

Environmental Services and Growth Strategy in the Water Sector



11 May 2017



Yokohama Water
Shinya Suzuki

Rich natural water environment



Shimanto river

Water environment in Yokohama



Small stream



Miyagase dam



Doshi river

Yokohama in the past

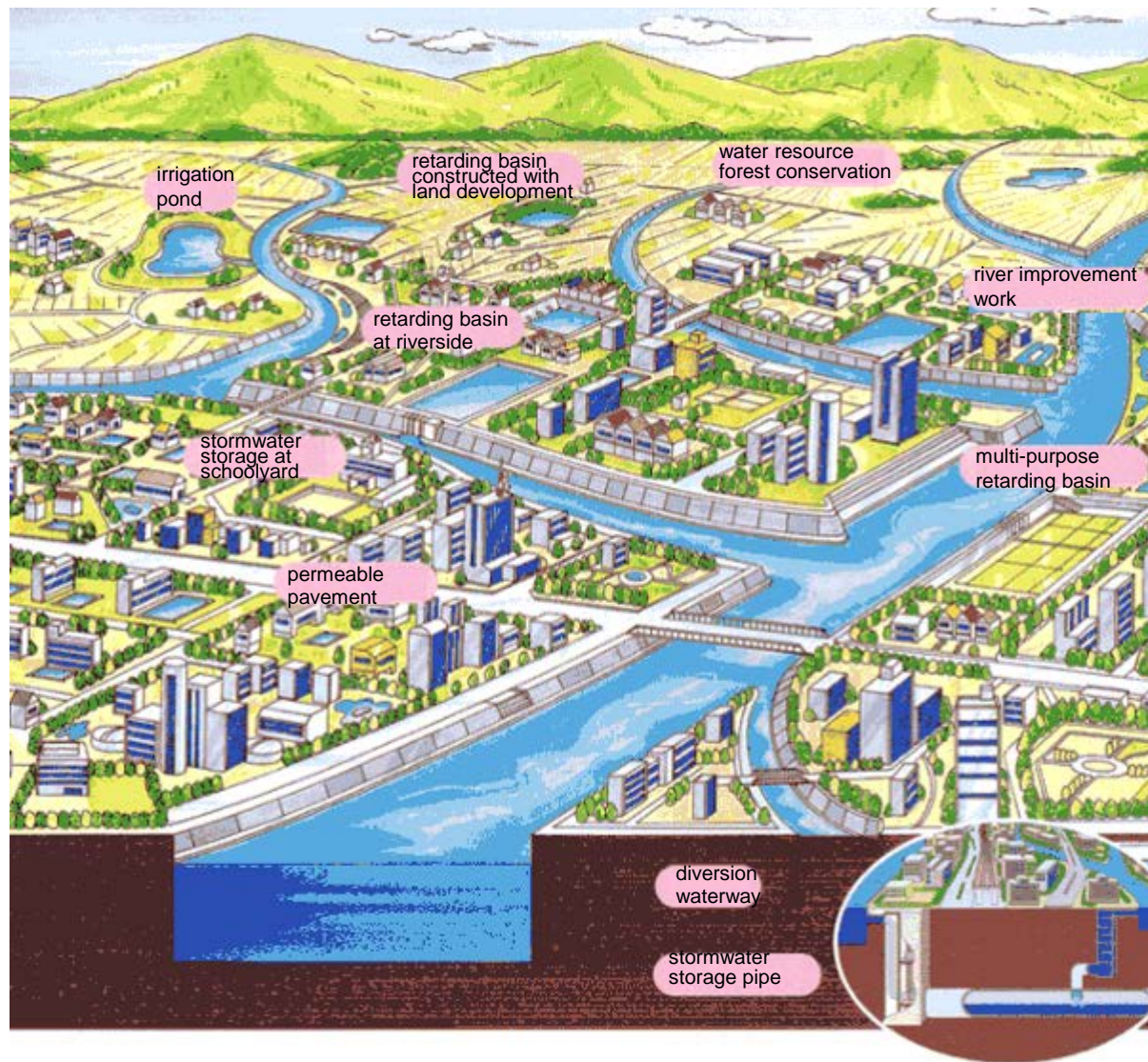
Sep. 1958



Nov. 1973

Sep. 1976

