

Regional Circular and Ecological Sphere Concept for Sustainable Resource Management and Collective Resilience of Urban and Rural: Lessons from Japan

Bijon Kumer Mitra, Rajib Shaw, Junichi Fujino, Atsushi Watabe, Tomoko Takeda

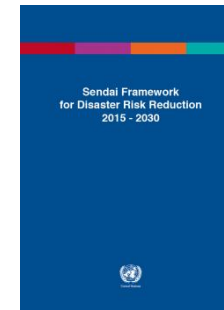
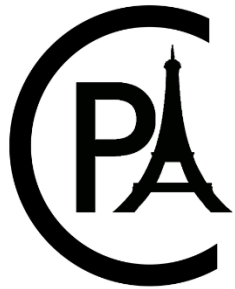
4th World Congress on Disaster Management

29 January to 1 February, 2019

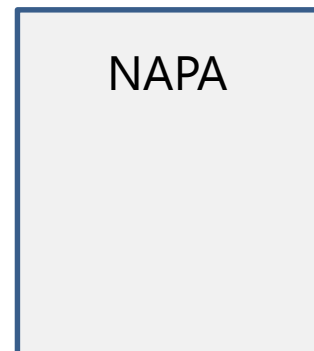
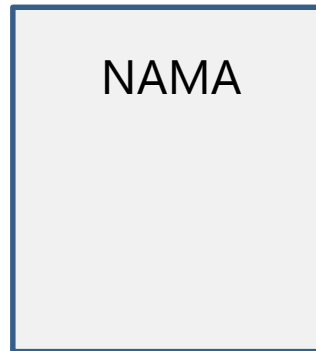
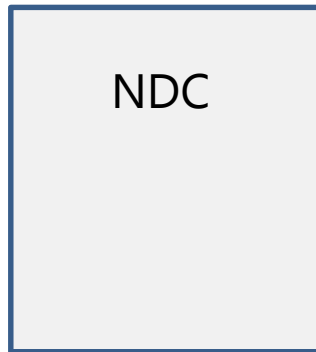
Mumbai

