

Strengthening institutional links for irrigation water governance

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Despite huge irrigation investments, the performance of the Philippine irrigation sector in terms of cropping intensity and actual service area has barely improved through the years (Rola and Elazegui 2016). Previous studies have shown that the sector's development planning is fragmented, with several agencies participating in it, each with its own plan and technical personnel (Elazegui 2004). This calls for a governance regime that connects various actors involved in managing water resources, which is critical in achieving food security. Irrigation cannot afford to be isolated from the other water institutions.

This *Policy Note* presents the results of a study evaluating the effectiveness and efficiency of the government's irrigation program. Aside from micro-level system evaluation, the study looked broadly at the arrangements for water resource governance across macro- and meso-level agencies to point out inefficiencies and recommend policies that can improve these arrangements.

The primary data of the study were generated through key informant interviews and focus group discussions. Respondents were representatives of various water-

related agencies, such as the National Irrigation Administration (NIA), Bureau of Soils and Water Management (BSWM), Department of the Interior and Local Government (DILG), Department of Agrarian Reform (DAR), National Water Resources Board (NWRB), National Power Corporation (NPC), National Economic and Development Authority (NEDA), and the Department of Environment and Natural Resources-River Basin Control Office (DENR-RBCO). Respondents from four regional irrigation offices (RIOs) of Visayas and Mindanao were interviewed, while all Luzon RIOs were interviewed. All irrigation management officers were also interviewed.

Institutions involved in irrigation governance

At least 13 national agencies play a part in irrigation water governance (Table 1). These include NIA, DA-BSWM, DAR, NWRB, DENR-Forest Management Bureau, DENR-RBCO, NPC, DILG, NEDA, Governance Commission for Government Owned and Controlled Corporations, Department of Budget and Management (DBM), Local Water Utilities Administration, and Metropolitan Waterworks and Sewerage System. They were grouped into four, namely, (1) irrigation implementing agencies, (2) other agriculture and natural resources agencies, (3) oversight agencies, and (4) other agencies competing in the use of water.

Table 1. Irrigation-related responsibilities of various national agencies in the Philippines

Agency	Responsibilities
Irrigation implementing offices	
National Irrigation Administration (NIA)	Administers irrigation development in the Philippines
Bureau of Soils and Water Management	Builds small-scale irrigation Projects
Agriculture and natural resources agencies involved in irrigation	
Department of Agrarian Reform	Invests in irrigation systems in agrarian reform communities
National Water Resources Board	Issues water permits for all irrigation systems
Department of Environment and Natural Resources (DENR) - Forest Management Bureau	Preserves the sources of water for existing and potential irrigable areas and recharge areas of major equifers
DENR-River Basin Control Office	Monitors river basin management plans where irrigation is a part of
National Power Corporation	Sits as a member of the NIA board. It co-manages with NIA the Pantabangan and Magat watersheds and water releases.
Department of the Interior and Local Government	Supervises and does capacity building for small impounding systems. It also ensures that local government units connect with the provincial development plans (PDP) and that the comprehensive land use plan-PDP central plans are linked.
Oversight agencies	
National Economic and Development Authority (NEDA)	Approves big-ticket projects through its investment coordination committee. Its regional development council reviews and endorses the smaller projects to the NIA Central Office.
Governance Commission for Government Owned and Controlled Corporations	Coordinates and monitors the operations of government-owned and controlled corporations
Department of Budget and Management	Oversees the budget together with the Department of Finance, Landbank of the Philippines, and NEDA
Agencies competing in the use of water	
Local Water Utilities Administration	Connects with NIA for domestic water supply needs when the water source permit is owned by the NIA
Metropolitan Waterworks and Sewerage System	Coordinates with NIA during water crisis, when irrigation water use is secondary only to domestic water use

Source: Author's compilation

Aside from implementing large-scale irrigation projects, NIA is also concerned with water use and watershed management. Currently, however, no personnel is assigned to these tasks due to rationalization.

Moreover, no clear institutional link exists between NIA and DENR with respect to watershed management (Rola and Elazegui 2016), a noncompliance to the Agricultural and Fisheries Modernization Act.