Flood control in Yokohama



Disaster countermeasures in Yokohama



Earthquake proof pipe

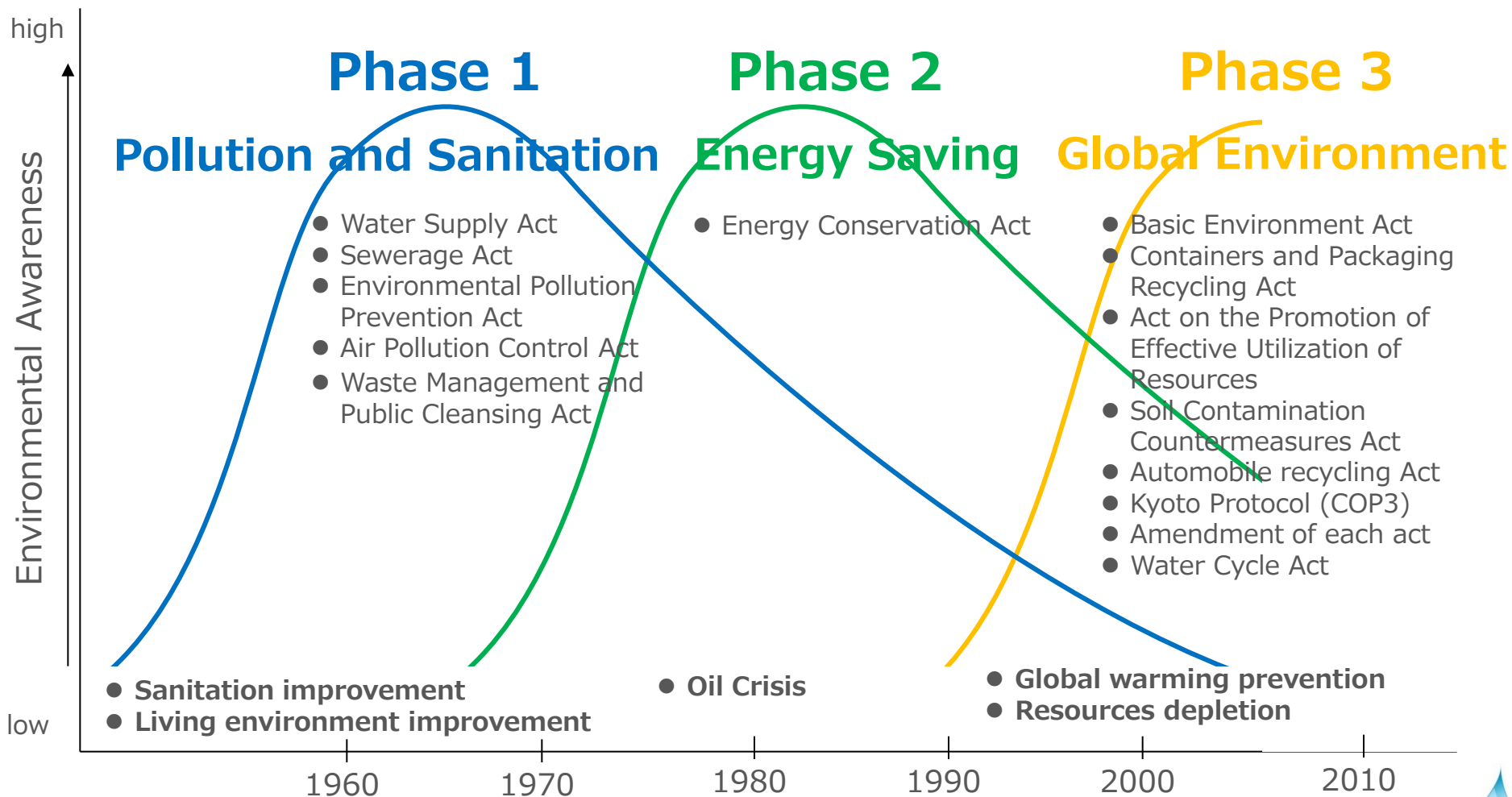


Underground reservoir for
emergent water supply

Changes in environmental issues in Japan

Ages of mass production, Mass consumption and Mass dumping

Recycling community



Environmental services

Environmental risks (problems)

