GLOBAL WATER PARTNERSHIP SOUTHEAST ASIA

Preliminary National Water Tenure Assessment Report of Malaysia

June 2026

FOREWORD

Water is fundamental to human well-being, food security, economic development, and ecosystem sustainability. As Southeast Asia faces increasing pressures from climate change, rapid urbanization, competing water demands, and growing water-related risks, strengthening the governance of water resources has become more important than ever. Ensuring that water is allocated, accessed, and managed fairly and sustainably requires not only sound policies and institutions but also a clear understanding of the rights, responsibilities, and relationships that shape how water is used. This is the essence of water tenure.

The Global Water Partnership Southeast Asia (GWP-SEA) is pleased to support the preparation of these Preliminary National Water Tenure Assessment Reports for Lao PDR, Malaysia, and the Philippines under the project Scaling up Capacities for Responsible Governance of Water Tenure (ScaleWat), implemented in partnership with the Food and Agriculture Organization of the United Nations (FAO). These assessments represent an important step in advancing regional understanding of water tenure governance, while supporting the implementation of Integrated Water Resources Management (IWRM) principles.

The reports provide valuable insights into the legal, policy, and institutional frameworks that shape water governance in each country. They highlight existing strengths, identify emerging challenges, and offer a foundation for future dialogue on improving equitable, sustainable, and resilient water management.

It is important to recognize that these assessments are preliminary and based primarily on desk reviews of legislation, policies, and institutional arrangements. While they offer a useful national-level overview of formal water tenure arrangements, they do not fully capture local realities, customary practices, or basin-specific experiences.

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GWP-SEA therefore recommends that these assessments be followed by pilot surveys and stakeholder consultations at selected river basin or watershed levels to validate findings, strengthen evidence, and deepen understanding of water tenure in practice.

We believe these reports mark an important first step in advancing the water tenure agenda in Southeast Asia. We hope they will serve as valuable references for policymakers, practitioners, researchers, and development partners, while fostering continued collaboration among stakeholders to strengthen water security, climate resilience, and sustainable development across the region.

On behalf of GWP Southeast Asia, I extend my sincere appreciation to FAO, the national experts, government agencies, and all partners who contributed to the preparation of these reports. Their commitment and expertise have laid the groundwork for future learning and action toward more inclusive and effective water governance.

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About FAO

The Food and Agriculture Organization (FAO) is a specialized agency of the United Nations that leads international efforts to defeat hunger. FAO further supports countries in strengthening water governance to address growing challenges such as climate change, water scarcity, and food insecurity. A key part of this work is advancing the concept of water tenure, understanding who has rights to use water, under what conditions, and how those rights are governed.

About GWP-SEA

GWP is a global action network of 3,000+ organizations in 183 countries. As its oldest regional branch, GWPSEA coordinates 8 Country Water Partnerships (CWPs). Representing a diverse multi-stakeholder network, from government and development banks to NGOs, the Jakarta-based secretariat serves as the regional hub for advancing integrated water management.

About this publication

Developed under the FAO ScaleWat Project (GCP/GLO/1169/GER) in collaboration with GWP SEA, this product supports FAO's Global Dialogue on Water Tenure to promote inclusive governance, food security, and water access rights across Asia-Pacific.

ABBREVIATIONS

BCM	Billion Cubic Metres (Unit of volume measurement for stored water resources)
DID	Department of Irrigation and Drainage (Jabatan Pengairan dan Saliran)
DOE	Department of Environment
Eflow	Environmental Flow (Ecological water flow volume classification)
IWRM	Integrated Water Resources Management
LAUT	Terengganu Water Resource Board (Lembaga Air Untuk Terengganu)
NADMA	National Disaster Management Agency
NAHRIM	National Water Research Institute of Malaysia
NAWABS	National Water Balance System
NLC	National Land Code (Revised 2020)
NWC	National Water Council (Majlis Air Negara)
NWRP	National Water Resources Policy
SDG 6	Sixth Sustainable Development Goal of the United Nations
SPAN	National Water Services Commission (Suruhanjaya Perkhidmatan Air Negara)
TMDL	Total Maximum Daily Load (Water quality and pollution standard)
WST2040	Water Sector Transformation 2040 Report
WUO	Water User Organisation

GLOSSARY

- Agency Control (Irrigation): A water tenure arrangement where public bodies (such as the Drainage and Irrigation Engineer) are empowered under specific laws like the Irrigation Areas Act 1953 to develop, manage infrastructure, impose water rates, and allocate water within designated zones exclusively reserved for paddy cultivation.
- Coastal Waters: The maritime boundary zone adjacent to a state's territory, defining the furthest reach of the State Authority's exclusive legislative and proprietary control over water resources.
- Customary Water Tenure: Water access, use, and management rights rooted in native law, traditions, and native customary rights of indigenous communities (such as the Tagal system in Sabah or the Semelai community in Tasik Bera), which are legally protected under common law as permanent proprietary interests.
- De Minimis / Subsistence Use Rights: A secure, legally conferred statutory right under state enactments that permits land owners or occupiers to abstract water for basic household needs and non-commercial subsistence agriculture/livestock without requiring a licence or paying charges.
- Environmental / Minimum Flow Reserve: An implied statutory obligation that prevents the reduction of water volume or flow by works or premises, designed to sustain healthy ecological conditions and protect riverine ecosystems.
- Hak Guna (Right of Use): A traditional concept embedded in the moral economy of customary water law where water is treated as a shared trust under collective stewardship, linking royal command with communal obligation.
- Land Covered by Water: The statutory definition of land under Section 5 of the National Land Code, which establishes that water bodies located within state territories form an inseparable legal entity with the land, thereby vesting ownership solely in the State Authority.
- National Water Balance System (NAWABS): An advanced data modeling tool developed by the Department of Irrigation and Drainage that provides information on water availability, flow dependability, and accounting to support evidence-based allocation.
- Proto-Riparian Governance: An early historic mode of water management chronicled in traditional texts (such as the Al-Tarikh Salasilah Negeri Kedah), characterized by treating water as a legal commons linked to sovereignty, collective labor, and shared responsibility.

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- Regulatory Licence: The primary administrative mechanism issued by a State Water Resources Board or Director that grants formal, non-transferable authorization to abstract, divert, store, or discharge water resources beyond de minimis thresholds.
- Riparian Rights: A usufructuary right recognized under common law and the Federal Constitution, which entitles the owner of land adjacent to a river bank to the reasonable use and enjoyment of the water flowing naturally past their property.
- Tanggungjawab Bersama (Shared Responsibility): The customary obligation of communal stewardship binding land occupants to protect the quality and flow of the water resource from which they derive usage rights.
- Territories of Life: A holistic indigenous governance concept encompassing traditional territories—including associated riparians, watersheds, and forests—where indigenous values define authority over natural resources.
- Usufructuary Right: A legal right that enables individuals or groups to use, benefit from, and enjoy a resource (such as water) that is owned by another party (the State), without altering, privatizing, or degrading its substance.
- Water Tenure: The legally or customarily defined relationship between people, as individuals or groups, and water resources, which determines how access and allocation are structured and practiced.

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The concept of water tenure is defined as “the relationship, whether legally or customarily defined, between people, as individuals or groups, with respect to water resources”. The present assessment, conducted in accordance with the 2024 FAO Water Tenure Assessment Methodology, examines the legal, institutional, and governance dimensions that contribute towards the ascertainment of the opportunity for the incorporation of a water tenure approach in Malaysia, where the constitutional architecture of the Federal Constitution places ownership over water resources to the respective States.

The Malaysian legal framework recognises the various dimensions of the legally or customarily defined relationships between people, as individuals or groups with respect to water resources through a constellation of distinct but interrelated legal doctrines rather than concentrated in a single overarching instrument pertaining to water resources. The proprietary right over water resources is vested in the States by virtue of Item 6 of the State List in the Ninth Schedule of the Federal Constitution. The proprietary ownership over water should also take into account the usufructural entitlement to the reasonable use of water established under common law by landowners adjacent to water resources.

Water tenure, which is defined as rights over water identified by relationship over water resources, are clearly and legally recognised to a significant extent, although the manifestation of such recognition would be context dependent. Formal licensed rights and subsistence use rights are explicitly defined by statute whereas riparian rights are similarly recognised and enforceable through the courts under applied common law.

Regulatory licences and permits serve as the primary administrative mechanisms for water abstraction and use beyond subsistence thresholds while the legal framework on water resources management at the state level explicitly recognises de minimis or subsistence use rights, not as an informal, tolerated practice, but, by virtue of its recognition in the law, a right to abstract water for household and subsistence agricultural uses which does not fall within the ambit of regulatory licences and permits, but still formally recognised nonetheless. Other arrangements include agency control, where public bodies manage water within gazetted irrigation and drainage areas, and customary water tenure arises from native customary rights, traditional occupation of the indigenous communities. Environmental or minimum flow reserves existed as an implied statutory obligation to maintain sufficient water volume to protect aquatic ecosystems.

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Despite the breadth and scope of the legal framework, at the implementation and operational level, the indigenous and native communities, subsistence, and small-scale rural users may be functionally underserved if they are unable to navigate administrative registration processes or remain unaware of their statutory rights. The enforcement of their rights is unnecessarily encumbered as the only recourse for the assertion of rights is through the courts of law.

