Updates of Water Environment Governance in VIETNAM

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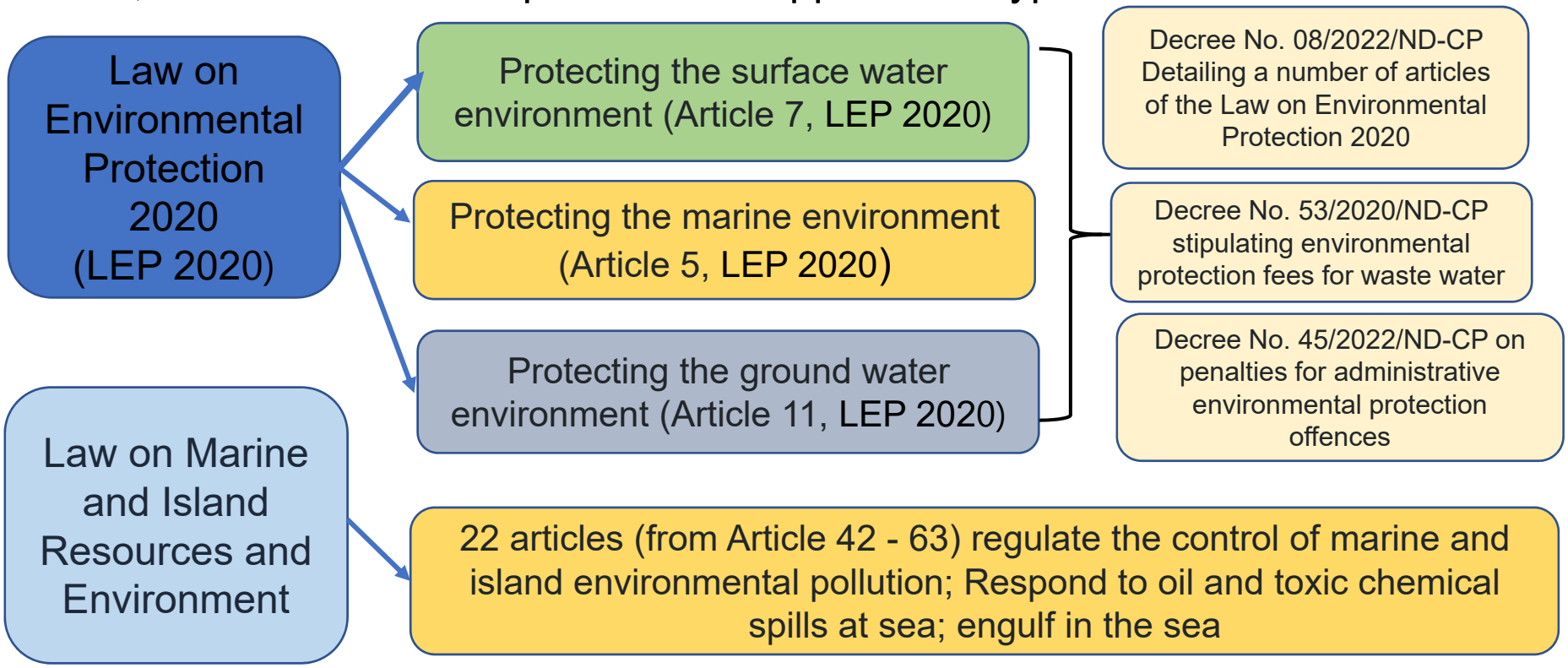
1. Goals of water environment

The purpose of water environment governance in Vietnam is to control water quality to prevent and reduce water pollution in river basins, ground water and sea water so that the protection of human health, the conservation of biodiversity and sustainable development will be ensured.

Currently, according to the provisions of the Law on Environmental Protection 2020, water environment protection is applied in 3 types:



1. Goals of water environment

Protecting the surface water environment (Article 7, LEP 2020)

- Surface water quality: must be monitored and evaluated;
- The loading capacity of the surface water environment must be calculated, determined and announced;
- Waste sources entering the surface water environment must be managed in accordance with the intended use and the loading capacity of the surface water environment.

