COVID-19 detection from domestic wastewater and the importance of regional cooperation in ASEAN

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Domestic wastewater management in ASEAN

- Access to safe water and improved sanitation have been dramatically improved in ASEAN region in the past decade
- Up to 95% of domestic wastewater are untreated or received only minor treatment of septic tanks and discharge directly to groundwater, public discharge systems, canals, waterways etc.
- Poses significant health risk due to the exposure to untreated water
- 8 out of 9 countries are facing financial constraints and lack of appropriate financial mechanism
- 9 out of 9 countries do not have sufficient septage management system and infrastructure in place
- Off-site sewage system in place in major cities or taking long time for planning
- Cost-intensive to operate and maintain; and often result in failure due to poor design and weak O&M
- Lack of willingness to use appropriate treatment system and/or willingness to pay among citizens
- Infrequent desludging results in less performance of septic tanks

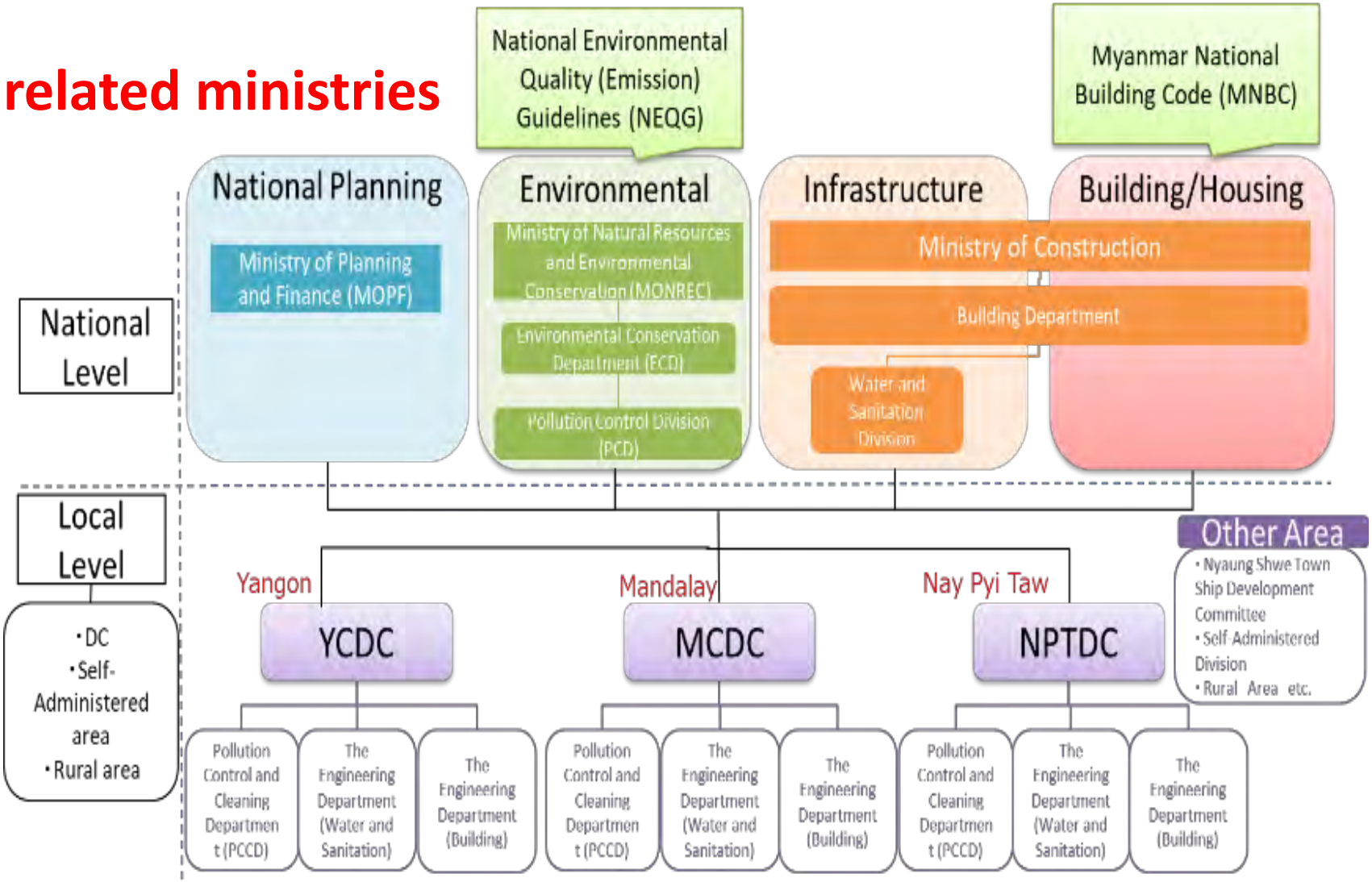
Current measures to detect COVID-19 from wastewater in ASEAN

