

Research Summary

**Revitalizing the Capacity for Water Resources Management
in the Japanese Hydraulic Society
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A robust water institution must fit its present condition and pave way for sustainable development future.

The well-crafted post-war water institution of Japan was challenged by the changing social conditions. Based on documentary data on historical developments and perspectives data from interviews of members of the Japanese hydraulic society including the central to local governments down to farmers organizations, communities, and farmers in the Natsuta and Oyama districts in Iwate Prefecture of the Japanese rice bowl region of Tohoku, this qualitative study revealed that, despite dramatic social changes, the Japanese water institution was still in an incentive-driven tradition. Analyses of the members' goals, challenges and action pointed to questions of development sustainability and the capacities that each of them need in re-orienting themselves.

In charge of the national food security, the Ministry of Agriculture, Forestry and Fisheries was challenged by high local food production cost, farm idling, and the need for a more effective integration of environment issues and social participation. Its plan to increase the farm scale and promote high energy technology needed scrutiny as they would increase the production cost and lead to future food access problems. Its farm income guarantee program eased the production problem but did not address the need for joint management that was necessary for a common resource like water. Its skewed distribution of operational incentives harmed the presently fragile collective spirit and its local implementation deprived opportunities to effectively integrate local socio-ecological issues. In order to define what food security means and how to achieve it in a sustainable way, it needed to grasp the principles of sustainable developments, plan for integrated water management, and develop procedures to work with other central authorities and local governments.

To provide residents with quality livelihood, the Iwate Prefecture and Oshu City took the role of the integrator in harmonizing life aspects, catering to diverse needs of local residents and coordinating with both the central government and local communities. With limited manpower, they tried to compartmentalize groups in specific spatial distribution for ease in their service delivery and used strategic plans as their compass in dealing with multiplicity. Skills in developing procedures to serve marginal groups, to network and cooperate with governments, academia, local consultants, and to create a comprehensive water management plan that balances diverse purposes and covers all regions will be useful to their work.

The autonomous Isawa Heiya Land Improvement District had the duty to provide water to its members.

With limited water capital, it sought more water entitlements and obtained government incentives to supplement the dwindling operation and maintenance contributions from its member farmers. It needed the capacities to put itself in a proper mandate scope and develop a clear role-sharing with local governments, to establish a clearer water management structure with clearer coordinating units in both consolidated and non-consolidated areas, and to use government incentives without undermining the collective spirit. Its knowledge and skills in water management have room for improvement.

The agricultural districts of Natsuta and Oyama needed water for good cultivation. In face of demographical changes including increase of aged farmers and immigration of non-farmers, Natsuta in the plain relied on traditional social relations and normative action for water planning, operation and maintenance. It tried to create road and canal protection groups in its entire area. Capacities to communicate laterally and vertically and to pass its water management norm to the new generation and immigrants would support its vision. The hillock Oyama accepted new technology for their water use convenience and needed capacity to put in place an effective water management institution and to address pending drainage problems.

Individual farmers had goals to achieve profitable occupation and quality of life. However, aged farmers were working long hours, had high farming cost, and lacked farm successors. Efforts were made to increase farm scale for economic viability, modify water management to lessen labor requirement, diversify crops, and add farm service jobs. Understanding in sufficiency economy would provide them with life shield. Developing concurrent businesses for two generations such as farming cum eco-tourism, and promoting their understanding of the necessity to maintain the participatory water management are indispensable.

Keywords: water institution, incentive, demographical changes, sustainable development, food security, capacity analysis

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Publication of the Results of Research Project:

Verbal Presentation (Date, Venue, Name of Conference, Title of Presentation, Presenter, etc.)

Thesis (Name of Journal and its Date, Title and Author of Thesis, etc.)

I have a plan to submit a research article to the Water Policy Journal. The date cannot be specified at the moment.

Book (Publisher and Date of the Book, Title and Author of the Book, etc.)