Protecting the marine environment (Article 5, LEP 2020):

- Sources of discharge into the seawater environment must be investigated, evaluated and measures taken to prevent, minimize, strictly control, and treat to meet environmental protection requirements.
- Areas at risk of marine and island environmental pollution must be assessed, identified and announced.
- Exploitation of marine resources must be consistent with planning and meeting requirements for environmental protection and sustainable development.

1. Goals of water environment

Protecting the ground water environment (Article 10, LEP 2020)

- Groundwater sources must be monitored and evaluated;
- Exploration drilling and ground water exploitation activities must have measures to prevent pollution of the ground water environment;
- Facilities that use toxic chemicals and radioactive substances must have measures to ensure no leakage or dispersion into ground water sources.
- Facilities for storing raw materials, fuel, chemicals, waste, and treatment areas must be built to ensure technical safety and not pollute the ground water environment.

1. Goals of water environment

Currently, there are 13 national technical regulations on water environment quality, including 3 new national technical regulations issued in 2023, as follows:

❖ National Technical Regulation on:

- Surface Water Quality (QCVN 08:2023/BTNMT)
- Ground Water Quality (QCVN 09:2023/BTNMT)
- Marine Water Quality (QCVN 10:2023/BTNMT);
- Livestock wastewater used for crops: QCVN 01-195:2022/BNNPTNT;
- Clean water quality used for domestic purposes: QCVN 01-1:2018/BYT;
- Livestock wastewater: QCVN 62-MT:2016/BTNMT;
- The effluent of aquatic Products Processing industry : QCVN 11-MT:2015/BTNMT
- The effluent of natural rubber processing industry: QCVN 01-MT:2015/BTNMT
- Textile and dyeing industry wastewater: QCVN 13-MT:2015/BTNMT;
- Steel manufacturing industrial wastewater: QCVN 52:2017/BTNMT
- Industrial wastewater: QCVN 40:2011/BTNMT
- The effluent of petroleum terminal and Stations: QCVN 29:2010/BTNMT
- Technical infrastructure works solid waste treatment and public toilet
- QCVN 25:2009/BTNMT
- Domestic wastewater: QCVN 14:2008/BTNMT