On the other hand, BSWM handles small-scale irrigation projects for organized farmer associations, known as the small water impounding system association. It also provides supplemental irrigation and other water-related functions for fishery and livestock production (Dayo n.d.).

Meanwhile, DAR works very closely with the local government units (LGUs) in the operation of the irrigation system.

NWRB is the most important player in the irrigation sector given its water allocation decision power through water permits. However, findings also showed its lack of access to data for decisionmaking.

The responsibilities of other national agencies affect the development cycle management of the irrigation systems. For instance, delays in the decision of the NEDA and delays in fund release of the DBM will potentially affect the performance of the NIA, in general.

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Roles of various agencies in the irrigation development cycle

Macro level

Eight national agencies are involved in project identification, planning, and design stages (Table 2). However, one comprehensive irrigation plan agreed upon by all stakeholders with the NIA as lead is more efficient. Aside from NIA, both BSWM and DENR-RBCO also have their own master plan for irrigation and for river basin management indicating potential sites for irrigation development, respectively. Respondents from BSWM, DAR, and DILG felt that a close collaboration with NIA can avoid double counting of beneficiaries and service areas.

NIA and BSWM implement the construction of irrigation systems. DAR solicits NIA's technical support but has a set of personnel monitoring the construction.

With the free irrigation policy, the operation and management (O&M) of national irrigation systems (NIS) is DBM's responsibility. Meanwhile, the monitoring and evaluation (M&E) for the irrigation system performance is mainly done by the NIA and BSWM through the regional field office of the Department of Agriculture.

M&E still depends on reports from the field, despite available modern technologies.

Meso level

At the meso level, the NIA RIO crafts the irrigation development plan, together with the LGUs and the Irrigators' Associations (IAs) (Table 3). Meanwhile, the irrigation management office implements the construction, together with the IAs. DAR solicits LGU participation especially in right-of-way issues.

NEDA's regional development council (RDC) endorses big-ticket projects and approves the smaller ones. For big-ticket projects, NEDA, together with DILG and DBM, monitors project implementation through its regional project monitoring committee under RDC.

During the project planning, the civil society and nongovernment organizations (NGOs) are consulted for social acceptability at the barangay level. NGO usually works with indigenous people and the National Commission on Indigenous Peoples.

The devolution of communal irrigation systems (CIS) to LGUs is rarely implemented because of the apparent

Table 2. Irrigation water related agencies in the Philippines and their roles in the irrigation development cycle, national level

Agency	Irrigation Development Cycle			
	Project identification, planning, and design	Implementation	Operation and management	Monitoring and evaluation
National Irrigation Administration	✓	✓	✓	✓
Bureau of Soils and Water Management	✓			
Department of Agrarian Reform	✓			
National Economic and Development Authority	✓			
National Water Resources Board	✓			
Department of Environment and Natural Resources (DENR) - Forest Management Bureau	✓*			
DENR-River Basin Control Office	✓			
Department of the Interior and Local Government	✓			

*Ideal role of the agency concerned
Source: Author's compilation

Table 3. Irrigation water-related agencies in the Philippines and their roles in the irrigation development cycle, meso level

Agency	Project identification, planning, and design	Irrigation Development Cycle		
		Implementation	Operation and management	Monitoring and evaluation
Regional irrigation offices of the National Irrigation Administration (NIA)	✓			✓
NIA irrigation management offices		✓	✓	✓
Regional field office of the Department of Agriculture		✓	✓	✓
Local government units		✓	✓	✓
Regional development council of the National Economic and Development Authority	✓			
Regional officers of the National Commission on Indigenous Peoples	✓			
Nongovernment organizations	✓			

Source: Author's compilation

lack of interest of LGUs, low priority for irrigation concerns, or lack of capacity to operate and manage CIS (Celestino et al. 2016). While LGUs are interested in the construction, they do not have the capacity for the design and implementation of the irrigation systems' project construction. Meanwhile, the rehabilitation and restoration of existing irrigation systems are continuously being conducted by NIA.

