

Frameworks for approaching water allocation issues

The Basic Water Resources Plan and
implementation schemes

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Background (1)

- The water-related situation of Japan around 1960's was very tight.
- Large gaps between the water demand and supply was generated.
- Development of some legal, administrative and organizational frameworks related to water resources development and management
- The Basic Plan for Water Resources Development and the organizational framework for implementing the plan

Background (2)

- Two kinds of legal frameworks related to water resources (The past frameworks will be explained.)
 - (I) The Full Plan
 - ~ Comprehensive water resources plan in the river basin text
 - (ii) The Water Resources Development Public Corporation (Present Japan Water Agency)
 - ~ River Basin Organization in Japan
- They also have close relation to IWRM

The Full Plan (1) ~ Introduction

- Regarding the water deficit and metro areas, new scheme for water resources plan across the prefectures was required
- The plan should be
 - (1) broad-based, across the boundary of prefectures
 - (2) on the basis of mid-and-long term prediction of water supply and demand
 - (3) on the basis of consensus building among multiple concerned stakeholders in the basin (in the broad area, the relation between facilities and beneficiaries are very complex.

The Full Plan (2) ~ Legal Framework

- The Water Resources Development Promotion Law (WARDPL)
- The purpose of WARDPL

The purpose of WARDPL is to protect and recharge headwater as well as to promote the overall development of, and rationalization of the use of water resources in river systems, in order to ensure the supply of water to regions where it is required due to the development of industry and increasing urban population, thereby contributing to the growth of the national economy and the improvement of people's livelihoods (Art 1, WARDPL).

The Full Plan (3) ~ Outline

- 3 items
 - (1) Basic investigations (Art2, WARDPL)
~ Investigation of the water demands in the concerned areas
 - (2) Designation of river systems for water resources development (Art3, WARDPL)
~ 7 designated river systems
 - (3) Preparation for the Full Plan (Art4, WARDPL)

The Full Plan (4) ~ Responsibility

- Responsibilities related to the Full Plan belonged to **the Prime Minister** (Now, this belongs to the Minister of Land, Infrastructure and Transport)

The reasons why...

- (1) The Full Plans are very important from the viewpoint of national strategy
- (2) The Full Plans are related to multiple local governments because they are broad-based ones, thus it is difficult for local government to take the responsibilities for coordination
- (3) There have been multiple water-related ministries even in the National Government, thus the Prime Minister, who occupies the apex, is appropriate to cooperate the interests of the ministries

Mandates of water-related organization (Before 2001)

- Flood Control : Ministry of Construction (MOC, Now Ministry of Land, Infrastructure and Transport)
- Irrigation Water : Ministry of Agriculture, Forestry and Fisheries (MAFF)
- Industrial Water : Ministry of International Trade and Industry (MITI, Now Ministry of Economic, Trade and Industry (METI))
- Hydropower Generation: Ministry of International Trade and Industry (MITI, Now Ministry of Economic, Trade and Industry (METI))
- Water-supply : Ministry of Health and Welfare (MHW, Now Ministry of Health, Labor and Welfare (MHWL))

The Full Plan (5) ~ Basic investigation

- Prior to the designation of river systems or preparation for the Full Plans, the National Government must conduct the basic investigation.
- The investigation of water demand within the concerned areas are conducted in collaboration with the concerned prefectures
 - 1) each concerned Prefecture itself predicts its future water demands, and
 - 2) the National Land Agency (at, present the Ministry of Land, Infrastructure and Transport) examines the prediction carried out by concerned prefectures