2. Assess the status of water environment

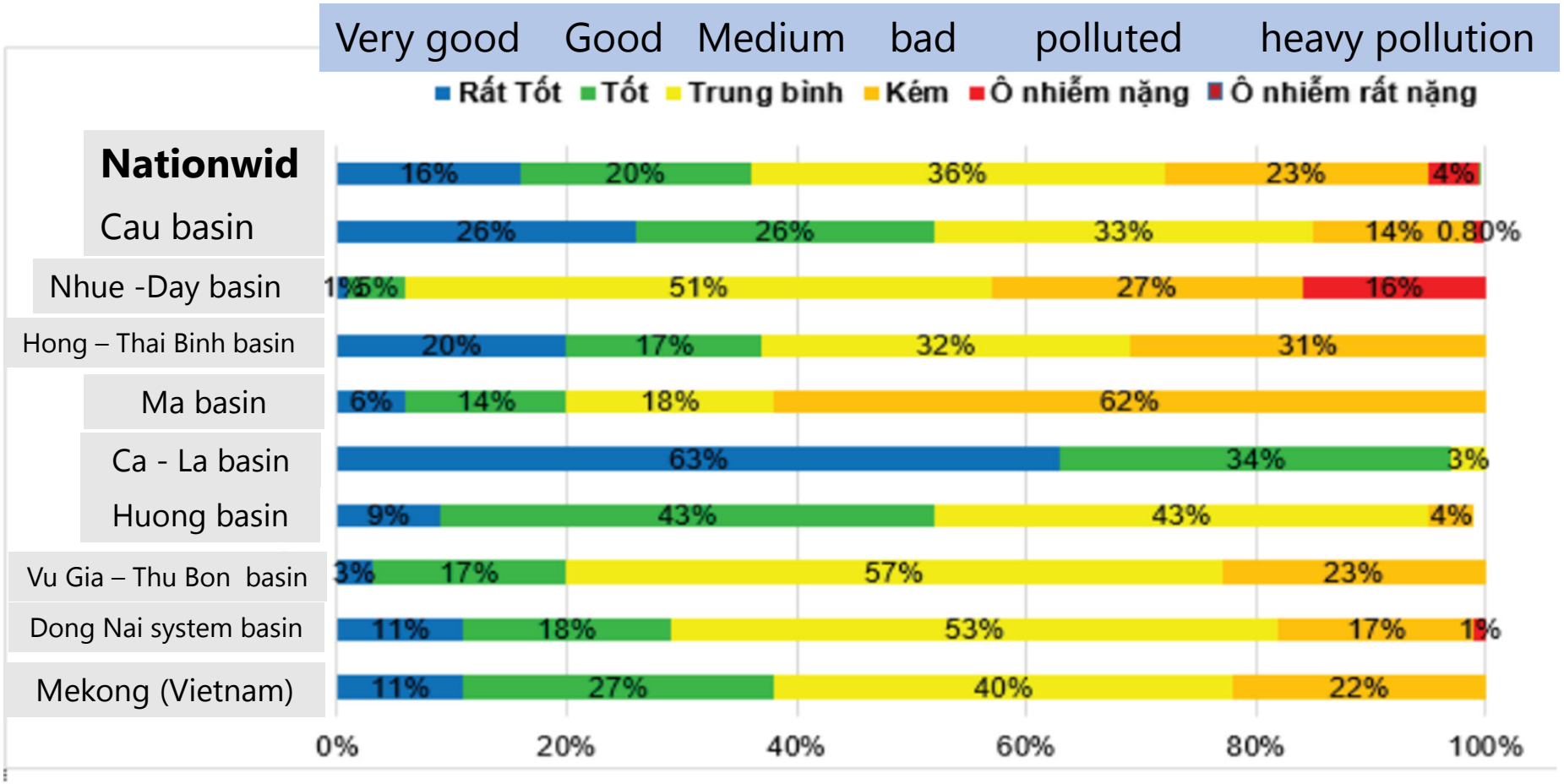
The surface water environment:

There are 697 rivers and streams in 16 river basins in Vietnam.

The water environment quality of river basins is assessed on the basis of the results of national and local monitoring programs through the water quality index (VN-WQI).

Values	Water quality	Suitable for use purpose
91–100	Very good	Used good for domestic water supply purposes
76–90	Good	Used good water quality suitable for use for domestic water supply but need suitable treatment measures
51–75	Average	Used for irrigation and other equivalent purposes
26–50	Bad	Used for navigation and other equivalent purposes
10–25	Poor	Water is heavily tarnished, needing treatment measures
< 10	Very poor	Contaminated water, and needs to be remedied and treated

2. Assess the status of water environment



Ratio of WQI index according to levels at monitoring points in river basins in the period 2016 - 2020. *Source: VEA, 2021*.

Note: National thematic reports every 5 years

2. Assess the status of water environment

According to the National Environment report (2021) of MONRE:

Surface water pollution in urban areas

- Water environment quality in river basins is mainly good to average;
- River water can be used for aquaculture, irrigation and domestic water supply purposes but requires treatment measures;
- The level of "pollution" is recorded mostly on river sections flowing through areas with developed socio-economic activities, specially through Hanoi and Ho Chi Minh City.
- In estuary areas, salinity intrusion continues and tends to increase, specially in the downstream areas of Vu Gia - Thu Bon river and the Southeast.
- Most parameters for organic pollution (BOD5, COD), nutrients (Ammonium) of surface water in Ho Chi Minh City and Hanoi exceed standards.

