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POLICY BRIEF FOR SUSTAINABLE FORESTRY AND AQUACULTURE DEVELOPMENT WHILE PROTECTING NATURE AND BIODIVERSITY



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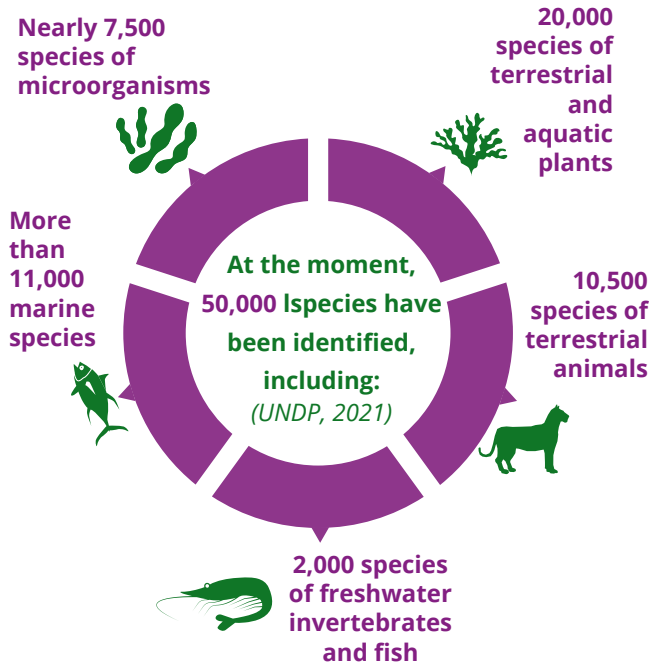
This document is the product of an independent consultant team, built on the analysis of current forestry and aquaculture development policies and the results of a series of scientific researches conducted under the Biodiversity Engagement Facilitation Initiative to promote commitments to biodiversity in economic sectors called BIODEV2030.

The views and statements expressed in this document are those of the independent consultant team and do not necessarily reflect the views of the Nature and Biodiversity Conservation Agency (BCA) and the World Wide Fund for Nature in Viet Nam (WWF-Viet Nam). This publication serves as a reference for management agencies; organizations involved in biodiversity conservation including BCA and WWF-Viet Nam; and policymakers to consider for the development of appropriate policies, strategies, or regulations on the integration of biodiversity conservation in economic development activities with a view to achieving sustainable development and nature restoration goals.

The original report is in Vietnamese. The English version is an unofficial translation.

1 Background

According to a recent assessment, Viet Nam is one of the world's sixteen most biologically diverse countries (Thuairé et al, 2021).



Following the Global Assessment of Biodiversity and Ecosystem Services by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES, 2019), the existing ecosystems are currently declining at an unprecedented rate in history.

The assessment results by Thuairé et al (2021) under the BIODEV2030 initiative shows that forestry and aquaculture are two sub-sectors contributing significantly contributions to the development of agriculture in particular and the socio-economic development of the country in general. They also have a great influence on biodiversity.

In 2021, agriculture contributed **13.97%** to the GDP of the country

Provided jobs for about **28.9%** of the labor force

The export value of the agricultural sector reached **48.6 billion USD**

Wood products were **15.4 billion USD** (equivalent to 33.04%)



Seafood exports were **8.6 billion USD** (equivalent to 18.49%)

(GSO, 2022).

The question is how Viet Nam can achieve its economic growth targets (i.e., by 2030, the export value of forest¹ and fishery² products will reach 23-25 billion USD and 14-16 billion USD, respectively; timber harvested from plantations 50 million m³; and aquaculture products 7 million tons), while ensuring environmental protection, and natural resources and biodiversity conservation according to orientations from the Resolution of the 13th Party Congress on “ecological agriculture, modern rural areas, and civilized farmers”; aligning with international conventions and agreements to which Viet Nam is a signing party, such as the Convention on Biological Diversity (CBD) and the United Nations Framework Convention on Climate Change (UNFCCC); or its support and commitment to the Leaders’ Pledge for Nature in the UN Summit on Biodiversity, taking place on the margins of the opening of the 75th session of the UN General Assembly (UNGA75) in the United States in 2020 and other commitments on protection of the environment and ecosystems and restoration of biodiversity.

This document is elaborated based on the analysis of the existing policy frameworks for forest and aquaculture development and the results of research on economic characteristics and potential impacts of forestry and aquaculture on biodiversity conducted in early 2022 (Tran Dai Nghia et al.).

The question is how Viet Nam can achieve its economic growth targets while ensuring environmental protection, and natural resources and biodiversity conservation?