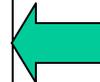
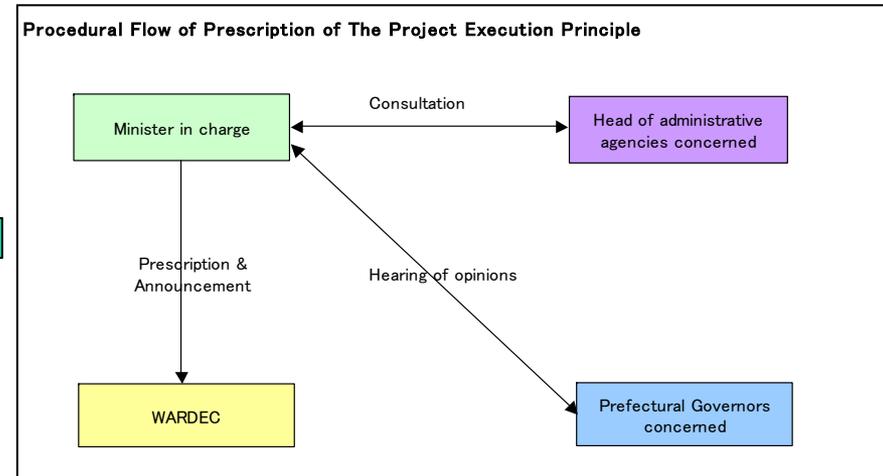
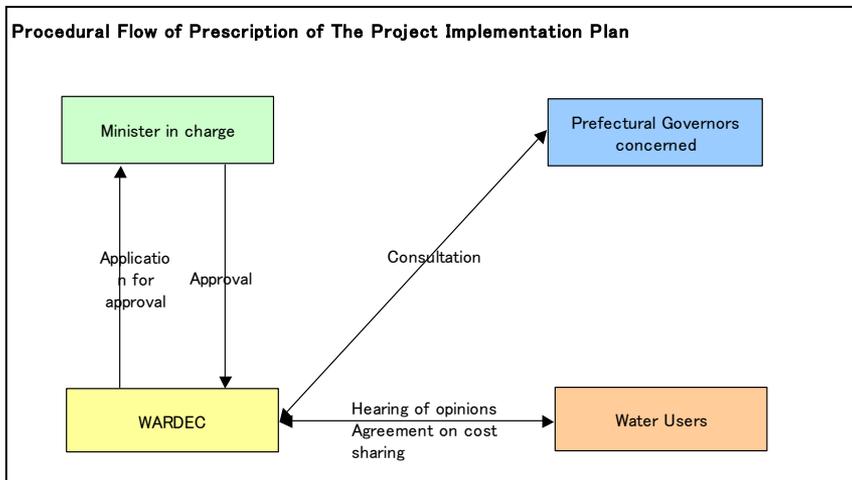
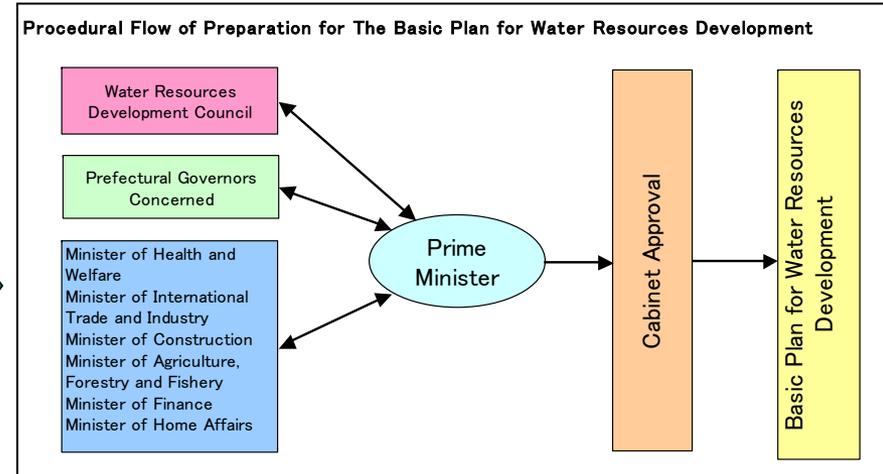
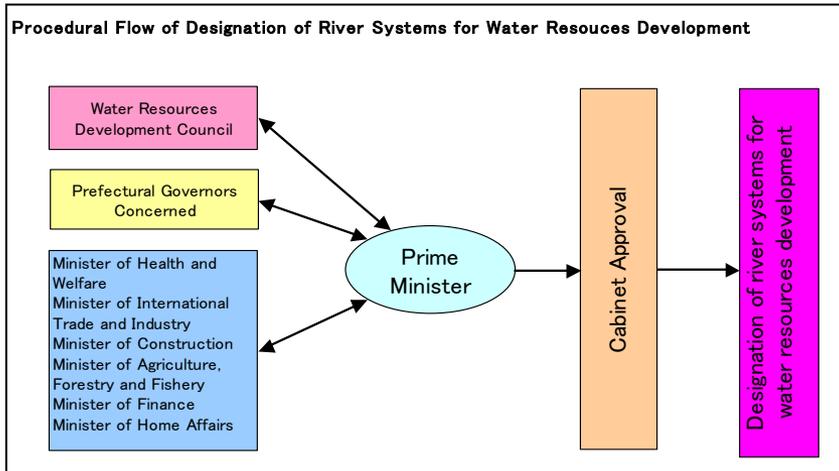
The Full Plan (6) ~ Designation

