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Subsidiarity in Principle: Decentralization of Water Resources Management

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1. Introduction

The principle of subsidiarity suggests that regulation and law-making should take place at the lowest appropriate governance level. The aim of the principle is to promote efficiency and local ownership over policies and regulation, while placing a check on centralized governance and consolidation of authority at the highest levels of government. The principle of subsidiarity may not yet be characterized as a customary principle of international law, but it is gaining increased recognition as an integral component of effective governance frameworks. The principle is perhaps best known for its legal authority as a general principle of European Union law, in which supranational action is only justified when individual state action is incapable of effective governance.¹ The principle has therefore emerged as a critical cornerstone for advocates of limited government. On 21 June 2013, Dutch Foreign Minister Frans Timmermans released the results of a ‘subsidiarity review’ undertaken by the Dutch Government.² The review assessed the state of the European Union’s approach to supranational law-making and regulation. Pushing back against harmonization of national laws with EU policies, the review outlined several issues more aptly left to state regulation. Minister Timmermans famously remarked that ‘the time of an ‘ever closer union’ in every possible policy area is behind us.’³

Several of the policy areas in which an ‘ever closer union’ approach was questioned were related to water resources management. The Water Framework Directive, Soil Framework Directive, and Flood Directive generally establish EU-wide regulatory baselines to ensure sound management of natural resources. Given the interconnectedness of ecological processes, especially in geographically contiguous regions such as the European continent, harmonized environmental laws that enforce certain minimum standards for natural resources management are logical and likely to meet the subsidiarity threshold as the most appropriate governance level since individual state law-making would be ineffective.⁴ The subsidiarity review, however, questioned the need for total water resources regulation at the supranational

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1 Treaty on European Union, 1992.

2 Dutch Ministry of Foreign Affairs, ‘European Where Necessary, National Where Possible’, 21 June 2013, <<http://www.government.nl/news/2013/06/21/european-where-necessary-national-where-possible.html>> (last visited 28 February 2014).

3 Dutch Ministry of Foreign Affairs, ‘NL “subsidiarity review” – explanatory note’, 21 June 2013, <<http://www.government.nl/documents-and-publications/notes/2013/06/21/nl-subsidiarity-review-explanatory-note.html>> (last visited 28 February 2014).

4 Uncoordinated or weak water quality regulation, for example, is likely to negatively impact downstream states.

level, suggesting that certain aspects of water resources management may more sensibly be left to national or subnational governance structures, such as flood control for waters wholly contained within a state.⁵

The subsidiarity review has sparked a debate in Europe regarding the appropriate level of governance in a wide range of policy areas, and the role of the supranational state in general.⁶ The inclusion of water resources management in this debate, however, is also of significance, largely because the principle of subsidiarity for water resources management has gained significant momentum in recent years as states have recognized the political and administrative benefits of decentralized water service delivery. Like the general principle of subsidiarity, the subsidiarity principle of water resources management suggests that water management and service delivery should take place at the lowest appropriate governance level. Decentralization of water resources management has been particularly attractive to developing states seeking to ease the burden on central government institutions (and budgets) and empower local communities. The benefits are equally attractive to developed states as well, and in particular those with federal or libertarian institutional structures and philosophies.

The results of decentralization of water resources management, however, are not consistent. While some developed states have succeeded at creating responsive and well-funded institutions capable of regulating water quantity and quality at localized levels, the promise of decentralized water service delivery has not been realized in developing states and their communities. In many cases, the principle of subsidiarity transfers responsibilities for critical government services to institutions and communities that lack the capacity to effectively manage water resources. In many cases, the subsidiarity principle of water resources management has been applied with undue haste, assuming that water resources management should occur at the local level when in fact institutional capacities would suggest that local institutions are not the appropriate governance level.

In this article, three countries' experiences with decentralized water resources management are profiled. Comparative analysis provides an illustration of some of the challenges that countries may face when implementing decentralized water laws and policies. In particular, the case studies demonstrate that income levels and financial resources play a significant role in the success of decentralized water resources management. In Haiti, decentralization policies have been largely ineffective, as statutory authorization for water resources management at both national and local levels has not been coupled with the financial or human resources required to effectively manage water resources. A similar story is being played out in Rwanda, though coordination efforts between the national and local governments have managed to overcome typical challenges faced by developing states. By contrast, the ideals of the principle of subsidiarity are well represented in the United States, where the state of Florida has established powerful integrated water resources management structures to balance the needs of water users.

Haiti, Rwanda, and Florida have been selected for detailed study because they offer varied and timely lessons for the international community. First, the countries represent a spectrum of experiences with the principle of subsidiarity, from chaotic fragmentation in Haiti, to insufficient capacity in Rwanda, to a working model for decentralized water governance on a large scale in Florida. It is likely that most countries' decentralization efforts will fall within this spectrum. Second, the case studies show that while income levels play a large role in the viability of decentralization efforts, economic well-being is not the only factor relevant in determining the success of a decentralization effort. While Haiti and Rwanda share similar levels of economic development, Rwanda's experience shows that creating a robust statutory framework can contribute to water resources management efforts even if financial support is lacking. At the same time, Florida's water management districts must address and resolve complex political challenges regardless of sustainable financing mechanisms. Finally, the countries are selected to demonstrate that the principle of subsidiarity cannot be implemented overnight. While donors and

5 'The Netherlands believes the EU should refrain from dealing with small bodies of water' Dutch Ministry of Foreign Affairs, 'Testing European legislation for subsidiarity and proportionality – Dutch list of points for action', <<http://www.government.nl/documents-and-publications/notes/2013/06/21/testing-european-legislation-for-subsidiarity-and-proportionality-dutch-list-of-points-for-action.html>> (last visited 28 February 2014), pp. 14-16.

6 See, e.g. commentary on views in the United Kingdom and France. 'Dutch "subsidiarity review" strikes a chord with UK euro critics', 25 June 2013, <<http://www.euractiv.com/future-eu/dutch-subsidiarity-review-strike-news-528833>> (last visited 28 February 2014). N. Ikani, 'L'Etat c'est moi – Subsidiarity as a Recurring Principle in National Discourse', 12 September 2013, <<http://www.nouvelle-europe.eu/en/l-etat-c-est-moi-subsidiarity-recurring-principle-national-discourse>> (last visited 28 February 2014).

the international community may aggressively promote decentralized water governance in countries like Haiti and Rwanda, the case studies show that decentralization takes time and sustainable support structures to implement. Even in Florida – where decentralized water governance has been taking place for over forty years – decentralized water resources management remains an evolving public challenge.

While the case studies are not intended to articulate a global rule for the principle of subsidiarity in water resources management frameworks, they will demonstrate that decentralized water resources management should be undertaken with an emphasis on the financial and human resources needed to successfully carry out that approach. Without strong and well-funded institutions, local governments will struggle to effectively manage water resources, and cannot be considered the appropriate governance level the subsidiarity principle envisions.