Moreover, customary agricultural communities that might still be practising traditional farming methods, such as rotational cultivation, are always at risk of displacement due to the under recognition of their customary land titles, the deprivation of their right to livelihood and way of life, and the high cost of litigation for the assertion of such rights. Although the water tenure approach places the focus of water rights on allocation of water, the higher risk to water tenure is actually the degradation of the quality of the water resources that might not affect the access to a certain quantity of water, but the quality of such water might no longer be amenable to the purposes of use. Such risk is more pronounced in subsistence, small-scale, traditional, or indigenous uses. However, structural, or practical barriers warrant further research.

The prominent and most critical improvement area is the absence of an explicit recognition of the right to water as a basic human right to life, livelihood and way of life, a right to a safe, clean, healthy, and sustainable environment, and a right to self-determination to allow indigenous communities to practise their culture. The under recognition of these rights affects the security of water tenure in any allocation and prioritisation decisions, not just over water resources itself, but also development decisions that have direct impact on water resources. This is compounded by the opacity, and retrospectivity of the decision-making process, where the information underpinning the decision, and the decision-made are not publicly accessible, which limits effective public participation and the right to be heard.

Therefore, the top five priority recommendations to address these areas of improvement, followed by priority actions are: First, there is a need to expand and integrate existing water data systems to incorporate water tenure and properly trained public authorities and officials in rights-based water governance.

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Second, conduct a basin-specific water tenure assessment to establish an empirical evidence repository by mapping all existing tenure arrangements, as well as factors that affect the effective and useful access to water resources.

Third, ensure that the prioritisation and allocation mechanisms are formalised in the workings of the institutions that are mandated to manage and allocate water resources, where decisions made should be transparent, and subject to public scrutiny.

Fourth, the procedural justice of the right to participation, the right to information and the right to access justice where public authority should be compelled by law to disclose information to the public in the conduct of public participation, and to obtain free prior informed consent for the deprivation of rights.

Last but not least, operationalise the critical foundation of basic human rights to life, livelihood, and way of life; water and sanitation; a safe, clean, healthy, and sustainable environment, and more importantly, the recognition of the rights of the indigenous peoples, not just as the beneficiary of a water tenure, but the governance authority in decisions made on water tenure.

INTRODUCTION AND METHODOLOGY

The Malaysian Context

Malaysia is a federal constitutional monarchy in which jurisdiction over natural resources, including water, is distributed between the Federal Government and thirteen State Governments. This constitutional architecture — anchored in the Ninth Schedule to the Federal Constitution — shapes the structure, content and application of all water-related laws and policies in the country. Any meaningful assessment of water tenure in Malaysia must therefore be understood within this federal framework, where the States own the water resources, while the Federal Government assumes concurrent and sector-specific roles in water services, environmental regulation, and infrastructure development.

The present report undertakes a water tenure assessment of Malaysia with a focus on the State of Terengganu as an illustrative example of formal water governance under state-level legislation, specifically the Water Resource (Terengganu) Enactment 2020. The Terengganu example is employed to explore the breadth and depth of the legal and institutional frameworks governing water tenure at the state level, and to draw out findings and recommendations of broader national relevance.

Defining Water Tenure

Water tenure is defined as “the relationship, whether legally or customarily defined, between people, as individuals or groups, with respect to water resources” (Hodgson et al, 2024). This definition is sufficiently broad to encompass the full spectrum of relationships between persons and water, from formally licensed abstractions under state enactments, to subsistence use rights recognised by statute, to customary and indigenous water use rooted in native law and custom. It is important to emphasise at the outset that this assessment does not equate the legitimacy of a water tenure arrangement with its formal registration or licensing status. Legitimate water tenure may arise under statute, common law, customary law, or a combination thereof.

Purpose and Scope of the Assessment

As identified by Hodgson et al in the 2024 Publication by the Food and Agriculture Organisation of the United Nations (FAO) on Water Tenure Assessment, the primary purpose of such an assessment is to fill a knowledge gap regarding how people actually access and use water resources, especially in contexts where the implementation of legal frameworks is not uniformly documented or monitored. Analysis of water tenure is conducted with the objectives of examining:

(i) the basis upon which people access and use water resources; (ii) the securing of water tenure to achieve a reliable availability of acceptable quantities and quality of water for health, livelihoods and production; and (iii) the attainment of water security, which the Global Water Partnership has defined to mean that every person has access to enough safe water at affordable cost to lead a clean, healthy, and productive life, while ensuring that the natural environment is protected and enhanced.

The policy-related rationale for conducting a water tenure assessment lies in the imperative to consider the basis upon which people access and use water resources, which in other words, water tenure, in order to maximise economic and social welfare in an equitable manner, as required by Target 6.5 of the Sixth Sustainable Development Goal (SDG 6) adopted by the United Nations General Assembly on 25 September 2015. This target calls for the implementation of Integrated Water Resources Management (IWRM) at all levels by 2030.

Positioning the Water Tenure Approach for Malaysia

A water tenure assessment therefore seeks to understand how the allocation of water and the mechanisms to ensure water security support or undermine distributional equity, food and livelihoods security, climate resilience, and poverty alleviation, with a focus on historically marginalised and other vulnerable populations, including women. Therefore, the water tenure lens offers a valuable analytical perspective for Malaysia's water sector, particularly in advancing the country's commitments under SDG 6 and its aspirations towards Integrated Water Resources Management.

By examining how water rights 'play out in practice', the water tenure approach provides insight into the political economy of water allocation decisions and their outcomes. This is especially relevant in Malaysia where water governance is distributed across multiple tiers of government and sectoral regulatory regimes.

It is within this framing that the water tenure assessment is conducted for the purpose of the present report, analysing the governance structure that supports or undermines water tenure, and upon which the methodology for such an assessment is developed. The assessment goes beyond a statement of the law to consider both the extent to which legislation is actually implemented, and its effectiveness in creating secure and sustainable water tenure arrangements.

COUNTRY PROFILE AND WATER CONTEXT

River Basins and Water Systems

Malaysia's river basins are geographically extensive, covering 17,740 km^2 in the Peninsular Malaysia, 77,695 km^2 in Sabah, and 132,651 km^2 in Sarawak. There is a total of 2,986 river basins in the country, with 189 classified as main river basins covering a catchment area of more than 80 km^2. Beyond surface water, the country is endowed with over 90 lakes covering approximately 100,000 hectares and holding around 31 billion cubic metres (BCM) of water. Groundwater resources stored in aquifers have been estimated at 5,000 BCM, replenished annually by rainfall.

Water Availability and Stress

Malaysia is characterised by an abundance of water resources owing to its tropical climate and consistently high annual rainfall. The National Water Resources Study (2000–2050) reported Malaysia's annual rainfall at approximately 973 BCM, with total surface runoff estimated at 496 BCM per year, of which 414 BCM return to the atmosphere through transpiration and 63 BCM contribute to groundwater recharge. Rainfall is unevenly distributed across states, causing flooding in low-lying and coastal areas that receive high volumes of rainfall over shorter river courses and small catchment areas (Ibrahim and Mathew, 2019). The Compendium of Environment Statistics 2025 recorded annual rainfall for 2024 ranging from 1,704.3 mm to 5,624.00 mm, with the highest recorded in Kapit, Sarawak and the lowest in Kuala Pilah, Negeri Sembilan.

Notwithstanding this general abundance, water resources governance faces significant challenges. The Water Sector Transformation 2040 (WST2040) Report identified pollution from illegal discharges, siltation from land clearing, and releases from various economic activities as key stressors. Changing climatic patterns have further affected water availability, particularly in water-stressed states such as Kedah, Pulau Pinang, Melaka, and Johor. Selangor, Penang, and Melaka have been identified as vulnerable under the National Water Resources Vulnerability Index, with Selangor and Kelantan recording a reserve margin of 0% in a 2019 study conducted by the National Water Services Commission (Suruhanjaya Perkhidmatan Air Negara, SPAN).

Consumptive demand was assessed at 14.8 BCM in 2010 and projected to increase to 18.2 BCM by 2050. Demand for treated water is projected to reach approximately 8.12 billion cubic metres by 2030 and 8.92 billion cubic metres by 2050, assuming a per capita daily consumption of 220 litres.

Agriculture remains the largest water user, accounting for 64.3% of total demand for human activity, with 55.9% attributable to paddy irrigation. As water availability is further compromised by pollution — with the Department of Environment reporting that more than 50% of the country's waterways are polluted, competition among water users is set to intensify.

LEGAL FRAMEWORKS GOVERNING WATER ACCESS AT THE NATIONAL LEVEL

The Federal Constitution and the Jurisdiction over Water

Pursuant to Article 74 and the Ninth Schedule of the Federal Constitution, various aspects of the management of water resources fall within the legislative purview of either the Federal or State Governments, or the concurrent jurisdiction of both. Even though State Governments are vested with the primary legislative and proprietary authority over water resources where the National Water Resources Study 2000 – 2050 Final Report made explicit that the Federal Constitution has provided State Governments with an almost exclusive right to act as the custodians of water for the people, the Federal Government's involvement is exercised through federal works and power including water supplies and the distribution and supply of water power, and having concurrent jurisdiction with the states over water supplies and services, environmental quality (encompassed within the ambit of public health, sanitation and the prevention of diseases), town and country planning, and infrastructure development. The list of legislations that corresponds to the different matters listed in the Ninth Schedule of the Federal Constitution is provided in Annex 1 of this Report. The full list of policies and legislations pertaining to water governance, which was referred to in the Water Sector Transformation 204 Report, is provided in Annex 2 of this Report.