- The requirement for preparation for the Full Plan
~ When it deemed urgently necessary to take broad measures concerning water with regard to the regions where water is required due to the development of industry and increasing urban population
- At present, 7 river systems are designated
(Tone, Ara, Toyogawa, Kiso, Yodo, Yoshino and Chikugo)

The Full Plan (7) ~ Full Plan

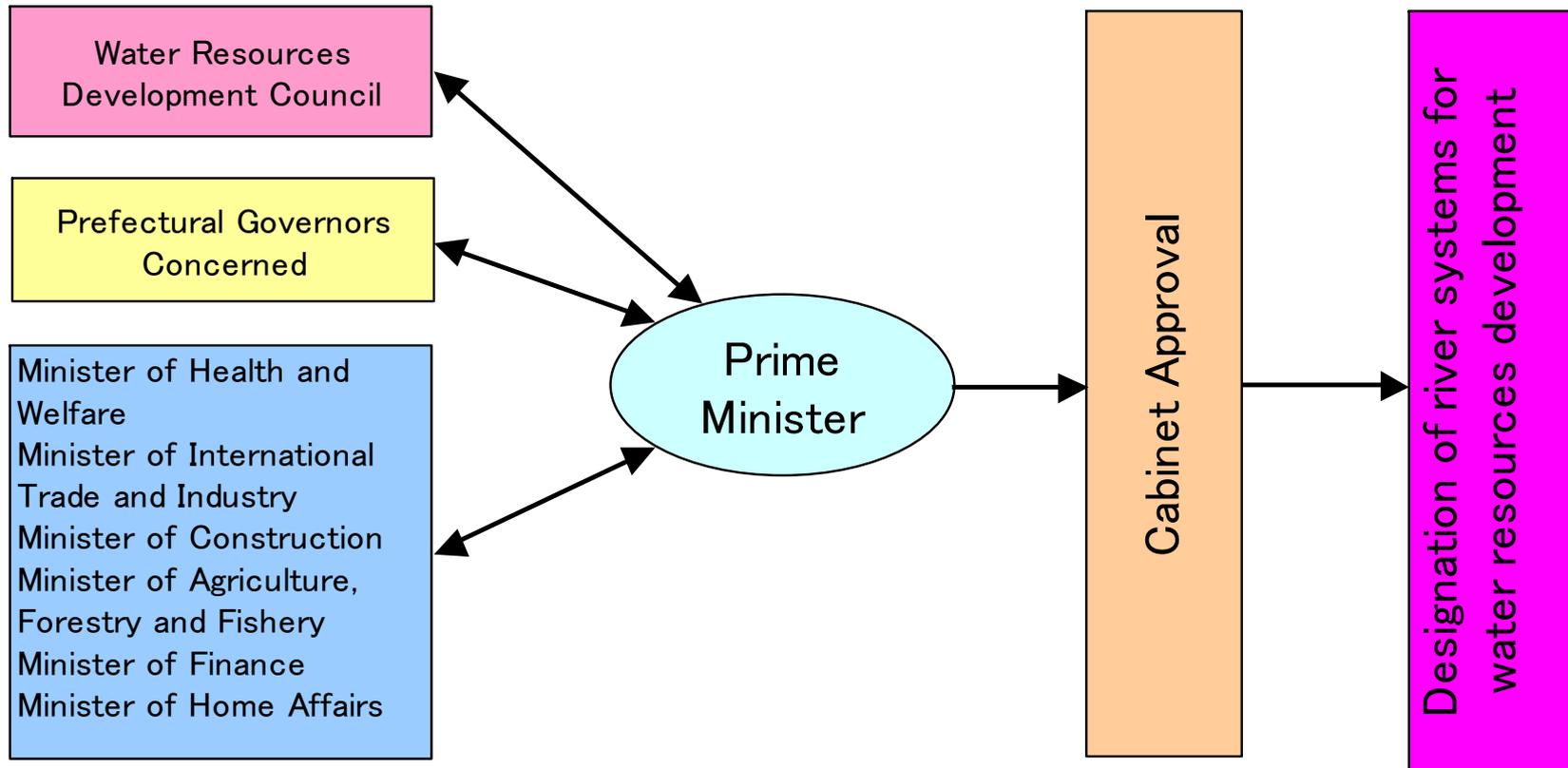
- Contents of the Full Plan are as follows.
 - (1) Forecast for the demand for each water use and targets for supply;
 - (2) Basic items regarding construction of facilities necessary to achieve the targets for supply in the previous items; and
 - (3) Other important items regarding the overall development of, and rationalization of the use of water resources.