- No initiatives identified so far on COVID-19 detection in ASEAN based on desk research and internet search
- Australia declares to support ASEAN countries (Mekong region) to introduce early detection of COVID-19 using Australian technology to help the health security
- Given the poor treatment of domestic wastewater and discharge water exposes to human, there's urgent need to take measures for monitoring and treating

Needs of collaborative governance in domestic wastewater management

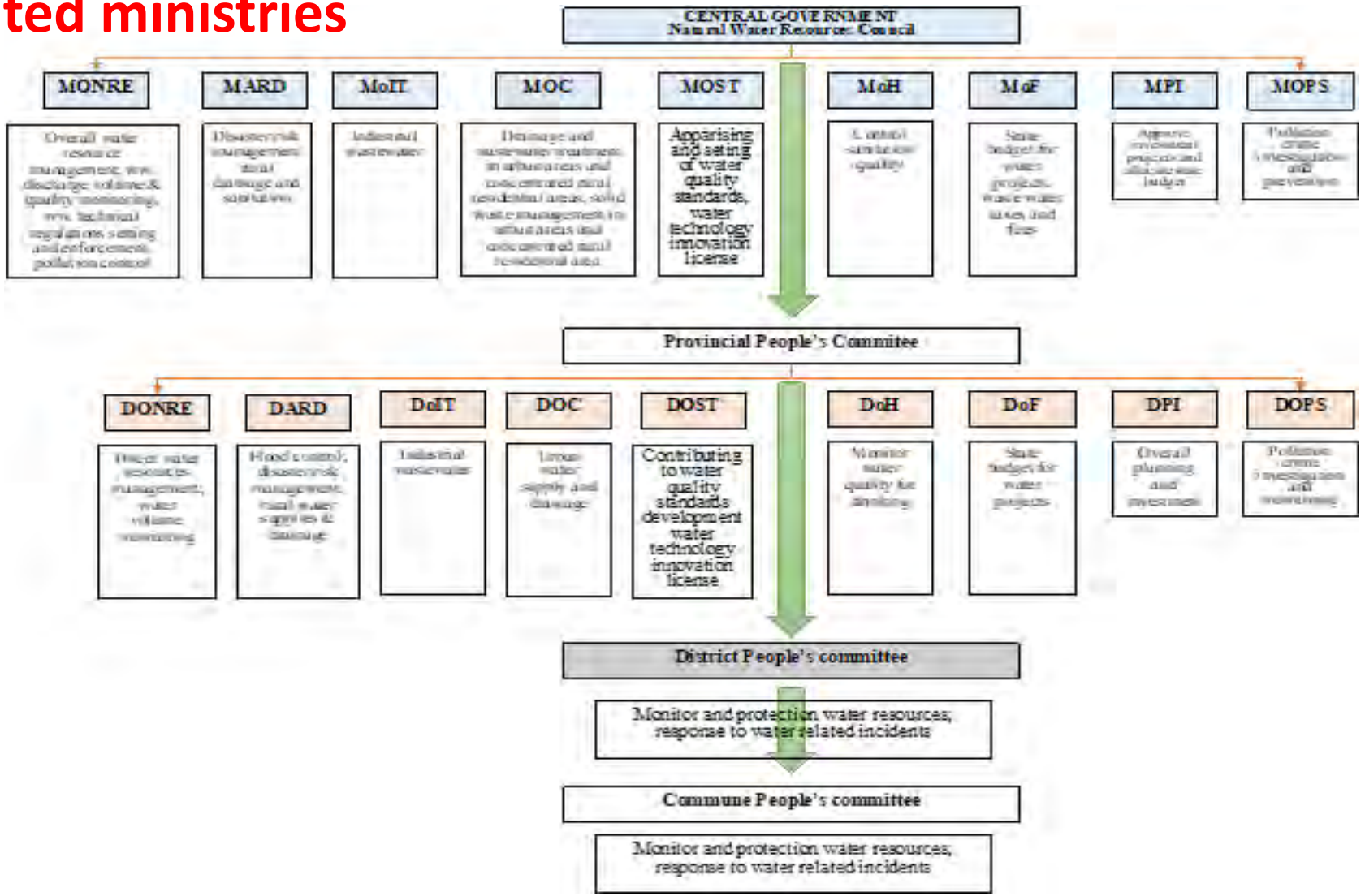
Government bodies in DEWATS sector in Myanmar