Environmental services creation

Macro
viewpoint

- Pollution
- Global warming
- Ozone layer destruction
- Dioxin
- Energy resources depletion
- Waste disposal site filling
- Increased illegal dumping
- Chemical substance pollution



- Pollution prevention devices
- Energy-saving equipment
- Solid waste management services
- Recycling
- Clean energy
- Renewable energy
- Zero emission
- Emissions trading

Micro
viewpoint

**Incentive to reduce
environmental risk**



**Corporations
benefitting from
environmental
services**

Investment
viewpoint

**Environmental risk
analysis: the practice to
prevent the depletion of
corporate value in
advance**

**Profit growth
analysis: to
enhance corporate
value**

Types of environmental services



or



Agriculture type

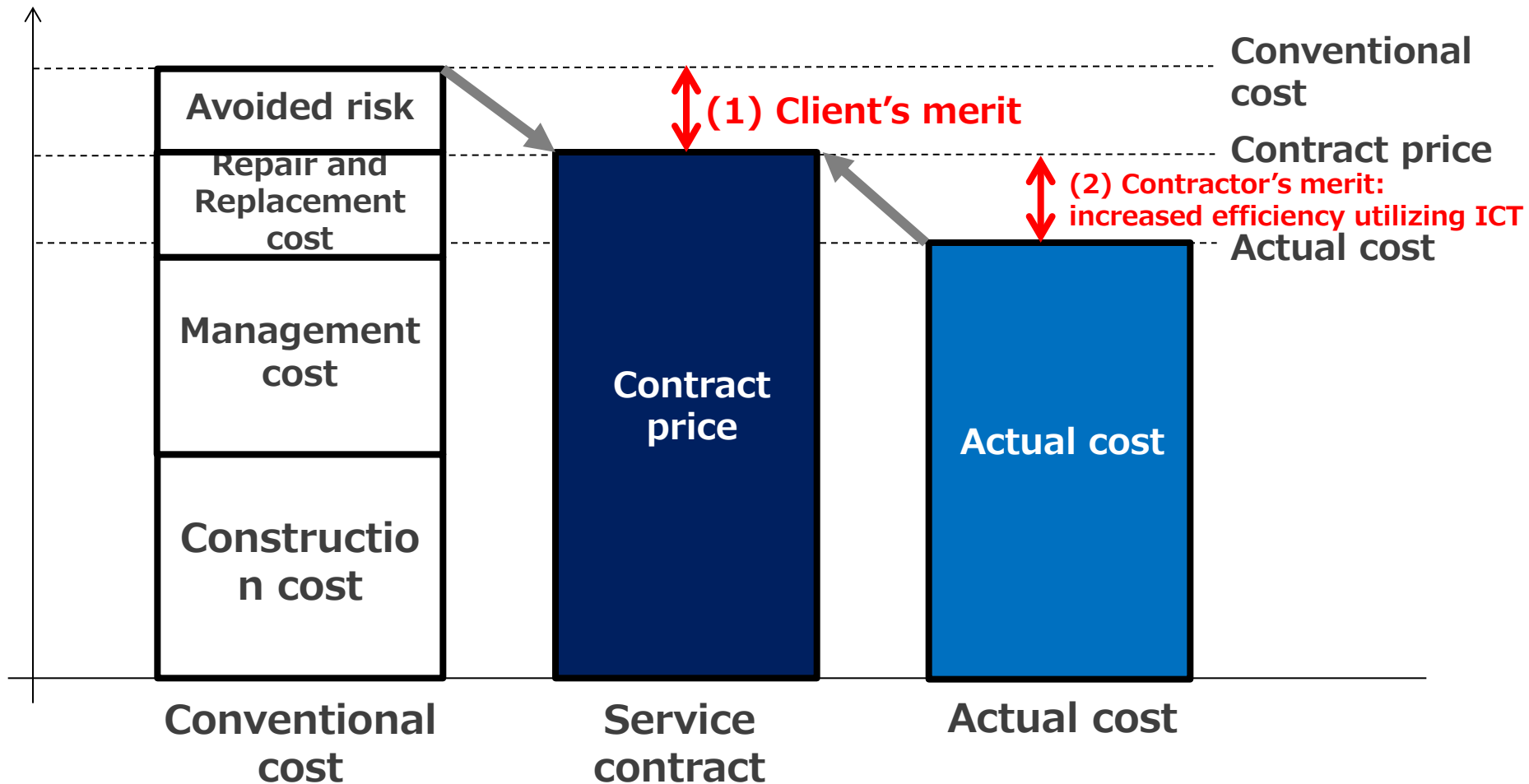
Hunting type

Indispensable stance of environmental service providers

Five (5) requisites

1. Business philosophy to reduce client's environmental risk
2. Know-how to “diagnose” client's environmental risk and “closeness to clients” (business skill, contact with client)