Overall picture of the procedural flows



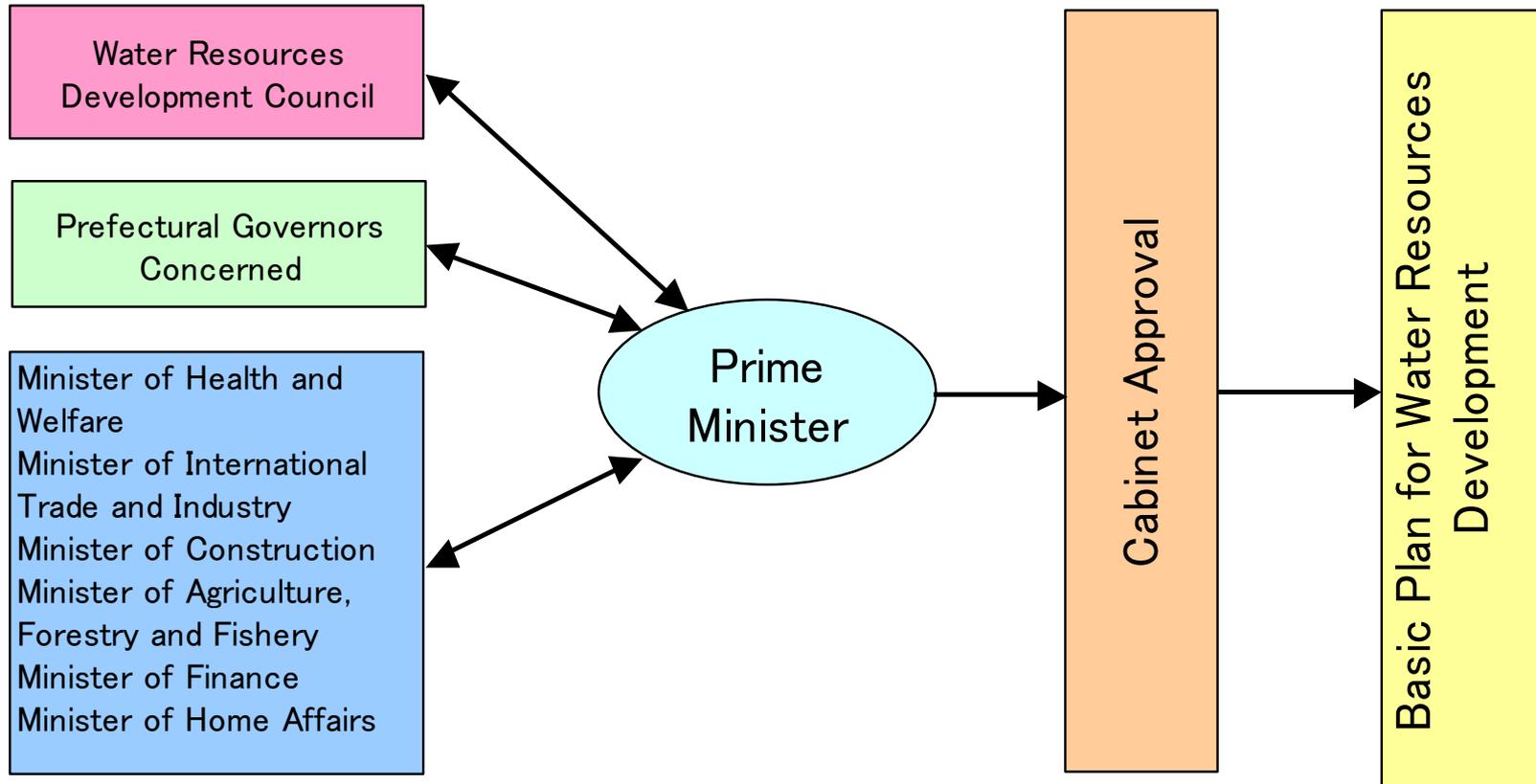
The Full Plan (8) ~ Procedure (1)

