

### Key Points

- Weaknesses in the governance, management, and coordination of resource allocation is a major cause of the slow progress in ensuring global access to sanitation.
- Policy, legislation, and organizational mandates that facilitate clear role definition, responsibility, and accountability and the efficient, effective, and ethical use of financial resources are good ingredients for integrity in any sector.
- Malaysia's approaches in this regard have been largely successful and are a model for adaptation elsewhere.
- Other necessary ingredients are strong policy, strategy, planning approaches, systems, and checks and balances, making up a good governance framework.
- Financial policies and procurement protocols promote accountability, transparency, and value for money.
- The regulatory framework covers economic, technical, consumer, and social aspects and protects customer interests while also ensuring the sustainability of the sector.

# Integrity in Sanitation Access and Service Delivery: A Case Study of Malaysia's Sanitation Sector

Dorai Narayana, Independent Consultant, Malaysia

## Introduction

Despite the continued efforts of international bodies, aid agencies, and governments, a huge portion of the global population still lacks safely managed sanitation. This leads to disease, death, and long-term health issues in the community and impacts human well-being and social and economic development. One major issue is equitable coverage, with poorer segments of society often being left out. Women and girls are disproportionately affected and suffer from dignity issues, anxiety, the risk of sexual assault, and lost educational opportunities. National aspirations for quality of life for the people cannot succeed without addressing sanitation issues adequately.

A World Health Organization study calculated that, for every \$1.00 invested in water and sanitation, there is a return of \$4.30 in lower health costs, greater productivity, and fewer premature deaths. While the seriousness of the issue is indisputable, it is worth questioning why the situation is continuing without significant improvement, despite the efforts of so many agencies at all levels. Lack of resources is often blamed for large numbers of people not having access to basic levels of water and sanitation; however, even in places with significant investment, the outcomes do not meet expectations. Slow and variable progress toward this goal is also seen to be the result of weak governance, management, and coordination of resource allocation, leading to efficiency losses and integrity risks. Major stumbling blocks could include the suboptimal allocation of resources and misalignment of achieved results. Strong financial management frameworks in the public sector help to improve performance, stewardship, and accountability. Policy, legislation, and organisational mandates,

## Acknowledgments

This policy brief was prepared as part of ADBI's city-wide inclusive sanitation (CWIS) initiatives and will be used as a reference material in upcoming ADBI learning programs. The author would like to thank KE Seetha Ram, Senior Consulting Specialist for Capacity Building and Training Projects, Asian Development Bank Institute (ADBI); Ma. Laarni Revilla, Research Associate, ADBI; Ahmad Rozian Othman, Deputy Director General, Sewerage Services Department; Ahmad Faizal Abdul Rahman, Chief Executive Officer, National Water Services Commission; Idayu Binti Shah Haibi, Internal Audit and Integrity Division, National Water Services Commission; Narendran Maniam, Chief Executive Officer, Indah Water Konsortium (IWK); Md Haniffa Abd Hamid, Chief Operating Officer, IWK; Devatara Munusamy, Senior Manager, IWK; Suzinor Kamaralzaman, Head of Integrity and Governance Unit, IWK; S. Piarapakaran, President, Association of Water and Energy Research Malaysia; Leow Peen Fong; Punita Naidu; Vrishali Subramaniam; and Chengyan Zhang for their advice and assistance.

which facilitate clear role definition, responsibility, and accountability and the efficient, effective, and ethical use of financial resources, are good ingredients for integrity in any sector.

The issue of integrity here is viewed holistically, as an indicator of the misalignment of line of sight, relating in this case to sanitation access and service delivery. This policy brief is concerned with integrity risks in governance and service delivery systems and practices in the sanitation sub-sector at the country level, and potential stakeholder actions to mitigate risks and strengthen integrity.

Malaysia stands out in Southeast Asia as having made significant improvements in sanitation and sewerage management in the recent past. It has made spectacular improvements in sanitation, particularly since the early 2000s. A holistic approach was adopted to manage centralized, community, and on-site sanitation systems, with a strong regulatory framework and private sector involvement. The combination of factors responsible for Malaysia's success has become a model for other countries, and integrity aspects feature strongly in this. This policy brief is intended to share evidence, knowledge, experiences, ideas, policy options, and good practices from the perspective of integrity in the sanitation sector, which has contributed to Malaysia's success, with a view for adaptation elsewhere.

## Integrity Frameworks

### *Integrity as Used in This Policy Brief*

In this policy brief, the issue of integrity is viewed as an indicator of the misalignment of line of sight. Integrity is not just ethics and political will, but also can ensure effective resource allocation and sectoral management. What are the policy, strategy, and planning approaches required to achieve the intended outcomes? Weaknesses in procurement, lack of capacity, management shortcomings, and finally corruption dilute the impacts of interventions and sometimes even exacerbate the problem. They siphon funds out of the system and direct service delivery inequitably, delivering sub-standard or dysfunctional services and employing incompetent people to manage water and sanitation services. Not only does this prevent resources from being targeted to pertinent needs and as required, it also impacts the credibility of the institutions concerned, making it even harder to get additional resources.

This policy brief looks at key integrity risks in governance and service delivery systems and practices in the sanitation sub-sector at the country level, as well as potential stakeholder actions to mitigate risks and strengthen integrity. It considers to what extent the sector's rules, institutions, and processes for decision-making on the allocation and management of resources are transparent, accountable, participatory, followed, and provided with safeguards to prevent corruption.