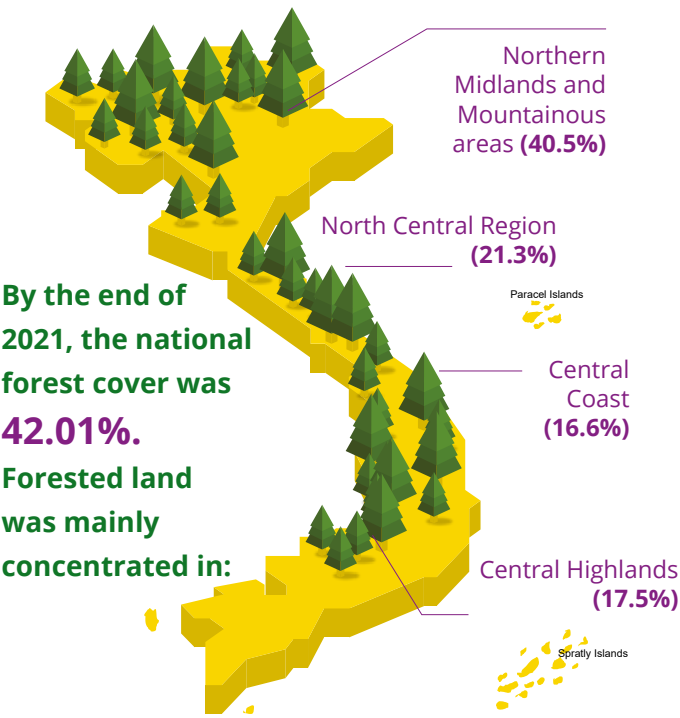


¹ Decision No. 523/QĐ-TTg dated 1 April 2021 of the Prime Minister approving the Strategy for Forest Development for the period 2021-2030, with a vision to 2050.

² Decision No. 339/QĐ-TTg dated 11 March 2021 of the Prime Minister approving the Strategy for Fisheries Development until 2030, with a vision to 2045.

2 Some major impacts of supply chains in forestry and aquaculture on biodiversity

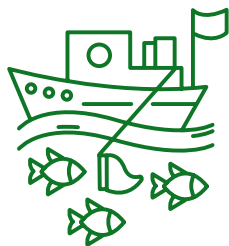
2.1. Forest value chains



Viet Nam's forests and forest land are managed by 9 groups of forest owners: (i) Special-use Forest Management Boards (SUFs); (ii) Protection Forest Management Boards (PFMB); (iii) Economic organizations (enterprises, cooperatives, and cooperative unions, or other economic organizations established and operating in accordance with laws); (iv) Units of the People's Armed Forces; (v) Science, technology, training and vocational education organizations in forestry; (vi) Local households and individuals; (vii) Local communities; (viii) Foreign direct investment (FDI enterprises) and (ix) Commune People's Committees (in which, Commune People's Committees are not a recognized as forest owners as defined in the 2017 Forestry Law).

In terms of forest land allocation for management, smallholder groups of individuals and households are currently the largest forest owners (with 23.3% of the country's total forest and land area), followed by the PFMB and the Commune People's Committees with 22.1% and 21.5% respectively. The smallholder group is also the largest group of plantation owners with a total of 1.87 million hectares (accounting for 42.6% of the country's plantation forest area), while the PFMB and SUFs are the largest natural forest owners with a total of 4.5 million ha (accounting for 44.6% of the country's natural forest area).

The results of the analysis of the econometric model on the relationship between biodiversity (species richness difference - SRD) in the timber supply chains (plantation forests) show that: Biodiversity has a proportional relationship with the export value of timber and wood products, the export value of indoor and outdoor furniture, and the average income of workers in the forest sector. In contrast, when GDP and plantation productivity increase, there is a trend of increasing pressure on biodiversity since forest product exploitation is a factor for economic growth and a component of GDP. Because plantation forests in Viet Nam are mainly monoculture plantations of fast-growing varieties (e.g., acacia), they often quickly reach the standard diameters at breast height (1.3 m above soil surface) or certain heights (short rotation) for harvest by farmers, which increases pressure on biodiversity.



The supply chain of timber and wood products from plantation forests includes 4 components:

- ▶ Forest plantation
- ▶ Logging
- ▶ Processing
- ▶ Consumption/trading of timber and wood products



During forest plantation, impacts on biodiversity arise from the use of fertilizers and pesticides and plastic waste, etc.



In the logging stage, impacts come from timber logging, road construction, use of fuels and waste from motorized equipment.



In the wood processing stage, impacts arise from the amount of waste products discharged directly into the environment.



In the consumption stage, the impacts on biodiversity arise indirectly through the increase/decrease in demand for wood products and the requirements for quality products and compliance with sustainable standards.