A specific mention of 'water' could be found in the Federal Constitution. 'Water' was specifically designated under Item 6 of the State List by explicitly providing that water, subject to matters in the Federal List, including rivers and canals but excluding water supplies and services, the control of silt, and riparian rights, falls within the power of the Legislature of a State to legislate by virtue of Article 74(2) of the Federal Constitution. Section 40 of the National Land Code (Revised 2020) set out that the entire property over "land covered by water" situated within the territories of the State is vested solely in the State Authority. Being the lex specialis for the management of water resources, the Waters Act 1920, in section 3, stipulated that, subject to any express grant made by or on behalf of the Ruler of a State, the entire property in and control of all rivers in any State is and shall be vested solely in the Ruler of such State.

Although the Waters Act 1920, as adopted by way of enactment in the respective states, has been largely repealed and replaced by subsequently enacted state water resource enactments, the vesting of proprietary rights over water in the State Authority is maintained. This is illustrated in section 4 of the Perak Water Resources Enactment 2023, which makes explicit that "[t]here is and shall be vested solely in the State Authority all water resources as is within the territories of the State and the limits of the State's coastal waters".

The riparian right over water as the owner of land on the banks is enshrined in Item 6 of the State List of the Ninth Schedule of the Federal Constitution, where the usufruct right to the use and enjoyment of water that flows currere solebat, while it passes along in the stream adjacent to land (Embrey v Owen (1851) 6 Exch 353 at p 369) falls within the ambit of the definition of 'law' under Article 160 of the Federal Constitution, which includes written law, the common law, as well as any custom or usage having the force of law in the country.

The inseparability of land and water, demonstrated in the definition of 'land' to include "land covered by water" in section 5 of the National Land Code is deeply rooted in the customary forms of water regulation that preceded codified, colonial law. The three foundational dimensions of a proto-riparian governance, namely:

- first, water functioned as a legal commons that defined social obligation and responsibility within the community;
- second, rivers and canals operated as instruments of territorialisation through which rules inscribed authority upon the landscape; and;
- third, collective labour in water projects, are chronicled in the Al-Tarikh Salasilah Negeri Kedah (The History of the Genealogy of the State of Kedah.

Canal and river served as a mechanism of governance linking royal command with communal stewardship where relationship with water reflects a local mode of governance, a line of obligation connecting sovereignty, labour and land embodying the intertwined notions of the right of use (hak guna) and shared responsibility (tanggungjawab bersama) (Mohd. Firdaus Abdullah et al, 2025).

Abdullah et al (2025) opined that, by adopting a view of water governance that moves away from the technocratic logic of commodification to a view of water governance where the canal or river is deemed a line of authority inscribed onto the landscaped, it reconnects the root of water governance as a moral economy of flow that linked sovereignty to stewardship. The intertwined relationship between land and water, exemplified in the reference of home land (tanah air) in the Malay language to mean 'land water' (the area of land and water where the winds meet),

forms the basis of the country's customary water law, which, by virtue of Article 160 of the Federal Constitution is, the law of the land.

The legacy of the customary water law practised by Malay rulers and communities on water allocation, maintenance, and dispute resolution, where water is recognised as a shared trust under collective stewardship rather than a resource subject to privatisation or political negotiation could be said to be translated into the safeguard of the rights and responsibilities o the riparian or occupants of land where water flows, for subsistence and self-sufficiency uses under states' water resources enactment. For example, the Kedah Water Resources Enactment 2008, in section 27, provides for the exemption of the owner or occupier of premises from licences or charges for household and subsistence agricultural uses of groundwater from under their premises, or from water body with frontage to the premises owned or occupied by them.

Therefore, the various arrangements through which relationships are built by individuals and groups with water resources, giving rise to a right to water resources, are fundamentally a temporary right to use and benefit from the water owned by the states, which is a usufructuary right where the ownership over water remains vested in the state. Corollary to the right to use, the individuals and communities, occupying the land through which water flows, have the responsibility, a communal stewardship, to protect the water.

Terengganu Water Resources Enactment

As the proprietary rights over water are vested in the states, where the power to make laws falls within the power of the Legislature of a State, the legislation governing water, and the normative and substantive scope of water rights are to be found in state enactments and ordinances. As all the 13 states in the country have their own water resources enactment, for the purpose of the present study, the Water Resource (Terengganu) Enactment 2020 is cited to illustrate the scope of a water-specific legislation, as well as to explore whether water rights, to be understood as rights to water resources assessed through the identification of relationships, whether legally or customarily defined, between people, as individuals or groups, with respect to water resources", are formally defined in the legislation.

The Enactment provides for the sustainable management of water resources in the State of Terengganu, the establishment of the Terengganu Water Resource Board, and matters connected therewith. Section 1(2) provides that the Enactment applies to all water resources in the State, including all river systems (whether permanent, temporary, or seasonal), river basins, water catchment areas, waters, groundwater, coastal waters, water bodies, and any other water resource specified within the State of Terengganu.

Under section 43 of the Enactment, no person or public authority may abstract water from any water resource, or deal with water resources in the manners spelt out in section 43(1), unless a licence is approved by the State Authority, the Terengganu Water Resource Board, or the Director of Terengganu Water Resource. Section 44 further provides that a licence, and any rights, duties, liabilities or obligations under it, shall not be transferred or assigned to any other person.

The Enactment also provides for the regulation of water abstraction (section 45), agricultural drainage and irrigation activities (section 46), exploration and abstraction of groundwater (section 47), water diversion (section 49), and the discharge of effluent (section 51). In addition, the regulation of water resources is also exercised in the extraction of sand, rock material and other sediments (section 50), the control of vessels navigating on any water resource (section 52), and the prescription of recreational activities requiring registration (section 53). In addition, the right to water for the purpose of self-sufficiency are provided in the Enactment whereby the owner or occupier of any premise or land are allowed to "abstract sufficient water for household use and subsistence agriculture or subsistence livestock, not for commercial purpose, from the ground water under his premise or land or from river or water body which (is located) opposite the premise or land belonging or occupied by him" as long as the owner or occupier is registered with the Water Resources Board.

Water Tenure Arrangements

Insofar as water tenure arrangements fall within the ambit of the respective State's jurisdiction, such arrangements may vary from state to state. The following identifies the principal types of water tenure arrangements present in Malaysia, illustrated primarily through the Terengganu legal framework. These arrangements are set out in narrative form, with the typology summarily presented in the Table below.

Regulatory Licences

Under the Terengganu Water Resources Enactment, the scope of water rights is primarily exercised through a licensing regime under section 43. The licensing system constitutes the primary formal mechanism through which individuals, corporations and public authorities may gain access to and use of water resources beyond the de minimis thresholds prescribed by the Enactment.

Under section 99 of the Mineral (Terengganu) Enactment 2002, a holder of a mineral tenement is entitled to enjoy water found on the land subject to the tenement by applying for a water licence under section 100.

Such a licence confers the right to divert, store, use and discharge water for the purposes of the mineral tenement, for a term not exceeding the expiry of the mineral tenement. In addition, water permits not exceeding one year may be issued to the mineral tenement holder, authorising specified water uses as directed by the Superintendent of Mines.
The Fisheries Act 1985 requires a licence for fish stakes and other equipment used in capture fisheries under section 11. Notably, no licence shall be issued where such equipment causes obstruction in the natural flow of water, indicating an implicit legal requirement for minimum instream flow to support fisheries. Separate licences to undertake fishery in any water resources in the State must also be obtained under section 43 of the Water Resources Enactment.

De Minimis and Subsistence Use Rights
A critical feature of the Malaysian legal framework, which must be unequivocally stated in response to any suggestion that the country's legal system affords little or no recognition to informal or small-scale water use, is the explicit statutory recognition of subsistence use rights within the Terengganu Water Resources Enactment.

Section 48 of the Water Resources (Terengganu) Enactment 2020 grants owners and occupiers of land the right to abstract water for household use (up to 2,500 litres per day) and for subsistence agriculture or subsistence livestock (up to 10,000 litres per day) without requiring a licence and without payment of any charge, subject only to registration with the Water Resource Board. These rights are rights conferred by law; they are not merely tolerate informally as they represent a deliberate policy decision to protect the subsistence use of water by small landholders and rural communities.

The Malaysian legal system gives explicit recognition to informal water use. The Enactment expressly recognises and protects the subsistence water use rights of owners and occupiers of land, creating a distinct and legally secure category of water tenure that operates independently of, and alongside, the broader licensing regime. Similar provisions exist in the water resources legislation of other states, including Sabah, which likewise exempts household and subsistence agricultural use from licensing requirements under the Sabah Water Resources Enactment 1998. The existence of these statutory subsistence use rights confirms that the Malaysian legal framework for water tenure is inclusive of small-scale and subsistence users, and does not relegate their use to the margins of legality.

Agency Control

The Irrigation Areas Act 1953 empowers the Ruler in Council or the Yang di-Pertua Negeri in Council of a State to declare any land affected by irrigation works as an irrigation area. Within such designated areas, no land shall be used for any purpose other than paddy cultivation (section 5). The appropriate authority may impose annual water rates (section 6), and the Drainage and Irrigation Engineer or officer-in-charge may refuse to supply water to lands in respect of which water rates are in arrears, or which fail to meet the standards required by the Act (section 13). This arrangement broadly meets the definition of agency control as a water tenure typology, conferring broad powers on the public body to develop and manage water infrastructure and allocate water within designated areas.