2. The principle of subsidiarity for water resources management: origins and trade-offs

The general principle of subsidiarity has been an important instrument of theology and political thought since the late 19th century. Originally popularized by Catholic theologians and the Catholic Church in order to recognize the autonomy and dignity of the individual vis-à-vis the state, subsidiarity helped Catholic social teaching emphasize the importance of local institutions – such as the family and the church – in the development of social welfare. Pope Leo XIII formally adopted subsidiarity as a principle of the Church in 1891 in an attempt to strike a balance between state-centric communism and laissez-faire capitalism.⁷ In light of these two extremes, establishing a middle ground that enabled central government action only when local action was ineffective was a significant religious and political development.

However, subsidiarity may also have roots in the early developments of libertarian or conservative political thought, expounded upon by political philosophers such as Aristotle, Thomas Aquinas, Althusias, and John Locke.⁸ In *Democracy in America*, Alexis de Tocqueville remarked in his comparison of early America with France under Louis XIV that ‘administrative centralization is suitable only to enervate the peoples who submit to it, because it constantly tends to diminish the spirit of citizenship in them. Administrative centralization, it is true, succeeds in gathering at a given time and in a certain place all the available forces of a nation, but it is harmful to the multiplication of those forces. It brings the nation victory on the day of battle and over time reduces its power. So it can work admirably toward the passing greatness of a man, not toward the lasting prosperity of a people.’⁹

The primary focus of contemporary political discourse on subsidiarity, however, is attributable to subsidiarity’s role as a general principle of European Union law. Subsidiarity was formally adopted in the 1992 Maastricht Treaty, and its legal validity endures as Article 5(3) of the Treaty on European Union.¹⁰ The Court of Justice of the European Union has jurisdiction over the interpretation of the principle, and is tasked with deciding whether an EU action meets the standard of Article 5(3). The deference to, and enforcement of, subsidiarity in the EU is noteworthy since most countries implementing decentralization policies do not do so out of statutory or constitutional obligation.¹¹

As the general principle of subsidiarity gained significant momentum with the advent of EU law, application of the principle to management of natural resources and environmental law-making has increased in tandem over the past twenty years. The logic behind effective decentralized natural resources management can be broken down in part by game theory – when large groups face collective action problems lacking trust mechanisms (a common barrier when managing natural resources), breaking the large group down into several smaller groups makes use of already established trust relationships between

7 Pope Leo XIII, *Rerum Novarum*, 1891.

8 C. Millon-Delsol, ‘Le principe de subsidiarité: origines et fondements’ [The Principle of Subsidiarity: Origins and Foundations], 1990 *Cahier de l’Institut la Boétie*, pp. 4-11. C. Millon-Delsol, *L’état subsidiaire; Ingérence et non-ingérence de l’état: le principe de subsidiarité aux fondements de l’histoire européenne* [The Subsidiary Condition, Interference and Non-Interference of the State: The Subsidiarity Principle to the Foundations of European History], 1992.

9 A. Tocqueville, *Democracy in America*, Vol. 1, 1838.

10 Treaty on European Union, Article 5(3), 1992.

11 It should be noted, however, that the Court of Justice of the European Union appears hesitant to apply strict scrutiny to EU policy challenges based on subsidiarity claims. See e.g. Case C-233/94, *Germany v Parliament and Council*, [1997] ECR I-2441.

group members.¹² Game theory aside, the advantages of decentralized environmental management are numerous. Among them: community actors have local knowledge of ecological processes and human behavior; the inclusion of trustworthy actors and the exclusion of untrustworthy actors is facilitated by community-level awareness and dynamics; local actors are more acutely aware of changes in ecological processes; local actors are more capable of adopting rules and regulations that reflect local realities; rules and regulations adopted locally are seen as more legitimate and less likely to be violated; and because multiple sub-regions are developing their own unique regulatory systems, diversification is more likely to withstand natural disasters and environmental change, making region-wide failure unlikely.^{13, 14}

Of course, decentralization of natural resources management may have disadvantages. Whether due to a lack of leadership, conflict over priority decision-making, or lack of incentives, community-level institutions may never take shape in the first place. Even if they do, tasking local institutions with developing environmental management frameworks capable of responding to complex ecological processes may overwhelm human-resource capacities. In regions where equality and the rule of law do not predominate, political elites may create management systems that benefit themselves to the detriment of the community. Local communities are less likely to have access to environmental science, data, and the modeling tools necessary to create dynamic management systems. And without a higher-level jurisdiction in place to manage transboundary resources, communities may come into conflict with each other.¹⁵ Exploration of these challenges applied to water resources management is the focus of the country profiles below.

The advantages and disadvantages of decentralized natural resources management in general are largely true of water resources management specifically. As a critical resource for agriculture, public health and domestic activities, transportation, and recreation, many water uses are already traditionally local activities. Surface waters have long been part of community political, social, and religious structures,¹⁶ and decentralization policies are in line with the international community's shift away from viewing water as a commodity whose rights can be sold by national governments.¹⁷ However, water is also one of the most complex of natural resources, as quantifying availability, controlling flows, regulating pollution, and monitoring water users can be elusive. The task of developing water management frameworks is often complex and requires the coordination of many stakeholders. Local communities may not be equipped to handle such challenges.

Nonetheless, decentralization of water resources management has become an attractive option for countries with large or complex watershed systems. As a foundational element of the Integrated Water Resources Management (IWRM) paradigm, the rise to prominence of the principle of subsidiarity has paralleled the widespread adoption of IWRM itself.¹⁸ IWRM is defined as 'a process that promotes coordinated development and management of water, land and related resources, in order to maximize economic and social welfare in an equitable manner without compromising the sustainability of vital systems.'¹⁹ Perhaps the most crucial aspect of IWRM planning is to realign management structures and institutions along hydrological boundaries. Drawing boundaries according to the characteristics of a water resource allows the IWRM plan to be more responsive to localized environmental variables. In restructuring water management systems accordingly, IWRM implicitly endorses a decentralized decision-making structure, where water resources governance is primarily undertaken by institutions at the level of the water resource.

12 G. Marshall, 'Nesting, Subsidiarity, and Community-Based Environmental Governance Beyond the Local Level', 2008 *International Journal of the Commons* 2, no. 1, p. 77.

13 *Ibid.*, p. 78.

14 E. Ostrom, 'Coping With Tragedies of the Commons', 1999 *Annual Review of Political Science* 2, p. 526.

15 *Ibid.*, p. 527.

16 A. Salzman, 'Thirst: A Short History of Drinking Water', 2005 *Duke Law School Legal Studies Research Paper Series*.

17 During the 1990s, the United States/International Monetary Fund-led 'Washington Consensus' encouraged developing nations to privatize many government services, including water service delivery. The movement to commodify water resources has been somewhat tempered in part because of water's essential role for human survival – the vulnerability of low-income and marginalized groups to price distortions has led to a growing movement to view water as a human right.

