarcity in some arid and semi-arid places will displace between 24 million and 700 million people. By 2030, water scarcity could displace over 700 million people.

The global water crisis stems from a confluence of factors, including growing populations, increased water consumption, poor resource management, climate change, pollution, and lack of access due to poverty and inequality.

The world population has tripled over the last 70 years, leading to greater demand for finite freshwater resources. Agricultural, industrial, and domestic water usage have depleted groundwater in many regions faster than it can be replenished. Agriculture alone accounts for nearly 70% of global water withdrawals, often utilizing outdated irrigation systems and water-intensive crops. Climate change has significantly

reduced renewable water resources in many parts of the world. Glaciers are melting, rainfall patterns have shifted, droughts and floods have intensified, and temperatures are on the rise, further exacerbating the crisis.

In many less developed nations, lack of infrastructure, corruption, and inequality leave large populations without reliable access to clean water. Women and children often bear the burden of travelling distances to fetch water for households. Contamination from human waste, industrial activities, and agricultural runoff also threaten water quality and safety.

Water shortages hamper economic growth and worsen poverty. Hydroelectricity, manufacturing, mining, and other water-intensive industries suffer. The World Bank estimates that by 2050, water scarcity could cost some regions 6% of gross domestic product (GDP), entrenching inequality. Climate migration strains nations. Overall, water crises destabilize societies on many levels if left unaddressed.

Water scarcity poses risks to health, sanitation, food production, energy generation, economic growth, and political stability worldwide. Conflicts over shared water resources are likely to intensify without concerted global action.



▲ *Water shortages hamper economic growth and worsen poverty*



Water security, or reliable access to adequate quantities of acceptable quality water for health, livelihoods, ecosystems, and production has become an urgent issue worldwide.

This crisis has far-reaching implications for global health, food security, education, economics, and politics. As water resources dwindle, conflicts and humanitarian issues over access to clean water will likely increase. Climate change also exacerbates water scarcity in many parts of the world. Addressing this complex and multifaceted crisis requires understanding its causes, impacts, and potential solutions across countries and communities.

MITIGATING WATER RISKS

Shifts in the hydrological cycle increase exposure and vulnerability of economies and communities to water risks, globally. Financial institutions and regulators are increasingly aware of the financial materiality of climate and nature risks. A similar awareness about water is nascent and should be encouraged. Pioneer work from the Dutch Central Bank documents how financial institutions in the country are exposed to flood risk. Disclosure of exposure and vulnerability can drive change in corporates' behaviour and their financiers. However, there are benefits and limitations of voluntary approaches, and it might be time to consider the potential benefits of more mandatory regulatory or policy frameworks.

As stressed by Ngozi Okonjo-Iweala, Director General of the WTO, "our new economics of water must be guided by a fundamental commitment to water equity". More accurate definitions of affordability of water services, access of poor households and communities to finance, as well as innovative financing mechanisms would help to ensure equitable access to water. Debt-for-nature swaps, for example, contribute to financing water while addressing high-level of sovereign debt of emerging economies.

The UN Water Conference provides a historic opportunity to raise the ambition for water. The global community can deliver on high ambitions in relation to water, as new science can guide action, technologies are available, and finance is here to be channeled where it creates most value in line with the ambition of restoring the hydrological cycle. Beyond March 2023, the Roundtable on Financing Water will explore practical ways to deliver on and finance the commitments made at the UN 2023 Water Conference.

SUSTAINABLE SOLUTIONS AND RECOMMENDATIONS

Tackling the global water crisis requires both local and international initiatives across infrastructure, technology, governance, cooperation, education, and funding.

Firstly, better governance through reduced corruption, privatization, metering, pricing incentives, and integrated policy frameworks could improve efficiency. But human rights must be protected by maintaining affordable minimum access.

Secondly, upgrading distribution systems, sewage treatment, dams, desalination, watershed restoration, and irrigation methods could improve supply reliability and quality while reducing waste. Community-based projects often succeed by empowering local stakeholders.

Thirdly, education and awareness can empower conservation at the individual level. Behaviour change takes time but can significantly reduce household and agricultural usage.

Fourthly, transboundary water-sharing treaties like those for the Nile and Mekong Rivers demonstrate that diplomacy can resolve potential conflicts. But political will is needed, along with climate change adaptation strategies.

Fifthly, emerging technologies like low-cost water quality sensors, affordable desalination, precision agriculture, and recyclable treatment materials could help poorer nations bridge infrastructure gaps. However, funding research and making innovations affordable remains a key obstacle.