3. Technological strength, know-how and skill to reduce environmental risk
4. Competence to develop a business model utilizing these business resources to boost sales and profits
5. Management capability and creditworthiness to implement these processes

Scheme of environmental services



Roles of National Government, Water Utilities and Japan Water Works Association (JWWA)

National Government

- Survey / Research consignment
- Providing direction

- National vision and target setting
- Developing national standards
- Establishing related laws and regulations

- Compiling design and O&M guidelines
- Establishing JWWA product standards for water supply
- Inspection and certification of products
- Implementation of training programs and holding conference

- Business Licensing for water supply
- Administration /Supervision
- Financial Assistance (subsidies and loans)

- Project implementation
- Managing waterworks

Requests

JWWA

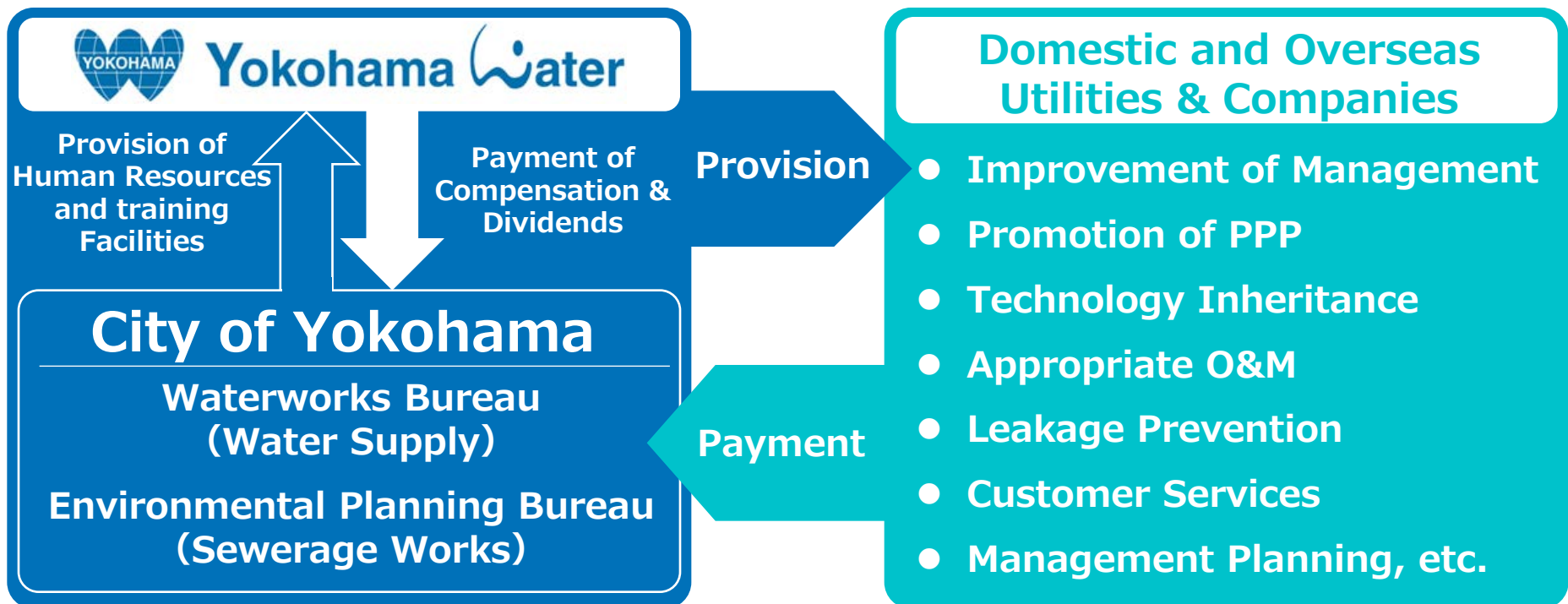
Members
-Water utilities
-Private companies
-Academic researchers