The Water Integrity Network defines water integrity as a means of ensuring that resources and services go where they are intended (and most needed) so that water is fairly and sustainably managed.

## Context

Malaysia is a highly urbanized country in Southeast Asia. In 2018, the country had a gross domestic product of \$358,579 million, and gross domestic product per capita of \$11,072. The country is rich in natural resources such as oil, natural gas, and other minerals; and also has a large manufacturing sector and substantial tourism industry.

Since the 1970s, Malaysia has made tremendous economic progress and invested in quality infrastructure. Sanitation and sewerage management, although still perceived to be lagging behind other sectors, has also seen dramatic improvements. Almost 100% of the population has access to toilets and safe sanitation; nearly 70% now has access to sewerage services that drain into off-site treatment facilities; 20% use septic tanks built to standard design; and the remainder use modified septic tanks, pour-flush, or pit latrines. About 10%–20% of on-site facilities are regularly emptied while the rest are emptied on request. All emptied sludge is treated before disposal.

Universal access to water supply and sanitation at affordable costs is a substantial achievement for Malaysia. The Government of Malaysia has also shown a commitment to make the sector more efficient, create a sustainable funding mechanism, and improve the customer orientation of service providers through sector reforms.

The Malaysian governance system for water and sewerage (including sanitation) is under the policy direction of the Ministry of Environment and Water and is regulated by a national regulator, the National Water

## “The government has long been intent on infusing integrity values in its agencies.”

Services Commission. The Water Services Industry Act integrates policy, regulation, and service provision for water and sewerage. The act also envisages separation of policy (under the ministry), regulation (under the National Water Services Commission), asset provision and ownership (under facility licensees), and service provision (under service licensees). Other private entities in the industry are accredited and regulated through permits. These demonstrate a good separation of roles and check and balance systems, contributing to integrity.

The regulator is an economic regulator, and is tasked with protecting customers' interests while ensuring the operator's viability. This is done through a business plan process to ascertain business viability and appropriate tariffs. The ministry and regulator have developed catchment plans, capital works evaluation criteria and tools, and value engineering systems to ensure that capital expenditure (CAPEX) for sewerage projects is guided by national policy and catchment plans, and funds are generally allocated to projects with the highest cost-benefit ratio. Value engineering scrutinizes the scoping of projects to make the most from the investments.

At the operator level, the main national sewerage utility, Indah Water Konsortium (IWK) manages a substantial portfolio of sewage treatment plants (almost 7,000) and sewer pipelines (almost 20,000 kilometers) serving a population of more than 26 million. IWK has implemented many standard operating procedures, innovations, and best practices. It also empties septic tanks and has introduced technical innovations to monitor tanker movements and eliminate abuse by workers on the ground.

The Malaysian water sector (including the sewerage and sanitation sector) has undergone a vast transformation since the 1990s, and policy thrusts have effected impressive improvements, resulting in effective governance, regulation, performance, infrastructure, service delivery, and accountability. To the people this has meant a much-improved quality of life. In global terms, the vision is that of equitable and sustained access to water and a clean environment, which is no longer threatened by

mismanagement, corruption, greed, dishonesty, and wilful malpractice. This case study is intended to draw lessons from the Malaysian experience in this regard, to be adapted and adopted elsewhere.

### Malaysia's General Philosophy on Integrity

Malaysia's government and its agencies have declared a strong commitment to integrity. The government has long been intent on infusing integrity values in its agencies. Initially, enforcement was done through legislation, namely, the Anti-Corruption Act, with the Anti-Corruption Agency being the institutional mechanism. Subsequently, more preventive mechanisms have been put into use, and the 2004 establishment of the Integrity Institute, which has an agenda to make Malaysia a nation known for its integrity, has increased the efficiency and transparency of government management based on principles of governance, integrity, and anti-corruption. A special Cabinet Committee on Anti-Corruption has also been established.

The National Anti-Corruption Plan is a key government document outlining comprehensive and integrated action in the fight against corruption. The plan covers governance, integrity, and anti-corruption issues within an integrated framework, with a vision to create a nation free from corruption. It has identified 115 initiatives under six strategies to curb corruption among political actors, corporate entities, law enforcement agencies, and stakeholders. The stakeholders are expected to develop their own plans in addressing issues of integrity, governance, and anti-corruption in their organizations.

The initiatives include corruption risk management, a management process that helps prevent corruption by working to identify structural weaknesses that may facilitate corruption in an organisation, providing a risk-based framework for all staff to participate in identifying risk factors and treatments, and embedding corruption prevention within a well-established governance framework. Malaysian anti-corruption legislation also incorporates a provision for corporate liability, whereby organizations would be made answerable

**Table 1: Development Planning Tiers**

Long-term planning	Encompass 10–30-year timeframes and set out long-term planning philosophies and strategies, such as: (i) Vision 2020 (1991–2020); (ii) Outline Perspective Plans (OPP1–OPP3), 10-year plans; (iii) National Transformation Policy (2010–2020); (iv) Shared Prosperity Vision 2030; (v) the National Physical Plan; and state structure plans.
Medium-term planning	Malaysia adopts the 5-year development plan as a guide to its medium-term economic planning. A development plan is primarily a document to help mobilize available economic resources to achieve specific socioeconomic goals within this time frame. These plans build on the long-term plans, and strategize medium-term plans for 5-year durations, including resource allocation.
Short-term planning	Annual budgets of the government, ministries, and agencies.