In the timber supply chain, big import-export/ wood processing enterprises have the leading role in adapting practices along the value chain to suit the market needs and requirements, including sustainability standards. Big state-owned forest companies in afforestation play a key role in shifting from short-rotation to longer-rotation plantations, and thus, potentially generating positive impacts on biodiversity.

In the PFES supply chain, there are 3 components:

- ▶ Forest management and protection
- ▶ Forest rehabilitation and development
- ▶ Livelihood improvement

The practices in this supply chain have a direct impact on biodiversity because they are related to natural forests, which have a much higher level of biodiversity than plantation forests. In the PFES supply chain, biodiversity has a proportional relationship with NTFP export values and forest areas managed by the communities, while on the other hand, it tends to be inversely proportional to the income of workers in forest companies (formal employment): logging bans in natural forests result in improved biodiversity while negatively impact incomes of workers from forest companies, especially those managing natural forests which are production forests. In many cases, these companies have no source of income, which in turn affects the income of their employees. This suggests that interventions to improve biodiversity for natural forests (including production forests, protection forests and special-use forests) need to aim at enhancing livelihoods and incomes for local people and communities living adjacent to the forests and depending on the forests (for non-timber forest products, ecotourism, payments

for forest management and protection, payments for forest environmental services, forest carbon sequestration services, etc.)

Evidence from the past years shows that biodiversity conservation in forestry will be significantly improved if the leading actors in the value chains are fully aware of and committed to achieving sustainable development. In the (plantation) timber supply chain, these actors are big timber and wood products import-export and processing companies and state-owned forestry companies. Meanwhile, in the PFES supply chain, the key actors are PFMBs and SUFMB, central and local management agencies and local communities. The forest sector will be able to achieve dual goals of contribution to economic growth and reduction of pressure on biodiversity if sustainable interventions are implemented in a coordinated and effective manner in both value chains of planted timber and wood products and PFES from natural forests. Otherwise, the trend of biodiversity loss is inevitable even if the logging ban in natural forests remains.

2.2. Fishery value chains

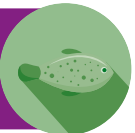
The three value chains of brackish water shrimp, marine fish and catfish have an important role in creating jobs and income for actors in the chains, significantly contributing to economic growth and export turnover of the seafood industry. However, the rapid development of these industries in the past 15 years has also placed significant pressure and impacts on the environment and biodiversity.

The three value chains that significantly contribute to economic growth and export turnover of the seafood industry:

Brackish water shrimp



Marine fish



Catfish



Direct and indirect pressures and impacts from the development of aquaculture commodities on biodiversity in Viet Nam include:



i) Impacts from aquatic seed production such as exploitation of broodstock sources from the wild (black tiger shrimp, marine fish); applying the technique of eyestalk ablation to stimulate the female shrimp to develop mature ovaries and spawn; studying and selecting fast growth and disease resistance traits to improve the quality of catfish and shrimp breeds which affects natural genetic resources (Pangasius fish, brackish water shrimp); forced spawning several times a year and/or prolonging the breeding period leads to poor seed quality and high seed loss rate;

ii) Impacts from the process of commercial farming, especially when increasing the level of intensive farming; pressure from the use of

water resources; overuse of drugs, chemicals and antibiotics in aquaculture; pressure on natural aquatic resources stemming from the use of large amounts of feed from mainly consisting of fish oil and fishmeal derived from natural extracts, and using omnivorous fish from wild-caught fish as food for marine fish objects; the possibility of spreading diseases and parasites from farmed species to natural species;

iii) The risk of soil and water pollution from aquaculture due to untreated or improperly treated wastewater and sludge before discharge into the environment, especially for farming activities of key commodities (pangasius fish and brackish water shrimp).



At the moment, there are some good practices in aquaculture that can mitigate impacts on biodiversity and are potential for replication, as follows:



(i) In seed production: application of nutritional improvement measures at the pre-mature stage of broodstock to replace eyestalk ablation technique in artificial reproduction of brackish water shrimp, domestication and breeding in selection creating broodstock to replace wild-caught broodstock; select pangasius fish breeds to increase the quality of broodstock through genetic improvement, increase survival rate in spawning and commercial catfish farming, etc. ;

(ii) In commercial farming: sustainable, environmentally friendly aquaculture practices and models such as shrimp-rice, shrimp-mangroves, multi-layer and multi-species integrated aquaculture, sea-mollusks-seaweed, using probiotics to replace antibiotics, applying recirculation aquaculture systems (RAS) in brackish water shrimp and pangasius fish farming to reduce water use and minimize