4 related ministries



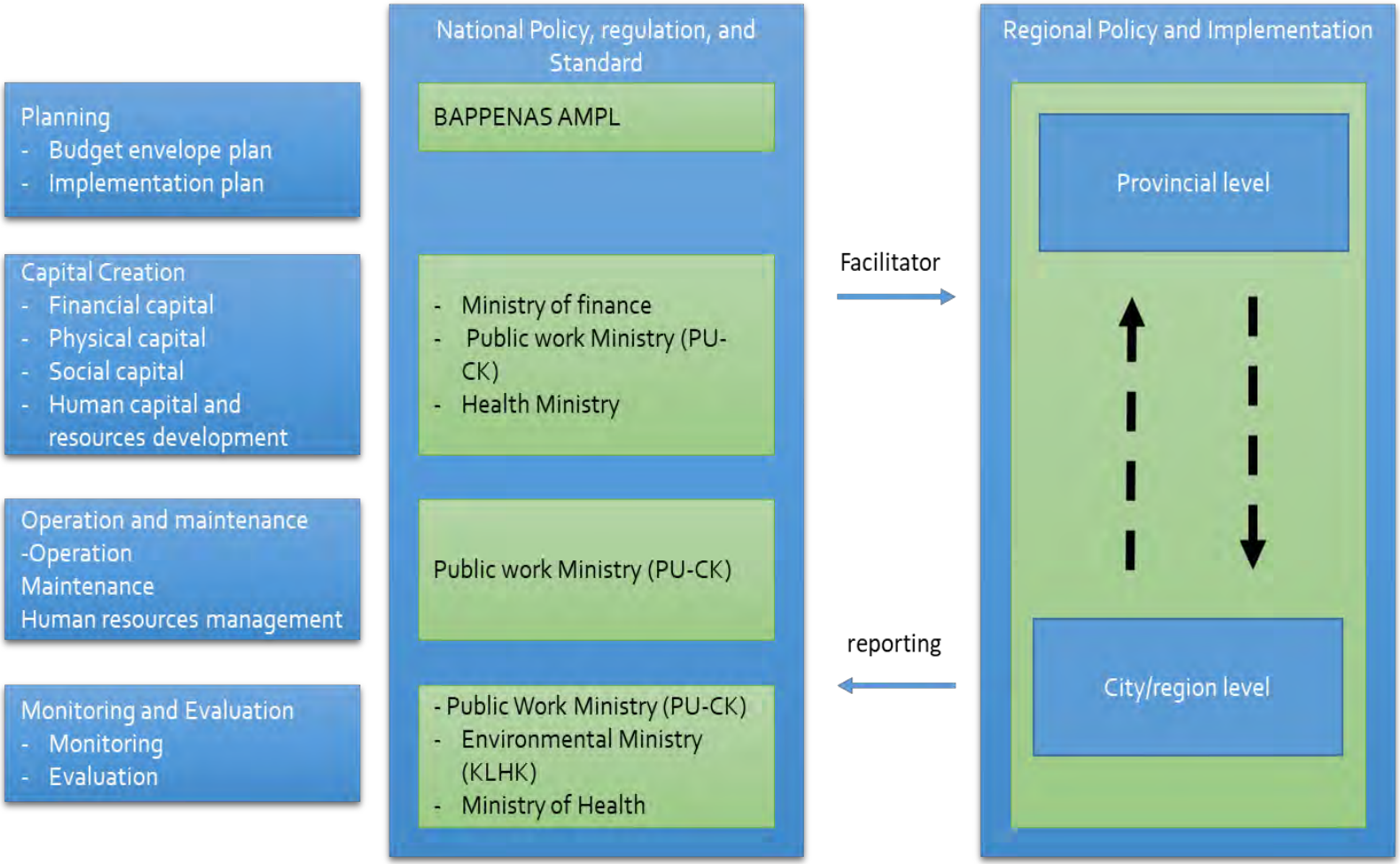
Institutional Framework for Water, Wastewater and Septage Management in the Vietnam