Finally, increased financial aid, public-private partnerships, better lending terms, and innovation prizes may help nations fund projects. Cost-benefit analyses consistently find high returns on water security investments.

Sustainable solutions require combining new technologies, governance reforms, education, cooperation, and creative financing locally and globally. This crisis also presents opportunities for innovation, cooperation, education, and holistic solutions. With wise policies and investments, water security can be achieved in most regions to support development and peace. But action must be accelerated on both global and community levels before the stresses become overwhelming. Ultimately, our shared human dependence on clean water demands that all stakeholders work in unison to create a water-secure future ■

CHÂU LONG

(Source: OECD Environment Focus and Earth.org)



One million hectares low-carbon rice programme – Opportunities and challenges

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Rice sector plays a crucial role in stabilization of society and contributes into the Vietnam economic development, particularly, the rice production in Mekong Delta contributed 50% of total output as well as up to 90% of the country's rice export. However, besides the glory of the rice sector, the rice farmers are gaining the lowest income in the agricultural sector and the rice sector is contributing the largest greenhouse gas emission (approximately 50% of the agricultural carbon emission). Many limitations have been reducing the rice sector development. To create the new dynamic forces towards a rice sector of efficiency, sustainability and low emission, Prime Minister approved the Programme “Sustainable development of one million ha of high-quality and low-carbon rice together with green growth in Mekong Delta up to 2030”. The implementation of this Programme will create the opportunities to enhance the income of rice value chain's stakeholders as well as the reputation of Vietnam rice in the world market through the environment responsibility of rice production. However, the identification of suitable investment measures is the key for the Programme's success in order to ensure both economic and environmental purposes.

1. CURRENT SITUATION OF VIETNAM RICE SECTOR

Rice sector greatly contributes to the economic development and social stabilization of Vietnam. In recent years, Vietnam has produced 43 – 45 million tons grain, equivalent to 26 - 28 million tons rice annually. Vietnam rice export is among the leading exporters, at 5 – 7 million tons annually with the value of over 2 billion USD (Statistic data from 2016 – 2022).

Mekong Delta is the rice basket of Vietnam with the natural area of 4.092 million ha, of which 2.575 million ha for agricultural production, at about 62.9% of total land area. The rice output has been stabilized at 24-25 million tons, accounted for 50% and 90% of the country's rice production and export volume respectively.

Apart from the achievements, the rice sector still remained limitations which need to be overcome to ensure the future efficient and sustainable production. Some limitations have been identified as follow: (i) Rice farmers' income is rather low; (ii) Cultivation practices are not sustainable – using too much chemical fertilizers, pesticides and water, which lead to high production costs; (iii) Post harvest's losses are at high level; (iv) Rice quality is not homogeneous; (v) Rice production is small and scattered, the linkage between rice farmers

and cooperatives/enterprises is rather loose; (vi) High level of carbon emission.

The Minister of Agriculture and Rural Development Le Minh Hoan (2023) said that the income of rice farmers is the lowest in the agricultural sector. The Mekong Delta's farmers cultivated 2 – 3 rice crops per year with the yields of 5 – 7 tons per ha per crop. The rice grain was sold at 6,000 – 8,000 VND per kg. The rice farmers with land and without land normally gained income of 40% and 20-30% of selling price respectively. If a farmer household in Mekong Delta owned 1.24 ha (Statistics 2000), the household would gain the income of 40 – 60 million VND per year from cultivation of 3 crops. This income is hardly enough for living costs of a family of 4 persons. Therefore, if rice price and rice yields fall, the rice farmers in Mekong Delta easily get in debts and poverty.

The rice production costs are high due to over-using of inputs such as seeds, chemical fertilizers and pesticides. According to statistical data 2022, although Mekong Delta's farmers have reduced considerably the seeds for 10 years, the seed amounts are currently still at 100 – 150 kg per ha. The over use of seeds, chemical fertilizers and pesticides has not only increased the production costs but also polluted the environment. The postharvest loss was recorded at 10%, higher than that of 4.2% in Thailand (Dao The Anh, 2018).

The inhomogeneous quality is the important weakness of Vietnam rice in the world market. Some reasons were identified such as low seed quality, poor postharvest technology, etc. Although the number of farmers using certified seeds increased quickly up to 75% for the last 10 years, the certified seed quality was also not consistent due to limited market quality control. Rice drying and storage are also weaker in comparison with the regional rice exporting countries. The small and scatter rice areas are also one of the reasons for the inhomogeneous quality of Vietnam rice.

