



# Planning on water resources from 2021 to 2030, with a vision to 2050

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In accordance with the Prime Minister's Decision 995/QĐ-TTg dated August 9<sup>th</sup>, 2018, which assigned Ministries to develop national sector plans for the period 2021 to 2030, with a vision to 2050, the Ministry of Natural Resources and Environment (MONRE) has taken significant measures to direct the formulation of national sector plans in the field of natural resources and environment. As a result, on December 27<sup>th</sup>, 2022, the Prime Minister issued Decision No. 1622/QĐ-TTg approving the Master Plan on Water Resources for the period 2021 to 2030 with a vision to 2050. This Plan is the fifth out of thirty-eight national sector plans approved by the Prime Minister. The Master Plan serves as a foundation and guideline for MONRE, related Ministries, departments, and localities to continue developing specialized technical master plans for water exploitation, use, and protection in an economical, efficient, and sustainable manner. Planning plays a crucial role in guiding, regulating, and allocating water resources to meet the objectives of the ten-year socio-economic development strategy (2021 - 2030).

## **Key contents of the Master Plan**

*Establishing a foundation for the development of water exploitation and use master plans*

Recognizing that water is a vital national resource and a fundamental component of the natural ecosystem, with implications for all economic, social, defence, and security activities of the country, water resources planning must be strategic, ensuring a long-term vision, comprehensive orientation, regulation, and distribution of water resources to meet the objectives of the ten-year socio-economic development strategy (2021 - 2030). The priority should be given to ensuring water supply for daily life, stabilizing social security, eradicating hunger, and reducing poverty, while also aligning with the development requirements of each industry, locality, and community. Water resources planning forms the basis for the formulation of national sectoral master plans on water exploitation and use, as well as regional and provincial planning.

Implementation of the Master Plan covers six socio-economic development regions (Northern Midlands and Mountains, Red River Delta, North Central and Central Coast, Central Highlands, Southeast and Mekong River Delta); 13 major river basins (Bằng Giang - Kỳ Cùng, Hồng - Thái Bình,

Mã, Cả, Hương, Vu Gia - Thu Bồn, Trà Khúc, Kôn - Hà Thanh, Ba, Sê San, Sêrêpôk, Đồng Nai, Cửu Long); the group of coastal river basins and some islands within Vietnam's territory. It focuses on managing, utilizing, and developing water resources in a sustainable, integrated, and unified manner based on river basins, inter-regions, and inter-provinces, while adhering to the socialist-oriented market principles. All demands for water use in socio-economic development must be in line with the functions and responsiveness of water sources, aiming for economic, efficient, fair, and reasonable utilization with multiple goals. The Plan also aims to protect the environment, aquatic ecosystems, adapt to climate change, and ensure national water security.

## *Ensuring national water security*

The Plan aims to ensure national water source security, effectively manage, and protect water resources, regulate, and distribute water resources, prevent, combat, and overcome harmful consequences caused by water and strike a balance between the needs of people's livelihoods, socio-economic development, and environmental protection. It aims to minimize damage to people's lives and properties, control the quality and reserve of water sources, improve water storage capacity in river basins, economic zones, and localities, ensure national defense and security and align with the functions and responsiveness of water resources under climate change. The Plan strives for integrated governance of the water sector based on digital technology, managing, and utilizing water resources in a cyclical cycle to ensure efficiency, serve multiple purposes and meet the requirements of rapid and sustainable national development.



### *Effectively addressing drought*

The goal by 2030 is to harmonize and distribute water resources fairly and reasonably among sectors, localities, water exploiters and users based on integrated planning of inter-provincial river basins, ensuring the strategy for economic development and social security. By 2025, there should be integrated planning for inter-provincial river basins in 100% of large and important river basins. Moreover, the Plan aims to increase the rate of using clean water for urban populations to 95% to 100% and provide access to clean water for 65% of the rural population. It also aims to have control over more than 90% of water exploitation and use activities, improve the efficiency and capacity of water exploitation and use, minimize water loss in irrigation systems, and reduce water loss in water supply activities to 10%. Special attention will be given to effectively addressing drought and water shortages in river basins, particularly in regions such as the South-Central region, Central Highlands, Mekong River Delta, remote areas, and islands.