Under section 46 of the Terengganu Water Resources Enactment, agricultural drainage and irrigation activities undertaken by the appropriate authority under the Irrigation Areas Act 1953 remain subject to the licensing requirement under the Enactment, ensuring coordination between the sectoral and the general water resources framework.

Reserves, Minimum and Environmental Flow Requirements

Section 60 of the Terengganu Water Resources Enactment empowers the Director to ensure that any work or premise within the water resource or its catchment area does not cause a reduction in the volume or flow of water, degradation in water quality, or an adverse effect on water use and conservation. This provision serves as a statutory underpinning for minimum flow requirements, albeit without explicit reference to ‘environmental flows’ as a distinct concept. The refusal to issue licences for fishing equipment that causes obstruction to natural water flow under section 11 of the Fisheries Act similarly serves to protect instream flows in fisheries waters.

Customary Water Tenure

A recognition of customary land tenure may, in appropriate circumstances, extend to customary rights over water. Under the Drainage Works Act 1954 and the Irrigation Areas Act 1953 (for the States of Malacca and Penang), the holder of land by customary tenure is recognised as an 'owner' for the purposes of those Acts.

The Sabah Water Resources Enactment 1998 expressly recognises private water rights, which the Human Rights Commission of Malaysia (SUHAKAM) has opined to include the water rights of indigenous peoples under section 16. The owner or occupier of land or premises may, free of charge and without requiring a licence, exercise a private right to take, use, and control sufficient water for household and subsistence agricultural purposes.

The declaration and recognition of the indigenous system of river and fisheries management (Tagal) are enabled under section 35 of the Sabah Inland Fisheries and Aquaculture Enactment 2003 whereas sections 36 and 37 of the Enactment provide for the creation of a committee to administer community-based riverine resources zones. However, it is noted that scholars have opined that the establishment of a committee weaken traditional authority for the Tagal system, a local governance system that is based on adat and generations of traditional knowledge (Leonie et al, 2015; Bulan and Maran, 2020).

The formalisation of customary water tenure in the Sabah Water Resources Enactment 1998 and the Sabah Inland Fisheries and Aquaculture Enactment 2003 would have to be read with the Sabah Land Ordinance 1930, with its underlying principle of the protection and recognition of natives' rights to their lands and the practice of their own customs and laws through the recognition of native customary rights (section 15), customary tenure (section 66), native title (section 70) and communal title (collective native customary rights under section 76 where customary tenure has been established).

Customary water tenure, as in the case of the Tagal system, have to be understood within the broader context of the recognition of native customary rights over and beyond water resources to include the "territories of life" – a concept raised by Mr. Gordon John, a Dusun Tatana Indigenous People from Sabah representing the PACOS Trust at the Regional Dialogue on Water Tenure in Asia and the Pacific 2026 to refer to the Indigenous Traditional Territories that encompass areas such as the riparian, watershed and forest.

It is established, in the case of Adong bin Kuwau, that the courts recognised rights established through traditional occupation to be proprietary rights protected under Article 13(2) of the Federal Constitution. By virtue of the definition of 'land' in section 5 of the National Land Code (Revised 2020) that also refers to land covered by water, the proprietary right established through customary community title of a permanent nature, by virtue of the interconnectedness of land and water that falls within the ambit of the definition of 'land' under section 5 of the National land Code, would therefore be read to include the proprietary right over water thereon or therein.

Gopal Sri Ram JCA observed in the case of Sagong Tasi that the Orang Asli have a form of customary tenure recognised under common law, and that nothing in the National Land Code strikes at the recognition of land held under customary title. The Court of Appeal in Sagong Tasi further found that the precise nature of customary title depends on the practices and usages of each individual community, and concluded that the Orang Asli had ownership of lands under a customary community title of a permanent nature.

Thus, the decisions of the High Court and Court of Appeal in Sagong Tasi, the Federal Court in the case of Madeli bin Salleh, and related jurisprudence have confirmed that customary land rights are based on native law and customs, and that the content of customary title is determined by the customs, practices and usage of the relevant community. Among the Semelai community of Tasik Bera, Pahang, for example, community members recognise ownership not only over customary lands but also over the water and plant habitat therein. Therefore, customs and usage form part of the laws of Malaysia as defined under the Federal Constitution, and may be recognised and proven under common law.

Typology of Water Tenure Arrangements in Malaysia

The following table summarises the principal categories of water tenure arrangements identified in the Malaysian legal framework, with particular reference to the Water Resource (Terengganu) Enactment 2020 and other relevant legislations.

Table 1. Summaries of the principal categories of water tenure arrangements identified in the Malaysia legal framework

Tenure Type	Description	Legal Basis	Administering Authority	Key Remarks
Regulatory Licence	Formal authorisation granted by the State Authority, the Water Resource Board, or the Director to abstract, divert, or otherwise use water resources beyond de minimis thresholds.	Section 43, Water Resource (Terengganu) Enactment 2020; Sections 99–100, Mineral (Terengganu) Enactment 2002	State Authority / Terengganu Water Resource Board / Director of Water Resource / Superintendent of Mines	Non-transferable. Conditions may be imposed. Duration specified.
Water Permit (Mining)	Short-term authorisation (up to 1 year, renewable) for water use in connection with mineral tenements.	Sections 100–115, Mineral (Terengganu) Enactment 2002	Superintendent of Mines	Recorded in the register of water permits. Must not exceed the expiry of the mineral tenement.
De Minimis / Subsistence Use	Short-term authorisation (up to 1 year, renewable) for water use in connection with mineral tenements.	Section 48, Water Resource (Terengganu) Enactment 2020; Section 16, Sabah Water Resources Enactment 1998	Terengganu Water Resource Board (registration)	Legally conferred right — not merely tolerated use. Explicitly protects subsistence users. No fee payable.
Agency Control (Irrigation)	Allocation and management of water within gazetted irrigation areas by the designated public authority, subject to water rates and sectoral conditions.	Irrigation Areas Act 1953; Section 46, Water Resource (Terengganu) Enactment 2020	State Authority / Drainage and Irrigation Engineer	Paddy cultivation areas only. Water rates imposed. Must also comply with WR Enactment licence requirements.

Tenure Type	Description	Legal Basis	Administering Authority	Key Remarks
Agricultural Drainage	Regulation and control of water use in gazetted drainage areas for large-scale agricultural irrigation and drainage.	Drainage Works Act 1954	Drainage and Irrigation Engineer	Complements Irrigation Areas Act 1953 for areas equipped with large-scale drainage systems.
Environmental / Minimum Flow Reserve	Implied statutory obligation to maintain water volume and flow, preventing adverse reduction by works or premises.	Section 60, Water Resource (Terengganu) Enactment 2020; Section 11, Fisheries Act 1985	Director of Water Resource	No explicit 'environmental flow' standard yet legislated. Operates through prohibitions and licensing conditions.
Customary Water Tenure	Rights to water arising from customary land tenure of indigenous and native communities, recognised under common law and, in some states, by statute.	Common law (Sagong Tasi; Madeli bin Salleh); Section 16, Sabah Water Resources Enactment 1998; Drainage Works Act 1954; Irrigation Areas Act 1953 (Malacca & Penang)	Courts (determination of content of customary title); relevant State Authority	Content determined by community practices and usages. Extends to water on/in customary land by virtue of NLC s.5 definition of 'land'.
Riparian Rights	The usufructuary right of landowners on the banks of rivers or watercourses to the reasonable use of water flowing adjacent to their land.	Common law (Embrey v Owen); Item 6, State List, Ninth Schedule, Federal Constitution; Article 160, Federal Constitution	State Authority (enforced through state enactments and the Federal Constitution)	Confers a right of use, not ownership. Subject to equal rights of other riparian owners.
Fisheries Licence	Licence for fish stakes and equipment in capture fisheries; no licence for equipment obstructing natural water flow.	Section 11, Fisheries Act 1985; Section 43, Water Resource (Terengganu) Enactment 2020	Director of Fisheries / Terengganu Water Resource Board	Implicit minimum instream flow protection. Separate water licence also required under WR Enactment.

Environmental Laws Affecting Water Allocation and Use

Apart from the provisions that ensure the protection and conservation of water resources under the Water Resources Enactment, a constellation of environmental laws prevents or minimises pollution and thereby affects the quality of water available for use. These include the Environmental Quality Act 1974, which regulates hazardous substances, wastes and pollutants through a suite of subsidiary regulations, including the Environmental Quality (Scheduled Wastes) Regulations 2005, the Environmental Quality (Industrial Effluent) Regulations 2009, the Environmental Quality (Sewage) Regulations 2009, and the Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order 2015.

The Mineral (Terengganu) Enactment 2002 imposes water quality maintenance obligations on mineral tenement holders under section 113, requiring compliance with water quality standards before discharge into rivers or watercourses. These requirements are reiterated in Regulation 77 of the Terengganu Mineral Regulations 2005 and further reinforced by the Mineral Development Act 1994 (sections 12, 13 and 18) and the Mineral Development (Effluent) Regulations 2016.

The Irrigation Areas Act 1953 and the Drainage Works Act 1954 contribute to the regulation of water quality and quantity within gazetted agricultural areas, prohibiting water wastage and pollution of irrigation channels and watercourses. The Local Government Act 1976 confers on local authorities, general control and care over public watercourses within their areas (section 63), including the prohibition of nuisance or the deposit of filth in or upon the bank of any stream or public drain (section 69). These regulatory instruments, taken together, constitute a layered framework of pollution control that complements the licensing and tenure arrangements under the water resources enactments.