The number of rice farmers is large but



the scope of rice production is small, which leads to the poor linkage between farmers and enterprises due to the rice enterprises have to deal with many farmer households. This is the reason for high management costs and reduction of profits for the stakeholders in the rice value chain. There are many cooperatives established to link many small rice farmers to facilitate the larger production areas, which helps reducing management costs for the rice enterprises. However, the cooperatives' management qualification is still below the requirements.

Rice production is one of largest carbon emission in agriculture, approximately 50.31% the total emission (equivalent to 50 million tons of CO₂e annually) and 75% methane (CH₄) emission (BUR3, 2020). The rice field is permanently flooded leading to the organic matter is decomposed in the anaerobic condition to produce methane. Apart from that, overuse of nitrogen fertilizer also emitted more N₂O. For the climate change, 1 kg CH₄ is equal to 28 kg CO₂ and 1 kg N₂O equal to 256 kg CO₂ (IPCC, 2014). Beside that, the postharvest losses also imposed negative impact to climate change, accounting for more than 10% of the total emission in rice production cycle.

In conclusion, the Vietnam rice sector has gained many prominent achievements recently and has greatly contributed into the social stabilization and economic development. However, in the new situation of agriculture restructuring, rice sector has been coping with the limitations which need to be overcome in order to create the

new dynamics for the sustainable development. The Programme “Sustainable development of one million ha of high-quality and low-carbon rice together with green growth in Mekong Delta up to 2030” has been approved by the Prime Minister at the Decision 1490/QĐ-TTg dated 27 November 2023 to develop the Vietnam rice sector of high quality, sustainability and environmental friendliness.

2. CARBON REDUCTION AND GREEN GROWTH IN RICE SECTOR

The Programme's overall objective is to establish one million ha of high quality and low carbon rice through the re-organization of rice value chain system, application of sustainable cultural practices towards increasing value added, sustainable rice sector with enhanced production efficiency and rice farmer income, environmental protection, climate change adaptation, green house gas reduction and contributing into the Vietnam's commitments (NDC).

The Programme's specific objective is to achieve one million ha of high quality and low carbon rice in 2030, of which, the seeding reduced to below 70 kg per ha, the uses of chemical fertilizers and pesticides reduced by 30%, the water use reduced by 20%, 100% rice area applied at least one sustainable cultural practice such as 1M5R, SRP, AWD, etc. which is certified with cropping area codes. The production organization will be: (i) 100% rice areas of high quality and low carbon rice are linked with enterprises, cooperatives or farmer organizations for rice production and consumption; (ii) 70% rice areas applied synchronous mechanical machines; (iii) More than 1 million households apply sustainable cultural practice. In the aspect of environment protection and green growth: (i) Postharvest loss ratio is below 8%; (ii) 100% straw in the Programme's rice areas is removed from the field and recycled; (iii) Carbon emission is reduced by at least 10% in comparison with the

traditional practice. The added value increased by 40%, in which, the rice farmers' profit increased by 50%. The amount of exported high quality and low carbon rice accounts for at least 20% of the total rice export in the Programme's area.

The Programme will create the opportunity for Vietnam to develop a sustainable and environmental friendly rice sector as well as to enhance the rice farmers' income



▲ Sustainable development of one million ha of high-quality and low-carbon rice together with green growth in Mekong Delta up to 2030



and Vietnam rice added value. The total fund for the Programme is estimated at 650 million USD in 2 periods: (i) Period 1 needs 60 million USD to consolidate the 180,000 ha invested by VnSAT project; (ii) Period 2 needs 590 million USD to establish 820,000 ha of high quality and low carbon rice area.

One of the key factors for the Programme's success is the ability to enhance farmer income and enterprise profit in the rice value chain. To achieve this objective, the Programme's activities will focus on reduction of production costs and enhancing the added value of the market rice products.

The reduction of rice seeds down to below 70 kg per ha will help saving seeding costs for farmers. However, the seed quality and the quality control system must be enhanced in comparison with the current situation. The use of higher quality seeds with equal or lower costs is also a challenge for the current rice seed supply system. Apart from that, the reduction of 30% chemical fertilizers and pesticides is also a big challenge in terms of costs. Although the uses of chemical fertilizers and pesticides have been reduced considerably recently but it is undeniable that the costs for using organic fertilizers and pesticides are still very expensive for rice farmers.