Source: Sewerage Services Department, Malaysia.

and accountable for actions committed by their top management, employees, and associated persons.

## Malaysian Development Planning Process

Economic planning in Malaysia is structured along several levels or hierarchies. Developmental thrusts in line with an overall industry framework are used to guide the planning, for example, expanding network and treatment plant capacity through infrastructure investment and increasing the efficiency and productivity of water and sewerage services (Table 1).

For each of the processes, wide consultation is held among government agencies as well as nongovernment organisations, professional and business entities, and other stakeholders; and views taken into consideration. Inter-agency planning groups are formed for this consultative process. Tools such as the project prioritisation criteria and creativity indexes are used to assess the socioeconomic impact of all development programs and projects, for the purpose of determining priority.

## Sanitation and Sewerage Planning

The Sewerage Services Department, the technical department in the Ministry of Environment and Water, is tasked with planning the provision of suitable and sufficient sewerage facilities to ensure continuous public health protection and preserve national resources. Sanitation and sewerage planning is generally guided by national sewerage development plans. Projects are prioritized based on the ministry's strategic planning and criteria set by the Sewerage Services Department based on previous engagement and feedback.

To address gaps and shortcomings in various programmes, a National Sewerage Policy in line with the National Water Resources Policy is proposed. The National Sewerage Policy will be the main reference for developing projects and programs that promote the coordinated development and management of sewerage and related resources to maximize the resultant economic and social welfare equitably without compromising sustainability.

## Project Implementation and Procurement

The Ministry of Finance has policies and guidelines in place to govern all government financial management and procurement. This covers procurement by government agencies and the private sector, in handling government funded projects. Governing legislation and guidelines include the Financial Procedure Act 1957, which provides for the control and management of public finances; and the Treasury Instructions and Circulars, which detail financial and accounting procedures.

Government procurement was designed to ensure value for money when acquiring works, supplies, and services. It considers not only price factors, but also whole life cost, quality, quantity, timeliness, maintenance, and warranty. Government procurement is based on the following policies, principles, objectives, and procedures: (i) public accountability, (ii) transparency, (iii) value for money, (iv) open and fair competition, and (v) fair dealing.

The Sewerage Services Department is the project implementation arm for government-funded sewerage projects. All project implementation by the Sewerage Services Department is subjected to government procurement frameworks, and procurement is subject to

tender processes with pre-registered contractors. Tender specifications, tender evaluation, and awards are carried out systematically through technical committees, tender committees, and procurement boards of ministries and departments.

## Value Management and Engineering

The government has mandated the implementation of value management in public programmes valued at RM50 million and above, and set three major value management interventions to be implemented in public projects: value assessment, value engineering, and value review. Value assessment is set at the strategic planning stages of project implementation to focus primarily on the decision to invest, to establish requirements such as investment scope, and to prioritize projects strategically. It clarifies the line of sight between high-level strategic goals and intended project outcomes. Value engineering is usually set to review the needs statement at the draft stage. This statement sets out the key outcomes intended from a given project, as well as its constraints and framework. Value review is set at the use stage of project implementation to assess the realization of the investment's intended outcomes during operation over the project's life span. Together, these various aspects of value management promote integrity by aligning outcomes to objectives, and maximising return on investment.

## Stakeholder Consultation

Consultative processes are involved in each step of project implementation. During the planning stage, for example, a needs statement workshop would be initiated to get feedback from various stakeholders including local authorities, state governments, plant operators, and other government agencies. Project scoping is formulated during this stage, taking into consideration other technical aspects and information such as the state physical plan, structure plan, and planning regulations.

## Regulatory Aspects

Since 2008, the National Water Services Commission (Suruhanjaya Perkhidmatan Air Negara [SPAN]) is the regulator of water services, including water supply as well as sanitation and sewerage.

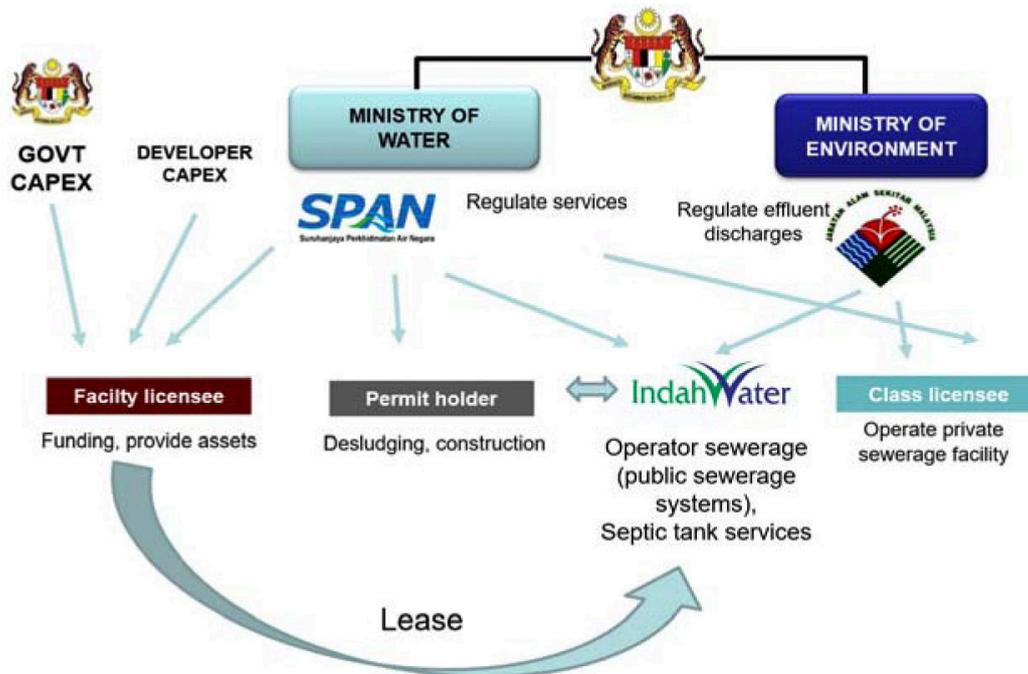
The areas of regulation are broadly as follows:

