Departmentalization as a Tool for Water Governance in the Philippines

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Abstract: Prospects of departmentalizing water service in the Philippines emerge as the country faced a series of water shortages as overlapping functions and responsibilities amongst different government agencies affect the over-all water distribution. To identify whether the process of departmentalization contributes to better water resource management, a series of fixed-effects correlation were made using three key-parameters namely, water accessibility, amount of water assistance received, and the level of permanent water bodies' extent in 162 countries, where 73 of which has a water department. The research suggests that the formation of a water department agency may significantly improve the level of water management in the community, as it has the institutional capacity to deploy water supply enhancements such as building dams and watersheds.

Keywords: departmentalization, water governance, water resource management, Philippines.

Methods

- This essay looks whether the creation of a water department enhances the level of efficiency of its water resource management across the country. This is apart from state regulatory and autonomous bodies present.
- Parameters used in the research are: water accessibility, amount of water assistance received, and the level of permanent water bodies' extent in *162 countries, 73 of which has a cabinet-level water agency.*
- Statistical method used: *fixed-effects correlation*, analyzing the parameters' effects *within* and *across* the countries evaluated in the list using *R* as the statistical software.

Results

An in-depth analysis on the relationship between the parameters to the presence of a *cabinet-level water agency* is indicated at *Table 1,* which provides the following results:

- **Water is distributed not because providers consider it as a *right*, but rather as an *essential need*.**
- Countries with a water department tend to *receive higher water assistance* either in the form of financial or technical from foreign entities than those who have not any.
- Moreover, countries with a water department *does not necessarily mean it has the jurisdiction to extend the level of permanent water bodies prior to increasing water supply*, as it depends on the legal and institutional framework of the country's resource management.

Table 1: Fixed effects correlation between the parameters* and the presence of a water department within and across 162 countries**.

		Water Accessibility		Level of Water-Related Assistance Received		Level of Permanent Water Bodies' Extent	
		Across	Within	Across	Within	Across	Within
Intercept	Coefficient	75.312	58.062	29.167	55.936	2.398e+02	6.699e+02
	Standard Error	0.662	1.127	2.087	12.880	2.110e+02	3.525e+02
Slope***	Coefficient	-7.892	4.618	48.352	29.454	-1.8126e+04	8.114e-01
	Standard Error	1.438	0.580	3.601	5.056	3.929e+03	1.406e+02
Fixed Effects		No	Yes	No	Yes	No	Yes

* Data for these parameters were gathered from the United Nations Water and the United Nations Statistical Division.
** The level of significance is at $p < 0.05$, with a given time period of 2000-2017.
*** The slope is represented by the dependent variable, the present of a water department in the country.

Conclusions

The researcher conclusively founds out that, by departmentalizing water resource management:

1. **Improves** the level of water accessibility significantly.
2. **Streamlines** the managerial and financial costs of water demand allocation and supply enhancement.
3. **Encourages** for a multi-stakeholder participation in the over-all water development initiative.

Departmentalizing water resource management however would require *a series of institutional and legal reforms*. In the Philippines, this would also require the pain-staking task of reforming its privatization of water distribution, which has been the operational mode of water utilities since the introduction of the National Water Crisis Act.

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