The reorganization of farmers into the cooperatives will reduce greatly the costs of production inputs due to farmers could purchase wholesale agricultural inputs at lower prices. Furthermore, the participation into the cooperatives will facilitate farmers together investing the production and postharvest equipment by the more economical and efficient ways. The calculation of the Department of Crop Production (DoP) showed that the farmers participating into large field programme could reduce the production costs by 10–15% and increase output value by 20–25%.

One crucial target of the Programme is to reduce the carbon emission and support green growth in agricultural sector. The measure of 1M5R is applied including: Must use certified seeds, reduce seeds, fertilizers, pesticides, water and postharvest loss, which can all help reducing environmental pollution and carbon emission. However, the largest carbon emission in rice production is produced during the rice field flooded throughout the cropping season. Therefore, the practice of Alternative Wet and Dry (AWD) is the major measure for carbon emission reduction in rice. The AWD measure can only be applied in large rice fields with the modern irrigation systems to facilitate the flexible watering and drainage. The rice farmers in Mekong Delta could not have enough funds to invest into such modern irrigation systems, except with the supports from Government and Enterprises. On the other hand, the application of AWD does not help increasing significantly the rice yield or quality in comparison with the traditional practice. Therefore, the investment into the modern irrigation systems just for the carbon emission reduction is rather difficult for the rice

enterprises with limited finance capacity. Therefore, the investment into modern irrigation systems for AWD application of one million ha in Mekong Delta must depend on the supports of Government and international organizations.

The collection of straw for cattle feeding and mushroom growing, etc. is popular in Mekong Delta, which brings the additional income for rice farmers. However, the collection and treatment of rice stubble is rather difficult due to the stubble's low value and high collection costs. There are many technologies introduced to farmers for treatment of rice stubble in the field but the current application is still very limited.

Currently, there is a trend of using low carbon and environmental friendly products, which is creating the market advantages and value added for the certified low carbon products. Some countries are even considering the carbon taxes imposed into imported products. Therefore, the investment into environment protection products is the unavoidable trend for many sectors including the rice sector. However, the balance between the possible benefits such as carbon revenue, value added to rice brand name, carbon tax reduction, etc. and the investment costs for low carbon rice infrastructure should be carefully calculated to ensure the comprehensively economic, social and environmental efficiencies at the investment decision time.

3. CONCLUSION

The approval of Programme "Sustainable development of one million ha of high-quality and low-carbon rice together with green growth in Mekong Delta up to 2030" is the Government's accurate policy in order to create the new dynamic for the development of a Vietnam sustainable and environmental friendly rice sector. This is a big opportunity for Vietnam agriculture to re-organize the rice sector in the new world integration period, in which, the agricultural products towards green, clean, low carbon are the unavoidable trend. However, the identification of reasonable investment measures as well as smart calculation of investment efficiency are very crucial for the Programme's success in order to meet dual purposes of environment protection and enhance profits of the rice value chain stakeholders, particularly the rice farmer income ■



Biodiversity and cultural diversity - key elements for sustainable development

In our world today of rapid changes, biological diversity and cultural diversity are increasingly recognized as key elements for sustainable development. Dedicated to strike for a balance between conservation and development, biosphere reserves serve as testing sites to seal the link between these two keys. In Vietnam, eleven recognized World Biosphere Reserves is also the home of many people including thousands of people belong to different ethnic minority groups. Each group has their own ways of living, which reflect their unique understandings and interpretations of the nature accumulated through their hundreds of years residing in these sites. While these minority groups are often vulnerable to the pressure of development from outside, their identity and cultural values embrace with a rich knowledge of the nature are foundation not only to their endogenous development but also to the conservation of these sites as our common home.

PROMOTING THE VALUE OF VIETNAM'S BIOSPHERE RESERVES FOR SUSTAINABLE DEVELOPMENT

Up to date, Viet Nam is home to eleven Biosphere Reserves (BRs), second only to Indonesia in the number of Biosphere Reserves in Southeast Asia. The ecological makeup of these Biosphere Reserves has been integral to the lives of not only millions of Vietnamese people, but also countless endemic plant and animal species. Promotion of their utility for climate regulation, biodiversity conservation, and sustainable human-nature coexistence have been of paramount importance to national policymaking.