Procedural Flow of Designation of River Systems for Water Resources Development



The Full Plan (9) ~ Procedure (2)

Procedural Flow of Preparation for The Basic Plan for Water Resources Development



The Full Plan (10) ~ Lessons Learned

- Water Resources development and management became to be implemented in a planned manner at the basin level, which has led the well-planned development of water resources facilities .
- Consensus building for the plan among the stakeholders such as national governments in the basin, local governments or water users have been well-developed, which have contributed to avoidance of water conflicts.
- Projects for water resources development in the designated river systems have been implemented in a more transparent manner because the Full Plans have had to be disclosed.

Implementation framework (1) ~ Background

- **The Water Resources Development Public Corporation (WARDEC)**, established in 1962 as a river basin organization (RBO), in order to implement the Full Plans
- The objective of WARDEC was to develop water resources in the 7 designated river systems in an integrated manner with constructing and managing water facilities including multi-purpose dams, barrages, development of lakes and multi-purpose canals.
- WARDEC activities range widely from securing water for domestic, industrial and agricultural use to controlling floods, and maintaining and improving normal functions of river water (e.g. securing vested water and conserving the river environment).
- Sector reform in 2003, from WARDEC to JWA

Implementation framework (2) ~ Required factors

- Requirements for implementation
 - (i) Clarified responsibilities for implementing projects
 - (ii) Consensus building among stakeholders
(Procedural flow)
 - (iii) Adequate funding
 - (iv) Technical capacity for construction and management

Implementation framework (3) ~ Responsibility (1)

- Responsibility for implementing projects
The National Government Ministry have shouldered the responsibility ~ Ministry in Charge (MIC)
- WARDEC have to implement projects under the supervision of MICs.
- MICs are decided along with the objectives of projects as follows.
Multi-purpose dams or estuary barrages: MOC
Water facilities for irrigation water: MAFF
Water facilities for water for water supply: MHW
Water facilities for industrial water: MITI
- Multiple MICs may take the responsibilities for implementing projects, especially with regard to multi-purpose canal systems

Implementation framework (4) ~ Responsibility (2)