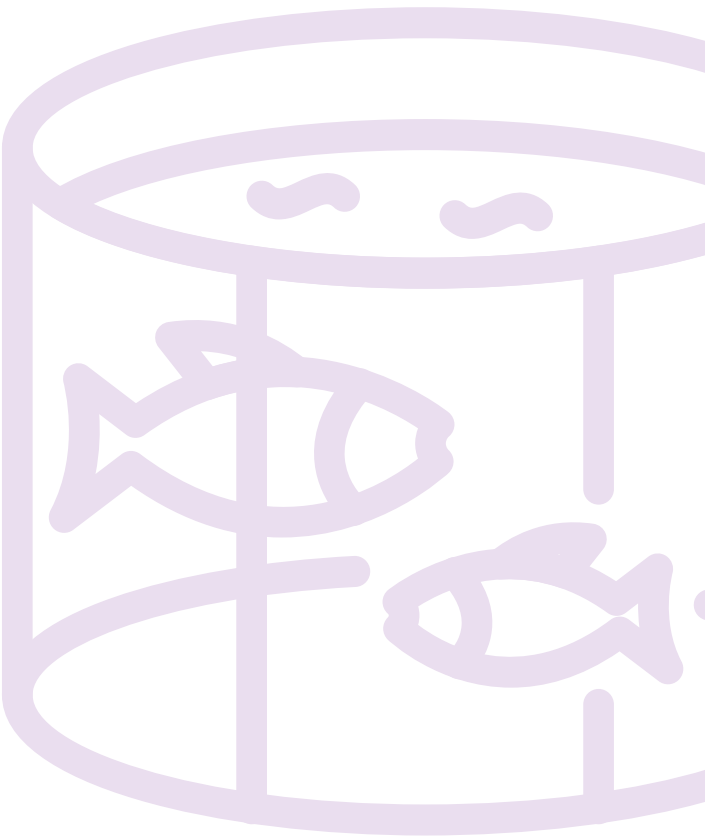
negative impacts on the environment, applying sustainable aquaculture standards and/or engaging processing and export enterprises in the value chain to implement aquaculture models according to different sustainability certification schemes (VietGAP, ASC, BAP, Global GAP, etc.) in brackish water shrimp and marine fish farming. Currently, some good practices in aquaculture that can mitigate impacts on biodiversity and are potential for replication good production practices and potential for replication in aquaculture such as: improving nutrition at the pre-mature stage of broodstock to replace eyestalk ablation technique in artificial spawning brackish water shrimp, domestication and selection of broodstock to replace wild-caught broodstock, selecting pangasius fish varieties, application for sustainable certification schemes (VietGAP, ASC, BAP, Global GAP, ...) in aquaculture.

However, the replication of good practices in aquaculture is still limited because many aquaculture establishments in Viet Nam are small-sized with limited technical and financial capacity (for example, the number of small-sized shrimp farming establishments accounts for about 65% of the farmed shrimp area). There are many groups of actors participating in the supply chain, of whom, aquaculture establishments and seafood export processing enterprises are key actors, especially in applying good production practices, ensuring sustainable production and reducing impacts on wildlife. However, aquaculture establishments and small-sized enterprises currently face many difficulties in applying responsible and sustainable production practices, due to limitations in technical qualifications, management capacity and finance, limitations on infrastructure for production as well as treatment of wastewater and waste from production processes, etc.

Therefore, it is necessary to have both technical and financial support from the key actors, which are medium and large-sized seafood processing enterprises, as well as from other stakeholders such as state management agencies, associations, non-governmental organizations and international organizations for smallholder farmers such as technical guidance or providing quality inputs such as seeds, feed, probiotic products, drugs, chemicals, etc.; and commitments to purchase certified farmed products at higher prices; issuing and implementing appropriate support policies. The processing and export enterprises are the key actors that play a leading role in the production management and application of sustainable practices.

The results of the regression analysis of the correlation between the “biodiversity friendliness index – BFI” with independent variables have shown that the pressure of aquaculture on

biodiversity will increase in proportion to the sector growth goals: a 1% increase in aquaculture productivity will reduce the BFI index by 0.12%; a 1% increase in shrimp export value will cause BFI to decrease by 0.02%; and the BFI of the sector in 2030 will decrease by 0.01 compared to 2020. If aquaculture with key commodities such as pangasius fish, shrimp and marine fish promotes the replication of sustainable production practices such as increasing the farming area applying sustainable certification standards and expanding the contract farming area with linkages among farmers, input supply enterprises and processing and export enterprises, the sector can still achieve the "dual" goal to ensure growth while minimizing the impact and pressure on biodiversity.