Global agreements to local actions

Global agreements



National strategic and planning documents



Local actions

Economic growth

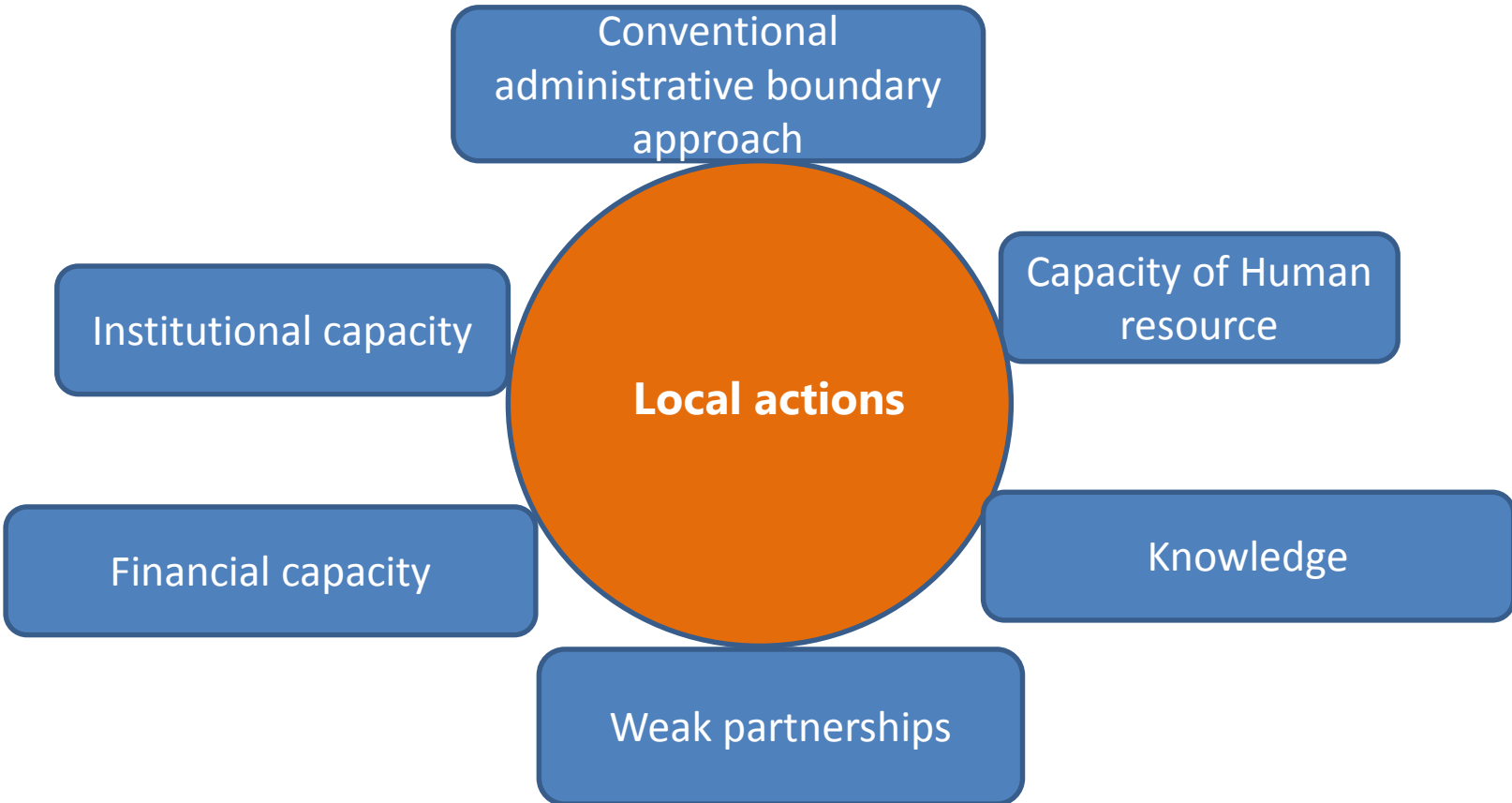
Poverty alleviation

NRM

Waste management

DRR

Challenges of local actions toward resilience society



The Fifth Basic Environment Plan of the Government of Japan highlighted the concept of **Regional Circular and Ecological Sphere (Regional-CES)** as key to promote the development of sustainable societies