18 IWRM has been endorsed by the United Nations Development Program, United Nations-Water, the Global Water Partnership, the European Commission, the World Bank, and other intergovernmental organizations. V.S. Saravanan et al., 'Critical Review of Integrated Water Resources Management: Moving Beyond Polarised Discourse', 2009 *Natural Resources Forum* 33, no. 1, pp. 76-86.

19 'Integrated Water Resource Management', 2000 *Global Water Partnership*, no. 4.

The rise of subsidiarity in international agreements and policy statements has mirrored the adoption of IWRM. In fact, the 1992 Dublin Statement on Water and Sustainable Development established stakeholder participation as one of the four pillars of IWRM. In its explanation of the principle, the agreement claimed that a participatory approach ‘means that decisions are taken at the lowest appropriate level, with full public consultation and involvement of users in the planning and implementation of water projects.’²⁰ While not as explicitly supportive of the principle of subsidiarity, the 1997 United Nations Convention on the Law of the Non-Navigational Uses of Watercourses (UN Watercourses Convention) included as a guiding principle the right of equitable participation,²¹ while more firmly, the 2004 Berlin Rules on Water Resources support the concept of decentralization by establishing the right of persons likely to be affected to participate in water resource management processes.²² Regional international agreements also incorporate the principle of subsidiarity. The Nile Basin Cooperative Framework Agreement, for example, lists subsidiarity as one of its guiding principles.²³ The Agreement has not entered into force due to vociferous disagreements over certain controversial legal provisions, but the principle of subsidiarity is not among these disputed provisions.²⁴

Nonetheless, as water resources management is primarily the jurisdiction of, and most robust in, sovereign states, the development of decentralized water resources management systems has been most significant at the country level. While a comprehensive global study quantifying the number of pro-decentralization legal regimes – and assessing the quality or effectiveness of those regimes – has not yet been undertaken, lessons can be learned by analyzing the experiences of countries representing a broad spectrum of income levels. In the following sections, country experiences with the principle of subsidiarity are gleaned from Haiti, Rwanda, and the United States.

3. Haiti: the disconnect between legislation and institutional capacities

The Republic of Haiti’s experience with decentralized water resources management is one of the starkest examples of the challenges low-income countries face when tasked with implementing complex resource management systems. By most measures, Haiti is the most impoverished country in the Western Hemisphere.²⁵ Eighty percent of its population lives below the national poverty line, while less than half of rural Haitians have access to an improved water source.²⁶ Historically Haiti has been plagued by ineffective or corrupt leadership, strict land ownership controls, and devastating macroeconomic failures, among other challenges. These obstacles were compounded in 2010 when a catastrophic 7.0 magnitude earthquake brought ruin to Haiti’s already crumbling infrastructure and development. The earthquake killed over 100,000 people and caused a humanitarian disaster the international community struggled to control. In this context of poverty and economic stagnation, sustainable management of natural resources has proved challenging for many of Haiti’s 10 million citizens.²⁷ Unsurprisingly, the challenges carry over to Haiti’s management of water resources.

Like in most countries, Haiti’s water sector is governed by numerous laws, policies, and institutions. Unfortunately, the legal instruments governing water resources overlap, and do not create effective coordination mechanisms. Fragmentation and coordination gaps regarding water resources management are present at the national and municipal levels in Haiti. While there is general support from the Haitian

20 The Dublin Statement on Water and Sustainable Development, 31 January 1992.

21 UN Doc. A/51/49 (1997), p. 4.

22 International Law Association, *Berlin Conference Water Resources Law*, 2004, Ch. II, Art. 4, p. 12.

23 Agreement on the Nile River Basin Cooperative Framework, 2010, available at <http://internationalwaterlaw.org/documents/regionaldocs/Nile_River_Basin_Cooperative_Framework_2010.pdf> (last visited 28 February 2014), draft; currently not in force, p. 5.

24 R. Stoa, ‘International Water Law Principles and Frameworks: Perspectives from the Nile River Basin,’ in A. Melesse et al., *The Nile River Basin: Ecohydrological Degradation, Climate Change and Hydropolitics*, 2014, pp. 581-595.

25 As measured by Gross Domestic Product per capita, Purchasing Power Parity per capita, or the Human Development Index, Haiti is the lowest-ranked country in the Western Hemisphere according to data from the International Monetary Fund, the United States Central Intelligence Agency, and the World Bank. Haiti also has the sixth-highest income inequality in the world (World Bank GINI Index 2011), and has the highest percentage of people living below the national poverty line (CIA 2003).

26 World Development Indicators, World Bank 2013, <<http://data.worldbank.org/indicator/SH.H2O.SAFE.RU.ZS/countries/HT?display=graph>> (last visited 15 October 2013).

27 World Development Indicators, World Bank 2013, <<http://data.worldbank.org/country/haiti>> (last visited 15 October 2013).

Government and local communities to reform the watershed management system, the roles each of these actors plays in water resources management is unclear.

The overall governance structure and decentralization policy in Haiti is established by the 1987 Constitution of the Republic of Haiti²⁸ and the 2006 Decentralization Decree.²⁹ The Constitution creates vertical governance structures from the national to the local level, establishing ‘territorial collectives’ that break down to the Section, Commune, and Department level.³⁰ The Commune, importantly, is financially and administratively autonomous, and inhabitants of the Section enjoy the right of preemption over exploitation of their lands without the prior consent of the Commune.³¹ The Haitian Government elaborated on the rights and responsibilities of local governments with the Decentralization Decree. In the Decree, the Section is tasked with being the first (or lowest) level of decision-making, public service provision, and natural resources management. Next, the Commune coordinates strategic planning of its Sections, and takes primary responsibility for land-use planning. Finally, the Department coordinates strategic planning of its Communes, and contributes to national level governance.³² The Decree enumerates a list of responsibilities assigned to each level of governance (e.g. that Communes are responsible for the protection of surface water resources), but fails to articulate how the various activities and governance levels are to be coordinated.³³

The confusion is similarly potent at the national level, where four ministries play a significant role in the regulation and administration of watershed management. The Ministry of Agriculture and Rural Development (*Ministère de l’Agriculture et du Développement Rural*, MARNDR) has extensive resources (both human and financial) at its disposal, and represents a powerful bureaucracy within the national Government. Accordingly, MARNDR exerts significant control over water resources management decisions, particularly those actions affecting irrigation and land use. However, from a legal-regulatory perspective, MARNDR has little statutory support for its role in establishing water resources policy. The authority it claims for managing water resources derives from its own, internally developed watershed management policy.³⁴ The policy seeks to integrate watershed management with agricultural policy, while giving equal weight to production and conservation.