Water Supply Utilities

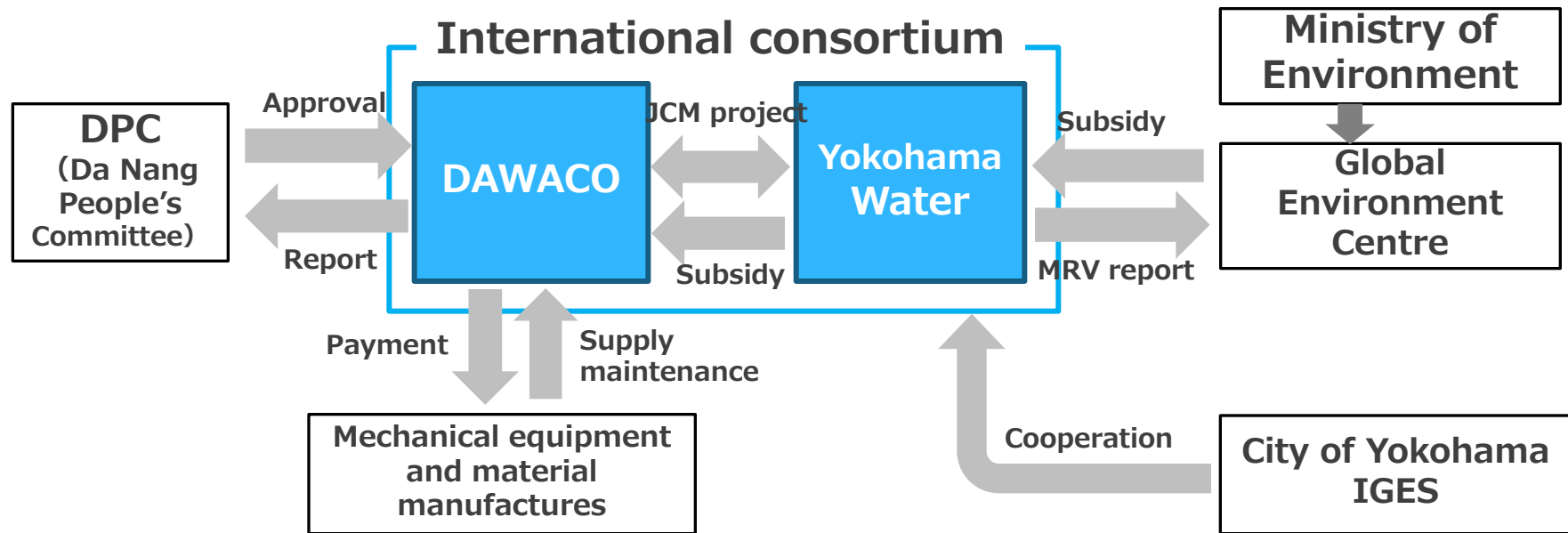
Management Support

Yokohama Water's Business Scheme

- Established as a wholly owned subsidiary of **Yokohama Waterworks Bureau** in 2010
- Partnership agreement with **Environmental Planning Bureau** in 2013
- Transacting businesses on **both water supply and sewerage works** to local government and private corporations