- (i) Economic, including
  - (a) a licensing regime with a viable business model, performance measured based on key performance indicators and benchmarking; and
  - (b) a regulated tariff based on regulatory water accounting to achieve full cost recovery.
- (ii) Technical, including
  - (a) the selection of appropriate infrastructure,
  - (b) quality of infrastructure (design and construction), and
  - (c) performance of products and systems.
- (iii) Consumer, including
  - (a) consumer standards (quality of services, rates, and deposits);
  - (b) the resolution of consumer complaints and disputes; and
  - (c) the provision of information transparency.
- (iv) Social, including
  - (a) a sewerage capital contribution fund,
  - (b) a water industry fund,
  - (c) a water forum,
  - (d) environmental aspects, and
  - (e) public consultation and participation.

Broadly, as an economic regulator, SPAN is expected to protect customer interests, while also ensuring the sustainability of the operators (Figure 1). SPAN adopts a business plan approach for licensees to ensure that optimum infrastructure is delivered equitably and affordably. The business plan details the operators' plan for the expansion, management, maintenance, repairs, upgrading, improvement, and refurbishment of the

**“These various aspects of value management promote integrity by aligning outcomes to objectives, and maximising return on investment.”**

Figure 1: Overall Sanitation Governance



CAPEX = capital expenditure, govt = government.  
Source: Author.

public water supply or sewerage system, as well as the capital and operational expenses to be incurred in undertaking the activities and programs during the business plan period. Operators are also required to propose tariffs for the coming years in line with the planned activities, programs, and expenditures in the business plan, with the aim of eventually achieving full cost recovery. SPAN also evaluates the business plan for appropriateness and affordability, as well as the operator’s financial sustainability; and the final approved plan will be the basis for the operators to carry out the programs set out therein.

The federal government and developers currently fund CAPEX for sewerage systems. CAPEX development must be done in accordance with the Sewerage Catchment Plan, and SPAN monitors planning, design, and construction with the assistance of the certifying agencies. SPAN has issued comprehensive guidelines for the planning, design, and construction of water and sewerage infrastructure, including a minimum requirement for certifying agencies, operators, and developers to protect public safety and interest.

Completed sewerage infrastructure is subsequently handed over to licenced sewerage operators for operation and maintenance. However, private systems will be operated and maintained by the owner, who must obtain a class licence from SPAN. All licensees will be monitored regularly to ensure their service delivery.

Sewerage services are provided on a monopoly basis and, as part of its function, SPAN has implemented uniform water industry regulatory accounting reporting on all operators to enable effective evaluation of the operators’ financial performance, as well as efficient monitoring of their operational and service delivery. This is to ensure that any financial requirements proposed by the operators are set at an efficient rate to deliver effective services to consumers. This regulatory control ringfences the accounting to confine expenses to those related to the regulated business. Water industry regulatory accounting, a key tool in tariff setting, promotes transparency of operational and financial accounting information and helps to establish key benchmark costs, which can then be applied to compute future tariff pricing.

The Water Services Industry Act provides for a water forum as a consultative mechanism intended to represent the interests of consumers, give feedback, and make recommendations to the commission on any matters concerning the interests of consumers of water supply and sewerage services. In addition, SPAN provides for various other consultative processes for policy or procedural changes, tariffs, charges, and other matters, including public consultation. SPAN has also established an appeals tribunal to protect the interests of the public and industry players, and provide checks and balances to ensure the commission's integrity.

As an overarching mechanism towards integrity, SPAN has established the "Integrity Framework for Water Operator and Certifying Agency", outlining various control measures to ensure effective checks and balances. Operators and suppliers in the water supply and sewerage services industry are required to allocate 1% of their annual operational budget to carry out integrity programmes, including audit, risk assessment, monitoring, training, and communications. The framework was created in line with the National Anti-Corruption Plan, which outlined five basic principles to which water industry players must adhere in areas such as top management commitment, risk analyses, control measure implementation, monitoring, evaluation, and systematic enforcement, as well as training and communications. The integrity framework has been incorporated into the licence conditions, requiring licensees to comply.

## Service Providers and Operators

The public sewerage system in most urban parts of Malaysia is operated under a concession by IWK, a previously private company now owned by the government. IWK operates and maintains public sewerage systems, provides desludging services, and charges tariffs to customers. It also outsources some of its roles to private operators. The company is regulated by SPAN (the economic, technical, and services regulator) and the Department of Environment (the environmental regulator).