Importantly, and in line with Haiti’s Decentralization Decree, the MARNDR watershed management policy focuses on implementation at local levels. Starting with micro-watershed management committees (a governance level conceived in the MARNDR policy), local actors are tasked with developing a watershed management plan that optimizes resources for production and conservation. The committee plans then form the basis for Section-level resource management plans, which form the basis for Commune-level resource management plans, which form the basis for Department-level resource management plans.³⁵ While this bottom-up approach is in line with the principle of subsidiarity in theory, the MARNDR approach remains mostly dependent on established political subdivisions implementing its policies, instead of letting hydrological boundaries dictate governance levels. In addition, the MARNDR policy is substantially bureaucratic – while local governance levels are responsible for developing management plans, the next highest governance level has the authority to approve them. Finally, the MARNDR policy fails to clearly articulate a legal framework equipped to permit or enforce these actions to take place – the policy is solely a ministry directive, not a national statute.

By contrast, the Ministry of the Environment (*Ministère de l’Environnement*, MdE) is statutorily responsible for water resources management (including water quality), policy-making, and enforcement in Haiti, but lacks the financial and human resources necessary to effectively carry out its mandate. The 2006 Environmental Management Decree authorizes the MdE to coordinate, prepare, and implement

28 Constitution of the Republic of Haiti, 1987.

29 Haitian legislation: Décret du 2006 sur la decentralization [Decentralization Decree], 2006.

30 Constitution of the Republic of Haiti, 1987, Art. 61.

31 Constitution of the Republic of Haiti, 1987, Art. 39.

32 Haitian legislation: Décret du 2006 sur la decentralization [Decentralization Decree], 2006, Art. 6.

33 Haitian legislation: Décret du 2006 sur la decentralization [Decentralization Decree], 2006, Arts. 6-8.

34 Haiti Ministry of Agriculture document: ‘Politique du MARNDR pour la gestion des bassins versants’ [Policy on Watershed Management], Direction des ressources naturelles, Service de défense et restauration des terres [Natural Resources Directorate, land, conservation and restoration service], 1999.

35 Ibid.

national environmental policy.³⁶ As opposed to the MARNDR policy's bottom-up approach, the Environmental Decree obliges the territories (Sections, Communes, and Departments) to work alongside the MdE in implementing environmental policy (including water law and policy) and develop watershed management plans.³⁷ The MdE is also tasked with providing the territories with the support (technical, organizational, or financial) necessary to develop local management plans.³⁸

More specific to water resources, the Environmental Decree unambiguously provides the MdE with the authority to manage all water resources, excepting irrigation systems.³⁹ The Ministry must coordinate water resources management both horizontally (across national level agencies) and vertically (between territories).⁴⁰ Finally, the Decree clearly designates the MdE as the appropriate agency for inter-ministerial and watershed level coordination.⁴¹ Nonetheless, the Ministry of the Environment suffers from acute lack of capacity in both management and technical expertise.

Two additional national level institutions bear mentioning. First, the Ministry of Public Works, Transportation, and Communication (*Ministère des Travaux Publics, Transports et Communications*) is responsible for water supply, sanitation, and hygiene through its National Directorate for Water Supply and Sanitation (*Direction Nationale d'Eau Potable et d'Assainissement*, DINEPA), a poorly funded agency tasked with implementing the 2009 Framework Law on Water Supply, coordinating donor assistance, regulating water service providers, and facilitating decentralization of water supply management.⁴² The agency's staff is ill-equipped to address Haiti's water supply needs and relies heavily on NGOs and official development assistance. Second, the Ministry of Planning and External Cooperation (*Ministère de la Planification et de la Coopération Externe*) plays a coordinating role between the various government ministries, as well as the multitude of donors and donor-funded projects. Of particular relevance to water resources management in Haiti is the Interministerial Planning Committee (*Comité Interministériel d'Aménagement du Territoire*, CIAT). The CIAT is composed of the Ministries of Agriculture, Environment, and Planning, as well as the Ministries of the Interior, Public Works, and Finance. The CIAT oversees the administration of donor projects in Haiti and water resources activities in general, though its operational and management framework is relatively ambiguous.⁴³

The result of the national level management authority fragmentation is a disconnect between statutory mandates and actual institutional capabilities. This leads to inter-ministerial tension and a propensity to carry out policies that are not strategically placed in a coordinated management framework. While the MdE is clearly authorized to coordinate and implement water resources management, it has very few financial resources at its disposal. Its human resource capital is minimal, with very few staff trained in technical elements of integrated water resources management, organization and executive management, or diplomacy and inter-ministerial coordination.⁴⁴ DINEPA's role as implementation lead for the water framework law on water supply and sanitation is similarly hampered by acute lack of capacity and subordination to international donor organizations and NGOs. On the other hand, MARNDR is relatively well-endowed with staff and financial capital, and channels those resources towards accomplishing the aims of its own internal watershed management policy.⁴⁵

At the local or territorial level, the legal devices transferring responsibilities to Sections, Communes, and Departments do not clearly articulate a coordinated or strategic direction for water resources management, and do not provide local institutions with the funding or human resource capacity necessary to carry out a successful and sustainable decentralization strategy. Unsurprisingly given the

36 Haitian legislation: Décret portant sur la gestion de l'environnement et du régulation de la conduite des citoyens et citoyennes pour un développement durable [Environmental Management Decree], 2006.

37 Ibid., Art. 25.

38 Ibid., Art. 32.

39 Ibid., Art. 117.

40 Ibid., Arts. 111-113.

41 Ibid., Art. 115.

42 Haitian parliamentary document: 'Water Framework Law', 2009, no. CL01-2009-001. Regarding the organization of the Drinking Water and Sanitation Sector (EPA).

43 Comité Interministériel d'Aménagement du Territoire [Interministerial Committee for Planning], 'Organigramme du CIAT' [Organizational CIAT], 2012.

44 United States Agency for International Development, Assessment of Policy Constraints to Effective Watershed Management', contract no. EDH-I-00-05-00004-00, p. 15.

45 Ibid.

extent of national level fragmentation, the laws also fail to clearly establish which ministry or ministries the local entities should work with to develop their water resource management plans. The result is a parallel disconnect between statutory policies and actual institutional capabilities at the territorial level.

The Haitian experience with decentralized water resources management demonstrates that lack of financial and human resources at the national and local levels frustrates well-intentioned efforts to implement the principle of subsidiarity. Without adequate statutory or financial mechanisms, neither the MdE nor MARNDR are capable of adequately implementing or enforcing their policies. As a result, local institutions and stakeholders pay little attention to national laws and policies because there is little to no enforcement.⁴⁶ Similarly, the Haitian experience shows that simply establishing a decentralization policy, and even an environmental management policy that assigns responsibility to one agency over another, is not sufficient to develop a robust and effective decentralized water resources management plan. Haitian legislation regarding the principle of subsidiarity for water resources management fails to articulate to local communities how their watershed management plans will be developed, who is in charge of developing them, how they will be financed, and which national level ministries are tasked with supporting them. While there are numerous social, economic, and political influences frustrating effective water resources management in Haiti, the disconnect between legislative goals and any semblance of mechanisms to support them has relegated the principle of subsidiarity to a theoretical ambition with no base in reality. Since many of these pitfalls can be attributed to Haiti's extremely low levels of economic and human development, other low-income developing countries may experience similar frustrations.