Water User Organisations and Collective Management

Although there is no specific provision in Malaysian law for ‘Water User Organisations’ (WUOs) by that designation, section 7 of the Terengganu Water Resources Enactment provides that the Water Resources Board shall encourage the formation of stakeholder organisations for the Board in the development and conservation of water resources. The opportunity for the formation of stakeholder organisations is reflected in the enactment of states that are recently enacted, for example section 16(q) of the Perak Water Resources Enactment 2023. This provides a formal statutory pathway to initiate and recognise collective management entities that could function as WUOs. Further, the Land Acquisition Act 1960 and various provisions of the Water Resources Enactment facilitate the involvement of community representatives in consultative processes relating to river basin management plans.

INSTITUTIONAL FRAMEWORK FOR WATER TENURE

Malaysia's water resources governance is characterised by a state-driven approach, in which the States exercise primary legislative and proprietary authority over water resources. Federal involvement is exercised through concurrent areas including water supplies and services, environmental quality and infrastructure development, as well as through national coordination bodies, for example, the National Water Council to address cross-cutting governance challenges arise from the sectoral nature of water management, where multiple agencies at federal and state levels exercise jurisdiction over specific uses and dimensions of water resources, creating both complementary and, at times, overlapping regulatory spaces.

The present section synthesises the key institutional arrangements established under the Water Resources (Terengganu) Enactment 2020 for the integrated water resources management that are deemed to be capable of supporting and enabling water tenure governance by first, clarifying the roles of the different institutions established under the Enactment, and then, identifying the principal coordination mechanisms available for the different institutions charged with the mandate to manage water resources in the State.

State-Level Governance: The Terengganu Water Resources Board (LAUT)
The rights over water and its resources are vested solely in the State Authority. Under the Water Resource (Terengganu) Enactment 2020, the State Authority, the Ruler in Council, exercises overarching authority over water resource management, encompassing the approval of policies, plans, licences, protection zones, privatisation arrangements, water charges, and the resolution of disputes.

The Terengganu Water Resource Board (LAUT), established under section 3 of the Enactment, is the principal state body charged with the planning, development, management, and conservation of water resources in Terengganu. Its membership includes the Menteri Besar as Chairman, the State Secretary, the State Legal Advisor, the State Financial Officer, the relevant State Executive Councillor, key state directors, an expert from NAHRIM, and up to three other members with expertise in water resource management and conservation. The Director of Water Resource serves as Secretary to the Board.

The functions of LAUT (section 7) encompass: advising the State Authority on water resource policies; developing and implementing infrastructure projects; regulating and controlling interbasin water transfers; formulating guidelines and performance standards; coordinating multiagency relationships; and safeguarding the interests of water consumers. LAUT is empowered (section 8) to conduct surveys and feasibility studies; formulate management and development plans; prescribe and collect fees; advise on legislation and regulations; divide the State into river basin districts; regulate resource alteration activities; and construct and maintain works within water resource boundaries.

The Director of Water Resource, appointed by the State Authority from the State civil service (section 18), is responsible for the administration and management of the Board's officers and staff, the preparation of integrated river basin management plans, the issuance and revocation of licences, and the exercise of regulatory functions over water abstraction and related activities (section 19).

River Basin Committees and Relevant Agencies

At the river basin district level, the Water Resource Board establishes a River Basin Committee for each district delineated under section 8(e), comprising the relevant District Officers and such other persons as determined by the Director after consultation with District Officers (section 13). The River Basin Committee is responsible for investigating matters affecting river basin management, assisting in the preparation of draft river basin plans, devising programmes to implement the recommendations of river basin plans, and exercising such other functions as directed by the Board. Critically, the River Basin Committee is required to enter into consultation with the Relevant Agency having an interest in water resources in the carrying out of its functions (section 13(4)).

The Relevant Agency – defined to encompass all federal and state agencies with interests in water resource management - plays an integral role in the overall governance framework. Under section 15, the Relevant Agency is obligated to cooperate with LAUT and the Director, comply with applicable regulations and directives, include required conditions in licences and approvals it issues, assist in the preparation of integrated river basin management plans, and provide information to LAUT and the Director as required.

Coordination across Dimensions of Water Resource Management

The interlinkages between sectoral agencies are explicitly acknowledged in the Enactment and are essential to the effective governance of water tenure. The cooperation and assistance rendered to LAUT, the Director, and the River Basin Committees by the Relevant Agencies cut across the principal dimensions of water resources management are captured in the table below.

Table 2: Relevant agencies charged with addressing cross-cutting issues that require coordinated implementation across the various dimensions of water resource management.

Cross-Cutting Issues	Relevant Institutions
Technical and Research Development	Department of Irrigation and Drainage, Mineral and Geoscience Department, Malaysian Meteorological Department, National Water Research Institute of Malaysia
Planning of Development	Local Planning Authority, Terengganu Town and Country Planning Department
Regulation and Control of Uses (Quantity)	Department of Land and Mines, Department of Agriculture, Department of Fisheries, Department of Veterinary Services, Local Authorities
Pollution Prevention (Quality)	Department of Environment, Department of Land and Mines, Mineral and Geoscience Department, Department of Agriculture, Department of Fisheries, Department of Veterinary Services, Local Authorities
Water-related Hazards (Floods)	Department of Irrigation and Drainage, NADMA, Mineral and Geoscience Department, Malaysian Meteorological Department, Public Works Department
Conservation of Biodiversity and Ecosystems	Peninsular Malaysia Forestry Department, Department of Wildlife and National Parks Peninsular Malaysia, Terengganu Town and Country Planning Department

Institutional Arrangements across Levels of Administration

The Institutional arrangement charged with water resources management and governance at all levels is set out in the following table.

Table 3: Institutional Arrangements across Levels of Administration

Levels of Administration	Institutions	Enabling Legislations
Federal	National Water Council	The inaugural meeting of the National Water Council was held on 25 February 2019. The National Water Council replaced its predecessor, the National Water Resources Council subsequent to the restructuring of the Ministry of Water, Land and Natural Resources that integrates both components of water governance, namely, water resources management and water services industry regulation. The National Water Council is an important platform that directs the policy, way forward, and approaches in terms of the management and development of the country's waters where challenges in relation to its management would be resolved at the highest level of administration.
	National Land Council	Article 91, Federal Constitution

Levels of Administration	Institutions	Enabling Legislations
Federal	National Council for Local Government	Article 95A, Federal Constitution
	National Physical Planning Council	Section 2A, Town and Country Planning Act 1976
	Ministry of Environment and Water	Ministers of the Federal Government (No. 3) Order 2020
	Department of Irrigation and Drainage	Ministers of the Federal Government (No. 2) Order 2013
State	State Authority	Article 74(2), Federal Constitution Water Resource (Terengganu) Enactment 2020 National Land Code
	Terengganu Water Resource Board (LAUT)	Section 3, Water Resource (Terengganu) Enactment 2020
	Director of Water Resource	Section 18, Water Resource (Terengganu) Enactment 2020
	State Director of Lands and Mines Superintendent of Mines	Section 12, National Land Code Section 101, Mineral Enactment 2002
	Relevant Agencies	Section 15, Water Resource (Terengganu) Enactment 2020
Basin	River Basin Committee	Water Resource (Terengganu) Enactment 2020
	Local Authorities	Local Government Act 1976
	District Officers and Land Administrators	Section 12, National Land Code
	Local management committee and stakeholders	Section 31(2)(d), Water Resource (Terengganu) Enactment 2020

Levels of Administration	Institutions	Enabling Legislations
Basin	Organisation and management of flood mitigation committee for river basin	Section 83(1)(a), Water Resource (Terengganu) Enactment 2020
	Relevant Agencies	Section 15, Water Resource (Terengganu) Enactment 2020

Key Coordination Findings

The Water Resource Board (LAUT) plays an extremely crucial role in both vertical and horizontal integration of the management of river basins in Terengganu. At the basin district level, the integrative function is assumed by the River Basin Committee. Together, these bodies, supported by the Relevant Agencies, constitute an institutional framework designed to facilitate informed, participatory, and coordinated decision-making over the allocation, use, development, and conservation of water resources. It is also at this platform that prioritisation and allocation decisions are made over water tenure. Therefore, by identifying and mapping the various relationships that people, both individual and group, have over water resources through the water tenure assessment, the information allows LAUT to make informed decisions of who is using what water resources for how long and under what conditions, in the making of decisions over the allocation and distribution of water at the basin level.

WATER TENURE GOVERNANCE: RECOGNISED FINDINGS AND AREAS OF IMPROVEMENT

The following section presents the principal recognised findings identified through this assessment and the areas of improvement, structured around the twelve normative dimensions of water tenure governance.

1. Recognition and Protection of All Legitimate Water Tenure Arrangements
Malaysia's legal framework, as illustrated by the Terengganu example, does acknowledge and safeguard a range of legitimate water tenure arrangements — including customary, subsistence, and indigenous water use. However, the recognition of customary water tenure remains primarily mediated through the courts, with the content of customary rights depending on community-specific practices and usages. There is no overarching statutory framework that comprehensively identifies and protects customary water tenure across all states. Further, while the link between water access and responsibilities for sustainable use is implicit in the licensing regime, it is not articulated as an explicit obligation for all tenure categories.