The Water Services Industry Act (2006) proposes that water services be provided by a service licensee while assets are provided and owned by a facility licensee. Although this arrangement is yet to be fully implemented, IWK functions primarily as a service licensee, while sewerage assets are de facto government-owned.

## Integrity Initiatives

As part of its integrity initiatives, IWK has introduced a code of conduct that defines its expectations for conducting business. This serves to inculcate a high level of personal integrity and professionalism in its employees and promotes public trust and confidence in its business as a responsible corporate entity. The code of conduct contains measures to address corruption, bribery, and gift giving. The corporate integrity pledge was adopted in line with the company's vision of promoting a culture free from corruption. Within IWK, an integrity unit has been established to instill a culture of integrity at all levels of the organisation.

## Customer Relations

IWK's customer charter outlines the company's commitment to provide sewerage services and ensure the standard of customer service that each customer can expect. IWK has implemented a customer complaints management system to record and monitor all customer complaints to resolution. Levels of service are set for various types of issues, and active engagement is conducted through social media, education, awareness programmes, and other means.

## Procurement

IWK believes in competing fairly to ensure that all parties benefit from fair, free, and open markets. Although IWK itself is a monopoly, the company practices policies for open competition in procurement, and this increases competitiveness. Transparency, speed, and fairness in procurement is further enhanced through systems such as e-procurement and e-auctions. IWK's corporate risk management and compliance policy helps create, protect, and maximize value for its stakeholders, while internal audit processes serve as a watchdog to identify lapses in processes and mitigative and preventive mechanisms.

## Operation and Maintenance

Operational initiatives by IWK to improve integrity, transparency and efficiency include the following:

- (i) A vehicle management system that tracks the location, movement, and routing of

operational and maintenance vehicles. This has helped curb employee abuse of vehicles for unauthorized septic tank emptying and illegal dumping of sludge.

- (ii) Key aspects of IWK’s business are certified by the International Organization for Standardization. Almost all operational and maintenance processes are governed by documented standard operating procedures.
- (iii) Since 2010, IWK has implemented asset management processes to better understand assets, their performance, maintenance, and replacement policies and asset-related risks.

- (iii) simplified procedures for low-risk submissions (small projects);
- (iv) an appeals committee to consider appeals and applications for noncompliances;
- (v) a set level of service for all classes of submissions, monitored online; and
- (vi) a competency matrix for all levels of personnel to guide recruitment, advancement, and training needs assessment.

The certifying agency conducts also annual customer satisfaction surveys to gauge customer needs and expectation.

## Certifying Agency

Sanitation and sewerage infrastructure development in Malaysia is largely driven by the private sector. Policy requires private developers to provide sewerage infrastructure for their own developments. This is monitored and regulated by the regulator, which has published very detailed guidelines for this purpose. The Water Services Industry Act 2006 requires all sewerage works to be approved by the regulator (SPAN). For this purpose, SPAN has appointed IWK as a certifying agency for sewerage works approvals (planning, design, and construction of sewerage systems).

The role of certifying agencies includes (i) reviewing and approving planning applications for sewerage facilities, (ii) reviewing and approving design applications for sewerage facilities, and (iii) inspecting and approving works. IWK’s certifying agency has planned and implemented the following measures to improve transparency, efficiency, and service quality while addressing integrity risks:

- (i) automation and online submission and approvals to reduce human interaction;
- (ii) online monitoring of process steps, with a dashboard for the submitting person to view;

## Gaps

As outlined above, Malaysia has largely succeeded in putting in place policy, strategy, and planning approaches that are aligned to produce the intended outcomes. Strong provisions in institutions, and processes for decision-making on the allocation and management of resources are transparent, accountable, participatory, and followed; and contain safeguards to prevent corruption. This has led to Malaysia making significant improvements in sanitation and sewerage management, bringing a much-improved quality of life to its people.

Yet, lingering issues have resulted in some of the intended outcomes not being fully achieved because of lapses in approach, strategy, planning, implementation regulation, or enforcement. These issues are outlined below, along with a discussion of where the misalignment may have occurred, and how it could be corrected.

- (i) The overall governance framework put in place a de-facto policy for sanitation and sewerage; however, a specific sewerage policy is still absent. The government has indicated that such a policy, in line with the National Water Resources Policy, is being proposed. Similarly, national catchment plans

**“Malaysia has largely succeeded in putting in place policy, strategy, and planning approaches that are aligned to produce the intended outcomes.”**

and sewerage development plans are not yet available, but are reportedly underway. These documents will go a long way toward making the sector more robust.

- (ii) Although the concession agreement has set targets for the concessionaire to reduce unsatisfactory or inadequate sanitation systems, such as pour-flush latrines, operationalisation of these has not yet been facilitated. As a result, many premises (estimated at more than 1 million) continue to rely on such systems. Waste from these systems is very likely leaking or overflowing into groundwater or surface drains, causing pollution.

The principle of allocating accountability and risk to the entity best able to manage it has been neglected here. A private entity cannot address these obligations on its own due to legal reasons and community resistance. This would be more effectively addressed by the government through regulatory initiatives, coupled with incentives and financial assistance programmes, on a prioritized basis.