4. Rwanda: ambitious water sector reform outpacing human resources capacity

While the Haitian experience with decentralization is proving to be frustrating for local communities and interested stakeholders due in part to insufficient human capacity, lack of financial resources, and vague legislation, the Government of Rwanda has managed to partly overcome these challenges by implementing a series of ambitious and relatively well-structured legal reforms. The clarity of Rwanda's decentralization policies more effectively articulate how subsidiarity in the water sector should take place, which institutions are responsible for particular aspects of water resources management, and how the various institutional pieces fit together. While low levels of economic development still plague the country and limit the Government's ability to optimize water resource use, clear statutory language has cleared the path for local communities to experiment with water resources management with the support of national level institutions. The greatest challenge may be that Rwanda's institutions lack the human resource capacity needed to carry out the legal regime.

In 2000, Rwanda promoted decentralization as a way to help fight poverty.⁴⁷ More specifically, the policy sought to empower local people, promote transparency and accountability, improve the Government's responsiveness to local issues, build capacity, and create a more efficient and effective Government.⁴⁸ The policy recognized that natural resources management created localized issues, and the affected communities are best positioned to deal with them.⁴⁹ Accordingly, the national policy developed an administrative structure incorporating the district, sector, cell, and *Umudugudu* levels.⁵⁰ Upon adopting the policy, the Rwanda Decentralization Strategic Framework (2007) and the Rwanda Decentralization Implementation Program (2008-2012) were formulated as mechanisms to implement the national policy.⁵¹ In addition, Rwanda created a specialized Ministry of Local Government (MINALOC) to implement the decentralization policy. MINALOC is responsible for the 'establishment, development, and facilitation of the management of efficient and effective decentralized government systems capable of delivering the required services to the local communities.'⁵²

46 Ibid.

47 Rwanda Ministry of Local Government document: 'Rwanda Decentralization Implementation Program 2008-2012'.

48 Rwanda Ministry of Local Government document: 'Rwanda Decentralization Strategic Framework', 2007.

49 Rwanda Ministry of Environment and Lands document: 'Five-Year Strategic Plan for the Environment and Natural Resources Sector 2009-2013'.

50 Ibid.

51 Rwanda Ministry of Local Government document: 'Rwanda Decentralization Implementation Program 2008-2012'.

52 Rwanda Ministry for Natural Resources document: 'National Policy for Water Resources Management', 2011.

One of the decentralization policies aims to enhance the local governments' capacities for inclusion in the planning and implementation of the decentralization process.⁵³ The policy also establishes MINALOC's intent to help other ministries develop decentralization policies and to build the capacity of decentralized institutions.⁵⁴ The Community Development policy calls for the creation of Water Committees at the local level responsible for ensuring that every household has sufficient amounts of clean drinking water.⁵⁵ Additionally, the policy encourages Community Development Committees (CDCs) to enforce environmental protection principles during the implementation of any project at the cell and sector levels.⁵⁶

Rwanda's water management policy is primarily governed by the 2011 National Policy for Water Resource Management. The policy was developed because of contradictions between the 2004 national water policy and the 2008 Rwandan Water Law No. 62/2008.⁵⁷ The policy's vision is to create a water resources sub-sector governed by a policy, legal and institutional framework that promotes sustainable use of water resources and which contributes meaningfully to the socio-economic development of Rwanda. The national policy explicitly calls for an integrated water resources management approach, where IWRM should 'provide a framework for considering the different uses and users of water resources and taking decisions and actions which ensure that relevant factors are taken into account in decision-making'.⁵⁸

The national water policy highly values water users and other stakeholder participation and involvement in water resources management.⁵⁹ Along the participatory line, this policy also calls for decentralized water resources management so that there is action at the lowest practicable level.⁶⁰ The Government is an enabler and regulator, not an implementer or service provider. Decentralization should encourage water users to contribute time and capital towards the water resources so that the users' water is most effectively managed.⁶¹ The Government, on the other hand, is still a necessary player and should provide technical, administrative, and financial support to the managing water users.⁶² Importantly, the policy acknowledges that Rwanda's lower-level institutions' capacities are not yet strong enough to implement a completely decentralized approach.⁶³ Therefore the national Government should also continue managing the water resources until the lower level institutions' capacities at the provincial, district, and local levels are strong enough to take responsibility.⁶⁴ It is not entirely clear when local institutions have sufficient capacity to receive such transfer of powers, but the policy does stipulate that when power is delegated to lower institutions, those institutions should have jurisdictional boundaries reflecting the water resources' basin or catchment borders.⁶⁵

Several of the policy's guiding principles embody the principle of subsidiarity. The first principle – integrated water resources management – calls for an integrated but decentralized approach to management and requires several strategic actions.⁶⁶ For example, the national Government must rationalize the establishment of a natural resources management institution that will manage water resources.⁶⁷ The national Government must also create an inter-ministerial water coordination committee designated to coordinate water resources management across sectors.⁶⁸ The national Government is further obligated to decentralize water resources management authority to the district and local levels and designate which

53 Rwanda Ministry of Local Government document: 'Rwanda Decentralization Implementation Program 2008-2012'.

54 Ibid.

55 Ibid., p. 14.

56 Ibid., p. 22.

57 Rwanda Ministry for Natural Resources document: 'National Policy for Water Resources Management', 2011.

58 Ibid., p. 2.

59 Ibid.

60 Ibid.

61 Ibid., p. 16.

62 Ibid.

63 Ibid.

64 Ibid.

65 Ibid. However, since Rwanda only has two main hydrological basins, this principle need only be applied to the extent appropriate.