In addition, other urban areas in some provinces/cities such as Hai Phong, Hue, Da Nang, Nam Dinh, Hai Duong... domestic wastewater is also not treated to pollute surface water where wastewater is received (parameters: BOD5; COD; DO exceeds allowable standards by 5-10 times, even 20 times).

2. Assess the status of water environment

Surface water pollution in rural areas

- Because of pesticide abuse and massive aquaculture, which lacks planning, water sources in rivers, lakes, canals, and ditches are polluted. This has had many negative impacts on the water environment and human health.

Ground water quality:

- In general, ground water quality is quite good, most of the monitoring and analysis parameters are within the range value of the national technical regulation (QCVN 09-MT:2015/BTNMT).
- However, heavy metal and ammonium pollution in groundwater has been recorded in provinces where groundwater is largely exploited and used.
- Arsenic pollution in groundwater mainly occurs in the Northern Delta region.
- Values of ground water quality parameters tend to increase in the rainy season and are influenced by topographic factors.
- Groundwater salinity intrusion is common in the Northern and Southern coastal.

Marine environment quality:

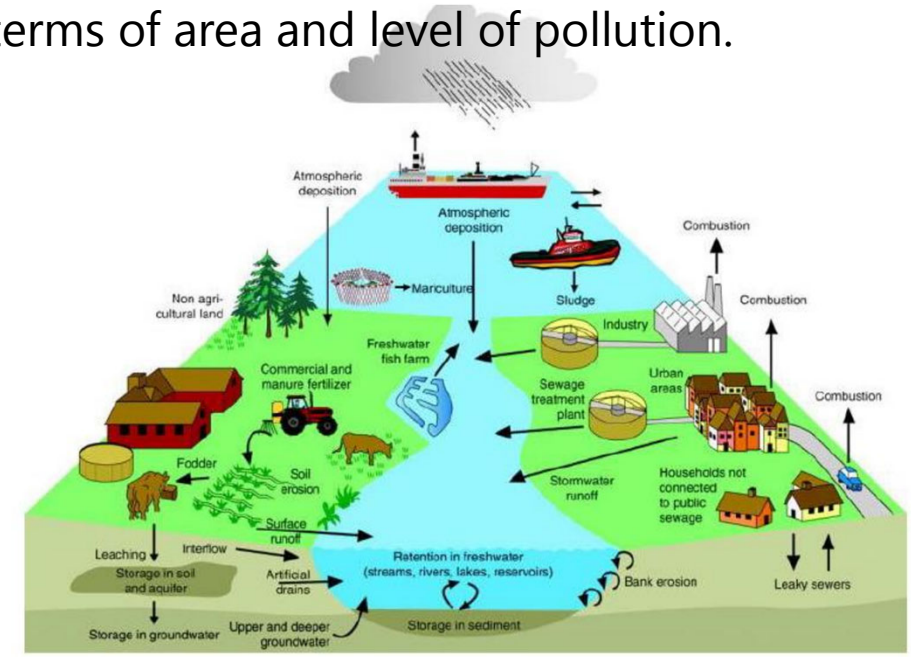
- In the period 2016 - 2020, the Marine environment quality is still quite good;
- Most of the particular parameter values are within the standard value of the national technical regulation (QCVN 10-MT: 2015/BTNMT).

3. Identify pollution sources

In recent years, the surface water environment has been contaminated in various ways, and has even tended to increase in terms of area and level of pollution.

Main pollution sources as:

- Industrial waste;
- Domestic waste;
- Medical Waste;
- Plastic waste;
- Environmental incidents;
- Chemical incidents;
- Agricultural production (Chemical fertilizers and pesticides);
- Others