2. Evidence-Based Governance and Reform
Policy and legal reforms in Malaysia are generally grounded in documented legal and legitimate water uses, though not systematically framed from a water tenure perspective. Reliable data on water users, abstractions and allocations are being progressively developed, such as the National Water Balance System (NAWABS) developed by the Department of Irrigation and Drainage provides information on current and projected water availability, water use accounting, flow dependability and forecasting to support allocation decisions. However, data integration across agencies and across levels of government, as well as between government agencies and utility companies, remains a work in progress.

3. Security of Water Tenure
Revocation and suspension of licences are governed by the relevant legislation, providing a measure of procedural protection for licence holders. However, rules for the reallocation of water during drought or acute scarcity are not clearly defined in advance. In practice, priority is consistently given to meeting basic human needs for drinking water. Whether water users perceive their tenure arrangements as secure in practice, and whether adequate compensation or adjustment mechanisms exist when reallocations affect livelihoods, are questions that require further empirical research at the basin level.

4. Policy and Legal Coherence

Water tenure rights and obligations are clearly defined for formal licence holders and for de minimis subsistence users. Customary water tenure is inherently less precisely defined, with its content to be determined on a case-by-case basis by the courts when disputed. Overlapping jurisdictional claims between sectors particularly between water resource enactments and mining enactments represent a coordination challenge, though the ultimate authority of the State provides a mechanism for resolution. The harmonisation of sectoral laws governing water, agriculture, fisheries, mining, and environment requires deliberate and sustained effort, particularly in ensuring that licences and permits issued under different regimes are coordinated through the Water Resources Board (in the case of Terengganu, LAUT).

5. Fair and Inclusive Water Allocation

There is no explicit allocation framework in Malaysian law that specifically protects indigenous peoples, customary communities, and other vulnerable groups from disadvantage in the allocation of water resources. While the legal framework does not preclude equitable allocation, where the practice of states has been to prioritise human needs during scarcity, the absence of a formal priority framework leaves the protection of vulnerable users dependent on administrative discretion. The Terengganu Water Resources Enactment provides for disputes between Relevant Agencies to be resolved by the Water Resources Board, but mechanisms for resolving conflicts between individual users, especially small-scale and customary users, are limited.

6. Gender Equality

The laws and policies of Malaysia apply without gender distinction. Section 66 of Interpretation Acts 1948 and 1967 provides explicitly, in subsection 4(2) that words and expressions importing the masculine gender include female. Appointment to the Terengganu Water Resources Board requires relevant expertise as specified under section 20(1) of the Enactment, with no gender restriction. Administrative procedures such as licensing and registration are accessible regardless of gender. While there are no legal barriers to women's equal participation in water governance, further research is required to assess whether structural or practical barriers persist in practice.

7. Accountability and Transparency in Water Allocation

Roles and responsibilities for water allocation, monitoring and enforcement are clearly defined under the Water Resources Enactment. However, the specific criteria and data underpinning individual licensing decisions are not publicly accessible. Public participation is solicited in the drafting and amendment of integrated river basin management plans under section 34 of the Enactment; however, the Enactment does not obligate the Board or the Director to publish reasons for decisions or to disclose how public comments have been considered. This represents a possible area for improvement with the aim of strengthening the transparency and accountability of allocation processes.

8. Rights-Based Approaches

The Court of Appeal in Tan Tek Seng v Suruhanjaya Perkhidmatan Pendidikan [1996] 1 MLJ 261 held that the expression 'life' in Article 5(1) of the Federal Constitution incorporates all those facets that form the quality of life, including the right to live in a reasonably healthy and pollution-free environment. This decision establishes a cornerstone for the recognition of the human rights to water, food, and a clean and healthy environment under Malaysian constitutional law. In practice, water allocation decisions consistently prioritise basic human needs and food security. Environmental and social safeguards are operationalised through the environmental impact assessment regime and stringent pollution control conditions attached to licences and authorisations.

9. Sustainability

Environmental flow requirements are implicitly recognised as integral to water conservation under the Enactment but are not yet explicitly legislated as a distinct standard. A study on the evaluation of the environmental flow characteristics of river basins in Malaysia was conducted by the National Water Research Institute of Malaysia (NAHRIM) in 2021. The Study found that by studying the flow values required to attain certain ecological conditions, where Eflow Class A represents very good ecological condition, and Eflow Class D represents deficient ecological condition, water resources could be better managed in terms of quantity and quality, both of which are beneficial for the maintenance of ecosystem health along the river (NAHRIM, 2021).

Pollution control measures are well integrated into the licensing regime and supported by a comprehensive framework of environmental legislation. Various studies have been conducted to develop strategies for the coordinated implementation of Total Maximum Daily Load (TMDL) standards across sectors and agencies, supporting cumulative impact management in water allocation decisions.

10. Resilience

The establishment of water resources boards and river basin committees provides an institutional platform for adaptive water governance, enabling vertical coordination and improved data accessibility to respond to changing water availability and quality. However, further empirical research is required at the basin level to establish whether, and more importantly, how customary and local adaptive practices are formally recognised and supported. Reallocation mechanisms during extreme events and their inclusiveness and accountability also require further study as the decisions are always government-led, where policy decisions, though consistently made to prioritise domestic potable water needs, are still wholly dependent on administrative discretion of public authorities and the state. The extent to which these resilience measures protect the tenure security of vulnerable users, bearing in mind the scarcity of the resource at the point of crisis, warrant further research.

11. Enforceability and Accessibility

It is clear from the Water Resource (Terengganu) Enactment 2020 that the enforceability of water tenure, or rather, recognised relationships of individuals and groups over water resources, are implemented through the control that the Water Resources Board exercised to ensure that water of an adequate quality and quantity are available to meet the different demands of water users over:

- activities on the resource (licensing in Part VI);
- water charges and development of efficient practices as economic instruments of control (in Part VII on water charges and Part IX on the efficient management and conservation of resource);
- protection and development of the resource and its environment (in Parts VIII and XI);
- preparation and planning for the management of water hazards (in Part X).

By ensuring the integrity, and availability of the resource for allocation and distribution to various water users, enforcement mechanisms (in Part XIII), and the corresponding sanctions in the event of a breach (in Part XIV), are institutional mechanisms established under the Enactment to ensure its compliance.

Accessibility of water users to water resources could also be studied through the lens of the development of various tools that support evidence-based decision making. For example, NAWABS, developed by the Department of Irrigation and Drainage, informs the planning for the integrated management of water resources, and the preparation of an integrated river basin management plan under section 33 of the Enactment according to the priority, geographical area and timetable as determined by the Water Resources Board for the preservation and conservation of water resources. Tools deployed in informing decision making over the allocation and distribution of water to recognised relationships of individuals and groups with the resource provide the science and data that support evidence-based decision-making and strengthened accessibility of all water users to water resources.

For de minimis and small-scale users, registration-based access to water (without licence or fee), formalised under the Terengganu and other States' (including Sabah's) enactments represents a pragmatic and accessible tenure arrangement. Registration might not even be required, for example, in the states of Kedah and Kelantan. Their water resources enactments exempted the need for a licence for subsistence and self-sufficiency uses of water, where the relevant provisions are silent on whether such licence-exempted uses of water require registration. An evaluation of whether enforcement and accessibility are fair across different user groups and sectors requires systematic empirical assessment.

12. Access to Justice and Dispute Resolution

Formal appeal mechanisms to the State Authority are available to persons aggrieved by decisions of the Board or Director, and legitimate water tenure rights holders may ultimately

seek judicial recourse. Customary dispute resolution systems, while not provided for in the Water Resources Enactment, might be recognised under the relevant laws on Adat (customary law).

AREAS OF IMPROVEMENTS

The following suggestions for actions address the areas of improvement in strengthening water tenure governance as identified in this assessment. They are framed as action-oriented statements and organised by timeframe, recognising that effective water tenure reform requires sustained commitment across the short, medium, and long terms.

Short-Term Actions (1–2 Years)

- Conduct basin-specific water tenure assessments to identify and map the full range of tenure arrangements, including customary and subsistence rights that are unique to individual river basins and their communities, in order to ground subsequent legal and policy reforms in empirical evidence.
- Align water licences and permits issued under Mining Enactments and Water Resources Enactments to avoid regulatory overlap and establish clear coordination protocols between the Water Resources Board, the Superintendent of Mines, and other licensing authorities.
- Develop and publish transparent criteria and data for water allocation and licensing decisions, and establish a mechanism to communicate, in a publicly accessible manner, how public comments received in relation to integrated river basin management plans have been considered.

Medium-Term Actions (3–5 Years)

- Address institutional and legal challenges that prevent an effective recognition of water tenure of the most marginalised and vulnerable. The water basin authority should lead the effort in ascertaining, through solid research, the criteria that guides the determination of the relative security of tenure that weighted in favour of the safeguarding of human rights and human dignity, that are equitable, fair, and just.
- Strengthen the National Water Balance System (NAWABS) and develop a comprehensive water tenure data system that integrates data across agencies and governance levels, to support evidence-based allocation and reallocation decisions.
- Establish explicit environmental flow standards in legislation, providing a clear legal basis for minimum flow requirements and enabling their systematic integration into licensing conditions and water allocation planning.
- Expand and integrate existing water data systems to incorporate water tenure that formalises water tenure as a factor to be considered and taken account of in the making of decisions over water.