66 Ibid., p. 19.

67 Ibid.

68 Ibid.

institutions will have water resources management committees.⁶⁹ Finally, the national Government must encourage the creation of water resources users' associations and other similar frameworks.⁷⁰

The second principle – capacity building – obligates the national Government to develop the human, technical, and managerial capacities of institutions at the national, provincial, district, and local levels.⁷¹ Some of the strategic actions under this principle include capacity needs assessments, capacity building programs, knowledge management system development, and enhanced mechanisms for inter-agency dialogue.⁷²

The third principle – financial arrangements – ensures that financial resources are sustainably mobilized at the appropriate governance level.⁷³ Strategic actions include forming strategies on how to mobilize resources, creating a funding mechanism, giving water resources management earmarks from the national budget, charging water uses for abstraction and effluent discharges; promoting fund-raising efforts; and developing rebates and tax incentives for sustainable water resources management and use.⁷⁴

Several other national laws and policies reflect Rwanda's decentralized approach to water resources management. The 2010 National Policy & Strategy for Water Supply and Sanitation Services is built on several pillars, including decentralization, community participation, cost recovery and financial sustainability, private sector participation, operational efficiency and strengthening of accountability, promoting the interests of women and children, an inclusive program approach, and results-based management.⁷⁵ Similarly, the Strategic Plan for the Transformation of Agriculture in Rwanda — Phase II (2009), which provides specific means of achieving the National Agricultural Policy (2004),⁷⁶ recognizes that integrated water resources management must be implemented to achieve sustainable agricultural practices and accordingly calls for a number of relevant actions, including the implementation of effective water catchment protection measures, promotion of community participation, and organization of water user associations and other similar groups by sub-watershed boundaries.⁷⁷ Considering the difficulties many countries face when attempting to integrate water resources management across sectors, it is remarkable that Rwanda's water policies reflect a cross-cutting approach that includes agriculture, a particularly crucial sector for many Sub-Saharan African economies that accounts for one third of Rwanda's GDP, and two-thirds of its freshwater withdrawals.⁷⁸

While Rwanda's policies and legislation reflect and support the principle of subsidiarity for water resources management, there is some overlap of institutional mandates at the national level. While there are many ministries involved in Rwanda's water law,⁷⁹ two ministries, the Ministry of Natural Resources (MINIRENA) and the Ministry of Infrastructure (MININFRA), are generally responsible for creating, implementing, monitoring, and assessing Rwanda's water policies and laws.⁸⁰ MINIRENA is responsible for the management of water resources and pursues an integrated water resources management approach.⁸¹ At the same time, MININFRA oversees water supply and sanitation.⁸² Due to the importance of the agricultural sector and its demand for water resources, the Ministry of Agriculture and Animal Resources (MINAGRI) is also a critical player in the water sector.

MINIRENA is charged with water resources policy formulation, strategic planning, coordination, quality assurance, monitoring, evaluation and capacity building.⁸³ Two agencies operate under MINIRENA: the Rwanda Environment Management Authority (REMA), charged with facilitating

69 Ibid.

70 Ibid.

71 Ibid.

72 Ibid., p. 22.

73 Ibid.

74 Ibid.

75 Ibid., pp. 12-13.

76 Rwanda Ministry of Agriculture and Animal Resources document: 'Strategic Plan for the Transformation of Agriculture in Rwanda- Phase II (PSTA II) Final Report', 2009.

77 Ibid., p. 48.

78 World Development Indicators, World Bank 2013, <<http://databank.worldbank.org/>> (last visited 15 October 2013).

79 Rwanda Ministry of Natural Resources document: 'National Policy for Water Resources Management 2011'.

80 Rwanda Ministry of Natural Resources document: 'Environmental and Natural Resources Performance Report 2009-2010'.

81 Ibid.

82 Rwanda Ministry of Natural Resources document: 'National Policy for Water Resources Management 2011'.

83 Ibid.

cooperation and oversight of the implementation of national environmental policy and subsequent legislation, and the Rwanda Natural Resources Authority (RNRA). The RNRA was recently established and its duties over water resources management are still unclear.⁸⁴ Moreover, the national water policy created in April 2011 fails to mention RNRA's role in water resources management.

MININFRA is responsible for the development of institutional and legal frameworks, national policies, strategies and master plans relating to water supply and sanitation.⁸⁵ MININFRA seeks to achieve the goals of accessible safe drinking water by increasing the rate of potable water coverage around the country.⁸⁶ To achieve these goals, MININFRA adopts the principle of subsidiarity by encouraging rural and urban areas to invest in sewerage and disposal systems and ensuring that each town has adequate facilities to handle solid waste disposal.⁸⁷

Finally, MINAGRI is charged with planning, coordination and implementing agricultural development including irrigation and livestock development.⁸⁸ MINAGRI also conducts several decentralization programs with a water focus intended to create district, watershed and farmer-based institutions that will conduct non-destructive agricultural and livestock production.

While there is overlap in the mandates of MINIRENA, MININFRA, and MINAGRI, inter-ministerial tensions are minimized by formulating ministerial objectives around the common goal of decentralized governance. In addition, the Government's sector-wide approach creates momentum for coordination mechanisms such as inter-ministerial Thematic Working Groups, of which the Water Resources Management Thematic Working Group is particularly active. In addition, decentralization efforts are relatively effective because legislative acts provide detail regarding the responsible parties for implementation, coordination, and financing.

Despite its relative success in creating a legal enabling environment that promotes the principle of subsidiarity for water resources management, Rwanda's low levels of economic development frustrate efforts to build the necessary human resource capacity to implement a robust decentralization strategy. Because reform of the water sector has occurred in the last five years, most national institutions are restructuring and have fairly new institutional systems, staff and policies. According to a capacity assessment of the water sector in Rwanda, fewer than 30% of staff in water-relevant institutions have more than five years of institutional experience.⁸⁹ In addition, ministries have very low capacity in terms of numbers, knowledge and skill levels of staff. Although decentralization policies dictate that ministries should focus on policy analysis, formulation, monitoring and oversight, and capacity building of implementing entities, the ministries lack the skills required to support these activities.

At the local level, the institutional environment is not yet favorable to human resource development. District staff tasked with managing water resources are often shifted to more politically urgent issues.⁹⁰ At the same time, funding for water resources management is often reliant on donor-funded projects, which struggle to ensure that activities and staff are sustainably financed following the completion of their projects. Similarly, the presence of donor organizations often leads to recruitment challenges for government institutions that cannot offer competitive compensation packages.⁹¹ And while a legal framework exists for vertical engagement between the national Government and local institutions, lack of capacity on both levels leads to uncoordinated and stagnant cooperation.

In summary, Rwanda's law and policy framework is supportive of IWRM and decentralization. The laws and policies, in particular, are consistent across ministries and sectors and jointly articulate a clear IWRM approach that relies on local communities and the principle of subsidiarity. Lack of funding, however, combined with the novelty of the IWRM/decentralization approach, has limited Rwanda's ability to staff ministries and local institutions with qualified technical experts capable of carrying out

84 Rwanda Ministry of Natural Resources document: 'Law Establishing Rwanda Natural Resources Authority and Determining Its Mission, Organization, and Functioning 2010-2011'.

85 Rwanda Ministry of Infrastructure document: 'Introduction to Water and Sanitation Sub-sector', 2011.

86 Ibid.

87 Ibid.

88 Rwanda Ministry for Natural Resources document: 'National Policy for Water Resources Management', 2011.

89 C. Twesigye-Bakwatsa, *Capacity Situation Analysis, and Capacity Development Needs Assessment for Integrated Water Resources Management Sub-sector in Rwanda*, 2012, Centre for Resource Analysis Limited, p. 54.