The systems management committee meeting is conducted with the IAs, LGUs, and the national government agencies for crop calendar and pattern of planting to be approved by the provincial governor. The municipal agricultural office decides on the issuance of the *patalastas*, which informs both the NIA and the IAs of irrigation schedule for the next season.

Micro Level

Both NIS and CIS IAs have their own system of governance. NIS governance activities have been limited to generating funds to cover the increasing costs of their O&M. Meanwhile, CIS is governed by the agreed upon by-law of the farmers' association. CIS IAs pay for amortization to the NIA and collect some funds from among the members for O&M activities.

Conclusions

The decisionmaking in the Philippine irrigation sector is fragmented in the various phases of the irrigation development cycle, with participation of multiple institutions not necessarily linked to one another. Multiple institutions plan and implement irrigation projects. O&M is mostly by the NIA, through the general appropriations act. Moreover, M&E is weak. As such, recommendations should be considered as foresight mechanisms in the planning and proper water allocation.

Recommendations

Craft an integrated irrigation development plan

There is a need for an integrated and rolling irrigation development plan led by NIA. It can start with the river basin plan by the DENR- RBCO, the flood control plan of the University of the Philippines Nationwide Operational Assessment of Hazards or the Project NOAH, inter-sectoral plans, the agrarian reform communities plan, and LGU plans.

Boost technical capacity of NIA

The technical capacities of NIA are important. Currently, the technical staff is lean due to the rationalization.



The government should institutionalize a modern monitoring and evaluation (M&E) system. The use of modern M&E technologies, such as the geographic information system and drones, can be encouraged to assist in targeting interventions and programming areas for irrigation. Currently, M&E still depends on reports from the field, despite available modern technologies. Photo: Marco Verch/Flickr

There is a need to beef up the technical staff to be able to address the demand by other agencies.

Moreover, the timeliness of the implementation depends on the bidding process. Problems in procurement may delay the construction. As such, the procurement law must be revisited.

Ensure the quality of the irrigation system

NIA must ensure that the system turned over to the IAs is of high quality to minimize cost of O&M. Similar with the mining projects, the host community of the source of water can be given a share in the revenues that can be used for O&M. NIA can also come up with a formula on the proportion of the annual budget for repairs and

maintenance, similar to the formula of the Department of Public Works and Highways (DPWH).

Institutionalize a modern M&E system

The use of modern M&E technologies, such as the geographic information system (GIS) and drones can be encouraged. GIS applications can be further enhanced in targeting interventions and programming areas for irrigation.

At the system level, a water allocation model is available that can guide the decisions on how much water is to be allocated to irrigation and other sectors. Water data trends and water allocation modelling can come from the academe located in each region.

Establish water resource and research centers


A reliable database is needed by all agencies. Data for planning are available but these are located in various agencies, such as National Mapping and Resource Information Authority, Philippine Atmospheric, Geophysical and Astronomical Services Administration, NWRB, BSWM, Project NOAH, and DPWH.

The proposed water resource and research center (WRRRC) is a centralized unit specializing in water-related concerns. WRRRCs can provide science-based and technical support to water-related government agencies. They can assist in the planning and design of irrigation systems, management and M&E of projects, and assessment of performance of facility and operations. They can also support NWRB's water permits decisions. NWRB should strictly follow water assessments in the issuance of permits.

WRRRCs can also assist NEDA in the evaluation of foreign and large locally funded water projects and the preparation of medium-term development plans of the water sector. The first step in moving forward is to pilot such a structure with the full support of the NWRB and other water-governing bodies.

Create an apex body for water to harmonize policies of water sector

A water sector apex body is a proactive step for the Philippines to implement a water reform process.

While this may mean strengthening the NWRB as the apex body, the mandates of existing water agencies and sectors should also be reviewed. Their existing roles and responsibilities would have to be reoriented for them to be synchronized with the regulatory and policymaking role of the proposed water apex body. Convergence among water-related institutions implies having a super body to establish policies of the water sector as a whole. 

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