- (iii) While the CAPEX consisting of sewage treatment facilities and trunk and collector sewer networks has been implemented in various parts of the country through government efforts, last mile connectivity, namely the connection of properties to the sewers, remains an issue because there are still a large number of septic tanks in areas where sewer networks are available. This has in a way defeated the purpose of the sewerage projects, in that, in spite of the investments, parts of the service area continue to rely on less satisfactory on-site systems, possibly causing pollution to groundwater or surface drains due to seepage or overflows. This could indicate project scoping shortfalls. Alternatively, a regulatory initiative could be applied, with suitable financial assistance and/or incentives to encourage households to connect.
- (iv) Developer-built infrastructure constitutes the bulk of the CAPEX investment in sanitation and sewerage. In view of the lack of oversight of the cost and overall suitability and quality of such infrastructure, a more robust mechanism

of asset provision would be more equitable and transparent.

- (v) Malaysian regulations require grey water (or sullage), which is wastewater from kitchens, bathrooms, and laundries, to be channeled to sewerage systems or septic tanks. While this is largely enforced for new developments, a significant number of older buildings (and some newer ones) do not do this, and the sullage continues to flow into the surface drains. Grey water is a significant pollutant of surface water. In this instance, weak inter-agency coordination has been shown to be the underlying cause.

- (vi) The concession agreement required IWK to desludge all septic tanks on a scheduled basis (once every 2 years) to ensure optimum performance of the septic tanks and prevent potential overflow of accumulated sludge into the surrounding ground or surface drains. The requirement for scheduled de-sludging is also provided for in the Water Services Industry Act, but this has not been effectively enforced. As a result, a significant number of septic tanks are not regularly desludged, and are probably not performing as intended, with sludge from these installations overflowing into drains.

IWK acted on this obligation as the concessionaire, but it was not very successful because of poor community acceptance. The principle of allocating accountability and risk to the entity best able to manage it has again been neglected here. A private entity cannot address these obligations on its own because of legal reasons and community resistance. This requires regulatory intervention, and cannot be left to the operator. The tariff may also be applied in more innovative ways to incentivize households to access this service. A coordinated awareness and communications program would help, and this has been done to some extent.

- (vii) IWK is authorized under the concession agreement to collect revenues from customers who are connected to sewerage systems operated by the company via tariff billing. Firstly, the tariff is grossly inadequate and has not been revised to reflect real costs

for the last 25 years. Secondly, the company faces challenges in collecting revenue from its customers, and large defaults in bill payments cannot be recouped because a practical enforcement mechanism is lacking. Although the law has provided for the water supply to be cut in the event of sewerage bill default, in practice this has been difficult to operationalize. This causes a huge revenue gap, and the company is forced to rely on annual government subsidies to remain operational. One solution is to link sewerage billing to water billing, a practice known as “joint billing” that requires collaboration with water supply entities. Provisions in the law already allow the water supply to be disconnected in the event of default in sewerage bill payment.

The method of billing and collection appears inherently weak, with little recourse for the operators to recover unpaid bills short of legal action. Strong initiatives by the regulator can facilitate collaboration between water and sewerage operators to resolve this issue, especially since the regulator has jurisdiction over both sectors.

- (viii) When sewerage privatisation commenced in 1994, neither IWK nor the government had prepared the community for the changes that would come about. As a result, there was poor understanding of IWK’s role, very low acceptance of the scheduled desludging service offered, and low willingness to pay the bills. Subsequently IWK and the government have embarked on massive and widespread information dissemination and communication programmes to raise public awareness. Advertisements, media blitzes, campaigns, exhibitions, site visits, open days, and many other events have had tremendous impact. Acceptance and appreciation of IWK’s services and payment of bills has improved vastly, but lingering issues remain. The awareness and communications programmes may need to be intensified, with greater involvement by the government and regulator.
- (ix) Besides the large number of public sewerage facilities that IWK is tasked with operating

and maintaining, there are thousands of private sewage treatment facilities. Under the Water Services Industry Act, these are subject to the same regulatory framework as public facilities (including effluent compliance regulations formulated by the Department of Environment). However, in practice, the private treatment facilities are less well managed and not subject to the same level of regulatory oversight. This often results in environmental pollution due to malfunctioning or underperforming private treatment facilities. There are sufficient enabling provisions in the law, which needs to be more effectively operationalized by the regulators (including the Department of Environment, which regulates effluent discharge).

- (x) Environmental quality standards prescribe effluent standards that depend on the point of discharge of the effluent, with more stringent standards for discharge upstream of drinking water intakes. However, as the standards are based on pollutant concentration, they do not fully allow for the impact of the discharge on the receiving waters. As a result, resources for treatment, operation, and maintenance are distributed across facilities, without full regard for prioritization.

In this regard, the various entities are already discussing moving toward a more equitable regulatory standard that would take into consideration discharge loads, the beneficial use of receiving water bodies, and assimilative capacity. This should be viewed holistically on a community benefit basis to ensure that resources are more equitably allocated for best outcomes.

- (xi) One shortcoming of the 1994 federalization of sewerage was that sewerage management was brought under the federal government, while water resources and water supply remained under state jurisdiction. This disrupted water cycle-based management, and reuse initiatives for water resources are notably weak. Moreover, state governments and local authorities were left out of sewerage management matters, which is generally contrary to the concept of decentralized management.

(xii) The federalization of sewerage brought about great improvements to the sector, but left out some states and areas because the law was not operationalized uniformly. These areas are noticeably backward in sanitation and sewerage infrastructure and management as compared to federalized areas.