9 related ministries



Governmental bodies in DEWATS sector in Indonesia

8 related ministries



Average number of related ministries in DEWATS sector in ASEAN is 5-6 ministries

And with limited inter-ministerial coordination for better decision and policy-making in the league of domestic wastewater management..

And this issue needs cross-cutting approach..

"Policy Dialogue and Network Building of Multi-stakeholders on Integrated Decentralized Domestic Wastewater **Management in ASEAN Countries" (**PODiWM) –

- Funded by Japan-ASEAN Integration Fund
- Targeted 9 ASEAN countries
- July 2018 – December 2020
- Promoted "Collective Governance" in policy and decision making for domestic wastewater management
- Build regional platform for Good practices in policies, Legislation, projects, and technology

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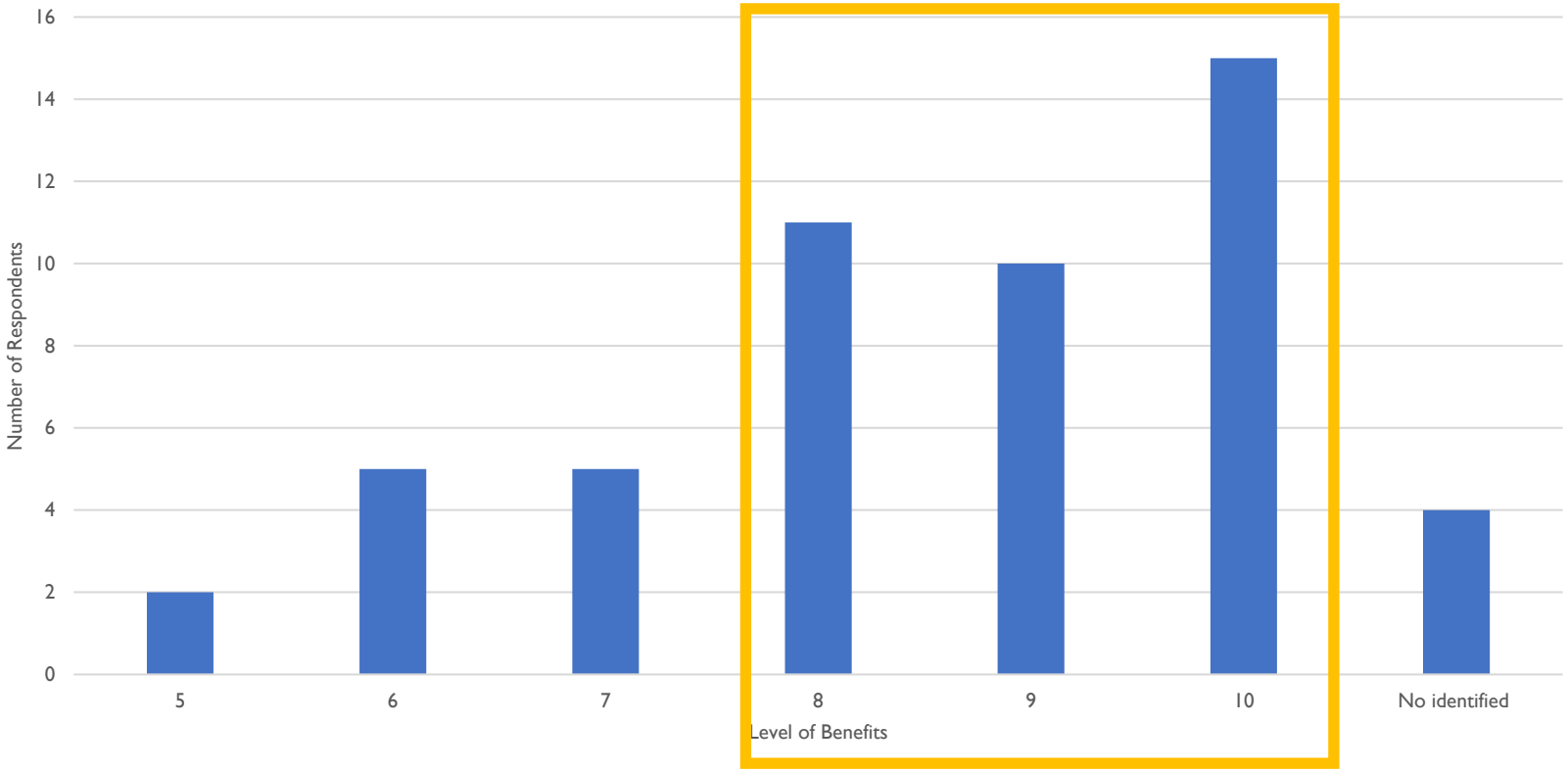
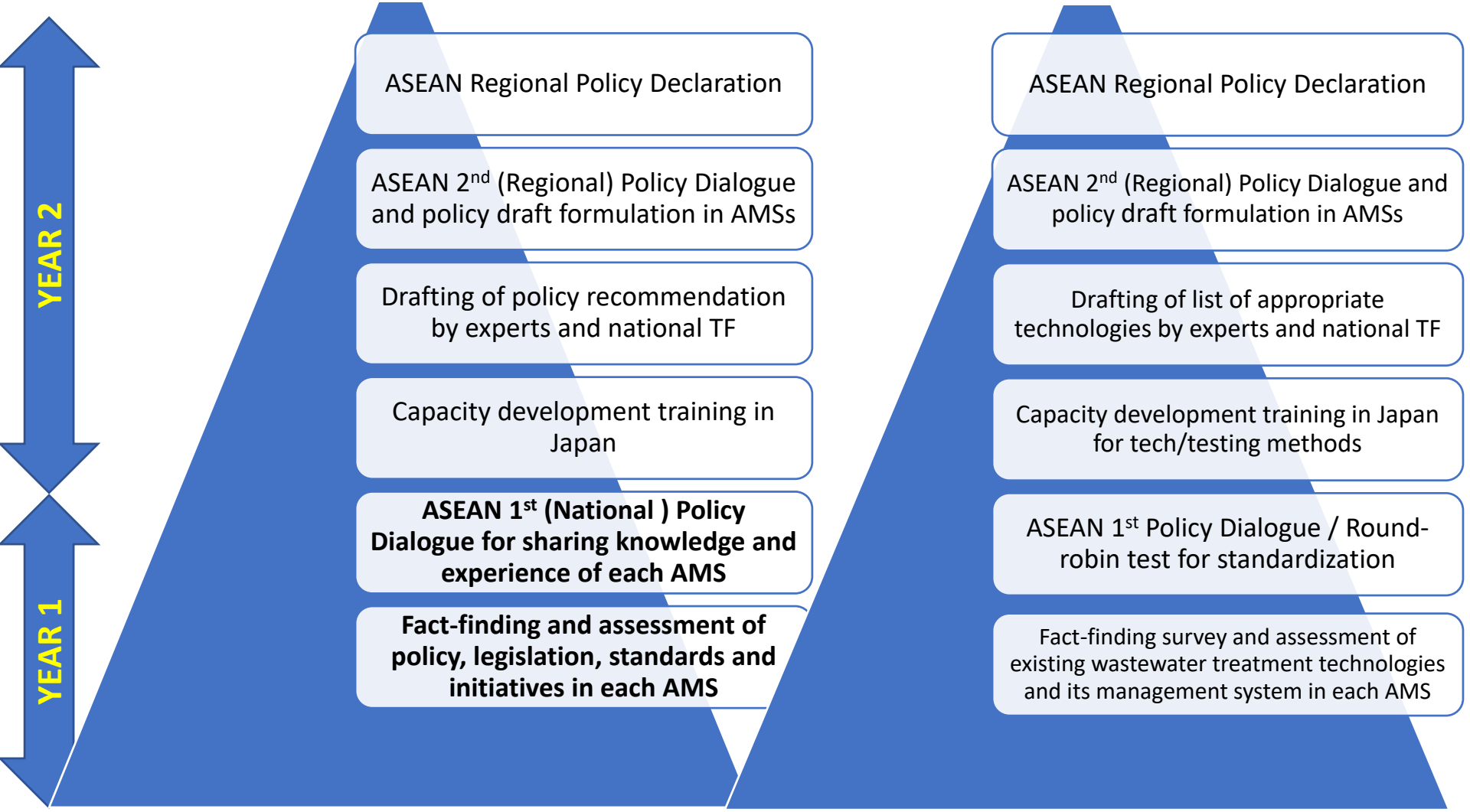
- can effectively address the challenges of domestic wastewater and sludge management
- can leverage an idea to formulate policy framework and implementation decentralized wastewater management
- help in policy making and legal framework to be ensure for quality of decentralized wastewater management system