GHG reduction project in Viet Nam



NRW reduction project in Thailand

Cooperation and expansion

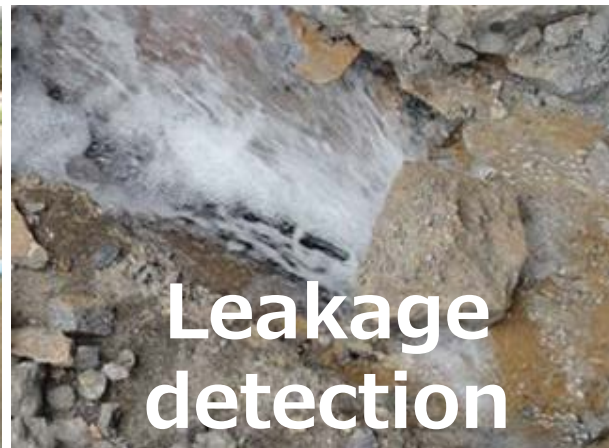
- Conclusion of MOU
- Technical service
- Technical service by other sites
- Sale of machinery and materials
- PR activity

Partnership

- Agent contract with YWC
- PR activity
- New NRW business receipt (Including joint investment)
- Sale of machinery and materials

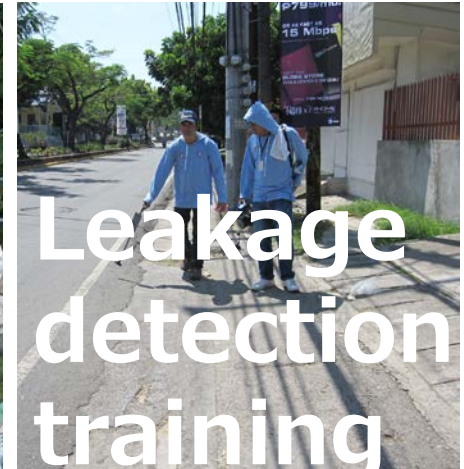
Deployment to third parties

- Deployment
- Cooperation of the business
- Deployment to water purification plant O&M



Engineering project in the Philippines

- Aiming “Safe”, “Secure” and “Stable” 24/7 water supply in tandem with Yokohama Waterworks Bureau (YWWB)
- Only be achieved by the perfect subsidiary of YWWB



Training in Yokohama

Provide flexible curriculum to meet the participants' needs in tandem with YWWB



Cooperation with other municipalities (Yamamoto Town)



Cooperation with residents (Yahaba Town)



Providing Yokohama's know-how

Preserving water resource forest



Hydropower/solar power generation



Water distribution management



Tariff collection/ Customer service



Business management



Integrated Water Resources Management

PFI (ceramic membrane purification)



100% recycling of sewerage sludge



Our Businesses

Varied water supply and sewerage works service- **only be achieved by a perfect subsidiary of City of Yokohama**

Consulting and Advisory

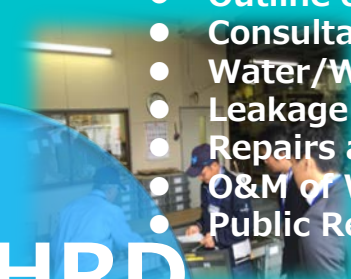
- Support for deciding on master plan
- Support for business management
- Support for asset management
- Support for technical assistance
- NRW survey and leakage investigation
- Support for sewerage sludge reutilization



C&A

Human Resources Development

- Outline of Waterworks and Sewerage
- Consultant Training
- Water/Wastewater Treatment
- Leakage Survey
- Repairs and Pipe Engineering
- O&M of Water Supply and Sewerage
- Public Relations



HRD

PPP

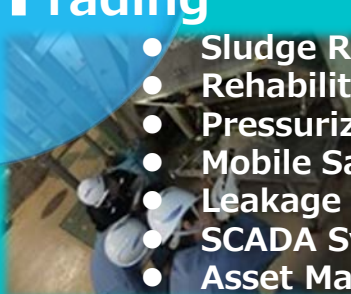
- Investment
- EPC, Equipment Supply
- O&M Management Support
- Human Resource Development
- Support for Business Management
- Asset Management