3 Some policy gaps and constraints

3.1. Gaps and constraints in forest value chains

 The Forestry Law 2017 provides for sustainable forest management and forest certification (in Article 27) and sustainable forest management plan (in Article 28), Decree No. 156/2018/ND-CP providing guidance for the implementation of the Law on Forestry (Article 34) on the issuance of certificates of sustainable forest management. The Ministry of Agriculture and Rural Development also issued Circular No. 28/2018/TT-BNNPTNT dated 16 November 2018 on sustainable forest management, particularly, detailed guidance on the contents, order and procedures for formulating, appraising, approving and organizing the implementation of sustainable forest management plans criteria for sustainable forest management and certification of sustainable forest management. Decision No. 1288/QD-TTg of the Prime Minister in 2018 approved the Sustainable Forest Management and Forest Certification Program in order to ensure a sustainable raw material production area for furniture processing and export. Other legal documents include Decree No. 02/1994/ND-CP and Decree No. 163/1999/ND-CP of the Government on the allocation and lease


of forestry land to organizations, households and individuals for stable and long-term use for forestry purposes. However, the actual implementation of the policies remains with many shortcomings such as the small and fragmented production plantations, which makes it difficult to apply sustainable forest management standards as well as to attract long-term mixed afforestation which allows a higher level of biodiversity.

 Decision No. 147/2007/QD-TTg and Decision No. 66/2011/QD-TTg of the Prime Minister on a number of policies on the development of production forests in the period 2007-2015: the average annual afforestation results of the whole country are more than 227,500 ha of concentrated plantation forests, of which 90% is production forest. However, in reality, there is **a lack of policies to support and encourage the development of long-rotation production forests, trade and production linkages, risk insurance, and land accumulation and concentration.**


 Decision No. 18/2007/QD-TTg of the Prime Minister on the program of

wood processing and trade in forest products resulted in jobs for 2 million people and export turnover increased from 2.18 billion USD in 2006 to 14, 8 billion USD in 2021. There are currently 1,100 wood processing facilities applying the CoC-FSC sustainability standards. However, **small and micro enterprises still account for a large proportion; there are not many deep-processed, high-value products under Vietnamese brands. The export proportion of wood chips, raw products and NTFP materials is still large.** The concentrated raw material area which is large enough to ensure the quality and quantity of materials according to sustainable standards has not been developed.

 In addition, the current forest land allocation remains some constraints, especially the status of Commune People's Committees for the temporary management of **more than 3.337 million hectares** of mainly poor forests. Following Clause 3, Article 102 of the 2017 Forestry Law, Commune People's Committees are responsible for organizing the management and protection of forest areas that have not been allocated or leased by the State. Until now, there are no detailed regulations or instructions on how Commune People's Committees organize the management and protection of these forest areas. As a result, at the moment, there is still an area of 2.99 million ha of forests managed by Commune People's Committees without sustainable forest management (SFM) plans since the development of SFM plans is the responsibility of the forest owners. In addition, non-state economic organizations only manage **1.72 million hectares** compared **with 6.3 million hectares** managed by state organizations, making it difficult to leverage investments from non-state economic organizations.

 Currently, the regulations on the management and use of special-use forests mainly aim at strict conservation

and mitigation of impacts on special-use forests, especially logging. There is no mechanism in place to encourage cooperation in forest management. Following Clause 3, Article 54 of the 2017 Forestry Law, SUFMBs sign forest protection contracts or cooperate and collaborate with households, individuals, and local communities for forest protection and development in ecological restoration areas of special-use forests. This regulation does not allow the community to cooperate and participate in the cultivation of non-timber forest products, including medicinal plants under the canopy of special-use forests.

 Directive 38/2005/CT-TTg of the Prime Minister and Circular 24/2009/TT-BNN provide guidance for the planned conversion of PF and SUF to production forest and vice versa from production forest to PF and SUF after reviewing and re-planning 3 types of forests according to Directive No. 38/2005/CT-TTg of the Prime Minister. The review results show that the area of SUFs increased from 1.93 million ha in 2005 to 2.17 million ha in 2020, and the area of production forest increased rapidly from 4.48 million ha in 2005 to 7.8 million ha in 2020. Meanwhile, the PF area decreased from 6.19 million ha to 4.68 million ha, due to conversion to production forest. This is also the cause of pressure on biodiversity in recent years.

 As a result of the implementation of Decision No. 886/QD-TTg dated 16 June 2017 of the Prime Minister approving the Target Program for Sustainable Forest Development for the 2016-2020 period, the forest sector was restructured towards improved efficiency and competitiveness, inclusive development, ensuring economic, social and environmental sustainability, with concrete results as follows: **(i)** national forest cover increases ; **(ii)** restoration of degraded forest areas; **(iii)** intensive afforestation; **(iv)** zoning for forest regeneration; **(v)** **transformation of short-rotation to longer-rotation timber**

forests; (vi) decreased number of violations of the law on forest protection and development; and **(vii)** increased SUF area. However, hot spots of deforestation, illegal transportation and storage of forest products, and opponents against law enforcement remain. The engagement of some local authorities was still ineffective, especially in some key hot spot of deforestation such as Dien Bien, Bac Kan, Central Highlands and South Central provinces. Afforestation of protection and special-use forests is still faced with many difficulties due to a lack of

investments, increasingly limited land reserves for afforestation, and high costs, while investments allocated from the state budget are insufficient and much lower than actual needs.