90 Ibid., p. 50.

91 Ibid.

statutory and policy mandates. Unless and until institutions invest in developing human resources, Rwanda's robust legal and policy framework for decentralized water resources governance is likely to leave many stated policy objectives unfulfilled.

5. The United States: Florida's water management districts

The United States, by all measures a high-income industrialized country, has explicitly endorsed the principle of subsidiarity by constitutionally mandating a federalist union of states, each with the power to regulate and manage certain policy areas. One of the powers traditionally left to the states is water resources management. Although water quality legislation is established at the federal level by the Clean Water Act of 1972, and the federal executive has the power to negotiate with foreign governments regarding transboundary water resources, water allocation and management remains largely a state power. In that context, states have developed two primary doctrines of water allocation. Traditionally, states on or east of the Mississippi River enforce the doctrine of riparianism, which loosely allocates water based on a broad 'reasonableness' standard.⁹² In the American West, by contrast, most states implement the doctrine of prior appropriation, which allocates water to whomever makes first use of the resource and continues to put water to a beneficial off-stream use.⁹³ These two doctrines comprise the traditional common law of water resources management.

Common law doctrines of water allocation have been challenged in recent decades, however, by an increased demand for water resources. Americans now use twice as much water per capita as the inhabitants of any other country in the world, for an approximate total consumption of 400 billion gallons of water a day.⁹⁴ In response, states have stepped in to impose permit systems on the common law that enable the state and local institutions to more actively manage water resources. Most states now employ schemes that regulate traditional water allocation mechanisms, allowing for hybrid systems that may incorporate elements of both riparianism and prior appropriation, regulate surface water and groundwater conjunctively, or apply complex proactive permitting systems to the common law.

One of these states is Florida, which has modified its traditional reliance on riparian doctrine to incorporate decentralized and integrated water resources management approaches. The state of Florida is largely shaped by its water resources. The state is surrounded on three sides by the Atlantic Ocean, the Caribbean Sea, and the Gulf of Mexico, and the Florida land mass is made up of porous limestone rock that enables easy formation of sinkholes, springs, rivers, and lakes. Low elevation levels ensure that groundwater, surface water, and coastal processes are in constant hydrological interconnection. As a consequence, early attempts at water resources management were primarily concerned with controlling floods and drainage. Wetlands were drained to create arable land, canals were cut to prevent urban flooding, and pollutants were discharged into waterways with little regard for ecological effects on the human environment. Many early public works were implemented by the United States Army Corps of Engineers, with the aim of converting pristine wetlands and watercourses into productive inputs for economic development.⁹⁵

In the mid-1960's, however, attitudes toward the environment started to change in the United States. Citizens became concerned by reports that human activity was destroying environmental processes.⁹⁶ Accordingly, many landmark environmental statutes were passed at the federal level, including the Clean Water Act, Clean Air Act, National Environmental Policy Act, Endangered Species Act, and Resource Conservation and Recovery Act. Florida was not immune to the movement, as four major pieces of legislation were enacted during this period, including the Environmental Land and Water Management

92 For an introduction to the doctrine of riparianism in the United States, see 'Riparianism', in B. Thompson et al., *Legal Control of Water Resources: Cases and Materials*, 2013, pp. 28-166.

93 For an introduction to the doctrine of prior appropriation in the United States, see 'Prior Appropriation', in B. Thompson et al., *Legal Control of Water Resources: Cases and Materials*, 2013, pp. 167-387.

94 J. Leshy, 'Notes on a Progressive National Water Policy', 2009 *Harvard Law and Policy Review* 3, no. 1, pp. 7-9.

95 E. Purdum, *Florida Waters: A Water Resources Manual from Florida's Water Management Districts*, 2002, pp. 7-9.

96 Rachel Carson's *Silent Spring*, 1962, may have been a turning point in this regard. The book explored the effects that insecticides like DDT had on environmental processes, in this case the widespread extermination of insect-dependent bird populations.

Act, the Comprehensive Planning Act, the Land Conservation Act, and the Water Resources Act.⁹⁷ The Water Resources Act is particularly germane because it recognized that water resources are involved in nearly every important human and environmental process, and therefore requires a management approach that integrates water resources planning with the needs of urban development, agriculture, and the environment.

The Water Resources Act embodies the principle of subsidiarity by establishing five water management districts drawn according to hydrological (not political) boundaries. Chapter 373 of the Florida Statutes enumerates Florida's integrated and decentralized water-law framework based on the five water management districts. The management districts have broad powers that include water quality, water allocation, flood control, and ecosystems management.⁹⁸ In addition, they are charged with issuing permits to potential water users – a derivation from traditional riparian doctrine that makes Florida a 'regulated riparian' state. In order to obtain a permit, applicants must demonstrate that their use will be reasonable and beneficial (incorporating elements of the doctrine of prior appropriation), does not interfere with an existing use, and is in the public interest.⁹⁹ The management districts must also maintain minimum flow requirements, ensuring that surface and groundwater levels do not drop below minimum requirements for ecological integrity.¹⁰⁰ And to further consolidate subsidiarity principles, Florida water law requires that water management districts support and assist counties, municipalities, and local governments in their local water resources management efforts.¹⁰¹

Given that these are complex administrative tasks, a high level of technical and scientific proficiency is required to effectively carry out statutory obligations. Fortunately, the districts are endowed with a robust and diversified funding portfolio from which to operate, funded by a combination of ad valorem property taxes, federal and state revenues, licenses, permit fees, grants, agricultural taxes, fund balances, and investment income.¹⁰² The South Florida Water Management District, for example, has a 2014 fiscal year budget of 622.12 million USD.¹⁰³ While much of the funding is channeled to large public works (such as flood control systems and Everglades restoration), the districts' considerable financial resources and permitting authority create extensive human resource development and political capital.

However, while the Florida Water Management Districts are well-funded, technically proficient, and operational through an integrated and dynamic legislative model, applying the principle of subsidiarity to water resources management has not been immune to politicization. The legal standards required for appropriate water use permits – reasonable; beneficial; significant harm; public interest – are relatively ambiguous and subject to interpretation. Accordingly, the districts have significant flexibility to issue permits that may deviate from strict interpretations of the standards. In addition, while the water management districts enjoy relative freedom to operate, they are supervised by the Florida Department of Environmental Protection, a branch of the state executive. The Water Resources Act grants the Governor of Florida approval power over the budget and expenditures of the districts.¹⁰⁴ The propensity of political parties to favor one of Florida's three primary water users (agriculture, urban development, and the environment) over the others may lead to inconsistent long-term water resources management and strategic planning.