Later amendments of the law in 2008 placed executive (and regulatory) power of water treatment and supply under the federal government, with a view to integrate water services, possibly on a state-based model. However, the common regulator of water and sewerage services has still not succeeded significantly in integrating the water sector. As a result, the water cycle approach could not be adopted, and billing and collection issues for sewerage persist.

(xiii) Considering the predominantly “public goods” nature of sewerage, privatization of these services would require strong government support and regulation. The initial concession agreement to privatize sewerage services has shortcomings, including some related to setting targets, CAPEX, tariff and cost recovery, and apparent inherent inefficiencies due to the sector’s monopolistic nature. The provisions of the concession agreement under which IWK operates may be inconsistent with current legislation (e.g., CAPEX responsibility, operational areas, targets, and tariffs). These all reflect shortcomings in the process of governance reform, and may need to be corrected through a review and restructuring of the sector. In view of the monopolistic nature of the sewerage company, benchmarking to determine true cost is necessary. Institutional aspects that may need to be addressed include the role definitions of various entities, as well as their independence. The regulator is currently answerable to the minister, which detracts from independent regulation.

(xiv) In spite of the various systems, safeguards, checks, and balances, issues pertaining to appropriate planning, technology, and implementation, as well as persistent incidences of lapses of integrity are still believed to exist. However, with the continued efforts of the institutions concerned it is expected that these will be gradually overcome. Strong preventive initiatives, for example through the integrity units of the operator and regulator, as well as oversight mechanisms and of course the vigilance of the Anti-Corruption Commission will help with this.

## Conclusion

Malaysia stands out as a success story in ensuring that the majority of its people enjoy safely managed sanitation. Strong points of its philosophy of integrity are seen at every level of government, as well as good governance, management, and coordination of resource allocation.

### *Aspirations and Philosophy*

Since the initial stages of sanitation development in the country, the overarching driver of these initiatives has been an aspiration at the highest levels for a healthy and happy nation, and the philosophy of integrity has aligned actions to this desired aspiration. The vision was that of a nation where people could enjoy a clean and healthy living space, and live happily and in prosperity. The government as a whole has an overall focus on integrity, with support frameworks aligned to this.

### *Policies and Strategies*

Various policies and strategies aligned to this vision have converged in contributing to the desired outcomes. Relevant policies include those related to the environment and water resources.

**“The overarching driver of these initiatives has been an aspiration at the highest levels for a healthy and happy nation.”**

## Governance Structure and Institutional Frameworks

The required institutions, including government ministries, agencies, regulatory bodies, and private entities, supported by private sector participants and all empowered and regulated by adequate legislation, rules, and regulations as well as operating procedures, made the provision of hardware, procedures, and service delivery smooth and efficient. Governance structure for policy direction and regulation is provided through the ministry and national regulator. There are sufficient and appropriate legislative provisions, regulations, and guidelines to empower the relevant entities. Clear role definition ensures institutional clarity, and there is a clear line of sight, with check and balance systems contributing towards integrity. Stakeholder engagement has been institutionalized at all levels, ensuring information dissemination, consultation, and ownership. In addition, integrity units are mandated in relevant entities to undertake measures to create awareness among employees, and monitoring mechanisms to increase integrity among employees.

## Management-Level Policies

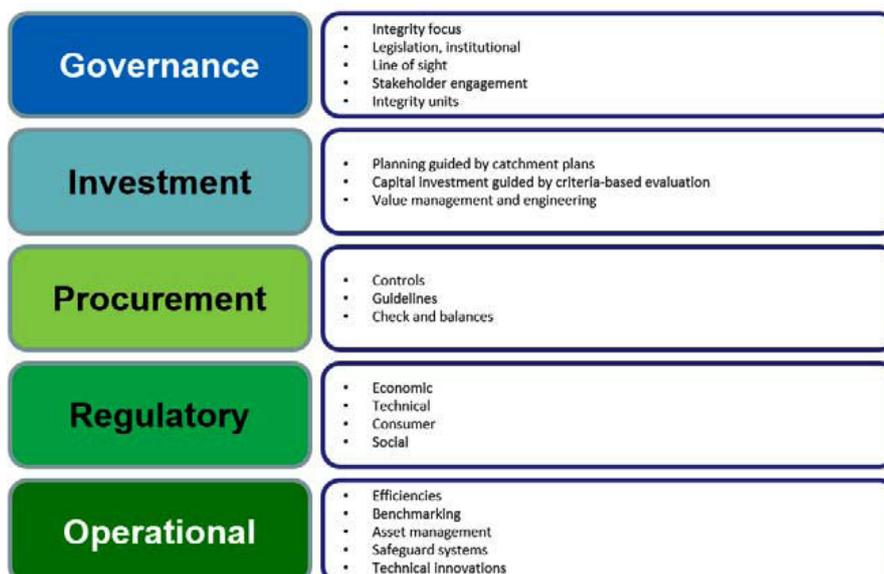
From the perspective of resources, financial management and procurement procedures are robust, with clear role definition, and responsibility and accountability

ensure efficient, effective, and equitable investment. Management systems also encompass service delivery. Investment planning is driven by catchment plans while capital investment is guided by criteria-based evaluation of projects. Value management and engineering systems ensure that projects align with objectives, and that projects are scoped to make the most from the investments. Government procurement is well regulated through controls and procedures. There are guidelines for contractor and vendor management, bidding, evaluation, contract management, and clear stipulation of approval authority with various checks and balances.