Biosphere Reserves, of which early designation and network was launched in 1971 by UNESCO, are regions of natural and cultural landscapes extending over vast areas of terrestrial, wetland, or coastal/marine ecosystems or their amalgamation. Biosphere reserves are 'learning places for sustainable development', for "testing interdisciplinary approaches" to understand and manage changes and interactions between social and ecological systems, including conflict prevention and management in biodiversity conservation. This is a prime example of human-nature balanced co-existence where the preservation of nature goes hand in hand with the sustainable socio-economic lives of local communities.

BALANCE BETWEEN CONSERVATION AND SUSTAINABLE DEVELOPMENT

The complexity of different individual parts of nature forms the web of life as the foundation for the existence and development of humankind as a part of it, that no alternative is yet foreseen. Biodiversity offers fundamental conditions for livelihoods and human well-beings which are extremely important for poor people whose livings depend much and directly on the availability of natural resources. In developing countries where



▲ *Cat Ba World Biosphere Reserves*



is often rich on biodiversity, it is the essential resource for tackling poverty, building resilience against natural and artificial shocks as well as a vehicle for sustainable development.

As much important as biodiversity for the nature is cultural diversity for human beings. Defined as “the manifold ways in which the cultures of groups and societies find expression”, the diversity of these expressions and their dynamic allow human beings as individuals and groups to develop, exchange and accumulate understandings and interpretations of life, including the nature. Cultural expressions, therefore, encompass rich knowledge of biodiversity, which are valuable in both scientific and spiritual terms for individuals and groups of humankind. Cultural diversity is the reflection of biodiversity in our human society. At their inter-link, a loss of a species or the degradation of an ecosystem can lead to the destruction of a way of living, or to a great extent, the collapse of a civilization. On the other hand, a loss of a cultural expression can take away important threads to invaluable knowledge of the nature. The modern path of development, however, resulted in severe loss of biodiversity and cultural diversity with irreversible consequences. This threat to the loss of diversity as our most universal quality is increasingly recognized and addressed through several instruments and collective efforts. The framework for world biosphere reserves was set up as one innovative approach toward sustaining human development based on and for both biodiversity and cultural diversity.

INTEGRATING BIOLOGICAL AND CULTURAL DIVERSITY IN THE MANAGEMENT OF BIOSPHERE RESERVES

Biosphere reserves are the model designated to realize a vision of which man coexists in a more harmonized relationship with the environment. One of three goals for biosphere reserves as set in the Seville Strategy (UNESCO, 1996) is to conserve natural and cultural diversity. Actions are taken to integrate biological and cultural diversity in the management of biosphere reserves, especially through enhancing the role of traditional knowledge and cultural heritage. Vietnamese biosphere reserves: initiatives to seal the linkage between cultural and biodiversity

The network of eleven Vietnamese biosphere reserves covers diverse natural settings, from marine and coastal ecosystems to the rain forest, which is also the home of many people. Thousands of these residents belong to many ethnic minority groups. On the other hand, like most indigenous groups, they have developed invaluable knowledge and spiritual values toward the natural environment, which is important not only for their own group but also for the wider community. Addressing their special needs and aspirations needs a flexible approach, while Vietnamese biosphere reserves were recognized based on the national legal framework

for protected areas where the conventional approach focusing on strict conservation dominated. Moving towards the vision designated for Biosphere Reserves, therefore, requires efforts on capacity building, testing and demonstration of models that harmonise conservation and human development.

Such initiative demonstrated that sealing the linkage between cultural diversity and biodiversity can bring in positive solutions for conservation and development in biosphere reserves. It was also confirmed that nurturing dialogue and participation requires more time and effort from all relevant stakeholders. In a context like Viet Nam where economic development has high pressure on conservation, ensuring sustainable outcomes from introducing a new approach to these biosphere reserves requires continuous investment both technically and financially in improving capacity for better management of these sites.

COMPLETE THE MANAGEMENT POLICY

The Ministry of Natural Resources and Environment is making efforts to develop policies and legal frameworks to further strengthen the management of World Biosphere Reserves in Vietnam. Regulations on Biosphere Reserves have been institutionalized in the Law on Environmental Protection and Decree 08/2022/ND-CP guiding to implement the Biosphere Reserve Management Regulations that have been developed and approved by authorities.

The 3 Biosphere Reserves of the BR project have also completed the Biosphere Reserve Management Plan for the next 5 years and are developing an Environmental Protection Management Plan for the Biosphere Reserves.