### *Preventing water pollution*

The Master Plan aims to protect, control, prevent, and minimize degradation, depletion, and pollution of water sources. By 2030, the goal is to collect and treat wastewater up to standards and technical regulations before discharging into the environment, reaching 30% of the total wastewater volume in urban centres of grade II and above, and 10% in urban areas from Class V and above. The Plan also aims to improve and restore important degraded, depleted, and polluted water sources, with priority given to river sections flowing through concentrated population areas and water sources that play crucial roles in domestic water supply, domestic activities, and other socio-economic development activities. Socialization efforts will be emphasized, especially for the main streams of the Red River, Cà River, Vu Gia - Thu Bồn River and Ba River. Additionally, the Plan includes the delineation and announcement of restricted areas for underground water exploitation, the preservation of ponds, lakes, and lagoons, prevention and control of subsidence caused by underground water exploitation, the establishment and announcement of corridors to protect water sources, and measures to prevent landslides, bank and riverbank erosion, and other harmful effects caused by water.

### *Being proactive on water in all situations*

The goal is to strive towards raising the national water security index to the level of countries that ensure effective water security in the world by 2050. The objective is to be proactive

regarding water resources in all situations, including forecasting and regulating water, preventing floods, droughts, saltwater intrusion, pollution, degradation, water depletion and responding to climate change.

The Master Plan explicitly states the guidelines for managing, regulating, distributing, exploiting, using, protecting water resources, and preventing and controlling the adverse effects caused by water on a national scale. These guidelines are formulated considering socio-economic development regions and river basins.

### **Deploying six key solutions**

To implement the Master Plan on Water Resources for the period 2021 -2030, with a vision to 2050 (the Master Plan), six key solutions have been outlined:

*Firstly*, in terms of law and policy, the focus is on reviewing, amending, supplementing, and integrating regulations on water management into a comprehensive water law. The aim is to effectively manage, control and regulate water issues based on unified management of water resources. Additionally, efforts will be made to socialize the water sector, involving activities such as basic investigation, investment, construction, and rehabilitation of polluted, degraded, and depleted rivers. This approach ensures a harmonious balance between the interests of the state and enterprises. Other aspects include rainwater collection to combat urban flooding, financial obligations towards organizations and individuals benefiting from activities related to the protection, renovation, and restoration of water sources, and the management of water supply services.

*Secondly*, there is a focus on renewing and strengthening river basin committees, ensuring they have sufficient authority, resources, and operational efficiency to address inter-regional and inter-sectoral issues related to the exploitation, use and protection of water sources. Mechanisms for coordination and monitoring of water resource exploitation and protection, as well as the prevention of water-related harm and the mitigation of climate change impacts on water security, will be developed and implemented effectively.

*Thirdly*, increasing the use of economic tools is emphasized for the prevention and treatment of pollution, degradation, and depletion of water sources, as well as the exploitation and use of water resources. The Plan also includes socializing the provision of water services.

In terms of finance, the focus is on increasing investment and effectively utilizing capital from the state budget in accordance with the relevant laws. This includes the Law on the State Budget, the Law on Public Investment, and other supporting laws related to the implementation of the Master Plan. Additionally, efforts will be made to supplement budgetary capital for the protection and restoration of water sources. Incentives will be provided for investment activities in the exploitation and supply of domestic water. Diversification of investment resources related to climate change, which affects water resources, is also encouraged. The Plan aims to strengthen, encourage, and mobilize domestic and foreign resources for socialization in the protection and development of water resources. Scientific and technological development to exploit and use water efficiently and to improve the efficiency of wastewater treatment is also prioritized.