Goal: Decentralized and self resilient society

Basic Approach

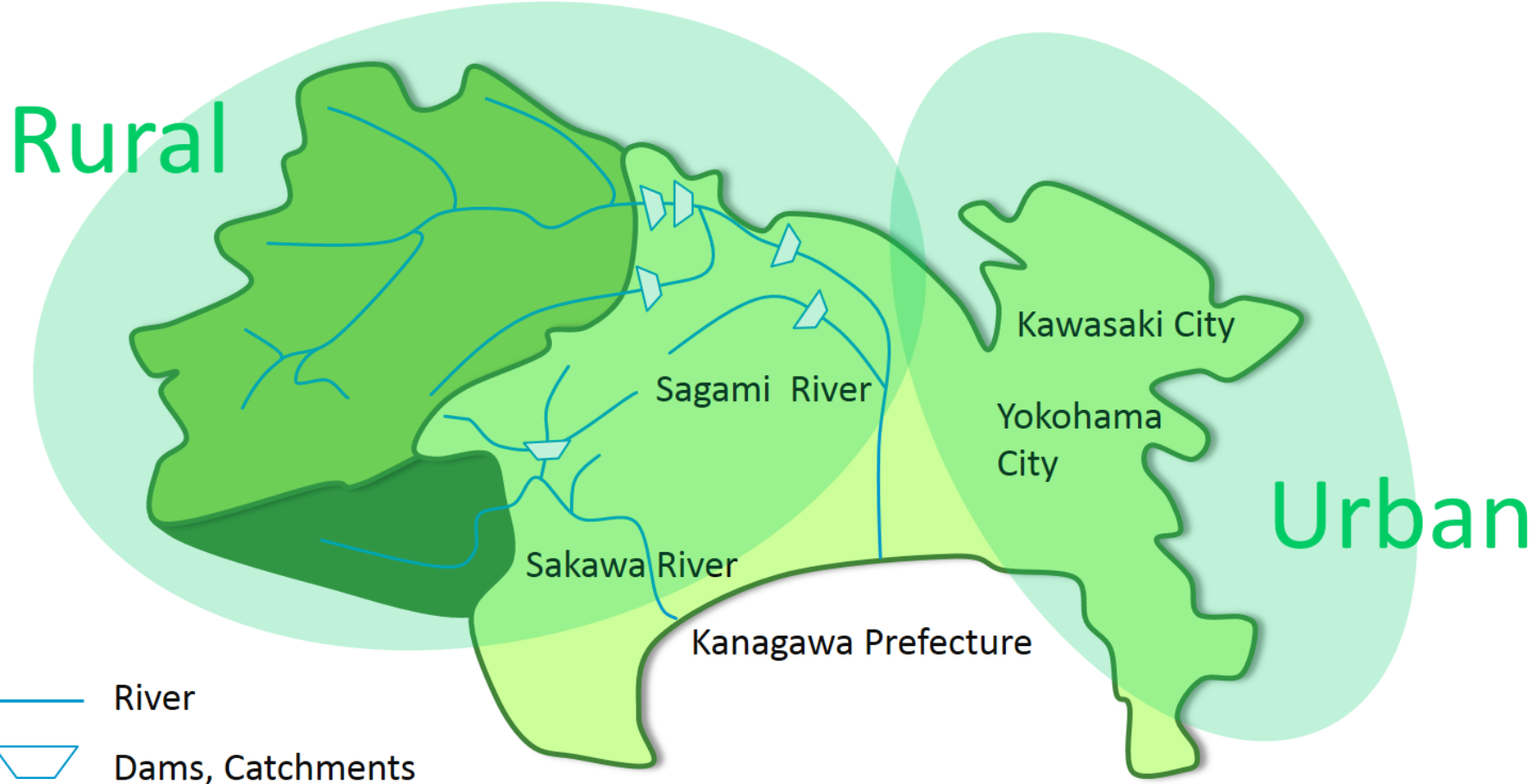
- ◆ Explore simultaneous solutions for economic, regional and international challenges
- ◆ Maximize sustainable use of regional resources
- ◆ Enriching and strengthening partnerships



Source: MOEJ 2018

https://www.env.go.jp/policy/kihon_keikaku/plan/plan_5/attach/ref_en-02.pdf

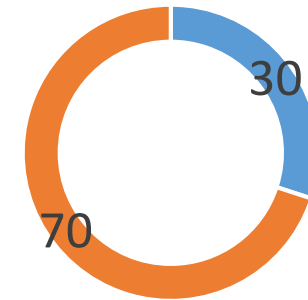
Case 1: Urban-rural collaboration for water source environment conservation in Kanagawa



- River
- ▭ Dams, Catchments
- Area of Sagami River Watershed located in Yamanashi Prefecture
- Area of Sakawa River Watershed located in Shizuoka Prefecture

Issues for water resource conservation in Kanagawa

- ✓ 70% of catchment covered by privately owned plantation forests.
- ✓ Forests are not management because forestry became unprofitable
- ✓ Water quality deterioration
- ✓ Less groundwater recharge
- ✓ Increase risks of landslide disaster