The Ministry of Natural Resources and Environment has also completed the document guiding the nomination and management of Biosphere Reserves. It is expected that in 2024, this guidance will be applied to nominate at least one new Biosphere Reserve. The Ministry has also completed guidelines for preparing a Biosphere Reserve Management Plan aiming to facilitate integrated management of natural resources and guidelines for applying biodiversity impact assessment



Experience ecotourism in Ba Vi

About 60km from the center of Ha Noi capital to the northwest, Ba Vi is a land with many beautiful natural landscapes such as mountains, forests, waterfalls, streams, rivers, and lakes associated with many tourist attractions known by guests - including Ba Vi National Park; Ao Vua tourism; Khoang Xanh - Suoi Tien; Thien Son - Suoi Nga, Tan Da, etc. The place is the accommodation of numerous rural farms, rich agricultural products, and natural hot water sources from Thuan My villages which aid the development of Ba Vi's resort tourism.

GREEN TOURISM POTENTIALS

The best tourist attractions for agricultural experience in Ba Vi include Dong Que Farm (Bavi Homestead), Green Farm Joint Stock Cooperative, Ba Vi Cow, Grassland Research Center in Van Hoa Commune, Gia Trinh eco-farm, or Happy farm in Yen Bai Commune. In each of these places, visitors can participate in traditional agricultural production systems, enjoy natural specialties, and have the opportunity to participate directly in agricultural tourism activities imbued with Vietnamese countryside cultures. These activities are growing rice, catching fish with bamboo tools, planting and picking wild and herbal vegetables, observing the honey-making process, nature pick and star dry tea, feeding the ostriches, goats, rabbits, cows, etc.

Ba Vi has a great density of historical and cultural relics associated with the names of national heroes and great personalities like Saint Tan Vien Son or President Ho Chi Minh. The honorable list mentions the temple of President Ho Chi Minh on the top of Ba Vi mountain, the K9 relic site, Thuong temple's relics cluster, Trung temple, Ha temple, Tay Dang communal house, Chu Quyen hall communal house, Thuy Phieu communal house, etc. With a system of recognized monuments, Ba Vi tourism promises many cultural and spiritual tourist attractions towards tourists.

Nearly 100 years ago, from 1932 to 1944, the French built a town and a resort on Ba Vi mountain and divided them into a cluster of sectors. Coste 400 contains enormous pine forests and green lawns, while coste 600 remains the ruins of the French's great architectural works. In coste 800, if you take a right turn and forge yourself through a steep slope and a tight turn - you will come across the ruins of a church and beautiful unspoiled resort villas. Nearly 200 ruins built by the French now remain in ruined mossy walls scattered among the mountains and forests of Ba Vi. The place is the destination of many photographers and young people who love to explore and take photos.

In addition, Ba Vi district provides tourists with many specialty services, mentioning healthcare services in Ao Vua tourism such as herbal medicine bath service or traditional medicine and



▲ Ba Vi is a land with many beautiful natural landscapes



healthcare treatment. Also, there is “Ba Vi’s Muong - Dao fair” festival in which visitors can experience Ba Vi’s Muong - Dao culture through numerous activities: village elders’ water-carry custom in the early spring, learning about the ethnic culinary culture, Muong gong culture, the ancient calendar of Muong ethnic people, etc. Other experience activities include participating in agricultural experience (visiting tea gardens and medicinal gardens of the Dao ethnic group) at Ban Coc Tourist Area in Minh Quang Commune.

Each year in November, Ba Vi National Park holds the hot balloon festival - where visitors can participate in many experience activities, watch the wild sunflower show, and take a trip around the flower path, flower tent, and wild sunflower carnival.

At tourist spots in Minh Quang, Ba Vi, Van Hoa, and Yen Bai communes, there are cultural products and cuisine of the Muong ethnic group like Muong gong culture, national costumes, and Muong ethnic cuisine. Moreover, visitors can engage in experiential activities such as growing vegetables, processing traditional agricultural products, take part in the local production of OCOP products.

Ba Vi region also boasts vast rolling grass fields and dairy farms. The combination of different tourist products including ecotourism, resorts, community tourism, and cultural and religious tourism make Ba Vi an ideal destination for tourists whether from Vietnam or overseas.

CONSERVATION AND DEVELOPMENT OF NATURAL RESOURCES

To further develop Ba Vi’s tourism potential, it is necessary to have synchronous solutions such as building an overall tourism planning, preserving the values of natural resources, cultural values, and developing new tourism products, connecting Ba Vi tourism with the surrounding areas.