- Raise the awareness and build the capacity of public authorities and officials in recognising and acknowledging the relationships forged by marginalised and vulnerable individuals and communities that is crucial in establishing a rights-based water governance.
- Train public authorities, decision-makers, and policymakers in the applicable law relating to customary ownership of land and customary rights to water, and in the obligations of procedural justice, including the right to free prior informed consent and the right to access justice.
- Ensure that the prioritisation and allocation mechanisms are formalised in the workings of the institutions mandated to manage and govern water resources, where decisions made should be transparent and subject to public scrutiny.
- Formalise the procedural justice of the right to participation, the right to information and the right to access justice where public authority should be compelled by law to disclose information to the public in the conduct of public participation exercises, and to obtain free prior informed consent for the deprivation of rights.

Long-Term Actions (Beyond 5 Years)

- Develop a comprehensive, rights-based national water tenure framework that explicitly recognises the full spectrum of water tenure arrangements which include customary, subsistence, traditional, and indigenous, and establishes a coherent hierarchy of priorities for allocation, with human needs and ecological sustainability at the centre of decision making.
- Establish guiding principles to manage trade-offs within the food-water-energy nexus and between economic development, social well-being, and environmental sustainability, providing bottom-line parameters that ensure that fundamental rights are not breached to guide decision-making across governance levels.
- Foster procedural justice in water governance by strengthening the right to participate, the right to access information, and the right to access justice for all water users, with particular attention to women, indigenous peoples, and vulnerable communities. Develop institutional capacity and a conducive environment for the more marginalised communities to meaningfully engage in governance processes.
- Re-establish and deepen the recognition of the intrinsic connection of communities, in particular, the indigenous communities with their land, water and habitat, and give full legal cognisance to the right to self-determination as a dimension of the human right to life, livelihood and way of life that goes beyond seeing water as a mere commodity to be traded and used.

These critical areas for improvement in governance could only be enabled by treating human rights and self-determination as the non-negotiable bottom lines; the content and scope of such rights should be determined by the effective participation of the public, within which decisions over prioritisation, allocation and trade-offs must occur. More importantly, the governance authority of indigenous peoples should be recognised and respected, where indigenous values and the indigenous peoples' agency in governance should be reinstated and strengthened in the administration and implementation of native customary rights. It is also crucial that such explicit statutory recognition of native customary rights in state laws should not be interpreted narrowly by the judiciary (Subramaniam, 2025).

The water tenure approach serves as the lens through which the critical foundation of basic human rights to life, livelihood, and way of life; water and sanitation; a safe, clean, healthy, and sustainable environment, and more importantly, the recognition of the rights of the indigenous peoples is operationalised. Such recognition entails the acknowledgement and respect of the free, prior and informed consent of the people, and the right of information that moves away from retrospective decision-making by removing critical blocks to access information and justice and instead, facilitate effective public participation prior to any decisions that resulted in the deprivation of the basic human rights that has adverse implication on the security of the water tenure of individuals and communities.

The traditional and customary practices engaged by indigenous peoples and the local communities vis-à-vis their water resources, as in the case of the Tagal system, support and strengthen the role and function of the indigenous peoples and the local communities in the governance of their resource, not merely as beneficiaries, but as the governance authority of these resources consistent with their right to self-determination.

It could be concluded that the water tenure lens offers a valuable analytical perspective in advancing the country's commitments under SDG 6 and its aspirations towards Integrated Water Resources Management. The present analysis identified and mapped the various relationships, even water arrangements that are rooted in customs over water resources and formalised in both statute and common law. The recognition of these relationships plays a crucial role in both the vertical and horizontal integration of the management of water resources, where decision-making over water allocation and distribution of water, especially at the basin level, takes into account existing relationships of people over water in order to ensure that no one, especially the marginalised and the vulnerable, are integrated into the management of water resources not just at the basin level, but also at the country or even international levels in the case of transboundary basins.

ANNEX 1: LEGISLATIONS THAT CORRESPOND TO THE DIFFERENT MATTERS LISTED IN SCHEDULE 9 OF THE FEDERAL CONSTITUTION

Table 4: The Federal List of the Ninth Schedule of the Federal Constitution

MATTERS	LEGISLATIONS
Trade, commerce and industry Development of mineral resources	Mineral Development Act 1994
Shipping, navigation and fisheries Shipping and navigation in tidal and inland waters Estuarine fishing and fisheries	Fisheries Act 1985
Communication and transport Road, bridges and ferries Traffic by water Carriage of passengers and goods by water	Merchant Shipping Ordinance 1952
Federal works and power Water supplies, rivers and canals Water power	Suruhanjaya Perkhidmatan Air Negara Act 2006 Water Services Industry Act 2006 Energy Commission Act 2001 Electricity Supply Act 1990
Welfare of the aborigines Article 8(5)(c): protection, well-being or advancement of the aboriginal peoples of the Malay Peninsula (reservation of land) Article 153: special position of Malays and natives of Sabah and Sarawak Article 161A: special position of natives of Sabah and Sarawak	Aboriginal Peoples Act 1954 Sarawak Land Code (native and communal titles) Native Courts Ordinance 1992 Sabah Land Ordinance (native and communal) Native Courts Enactment 1992
Tourism	Tourism Industry Act 1992

ANNEX 1: LEGISLATIONS THAT CORRESPOND TO THE DIFFERENT MATTERS LISTED IN SCHEDULE 9 OF THE FEDERAL CONSTITUTION

Table 5: The State Lists of the Ninth Schedule of the Federal Constitution

MATTERS	LEGISLATIONS
Land Land tenure, prospecting permits and licences	National Land Code Land Acquisition Act 1960 Land Development Act 1956 Mineral Enactments Sabah Land Ordinance (native and communal) Sarawak Land Code (native and communal titles)
Native law and custom Determination of matters of native law or custom Constitution, organisation, and procedure of native courts	Native Courts Ordinance 1992 Native Courts Enactment 1992
Agriculture and forestry	Merchant Shipping Ordinance 1952
Local government Obnoxious trades and public nuisances in local authority areas.	Local Government Act 1976 Street, Drainage and Building Act 1974
State works and water Roads, bridges and ferries Water (including rivers and canals); control of silt; riparian rights	Common law in so far as it is in operation in the Federation or any part thereof, and any custom or usage having the force of law in the Federation or any part thereof (Article 160, Federal Constitution), which includes, among others, riparian rights State enactments on water resources State water supply enactments Waters Act 1920
Turtles and riverine fishing	Fisheries Act 1985

ANNEX 1: LEGISLATIONS THAT CORRESPOND TO THE DIFFERENT MATTERS LISTED IN SCHEDULE 9 OF THE FEDERAL CONSTITUTION

Table 6: The Concurrent Lists of the Ninth Schedule of the Federal Constitution

MATTERS	LEGISLATIONS
Protection of wild animals and wild birds; National Parks	State Parks Enactments National Parks Act 1980 Wildlife Conservation Act 2010 Sarawak Wildlife Protection Ordinance 1998 Sabah Wildlife Conservation Enactment 1997
Animal husbandry, veterinary services, animal quarantine	Animals Act 1953 Animal Welfare Act 2015
Drainage and irrigation	Drainage Works Act 1954 Irrigation Areas Act 1953 Street, Drainage and Building Act 1974
Water supplies and services	Suruhanjaya Perkhidmatan Air Negara Act 2006 Water Services Industry Act 2006
Preservation of heritage	National Heritage Act 2005 Sarawak Heritage Ordinance 2019; Sabah Heritage Enactment 2017

ANNEX 2: LIST OF NATIONAL POLICIES AND LEGISLATIONS ON THE WATER SECTOR AS IDENTIFIED IN THE WATER SECTOR TRANSFORMATION 2040 REPORT

Policies

1. National Water Resources Policy (NWRP) 2012
2. National Green-Technology Policy (2009)
3. National Policy on the Environment (2002)
4. National Policy on Climate Change (2009)
5. National Policy on Biodiversity (2016 – 2025)
6. National Agro-Food Policy (2011 – 2020)
7. National Timber Industry Policy (2009 – 2020)
8. National Mineral Policy 2 (2009)
9. New Energy Policy (2010)
10. National Biofuel Policy (2006)
11. National Forestry Policy (1978; Revised 1992)
12. National Urbanisation Policy 2 (2016 – 2025)
13. National Consumer Policy (2002)
14. National Solid Waste Management Policy (2016)
15. National Tourism Policy (2020 – 2030)
16. Education Blueprint (2006 – 2010)
17. National Bio-Technology Policy (2005)
18. Malaysia Space Policy 2030
19. National Standards for Drinking Water Quality (2000; Revised 2004)
20. National Physical Plan 3 (2016)
21. Green Technology Masterplan Malaysia (2017 – 2030)
22. Malaysia Smart City Framework (2018)
23. Public Sector Open Data Initiative (2014)
24. Water Safety Plan (WHO)
25. National Action Plan for Peatlands (2011)
26. National Policy on Rural Development (2030)
27. National Renewable Energy Policy & Action Plan (2010)
28. National Energy Efficiency Action Plan (2015)
29. National Plan of Action for Nutrition of Malaysia III (2016 – 2025)
30. Malaysian National Environmental Health Action Plan (2013)
31. National Transport Policy (2019 – 2030)
32. National Ecotourism Plan (2016 – 2025)
33. National Community Policy (2019)
34. Shared Prosperity Vision 2030
35. Malaysia Roadmap Towards Zero Single Use Plastics (2018 – 2030)
36. National Cleanliness Policy (2019)
37. Communications and Multimedia Blueprint (2018 – 2025)
38. Malaysia Shipping Master Plan (2017 – 2022)
39. Pelan Strategik Jabatan Hutan Sarawak (2015 – 2020)
40. Sabah Forestry Policy (2018)
41. National Education Policy (2017)
42. The National Physical Plan for Coastal Zone Areas (2012)
43. Central Forest Spine (CFS): The Master Plan for Ecological Linkages (2010)
44. National Policy on Science, Technology and Innovation (2021 – 2030)
45. National Security Policy 2021 – 2025

It is noted that the National Water Policy was launched in April 2026, after the publication of the Water Sector Transformation 2040 Report.