Project participants aware of benefits to work in collaboration

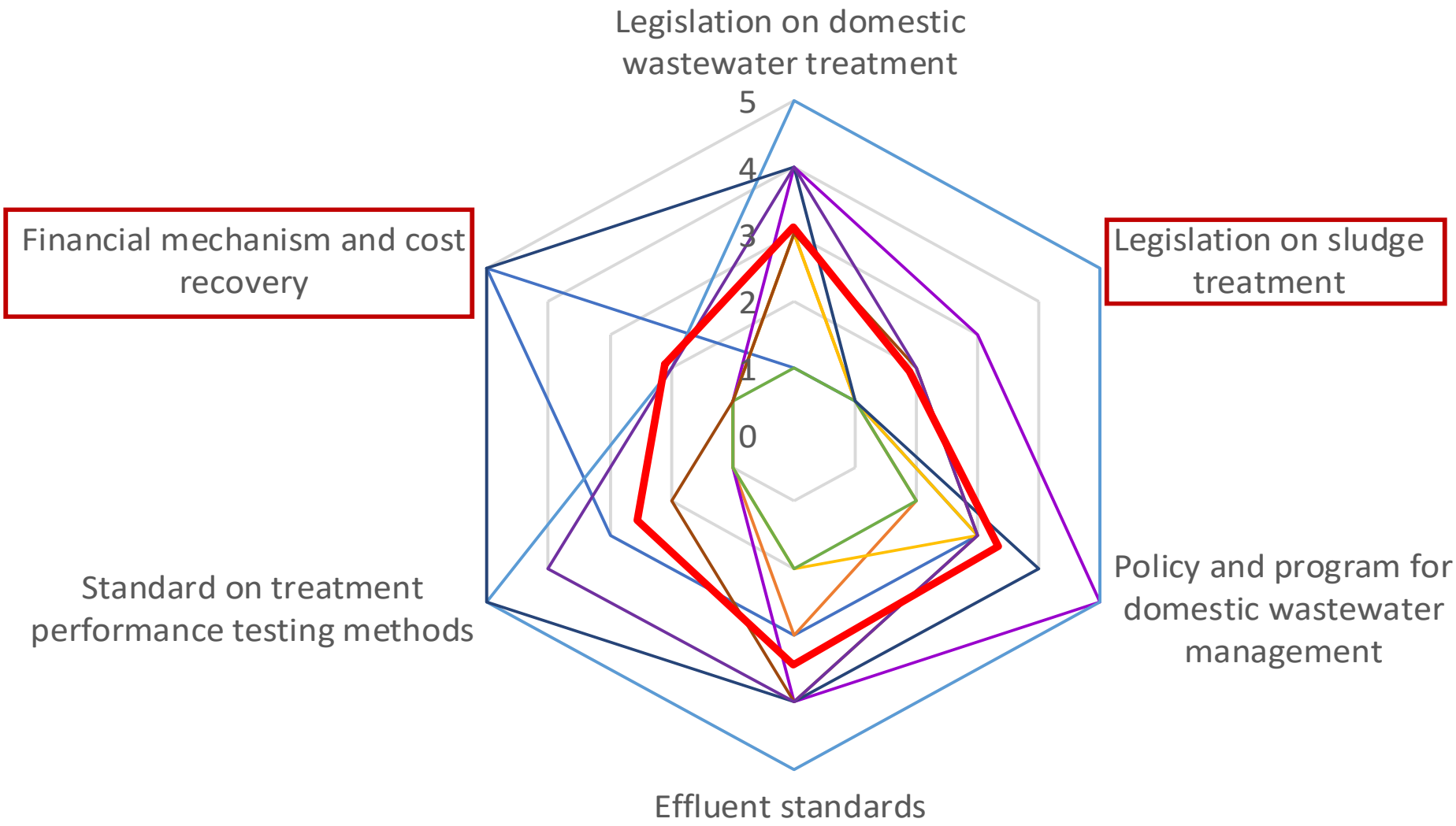
Figure 5 : Level of Benefits to Work Collaboratively with Other Stakeholders in the country/region (Scale 1Least beneficial -10 Most beneficial)