Taking advantages of the natural resources, Ba Vi needs to continue to preserve and develop the bestowed natural values such as: Ba Vi national park, beautiful streams and waterfalls, effective exploitation of land resources, water sources protection, flora and fauna development to create typical values of the region.

Ba Vi district needs to focus on completing all types of planning; connecting tourism businesses in the area to create

the attractive tours. In addition, the district continues to promote propaganda and investment promotion in construction projects such as: Tan Vien international luxury tourist area, Ba Vi mountain west slope tourist area, and Thuan hot water mineral area.

The district has policies to mobilize investment resources to build infrastructure to support tourism development; actively coordinate and integrate projects to upgrade relics and scenic spots, support products and focus on capital to upgrade power lines and communications; create links inside and outside the district; propagate the environmental protection, natural resources and train tourism human resources,...

In the coming time, the district needs to invest in renovating and upgrading facilities and infrastructure, including upgrading and improving roads leading to tourist areas; introducing technology information and providing free wifi networks at tourist destinations. In addition, the district needs to create conditions for investors to build a store system and introduce Ba Vi’s typical products.

Ba Vi is one of the localities that the city will focus on developing tourism to become a new tourism center of the capital. In particular, in addition to eco-tourism, health care tourism and golf tourism can also be developed, Ba Vi needs to coordinate with travel companies to organize famtrips (tourism market survey) to make connections with destinations and accommodation facilities in Ba Vi to attract more tourists to Ba Vi.

Ba Vi’s tourism potential has been affirmed, but to fully develop that strength and turn it into the specific tourism product, attracting domestic and international tourists requires to work together to build a long-term products with tourist attractive costs.

Along with the above solutions, Ba Vi district needs to create the most favorable conditions to attract investors to develop high-end resort tourism and develop high quality, environmentally friendly tourism products. Ba Vi also needs to prioritize the development of professional and highly qualified tourism human resources.

Ba Vi district develops a community tourism model at Co Do painter village, Ba Trai commune tea village associated with Muong ethnic culture. In addition, the locality will take advantages of the potential strength of the rich flora here to develop green tourism.

Besides, Ba Vi needs to connect surrounding areas to maximize the effectiveness of the region’s potential strengths. Around the Ba Vi area, there are many tourist destinations such as Ngoc Xanh island, K9 relic site, Cultural Village of Vietnamese Ethnic Groups, Duong Lam ancient village, etc. Travel agencies and management boards need to build tours. The tourist route connects Ba Vi tourism in harmony with the surrounding area to maximize the potential of each locality ■

MAI HUONG



Sustainable management and biodiversity protection in Cat Tien National Park

Cat Tien National Park stretches across the 3 provinces of Dong Nai, Lam Dong, and Binh Phuoc, with more than 80,000 hectares surrounded by 90km of the Dong Nai river. The Cat Tien National Park contains valuable biodiversity resources not only for Vietnam but also for the world. With a rich flora and fauna system, Nam Cat Tien is a place to explore, learn and make a great getaway for those who love nature and want to learn more about the world.

THE ECOTOURISM PARADISE

Cat Tien National Park offers visitors an opportunity to discover nature and contemplate the beauty of mountains, glass-plots, forests of high trees, waterfalls and diversified ecosystems with rare plant and animal species.

Nam Cat Tien was recognized by UNESCO as one of the world's biosphere reserve zones in 2001; the Ramsar Convention Secretariat recognized the Bau Sau wetland system as a Ramsar site of international importance in 2005; and the Government of Vietnam ranked Cat Tien National Park as a special national relic on September 27, 2012.

The ideal time to go to Nam Cat Tien is around December to May, as during this time there is little rain with dry weather, suitable for sightseeing or camping overnight in the forest. If you're traveling in June–November, be sure to check the weather forecast before you go out to avoid the unwanted rain. You can camp overnight in the woods, but remember to ask the ranger for permission before camping. Currently, the resort and accommodation services here are being well invested in and developed. You can easily find resorts where you can rest and enjoy the atmosphere while being in harmony with nature.