PFES rates for forest protection under Decree No. 99/2010/ND-CP and Decree No. 147/2016/ND-CP of the Government are currently very low and have not been paid according to forest quality, which demotivates forest owners to improve forest quality.

3.2. Gaps and constraints in aquaculture value chains

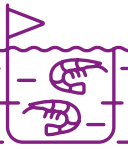


The Fisheries Law 2017, Strategy for development of the fisheries sector to 2030, vision to 2045 and Decision 79/QD-TTg on promulgating the national action plan to develop Viet Nam's shrimp industry to 2025 address some issues related to sustainable development and adaptation to climate change of the fisheries sector, however, there is still a lack of specific policies to encourage investment in infrastructure and technology improvement for aquaculture in localities, especially “green technologies”. On the other hand, localities do not have specific mechanisms and policies in place to mobilize resources to invest in aquaculture development, especially high-tech shrimp farming in places with good conditions to increase productivity, yield and product quality, while ensuring proper treatment of wastes to limit impacts on the environment and biodiversity.



The Fisheries Law 2017 (articles 42, 43, 44) mentioned the transfer of the right to use the marine area for aquaculture; and the allocation, lease and recovery of land for aquaculture. Currently, although there are Decree 26/2019/ND-CP and Decree 11/2021/ND-CP on licensing aquaculture activities at sea and allocation of marine surface area, the

actual implementation of marine surface area allocation is still limited while pending the approval of Marine Spatial Planning and specific instructions for implementation by localities. Therefore, in order to facilitate the licensing and allocation of the sea surface, localities should pay attention to including farming areas in marine spatial planning to ensure consistency in the policy system. In addition, the management policy on converting land use from agriculture and other activities to aquaculture in areas affected by climate change and saline intrusion and vice versa, the conversion of aquaculture land to other uses should be more clearly defined to facilitate implementation in practice. The development of detailed guidelines and regulations on the implementation and allocation of marine areas for aquaculture is essential, especially for the management of changes in aquaculture areas.



Viet Nam's brackish water shrimp development master plan to 2030 was issued and implemented in 2018 (Decision No. 3475/QD-BNN-TCTS). During implementation some inadequacies of fragmentation and lack of synergies among localities in coastal areas still remain; the investments and upgradation of infrastructure

in farming areas were insufficient; large-scale and concentrated commodity production regions were not yet established; solutions for the treatment of waste and wastewater and environmental protection in farming areas in some localities are not working; localities currently lack resources to implement measures to respond to climate change (both structural and non-structural solutions).



Therefore, in the coming time, it is necessary to review and supplement specific guidelines on: promoting investments in smart and resilient infrastructure with climate change for the shrimp industry; encouraging the application of new technologies, technological innovation and new climate-smart production models, innovating the model of production organization and management to support farmers to carry out production according to sustainability principles and regulations and actively participate in the value chains; conducting scientific and technological researches and pilot production projects on technologies for wastes and sludge treatment in brackish water shrimp farming and calling for support and investment from development organizations and enterprises participating in research and testing of these technologies; reviewing and adjusting the targets on brackish water shrimp farming area of each province by 2030 in line with the actual situation in the localities and the regional and provincial socio-economic development planning in the 2021-2030 period; reviewing and integrating the development targets of brackish water shrimp industry into the master planning of the whole province. These guidelines shall serve as a basis for localities in the province to guide and operate their production.



According to the provisions of the Fisheries Law 2017 and Decree No. 26/2019/ND-CP detailing a number of articles and measures to implement the Law on Fisheries, for registration for an identification

number for farms of key aquatic species such as black tiger shrimp, white leg shrimp, pangasius fish, etc. and cage aquaculture is mandatory for local farmers to ensure sustainable management and traceability. However, in many areas (eg shrimp - rice), most local farmers are granted land use right certificates for agricultural production purposes such as rice production, gardening, etc. even though they already have shrimp farming stably for a long time, and the shrimp farming location is in the areas planned for aquaculture of the province, but the establishments are still not eligible for an identification number and unable to do sustainable certification because following the regulations, ID is only issued to the farming establishments with land use right certificate specifically for aquaculture purpose. Therefore, localities need to consider and review the issuance of land use right certificates to ensure consistency between planning and actual production in order to facilitate the implementation of other relevant policies.