*Fourthly*, in the areas of science, technology, and international cooperation, the focus is on strengthening research and cooperation, as well as technology transfer. The objective is to develop appropriate measures and solutions for the implementation of tasks related to national water source security. Priority will be given to monitoring, forecasting, and warning activities, as well as the economical and efficient use of water. A database system for water resources, water exploitation and use, wastewater discharge into water sources, weather data, remote sensing data, GIS, satellite image information, and the use of smart technology and artificial intelligence for water resources management will be established. Advanced and modern technology will be applied, and basic investigations will be conducted to ensure the sustainable management of water resources, particularly in border areas, islands, and regions with water scarcity, in combination with protecting national sovereignty.



▲ *The Plan aims to protect the environment, aquatic ecosystems, adapt to climate change and ensure national water security*



*Fifthly*, awareness-raising efforts will be focused on building and implementing communication programs that cater to different target groups in society. These programs will educate the public about water resources laws in general and the specific solutions related to the regulation, distribution, protection, and development of water resources, as well as the economical and efficient exploitation and use of water. The role of mass media in disseminating information about guidelines, policies, and laws regarding water security will also be promoted.

*Sixthly*, the Plan emphasizes training and capacity building. This includes reviewing, assessing, and consolidating human resources in water resources management at Central and local levels. Training and retraining plans and programs will be formulated and implemented to meet the requirements for water resources management. Efforts will be made to enhance the professional capacity, professional skills, and management skills of staff engaged in scientific research and water resources management. Remuneration policies will be implemented to attract high-quality human resources to participate in water resources management activities, forming a team of specialists at the Central and local levels.

To ensure effective implementation of the Master Plan, efforts will be made to organize and supervise its execution. This involves expediting the implementation of the Master Plan on Water Resources and the formulation and implementation of river basin master plans. Furthermore, there will be an emphasis on conducting basic surveys of water resources to provide information and data for the formulation and adjustment of water resources planning and the development of water use plans. This proactive approach aims to secure water sources for various sectors and fields. Special attention will be given to investigating and searching for underground water sources, especially deep aquifers, to address daily water supply needs in areas frequently affected by saline intrusion, ethnic minority areas, border areas, islands, regions with water scarcity, and areas with extremely difficult socio-economic conditions.

In conclusion, while the sectors involving the exploitation and use of water have been implementing plans for several years, the Master Plan represents a comprehensive plan implemented for the first time. As a result,

the orientations for the management, regulation, distribution, exploitation, use, protection, and control of water resources, as well as the prevention and mitigation of water-related harm, are considered in a holistic manner, taking into account the different river basins nationwide, the current status of water resources, and the demand for water use by industries. Throughout the planning process, the MONRE has closely coordinated with Ministries, branches, and localities to ensure synchronization between the Master Plan and other relevant national sector plans. The Master Plan on Water Resources is linked with other national sectoral master plans that involve the use of water, such as the Master Plan on natural disaster prevention and control, irrigation, national energy, and national electricity development.

Additionally, the planning process includes the master planning for six socio-economic development regions (Northern Midlands and Mountains, Red River Delta, North Central and Central Coast, Central Highlands, South East, Mekong Delta); thirteen major river basins (Bằng Giang - Kỳ Cùng, Hồng - Thái Bình, Mã, Cả, Hương, Vu Gia - Thu Bồn, Trà Khúc, Kôn - Hà Thanh, Ba, Sê San, Sêrêpôk, Đồng Nai, Cửu Long); groups of coastal river basins, and a number of islands within the territory of Việt Nam.

The Master Plan is accompanied by annexes, including: (1) Water resources by regions and river basins; (2) Demand for water; (3) Orientation on management, regulation, distribution, exploitation, use, and protection of water resources, prevention and control of harmful effects caused by water in river basins; (4) Orientation on management, regulation, distribution, exploitation, use, and protection of water resources, prevention and control of harmful effects caused by water according to socio-economic development zones; (5) List of large-scale works for regulation, exploitation, and use of water resources; (6) List of priority tasks, schemes, and projects ■