Example of distribution of discharge sources into a river basin

4. Implement measures to address issues

1. **To control at the waste source (Industrial waste):**

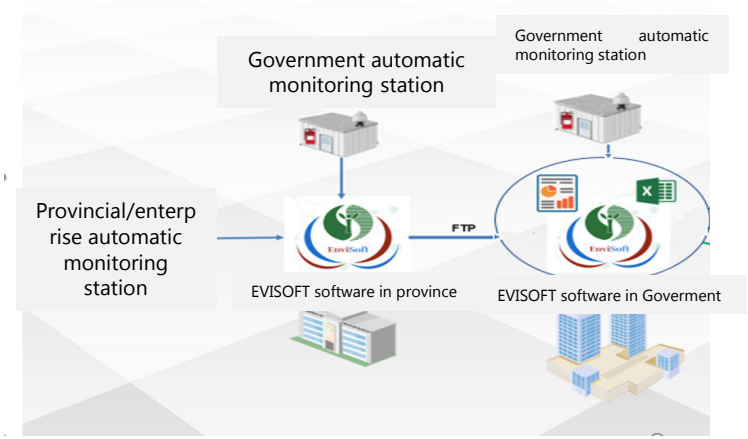
- According to Clauses 1 and 2, Article 111 of the LEP 2020, facilities must perform automatic and continuous wastewater environmental monitoring.

- According to Clause 4, Article 97, Decree 08/2022/ND-CP regulating automatic and continuous wastewater monitoring as following:

✓ Deadline for completing the installation of an automatic, continuous wastewater monitoring system (with cameras and automatic sampling equipment). Connecting and transmitting data directly to authority agencies on environmental protection provincial level no later than December 31, 2024.

✓ The value of automatic and continuous wastewater monitoring parameters is determined by the average daily (24 hour). value.

Monitoring data sharing mechanism in Vietnam



4. Implement measures to address issues

2. Strengthening implementation of existing law and regulations:

To control and monitor hot spots and response activities to environmental incidents.

3. Sanctions for violations:

Decree No. 45/2022/ND-CP stipulates penalties for administrative environmental protection offences:

Maximum fine of 1 billion VND (43,478 USD) for individuals and 2 billion VND (86,956 USD) for organizations for administrative violations in the field of environmental protection.

In addition, The Criminal Code of Vietnam 2017 (Chapter IX: Crime of polluting the environment

5. Evaluating outcomes and revising policies

1. Installing an automatic wastewater monitoring system is difficult and expensive for businesses;

2. The system of regulation and guidance documents for environmental monitoring activities is still incomplete;

3. The system of technical regulations and economic-technical cost norms in environmental monitoring activities still has many insufficient and non-synchronous;

4. The equipment system for monitoring activities is not synchronized, affecting data quality;

5. Building a database on water quality and a mechanism to share information and data on water quality management among Government, local levels and business.

6. Build a monitoring and forecasting system for early warning of water environment.

6. Challenges and future plans

Challenges:

- There has been no investigation, assessment of loading capacity, water quality zoning and surface water environmental quality management plan in river basins.
- Awareness of businesses and people about protecting, exploiting and using water resources is still limited.
- Human resources in the field of water environment in localities are lacking and do not meet the requirements.
- There are no appropriate mechanisms and policies to mobilize social resources to participate in protecting and preventing pollution and degradation of water environment.

Future plan:

❖ Improve mechanisms and policies:

- Research and propose mechanisms and policies to mobilize all resources, especially socialization and investment in the form of public-private partnerships in solid waste treatment and centralized wastewater treatment;
- Review all national technical regulations (QCVN) related to wastewater and drainage;

6. Challenges and future plans

Future plan:

- ❖ Building technical infrastructure for environmental protection:
  - Concentrating investment resources to build centralized domestic wastewater collection and treatment, ensuring that wastewater generated in the area is fully collected and treated to meet requirements for permitted wastewater before discharging into the receiving environment.
  - Build a database of waste sources to serve the management, control and monitoring of waste sources;
  - Continue to strengthen inspection of compliance with environmental protection laws; prevent environmental crimes and handle environmental violations.
- ❖ Strengthen communication to raise awareness about environmental protection;
- ❖ Maximize the role of socio-political organizations, unions, and residential communities in environmental protection;

THANK YOU

FOR YOUR ATTENTION !