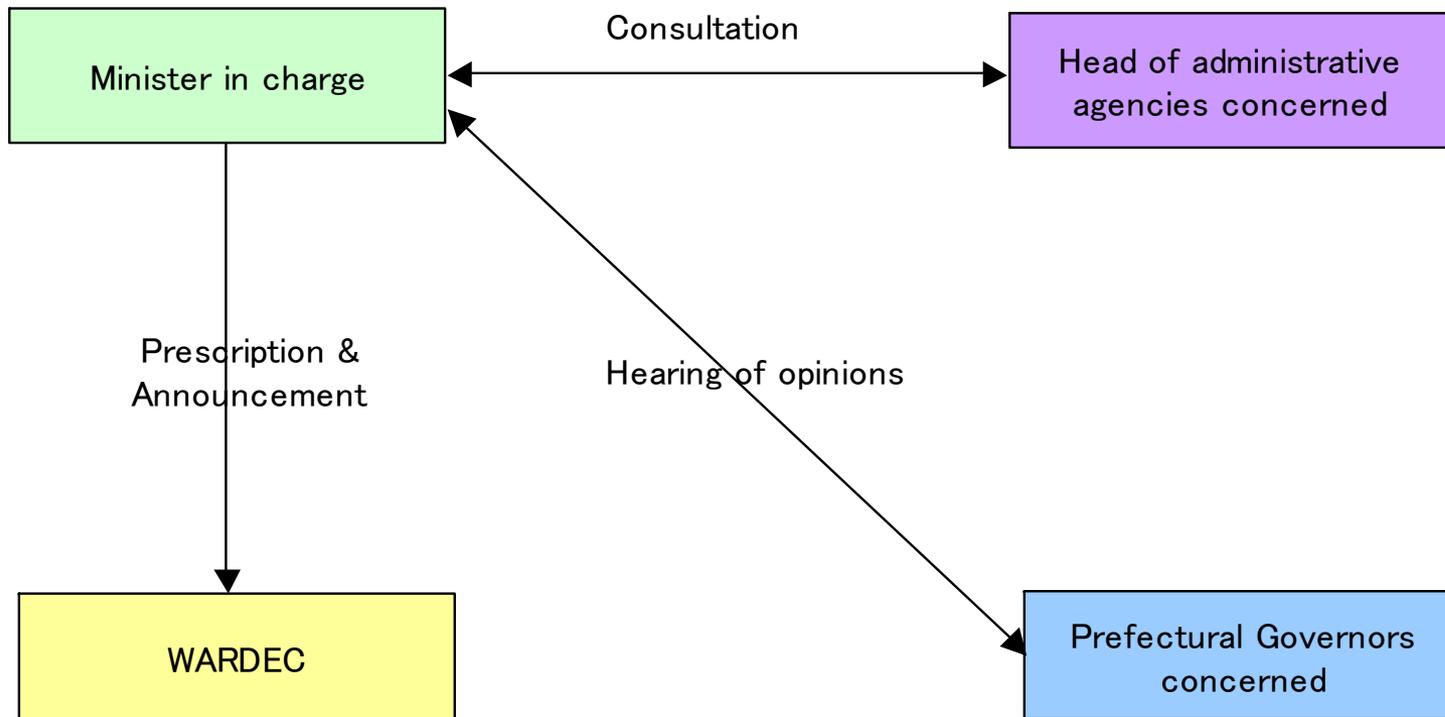
- Namely, WARDEC's implementation scheme is under the multiple water-related government organizations. This have promoted the cooperation among the water-related government organizations.

Implementation framework (4) ~ Procedural Flow (1)

- The “Project Execution Principle”, which is prescribed by MICs
 - (i) the outline of the water facility project
 - (ii) the basic principle of implementation of the project
 - (iii) the matters which should be the basic of the implementation
- The “Project Implementation Plan”, which is prepared by WARDEC
 - (i) denomination, (ii) objective(s), (iii) plans related to water storage, discharge, water intake or water conveyance, (iv) venue, (v) benefited areas with regard to the irrigation and drainage projects, (vi) plans for work, (vii) period of project, (viii) cost and the way for cost sharing, and (ix) other important matters