Project Activities



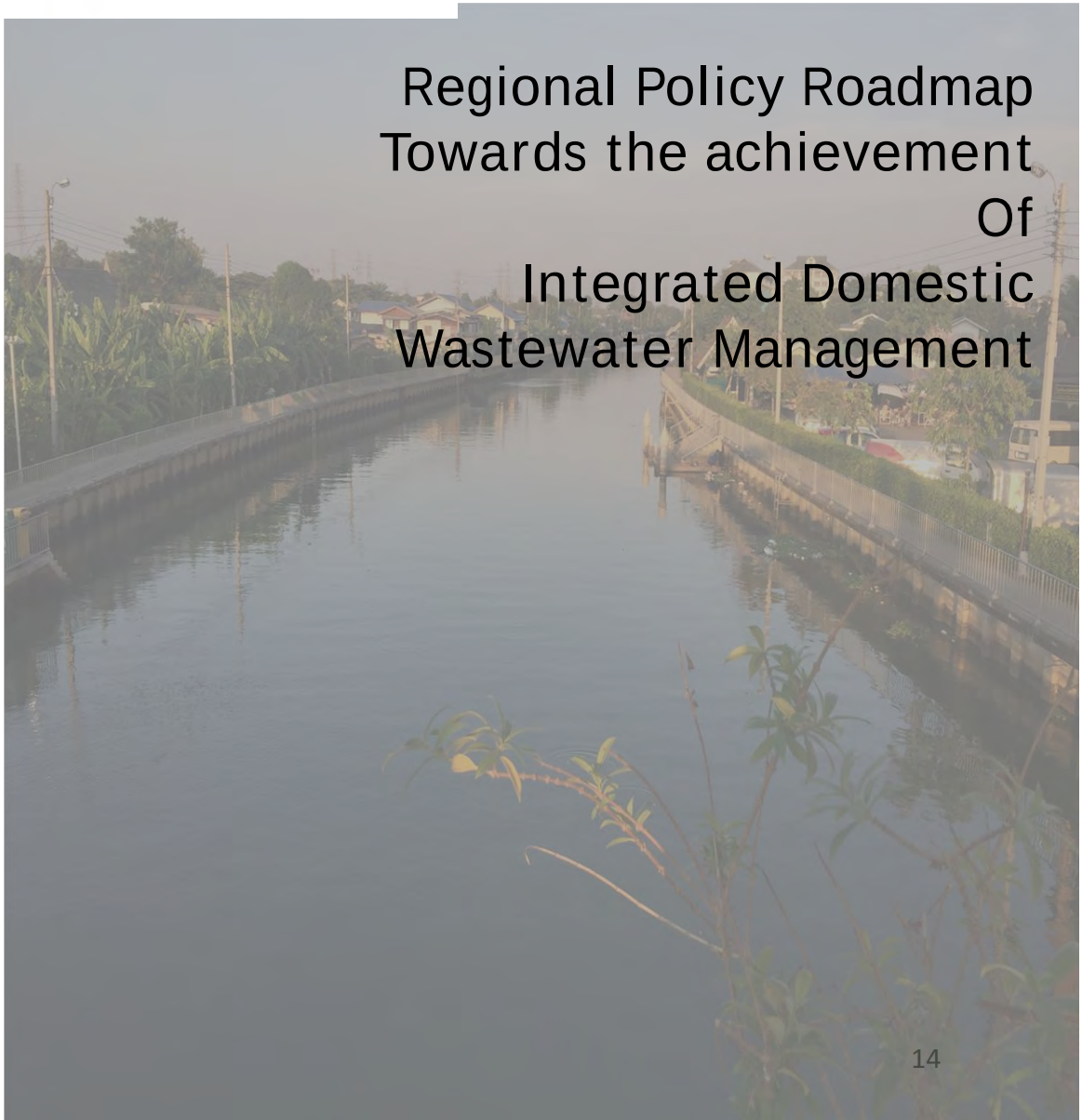
Sector performance assessment of 9 AMSs



- Policy recommendation for:

Create regional “one vision”

[6.1 Technological needs for decentralized domestic wastewater management]
[6.2 Policy coordination on domestic wastewater management Master plan making for domestic wastewater management]
[6.3 Potential financial mechanism and fee collection]
[6.4 Policy implementation and capacity building at the local government level]
[6.5 Standardization on treatment performance testing method for decentralized domestic wastewater management]



Regional Policy Roadmap Towards the achievement Of Integrated Domestic Wastewater Management

Proposal of better regional cooperation

Multi-stakeholder's platform on decentralized domestic wastewater management

ASEAN-JAIF Project on promoting multi-stakeholders networking and capacity building to promote the decentralized domestic wastewater management

- **Targeted 9 AMSs**
- **Created platform of 6 stakeholders from each AMSs as "Country Task Force team"**
- **Fact-finding, national policy consultation, site visits, capacity building training, National workshop, Regional policy dialogues**
- **"Discover-Think-Do" collaboratively**
- **Nurture the mutual and same understanding of the approach in this cross-sectoral issue**

Necessity of regional cooperation

- Business as usual scenario is no longer allowed
- Swift and speedy action is needed at different level of governance within government and with wider stakeholders
- Advancement of regional cooperation is not new agenda but scarcely touched upon

➡ Without timely and effective cooperation, complete lockdown and public health crisis will be persistent and makes big economic impact