Public Private Partnership

Trading

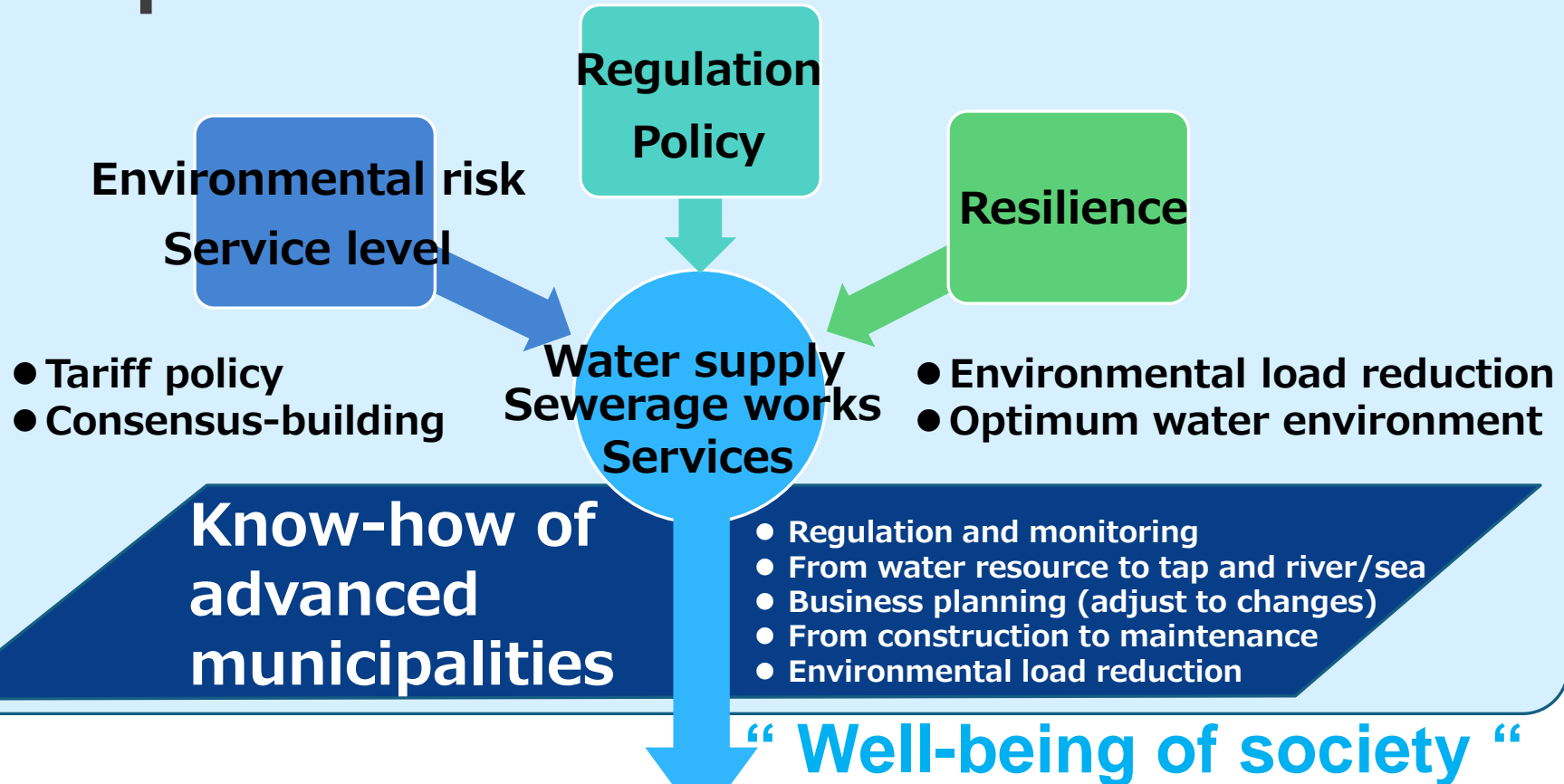
- Sludge Recycle System
- Rehabilitation System for Sand Filter
- Pressurized Fluidized Bed Incineration
- Mobile Sand Filtration Tank
- Leakage Detection Equipment
- SCADA System, ICT
- Asset Management System



Equipment Supply

Conclusion

“ Requisites for environmental services ”



Residents

Agriculture

Industries

Commerce