ANNEX 2: LIST OF NATIONAL POLICIES AND LEGISLATIONS ON THE WATER SECTOR AS IDENTIFIED IN THE WATER SECTOR TRANSFORMATION 2040 REPORT

The Federal Constitution

Federal Acts

1. Abattoirs (Privatization) Act 1993
2. Bintulu Port Authority Act 1981
3. Biosafety Act 2007
4. Control Of Activities on the Lake (Federal Territories of Putrajaya) By-Laws 2004
5. Drainage Works Act 1954
6. East Coast Economic Region Development Council Act 2008
7. Electricity Supply Act 1990
8. Energy Commission Act 2001
9. Environmental Quality Act 1974
10. Environmental Quality (Schedules Wastes) Regulations 2005
11. Existing Water Project Funding Policy/Budgetary
12. Factories And Machinery Act 1967
13. Federal Agricultural Marketing Authority Act 1965
14. Federal Lands Commissioner Act 1957
15. Federal Territory (Planning) Act 1982
16. Fisheries Act 1985
17. Geological Survey Act 1974
18. Irrigation Areas Act 1953
19. Iskandar Regional Development Authority Act 2007
20. Islamic Financial Services Act 2013
21. Kemubu Agricultural Development Authority Act 1972
22. Land Acquisition Act 1960
23. Land Conservation Act 1960
24. Land Development Act 1956
25. Langkawi International Yacht Registry Act 2003
26. Lembaga Kemajuan Johor Tenggara (Dissolution) Act 1997
27. Lembaga Kemajuan Kelantan Selatan Act 1978
28. Lembaga Kemajuan Pahang Tenggara (Dissolution) Act 1997
29. Lembaga Kemajuan Terengganu Tengah Act 1973
30. Lembaga Kemajuan Wilayah Kedah Act 1981
31. Lembaga Kemajuan Wilayah Pulau Pinang Act 1983
32. Lembaga Letrik Sabah Act 1983
33. Lembaga Pembangunan Langkawi Act 1990
34. Local Government Act 1976
35. Malaysian Agricultural Research and Development Institute Act 1969
36. Malaysian Forestry Research and Development Board Act 1985
37. Malaysian Maritime Enforcement Agency Act 2004
38. Malaysian Rubber Board (Incorporation) Act 1996
39. Merchant Shipping (Oil Pollution) Act 1994
40. Mineral Development Act 1994
41. Mining Enactment 1962 (Ft)
42. Town And Country Planning Act 1976
43. Waters Act 1920
44. Water Services Industry Act 2006
45. Water Supply (Federal Territory of Kuala Lumpur) Act 1998
46. Ministerial Functions Act 1969

ANNEX 2: LIST OF NATIONAL POLICIES AND LEGISLATIONS ON THE WATER SECTOR AS IDENTIFIED IN THE WATER SECTOR TRANSFORMATION 2040 REPORT

47. Statistics Act 1965 (Revised 1989)
48. National Space Authority (NSA) Bill 2020
49. National Security Council's Directive 20 (2012)
50. Personal Data Protection Act 2010
51. Communications And Multimedia Act 1998
52. Muda Agricultural Development Authority Act 1972
53. National Forestry Act 1984
54. National Heritage Act 2005
55. National Land Code 1960 – Revised 2020
56. National Land Code (Penang and Malacca Titles) Act 1963
57. National Parks Act 1980
58. Northern Corridor Implementation Authority Act 2008
59. Padi Cultivators (Control of Rent and Security of Tenure) Act 1967
60. Penang Port Commission Act 1955
61. Perbadanan Labuan Act 2001
62. Perbadanan Pembekalan Letrik Sarawak Act 1983
63. Perbadanan Putrajaya Act 1995
64. Petroleum Development Act 1974
65. Petroleum (Safety Measures) Act 1984
66. Petroleum Mining Act 1966
67. Port Authorities Act 1963
68. Ports (Privatisation) Act 1990
69. Sewerage Services Act 1993 (Act 508)
70. Solid Waste and Public Cleansing Management Act 2007
71. Solid Waste and Public Cleansing Management Corporation Act 2007
72. Street, Drainage, and Building Act 1974
73. Suruhanjaya Perkhidmatan Air Negara Act 2006

State Enactments and Ordinances

Johor

- Mineral Enactment 2003
- Waters Enactment 1921 (which is subsequently repealed by Johore Water Enactment 2024)

Note: The Johore Water Board Enactment 2024 is subsequently enacted to provide for the establishment of the Johore Water Board.

Kedah

- Mineral Enactment 2004
- Waters Resources Enactment 2008

Melaka

- Mineral Enactment 2002
- River And Coastal Development Corporation
- Enactment 2005
- Water Resources (State of Malacca) Enactment 2014

Kelantan

- Mineral Enactment 2001
- Rivers And Drainage Enactment No 18 of 1935
- Kelantan Enactment No. 4 of 1971

Note: The State of Kelantan enacted the State of Kelantan Water Resources Enactment 2019 subsequent to the publication of the Water Sector Transformation 2040 Report.

ANNEX 2: LIST OF NATIONAL POLICIES AND LEGISLATIONS ON THE WATER SECTOR AS IDENTIFIED IN THE WATER SECTOR TRANSFORMATION 2040 REPORT

Negeri Sembilan
- Mineral Enactment 2002
- Quarry Rules 2009
- Waters (Amendment of Waters Act 1920) Enactment 2007

Pahang
- Mineral Enactment 2001
- Water Resources Enactment 2007

Perak
- Mineral Enactment 2003
- Water (Amendment) Enactment 2009 (which is subsequently repealed by Perak Water Resources Enactment 2023)

Selangor
- Mineral Enactment 2000
- Selangor Waters Management Authority Enactment 1999 and the Selangor Waters
- Management Authority (Amendment) Enactment 2020 (A65 of 2020).

Perlis
- Control of Rivers and Streams Enactment 1957
- Waters Perlis Enactment No. 9/1357 (which is subsequently repealed by Waters Enactment 2011. The 2011 Enactment was then repealed by State of Perlis Water Resources Enactment 2023)
- Water Supply Perlis Enactment 2/1952 (which is subsequently repealed by Water Supply Enactment 2006)
- Mining Enactment Perlis No. 1/1340
- Mineral Ores Enactment Perlis No. 2/1356
- Forest Enactment Perlis No. 3/1370

Pulau Pinang
- Mineral Enactment 2001
- Waters (Extended Application to Penang) Enactment 1967 (which is subsequently repealed by Penang Water Resources Enactment 2025)

Note: The Penang Water Resources Board Enactment 2025 is subsequently enacted to provide for the establishment of the Penang Water Resources Board.

Terengganu
- Quarry Rules 2007
- Water Resources (Terengganu) Enactment 2020

Sabah
- Biodiversity Enactment 2000
- Cultural Heritage (Conservation) Enactment 1997
- Drainage And Irrigation Ordinance 1956
- Environment Protection Enactment 2002
- Forest Enactment 1968
- Korporasi Kemajuan Perikanan dan Nelayan Sabah (Ko-Nelayan) Enactment 1981
- Local Government Ordinance 1961
- Merchant Shipping Ordinance 1960
- Sabah Water Resources Enactment 1998
- Sabah Water Supply Enactment 2003

ANNEX 2: LIST OF NATIONAL POLICIES AND LEGISLATIONS ON THE WATER SECTOR AS IDENTIFIED IN THE WATER SECTOR TRANSFORMATION 2040 REPORT

- Town And Country Planning Ordinance
- Water Regulations 1961
- Wildlife Conservation Enactment 1997

Sarawak

- Electricity Ordinance
- The Electricity Rules 1999
- Sarawak Electricity Supply Corporation (Successor Company) Ordinance 2004
- Sarawak Electricity (State Grid Code) Rules 2003
- Forest Ordinance 1954
- Local Authorities Ordinance 1996
- Merchant Shipping Ordinance 1960
- Mineral Ordinance 2004
- National Parks and Nature Reserves Ordinance 1998
- Natural Resources and Environment Ordinance 1958
- Public Park and Green Ordinance 1993
- Regional Corridors Development Authorities
- Ordinance 2006
- Sarawak Biodiversity Centre Ordinance 1997
- Sarawak Forestry Corporation Ordinance 1995
- Sarawak Land Code
- Sarawak River Ordinance 1993
- Sarawak Riverine Transport Bill 1993
- Sarawak Water Ordinance 1994
- Water Supply Regulation 1995
- Sewerage Systems and Services Ordinance 2005
- State Fisheries Ordinance 2003
- Wildlife Protection Ordinance 1998

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