Experience the natural habitat at Bau Sau

Bau Sau is a famous tourist resort in Nam Cat Tien where visitors can visit the rich flora and fauna, which is even more interesting than what you might imagine. To get to Bau Sau, you need to take a car for about 10 km, then walk 5 km more to get there. In Bau Sau, you can see firsthand

the natural habitat of more than 60 species of freshwater crocodiles and how they prey and live underwater. The resort is the home of Siamese crocodiles, one of the two extremely rare species of crocodiles. Not only that, but Bau Sau is also the home of other rare species such as bulls, yellow-cheeked gibbons, great hornbills... You should stay at Bau Sau so that you can relax and enjoy the specialties here, as well as rest and regain strength for the 5km hike on your way home.

Visit Tien Island - Bear Rescue Station

Tien Island is a nature reserve, located near Nam Cat Tien Forest Ranger Station. With an area of 57ha, Tien Island is home to rare and endangered animals such as: Germain's langur, black-shanked douc, pygmy slow loris, yellow-cheeked gibbon... The Bear Rescue Station is home to rescued or injured bears. They are brought here for care and treatment, and then returned to the wild.

Explore animal nightlife

The experience of watching wild animals hunt for food at Nam Cat Tien forest is one of the most interesting activities that you can participate in. With a rich variety of animals such as deer, sambar deer, squirrels, ferrets, and wild boar... with many different lifestyles and food habits, this will definitely give visitors an unforgettable experience. If you want to participate in this activity, you need to contact the management of Nam Cat Tien Ecotourism Area to buy tickets.

Get to know the traditional beauty of the ethnic minorities in Ta Lai

Ta Lai is home to many of the ethnic minorities in Vietnam, such as the Tay, S'tieng, Ma... Coming here, you will have the opportunity to learn about their culture, life, and customs as well as enjoy the wild dishes prepared by the locals. Many young people choose to rent bicycles to roam to Ta Lai, to take in the natural beauty of the Nam Cat Tien forest, with interesting experiences along the way as well as stopping to capture the beautiful sights.

Eating in the middle of nature

Besides strolling on the romantic roads, visitors will also have the opportunity to enjoy wild and unique delicacies such as: water-orchid soup, river fish hotpot, wild vegetables, climbing perch, and snakehead fish... The water-orchid soup has a sweet and refreshing taste and is cooked with both the stem and flowers of the water-orchid. If you try it just once, you will surely remember it forever. The weather in the woods makes it an ideal place to enjoy hot pot.



▲ The forest ecosystems of Cat Tien National Park play a very important role in biodiversity conservation

SUSTAINABLE TOURISM STRATEGY OF CAT TIEN NATIONAL PARK

Cat Tien National Park is one of the leading protected areas in environmental education for visitors in Vietnam. Plastic-free tourism and green tourism have been their signatures for more than 10 years. Particularly, methods are used to raise awareness and responsibility for visitors at Cat Tien National Park, for instance, asking visitors to handover single-use plastics and providing compostable bags upon entrance; imposing penalties on restaurants if they neglect consumption of bushmeat; only bicycles and electric vehicles are allowed within the national park; displaying signs and messages of environmental protection along trails.

With practical solutions and relentless efforts in attaining plastic-free and green tourism, in 2020, Cat Tien national park was awarded the Vietnam Environment Award by the Ministry of Agriculture and Rural Development. This award is for organizations, individuals and communities, an accreditation of

outstanding achievements in environmental protection, rational use of natural resources, biodiversity conservation and biosecurity.

Center for Nature Conservation and Development (CCD) has supported to Cat Tien National Park in implementing more advanced training programs, and provide technical support to the park to monitor all important species and nurture its ecosystem and biodiversity. By obtaining the updated information and sufficient skills to monitor the ecosystems and biodiversity, the staffs are more capable to manage and mitigate impacts human activity and climate change, thus preserve and restore Cat Tien's forest. At the training, botanist/plant conservation and forestry experts shared approaches and recommended methods on inventory, monitoring the population of endangered trees particularly for rosewood species.

The forest ecosystems of Cat Tien National Park play a very important role in biodiversity conservation and provide valuable ecosystem services that support people's lives and local economic development ■

NHÂM HIÊN

Center of Global Green Network

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- Promote and enhance the cooperative activities in the field of environment between Vietnam and Korea;

- Manage funding sources to support cooperation and investment promotion, technology transfer in the field of environmental infrastructure development and new energy (water supply, wastewater treatment, renewable energy, emissions management, ...);

- Support Korean and Vietnamese enterprises to promote investment in the field of environmental industry in Vietnam;

- Research and explore the technology market in order to serve the promotion and cooperation development, investment and technology transfer in the field of environment and sustainable development.



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