Potential regional cooperation

Lab consortium for COVID-19 detection

- Wastewater monitoring is already integrated and widely available scheme in developing countries compare to epidemiological investigation
- Existing institutions and laboratories in ASEAN countries can share the monitoring methodologies and analyzed data
- Inform the decision-makers to improve domestic wastewater management system as preventive measure of COVID-19

Potential regional cooperation

Regional capacity building for COVID-19 detection

- Capacity building of engineers, lab specialists and local government officials are necessary to equip better methodology and knowledge on COVID-19 detection in domestic wastewater
- Establish regional function for knowledge sharing and management is effective way for training and capacity building
- Inform the decision-makers to improve domestic wastewater management system as preventive measure of COVID-19

Reflection from PoDIWM project and way forward especially for monitoring of COVID-19

1. Commitment and continuous demand in having a regional platform for dialogue and information exchange on wastewater and sanitation issue
2. Fact-finding data from the PoDIWM project can be a baseline data for future benchmarking in regional initiatives and its progress monitoring
3. Establish a consortium of academic institution having specialized research and academic program on wastewater and sanitation issue
4. Share all relevant data and information on COVID-19 related wastewater monitoring data especially from transboundary water such as Mekong river
5. Regional-scale capacity building of local government/environmental engineers and lab analyst on COVID-19 technical training for monitoring

Thank you!
Any questions?