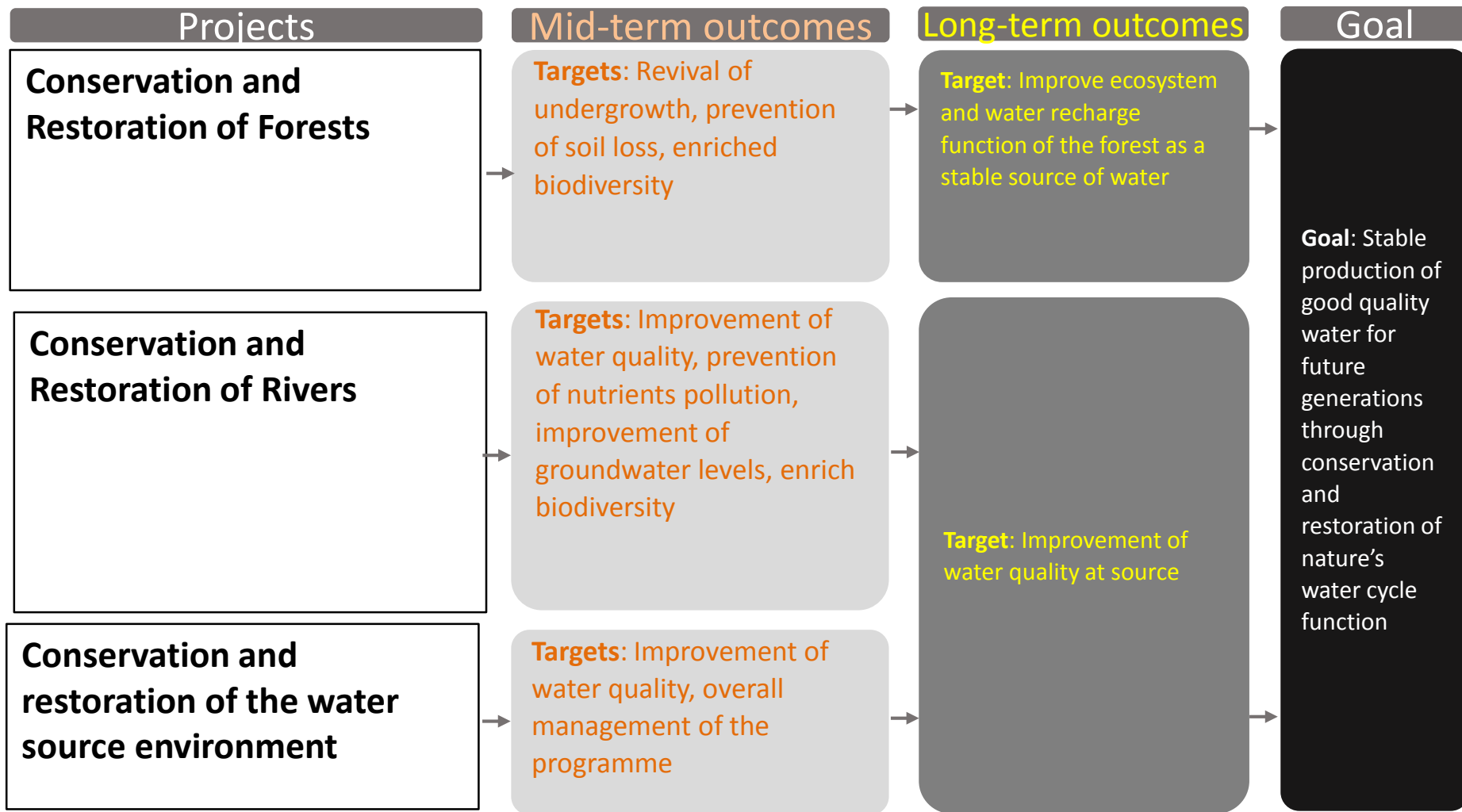


■ Government ■ Private

Source:<https://www.biodic.go.jp/biodiversity/shiraberu/policy/pes/en/forest/forest03.html>