## Regulatory Policy and Arrangements

The water sector is closely regulated by an integrated national regulator, which has jurisdiction over water supply, sewerage, and sanitation. The regulator covers economic, technical, consumer, and social aspects in the regulation; and uses a business plan approach, with key features including the ringfencing of operator finances and regulatory accounting in ascertaining business viability and setting appropriate tariffs. Other industry players are regulated through permits, licenses, and product registration. In addition, the regulator has assigned the certifying agency role to licenced operators, to control developer-built infrastructure guided by design guidelines. To ensure control of the certifying agencies, service levels are set and monitored, and

Figure 2: Ingredients for Integrity



Source: Author.

periodic audits carried out. An appeals process is also in place to deal with exceptional situations.

### *Operational Aspects*

It is envisaged that operations on the ground will be carried out through licenced operators, who are regulated for efficiencies and service levels. Operators have various internal controls including benchmarking, asset management, and risk management systems. Technical innovations by the operator enhance integrity and service delivery.

### *Ingredients for Integrity*

What then are the ingredients for integrity in the sanitation sector? Drawing from the example of Malaysia, these are shown in Figure 2.

This is not to say there are no shortcomings. However, the systems in place can address these with a more coordinated approach and tweaking of the approaches. The experiences, ideas, policy options, and good practices from the perspective of integrity in the sanitation sector that has contributed to Malaysia's success can be a model for adoption with suitable adaptation to local conditions by other countries struggling with the issue.

## References

- Attorney General's Chambers of Malaysia. Laws of Malaysia: Sewerage Services Act, 1993 (Act 508), Water Services Industry Act, 2006 (Act 655), Malaysian Anti-Corruption Commission Act 2009 (Amendment 2018). [http://www.agc.gov.my/agcportal/index.php?r=portal2/lom&menu\\_id=b21XYmExVUhFOE4wempZdE1vNUVKdz09](http://www.agc.gov.my/agcportal/index.php?r=portal2/lom&menu_id=b21XYmExVUhFOE4wempZdE1vNUVKdz09) (accessed 14 August 2020).
- Corporate Integrity System Malaysia. <https://cism.sprm.gov.my/en/inisiatif/polisi> (accessed 14 August 2020).
- Government of Malaysia, Ministry of Environment and Water, Sewerage Services Department. <http://www.jpp.gov.my/ms-my/Pages/default.aspx> (accessed 14 August 2020).
- Indah Water Konsortium, Malaysia. <https://www.iwk.com.my> (accessed 14 August 2020).
- Indah Water Konsortium. Indah Water Sustainability Reports. <https://www.iwk.com.my/corporate-profile/sustainability-reports> (accessed 14 August 2020).
- Narayana, D. 2017. Sanitation and Sewerage Management: The Malaysian Experience. In *FSM Innovation Case Studies—Case Studies on the Business, Policy and Technology of Faecal Sludge Management* (second edition), edited by I. Blackett and P. Hawkins. Seattle: Bill and Melinda Gates Foundation. <https://www.susana.org/en/knowledge-hub/resources-and-publications/library/details/2760> (accessed 14 August 2020).
- National Water Services Commission, Malaysia (Suruhanjaya Perkhidmatan Air Nasional, Malaysia, SPAN). <https://www.span.gov.my/> (accessed 14 August 2020).
- Malaysian Anti-Corruption Commission, <https://www.sprm.gov.my/index.php/arkib-kenyataan-media/142-knowledge/783-ministry-of-finance-knowledge> (accessed 9 November 2020).
- Organisation for Economic Co-operation and Development. OECD Integrity Frameworks. <https://www.oecd.org/> (accessed 14 August 2020).
- Prime Minister's Office of Malaysia. 2019. National Anti-Corruption Plan. <https://www.pmo.gov.my/2019/07/national-anti-corruption-plan/> (accessed 14 August 2020).
- Victoria State Government, Victorian Public Sector Commission. Victoria (Australia) Integrity System. <https://vpsc.vic.gov.au/html-resources/integrity-strategy-update-2017/objectives-and-outcomes/> (accessed 14 August 2020).
- Water Integrity Network. <https://www.waterintegritynetwork.net/about/> (accessed 14 August 2020).
- World Health Organization. Water Sanitation Hygiene: Economics. [https://www.who.int/water\\_sanitation\\_health/monitoring/economics/en/](https://www.who.int/water_sanitation_health/monitoring/economics/en/) (accessed 14 August 2020).

### Asian Development Bank Institute

ADB, located in Tokyo, is the think tank of the Asian Development Bank (ADB). Its mission is to identify effective development strategies and improve development management in ADB's developing member countries.

**ADB Policy Briefs** are based on events organized or co-organized by ADB. The series is designed to provide concise, nontechnical accounts of policy issues of topical interest, with a view to facilitating informed debate.

The views expressed in this publication are those of the authors and do not necessarily reflect the views and policies of ADB, ADB, or its Board or Governors or the governments they represent.

ADB encourages printing or copying information exclusively for personal and noncommercial use with proper acknowledgment of ADB. Users are restricted from reselling, redistributing, or creating derivative works for commercial purposes without the express, written consent of ADB.

### Asian Development Bank Institute

Kasumigaseki Building 8F  
3-2-5 Kasumigaseki, Chiyoda-ku  
Tokyo 100-6008  
Japan  
Tel: +813 3593 5500  
[www.adbi.org](http://www.adbi.org)