Currently, the aquaculture industry still lacks standards, regulations, economic and technical norms on diseases, food, environment, wastewater treatment, sludge, infrastructure, and conditions to ensure hygiene and food safety, etc., especially for black tiger and white leg shrimp farming. This poses a need to prioritize the development of these technical standards and regulations, especially those related to the treatment of wastewater and sludge from brackish water shrimp ponds to ensure economic efficiency while minimizing pressure on the environment and biodiversity. These standards and regulations will help to implement regulations on sustainable development of the aquaculture sector in its development policies and strategies, thereby contributing to reducing pressure on the environment and biodiversity.

4 Some policy recommendations

Based on the results of various recent studies, especially the report under the BIODEV2030 Initiative in 2022 - *"The technical report on analysis of economic characteristics and impacts on biodiversity of Forestry and Aquaculture*

sectors in Viet Nam" (Tran Dai Nghia et al.), WWF-Viet Nam understands that in order to reduce pressure on biodiversity in the context of Viet Nam, the following policies need to be implemented by relevant Ministries:

4.1. Recommendations to the Ministry of Natural Resources and Environment – Management agency for environmental issues and biodiversity

Recommendation 1

Review and evaluate in coordination with relevant ministries and sectors (such as MARD, MPI, MOF, MOIT, etc.) all issued legal documents related to biodiversity conservation for overlaps and gaps and make recommendations for revision by different sectors and at different levels. (For example, the Law on Fisheries for the allocation of marine areas (Articles 42, 43, and 44) the Law on Planning for marine spatial planning, the Law on Forestry and the Law on Land and the Law on Investment for forest land allocation and lease (Article 14 and 15), etc.

Recommendation 4

Develop and implement a communication strategy on biodiversity conservation to raise awareness about the importance of biodiversity and the close relationship between humans and nature. Based on this strategy, Ministries and sectors will develop their own action plans.

Recommendation 2

Develop and issue a set of multidimensional biodiversity assessment indicators; provide guidance to develop sectoral biodiversity indicators.

Recommendation 3

Establish mechanisms to mainstream and ensure socio-economic-environmental benefits with carbon market activities, ecological services and biodiversity conservation, and implement international environmental commitments to which Viet Nam is a signing party.

4.2. Recommendations to the Ministry of Agriculture and Rural Development

Recommendations for the forestry sector



Recommendation 5

Review the legal documents on forestry, especially the sub-law documents, change the overlaps and recommend the addition of points that are not specific. Integrate biodiversity conservation activities into the development of policies, programs, plans, and projects to ensure that the programs do not create pressure on biodiversity. It is necessary to supplement the allocation of produced forest land and protection forest land to residential communities in Articles 135 and 136 of the Law on Land. Consider adding sacred forest land located in special-use forests and adding sacred forest land allocated to residential communities in Article 137 of the Law on Land.

Recommendation 6

Maintain the current natural forest area, promote activities to enrich forests, and improve the quality of natural forests: special-use forests and protection forests. For plantation forests, implement the policy of large timber plantations with a long harvest cycle.

Recommendation 7

Formulate policies to facilitate the voluntary participation of forestry enterprises and forest owners (communities, villages, groups of households connected to the forest, associations of forest owners, etc.), implement measures/interventions for sustainable, biodiversity-friendly production and forest management to reduce pressure on biodiversity while pursuing their economic goals.

Recommendation 8

Develop policies to promote the accumulation/concentration of production forest land, cooperation mechanisms among small forest owners and between forest owners and enterprises to develop sustainable/long-term rotational plantation forest value chains, mitigate environmental risks, jointly manage and distribute, and share benefits fairly and transparently. Focus on investing in forest tree varieties to create high-quality timber trees with long cycles and high yields.

Recommendation 9

It is necessary to consider creating a clear legal environment that encourages investment in the activities generating income and livelihood (ecotourism, NTFPs, carbon sequestration and PFES, etc.) under natural forests, especially PF and production forests which are natural forests. Quickly complete the guidelines and payment of over \$100 million in revenue from forest carbon sequestration services Forest Carbon Partnership Fund (north central provinces) and from the Lowering Emissions by Accelerating Forest Finance (LEAF) Coalition because it is a sustainable source of income to reinvest in the forest protection and development as well as to enhance livelihoods and incomes for forest-dependent people and communities.

Recommendation 10

It is necessary to develop a clear and detailed roadmap with specific implementation plans to achieve the dual goals: socio-economic development of the sector and biodiversity conservation. Recommended measures may include: strictly protecting the existing natural forest area in parallel with measures to restore and enrich natural forests; increase the productivity and quality of timber (MAI), increase the area of long-term rotation plantations, the productivity of the industry, increase investment in-depth, high added value processing, create market demand and willing to pay appropriate premiums to achieve certified sustainability standards for forest products, C-PFES and carbon markets, etc.). The increase of income and livelihoods for forest-dependent people including small forest owners and forest business organizations is the focus of this framework/roadmap.