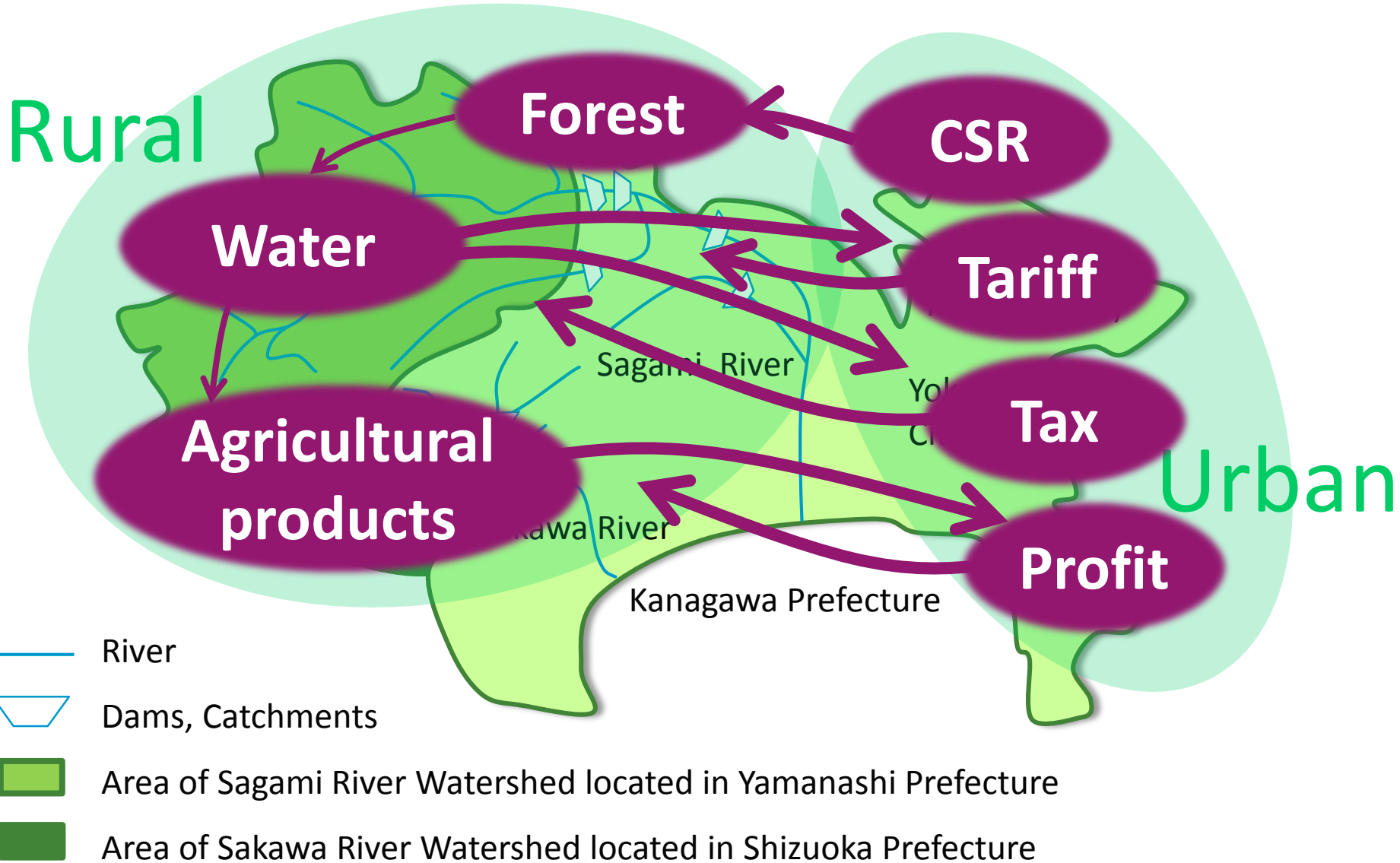


Kanagawa Prefecture introduces water environment conservation tax @880JPY (appx. 8US\$)