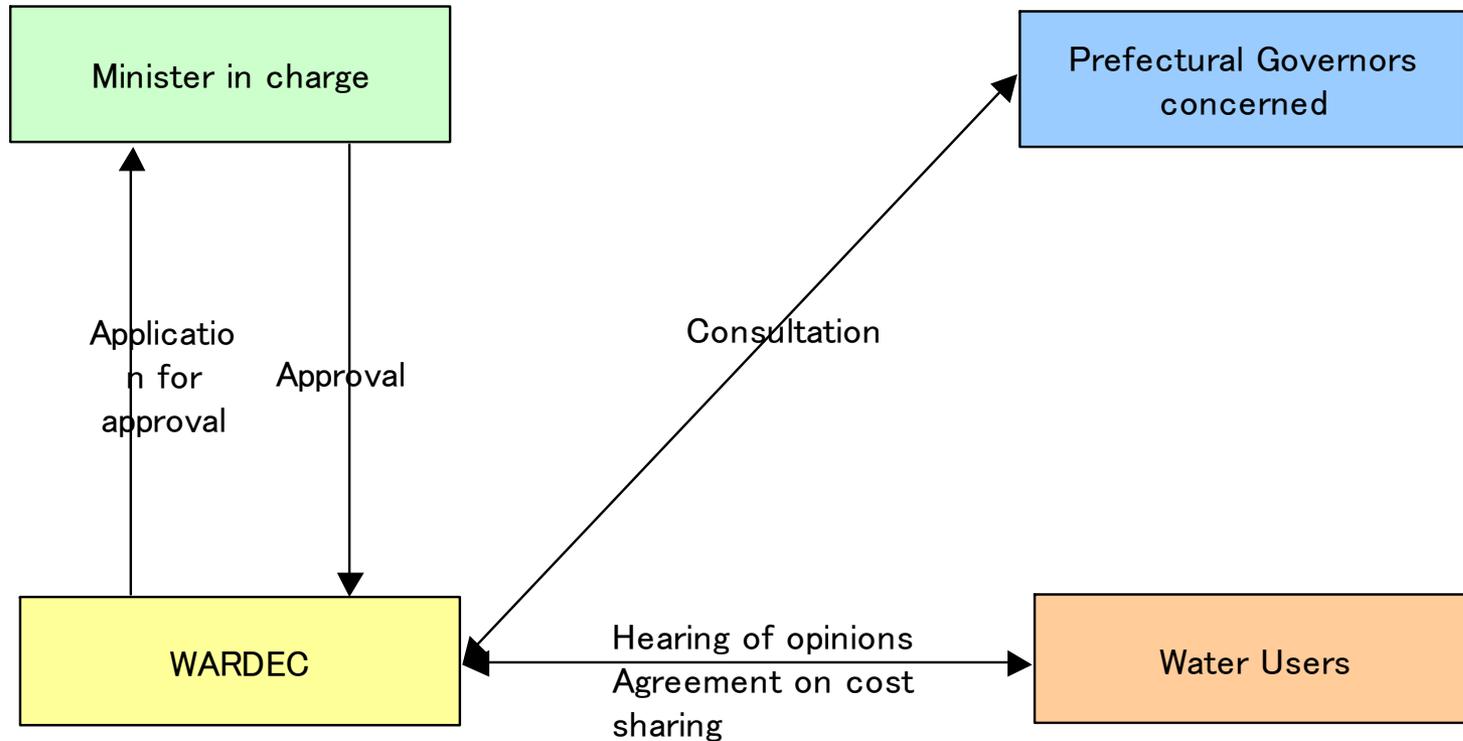
Implementation framework (5) ~ Procedural Flow (2)

Procedural Flow of Prescription of The Project Execution Principle



Implementation framework (6) ~ Procedural Flow (3)

Procedural Flow of Prescription of The Project Implementation Plan



Implementation framework (7) ~ Funding

- Composition of funding
 - (i) Government Grants
 - (ii) Subsidies
 - (iii) Charges (Beneficiary shares)
 - (iv) Loans (Beneficiary shares)
 - (v) Trust funds and Trust revenues
- Long term government loans based on the government financing program has contributed to the promotion of the projects greatly.

Implementation framework (8) ~ Lessons Learned

- WARDEC/JWA has had organizational frameworks for implementation with well-developed schemes for accountability, consensus building and funding.
- WARDEC/JWA have completed 48 water facilities projects in 53 planned ones in the 7 designated river systems since establishment of WARDEC.
- As a result, the gaps between the water demand and supply has decreased, and at present Japan is escaping from the tight water situations such as those of 1960s-1970s. Frequency of severe droughts has also decreased.

Conclusion (1) ~ The Full Plan

- Water resources development projects became to be implemented on the basis of definite plans at a basin level, while these projects had been implemented in a discrete manner before the establishment of the framework for the Full Plan.
- The Full Plans are prepared on the basis of river basin text, which cover broad areas across multiple local governments.
- The Prime Minister had taken the responsibilities for the Full Plans, which had facilitated the preparation for the Full Plans.
- The framework for the Full Plans has promoted the consensus building among stakeholders, which has contributed to the mitigation of water conflicts.
- Due to the framework, projects have been implemented in a more transparent manner.

Conclusion (2) ~ WARDEC

- Responsible government organizations for the project implementation have been explicit, which have contributed to the accountability and transparency.
- The WARDEC's project implementation frameworks have promoted to the consensus building among stakeholders.
- WARDEC has been able to enjoy the funding systems including well-developed government loan or subsidies, which has facilitated the water resources development projects remarkably.

END