Recommendation 11

Build a forum for "Sustainable forestry development" (in the form of a policy partnership forum). Participants include the Ministry of Agriculture and Rural Development, the Ministry of Natural Resources and Environment, representatives of a number of related ministries, and representatives of the provinces with forests, representatives of forest owners, ethnic minorities, donors, scientists, non-governmental organizations, NGOs and afforestation and processing enterprises. To support the Forum, set up non-specialist groups of domestic and international technical and policy experts to research and propose activities for discussions at the forum, for example, forest biodiversity conservation group, livelihood group, people's income, forest environmental services group, forest co-management approach, information system and monitoring and evaluation, etc.

Recommendation 14

Promote policies to encourage the application of advanced science and technology in aquaculture and seafood processing and good farming practices such as environmentally friendly aquaculture (shrimp-rice, shrimp-mangroves, multi-species integrated farming), and application of sustainable certification schemes (VietGAP, ASC, BAP, Global GAP, etc.) combined with the promotion of linkages between farming establishments and seafood processing and export companies; encouraging the use of probiotics to replace antibiotics and the application of recirculation aquaculture systems in shrimp and catfish farming; replicating techniques of artificial reproduction of brackish water shrimp to replace eyestalk ablation technique; expanding MONNA technology in the domestication of black tiger shrimp broodstock from artificial production to replace all wild-caught broodstock by 2030, and applying biotechnology in improving the quality of pangasius fish broodstock.

Recommendation 15

Build effective partnerships with seafood processing and export companies to both ensure sustainable farming productivity and contribute to biodiversity conservation and environmental protection; increase the application of good practices in aquaculture, i.e. application of sustainability certification standards and other potential practices to both achieve the expected growth rate and reduce pressure on biodiversity by 2030.

Recommendations for the aquaculture sector



Recommendation 12

Review legal documents and policies on aquaculture to create an adequate legal corridor for sustainable aquaculture development, reducing pressure on the environment and biodiversity. Integrate biodiversity conservation in aquaculture development master plans.

Recommendation 13

Develop public communication policies, raise awareness and engage the community and the private sector in biodiversity conservation activities at all levels. Consolidate information system on aquaculture biodiversity.

Recommendation 16

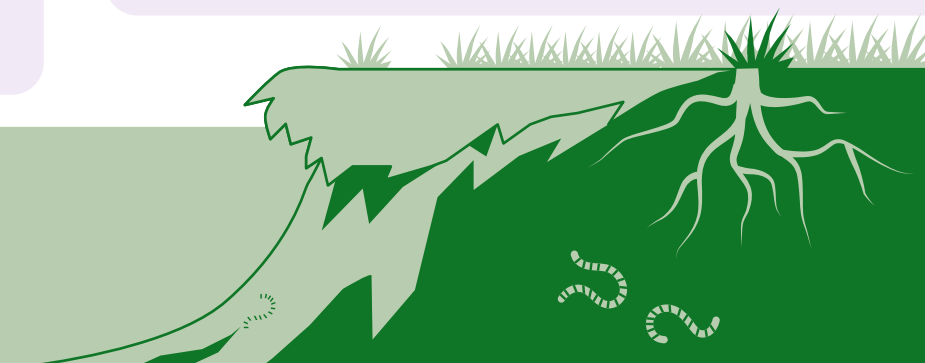
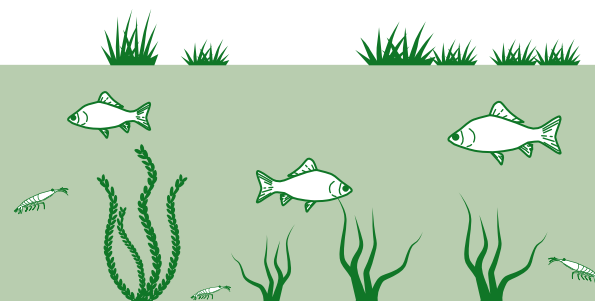
Promote international cooperation in the application of researches and advanced technologies in aquaculture development, waste and sludge treatment technologies in brackish water shrimp farming in an environmentally friendly manner towards sustainability and reduced pressure on the environment and biodiversity.

Recommendation 17

Continue to mainstream issues related to environmental protection and biodiversity into the implementation of aquaculture development plans/projects such as the Strategy for Development of Viet Nam's Fisheries by 2030 with a vision towards 2045, National Action Program to develop Viet Nam's brackish water shrimp to 2025, and Project on development of marine aquaculture to 2030 with a vision to 2045.

Recommendation 18

Promote the registration of ID of ponds/farming areas associated with the application of good practice for the production of key commodities; and effectively manage the treatment of wastewater and sludge in farming areas.



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