Extracted from Kanagawa Prefecture 2016

Kanagawa watershed



Supporting forest owners in shipping thinned wood and reforestation



Impact of Water conservation programme in Kanagawa prefecture



Before



After

Key governance elements of Kanagawa water conservation programme

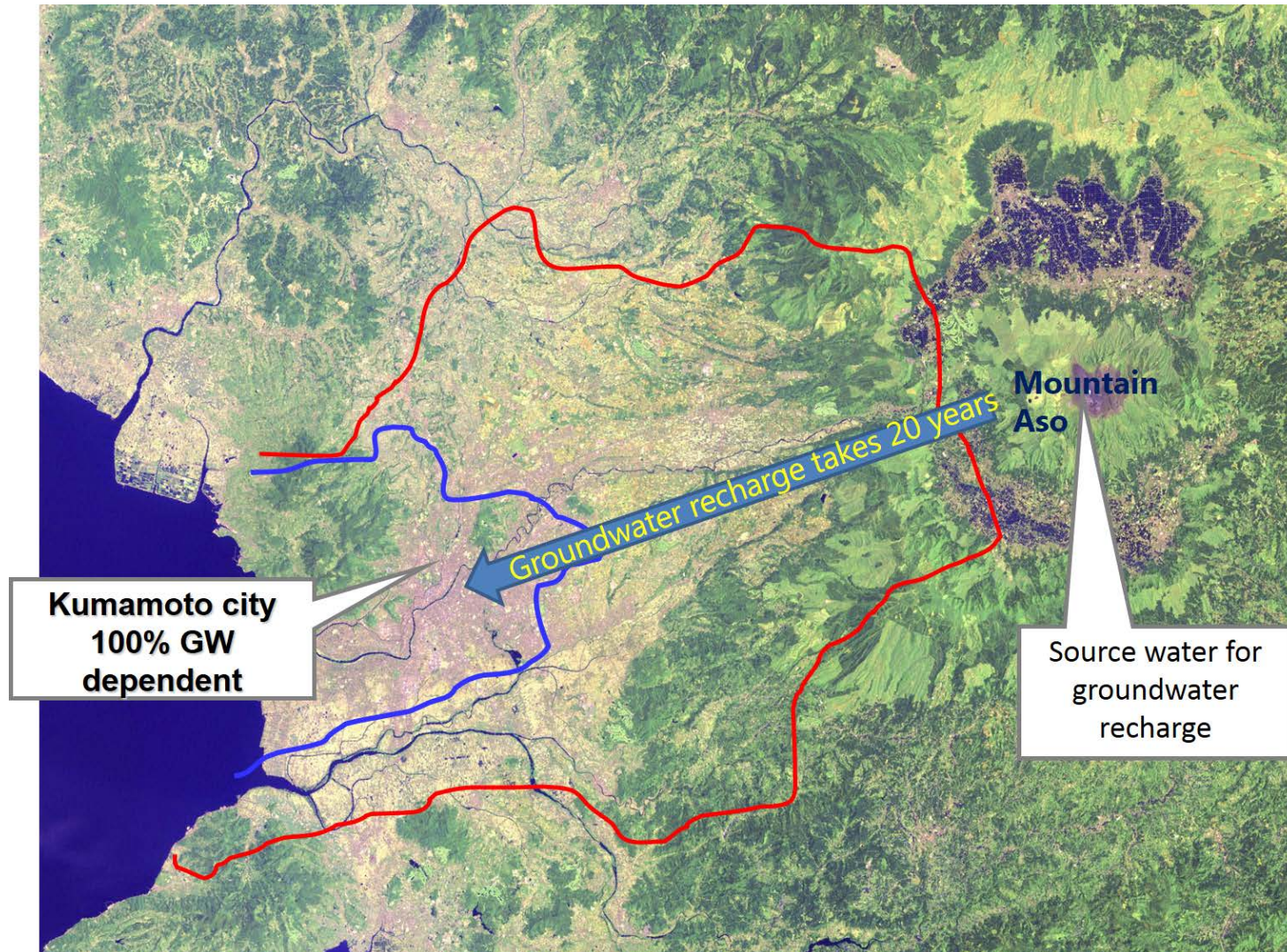


Key governance elements of Kanagawa water conservation programme

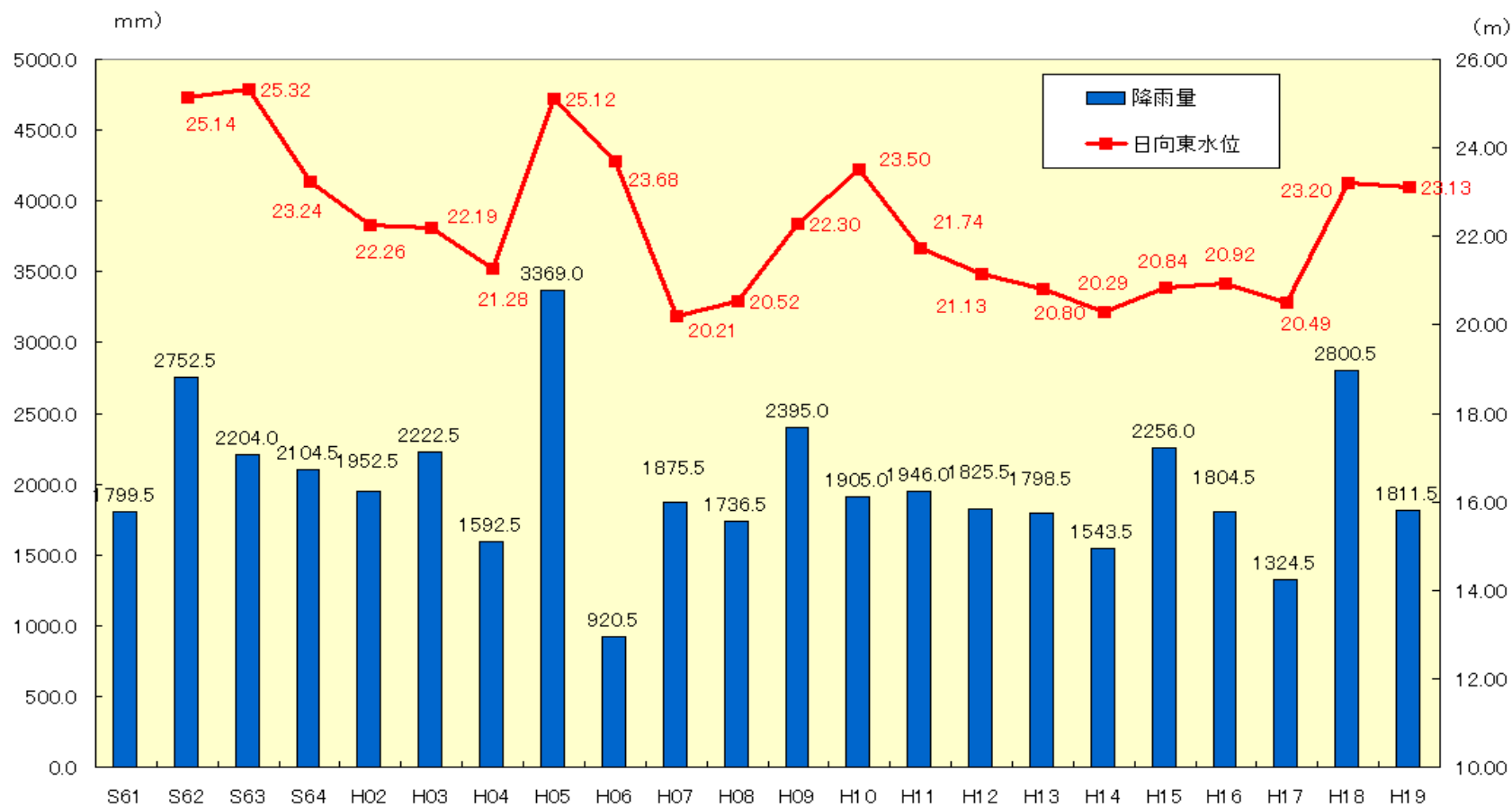
- ✓ **Citizens** consultation and involvement
- ✓ 25% of the committee members from **Civil society**
- ✓ Arrange **demonstration field visits** for the citizens
- ✓ Regular **monitoring and reporting** to the public
- ✓ Every **five years review the projects** and make necessary revisions in the activities
- ✓ Contributions of **private sectors** in the forest managements
- ✓ Support conservation activities in **upstream prefectures**



Case 2: Urban-rural collaboration for groundwater management in Kumamoto



Groundwater level in Kumamoto



Source: Nagata 2018

Utilizing Paddy Fields for Groundwater Recharge



Signing the Groundwater Conservation Agreement with neighboring towns

Source: Nagata
2018

Incentives mechanisms for paddy field owners

Days of Flooding	Payment to Farmers
30 Days	11,000yen/1,000m ²
60 Days	16,500yen/1,000m ²
90 Days	22,000yen/1,000m ²

Key Lessons from cases in Japan

- ✓ Local actions towards sustainable development and resilient society should be planned and implemented beyond the administrative boundary level. Need to introduce regional circular and ecological sphere concept
- ✓ Need to strengthen partnership with neighbouring towns or villages
- ✓ Multi-stakeholder involvement in planning and implementation is critical for making the program sustainable.
- ✓ Entire system should be transparent to the people
- ✓ Need to introduce incentive mechanisms to encourage collaboration