Even where decentralization allows the districts significant freedom to place conditions on permits, the United States' judicial appeals process threatens to make the process unpredictable. In *Koontz v. St. Johns River Water Management District*, the Supreme Court of the United States overruled the Florida Supreme Court's decision to reject a Florida permit applicant's claim that attaching conditions to his permit requiring the applicant to fulfill certain mitigation requirements constituted an impermissible government taking.^{105, 106} The water management district was prepared to approve the applicant's request

97 E. Purdum, *Florida Waters: A Water Resources Manual from Florida's Water Management Districts*, 2002, p. 10.

98 US legislation: Florida Water Resources Act of 1972.

99 US legislation: Florida Statutes (2013): Title XXVIII, Ch. 373.223.

100 US legislation: Florida Statutes (2013): Title XXVIII, Ch. 373.0421.

101 US legislation: Florida Statutes (2013): Title XXVIII, Ch. 373.703.

102 US legislation: Florida Statutes (2013): Title XXVIII, Ch. 373, Part VII.

103 South Florida Water Management District 2014 Fiscal Year Budget Brief.

104 US legislation: Florida Statutes (2013): Title XXVIII, Ch. 373.026.

105 *Koontz v. St. Johns River Water Management District*, 568 U.S. (2013).

106 B. Thompson et al., *Legal Control of Water Resources: Cases and Materials*, 2013, pp. 389-398.

to fill a wetland in order to build a shopping mall, but required the applicant to take certain mitigation measures, such as reducing the size of the development or supporting off-site wetlands restoration projects. Because the legal claims were based on negotiations between the district and the permit applicant, it is likely that the Supreme Court's decision will dissuade water management districts in Florida (and other states) from negotiating with permit applicants at all; permits may ultimately be either flatly accepted or rejected, a result that deals a significant blow to the ability of decentralized institutions' to create dynamic and responsive management systems.¹⁰⁷

Ultimately, however, Florida's water management districts provide a workable model for countries seeking to develop a decentralized water resources management framework. The districts' financial resources and robust legal and institutional enabling environment grant broad powers to decentralized institutions formed on the basis of hydrological boundaries. Water management in Florida is extremely complex and vulnerable to environmental changes such as sea level rise and natural disasters, but given those complexities, the principle of subsidiarity as applied in Florida may be an effective model for replication.¹⁰⁸ Even so, Florida's experience with decentralized water resources management demonstrates several challenges developed countries may face. Politicization of technical agencies is possible and even likely in democratic political systems, and may lead to water resource allocations that reflect special interests instead of the public interest. In addition, the jurisdiction of the judicial system over water management actions has the potential to disrupt locally-derived policies and conditions. While a strong and effective legal system contributes to the maintenance and legitimacy of framework laws and policies, the unpredictable nature of the appellate process is likely to affect decentralization efforts in one way or another.

6. Conclusion

Decentralization of water resources management is attractive to countries for many reasons. The governance level can be reduced to reflect environmental characteristics, such as the hydrological borders of a watershed that would otherwise cross administrative boundaries; decentralization promotes community and stakeholder engagement when decision-making is localized; inefficiencies are reduced by eliminating reliance on central government bureaucracies and budgetary constraints; laws and institutions can be adapted to reflect localized conditions at a scale where integrated natural resources management and climate change adaptation is more focused; innovation is fostered by allowing many autonomous or semi-autonomous governance units to experiment with adaptive policies and water resources management strategies; legitimacy increases when rules and regulations are promulgated by the stakeholders who are affected by them; and diversification of water management schemes increases resilience regarding environmental variability and change. For these reasons and others, decentralization of water resources management along with the broader framework of integrated water resources management have seen an increase in adoption and implementation around the world. Because these approaches are often a drastic improvement over command and control style water law and policy-making, the transition to a new water resources management paradigm should be approached with cautious enthusiasm.

However, implementation of decentralization policies is often challenging for any country, regardless of income levels. For countries with limited financial and human resources at their disposal, however, applying the principle of subsidiarity is especially difficult. In Haiti, decentralization of government services in general, and water resources management in particular, is accurate in name only. The primary laws promulgating decentralization and water management are vague, largely failing to articulate how policies should be carried out, by whom, and in what form the relationships between institutions should

107 J. Echeverria, 'A Legal Blow to Sustainable Development', 2013 *The New York Times – The Opinion Pages*.

108 The decentralization efforts of other industrialized countries – such as Canada, Australia, and the Netherlands – have received attention and may prove instructive. See e.g. C. Hill et al., 'Harmonization Versus Subsidiarity in Water Governance: A Review of Water Governance and Legislation in the Canadian Provinces and Territories', 2008 *Canadian Water Resources Journal* 33, no. 4; D. Garrick et al., 'Environmental water governance in federal rivers: opportunities and limits for subsidiarity in Australia's Murray–Darling River', 2012 *Water Policy – Official Journal of the World Water Council* 14, no. 6, pp. 915-936; and H. Havekes et al., *Building blocks for good water governance*, Water Governance Centre, 2013.

take. When the law is relatively clear, as in the Ministry of the Environment's statutory authority over water resources management, the financial and managerial support necessary to carry out the mandate is often lacking. Institutionally there is overlap regarding responsibilities in the water sector, and local communities receive little technical guidance or capacity-building support. Unsurprisingly, decentralized water resources management is scarcely taking place in Haiti.

In Rwanda, a country with similarly low levels of economic development, modest decentralization objectives are being met, largely due to a robust and coordinated legal regime with clear statutory mandates. Wholesale adoption of the principle of subsidiarity, with corresponding relationships between institutions enumerated in the relevant legislation, has empowered national and local institutions to work together to accomplish the Government's ambitious water reform agenda. Nonetheless, actual results – in the form of improved water service delivery, conservation, and sustainability – is still lacking due to low levels of human resource capacity. As decentralization and water resources policies and institutions are still in their infancy, most institutions lack experienced staff with technical expertise in integrated water resources management. While external assistance from international donors is a temporary solution, effective decentralization of water resources management will not take place until national and local institutions have the human resources needed to carry out management plans.

Finally, robust statutory schemes and financial flexibility empower Florida's water management districts to implement a decentralized and integrated water resources management approach that is responsive to complex environmental processes and water users' needs. While the legal and administrative system in the United States should not be compared to those in Haiti or Rwanda, it can be instructive for developing countries to review the Florida model as a means of reconciling competition between powerful special interests or water users, in this case the agricultural industry, urban development, and fragile ecological resources. By transferring power to specialized agencies formed around hydrological boundaries, Florida has developed a system of water management that incorporates many elements of traditional water allocation doctrines. While government administration in the United States remains politicized in many cases, decentralized and specialized agencies can overcome some of these challenges by relying on relatively unambiguous statutory mandates.

Ultimately every country will have its own unique experience applying the principle of subsidiarity to water resources management. The evolving history of three countries is not sufficient to draw broad conclusions about what other countries should expect, given extreme variances in social, political, economic, and environmental characteristics. However, the experiences of Haiti, Rwanda, and the United States can demonstrate that while there are many benefits of a decentralized water resources management approach, actual implementation is a challenging undertaking that will require a commitment to comprehensive law-making, capacity-building, and balance between water users. Low-income countries should be especially mindful of the investments necessary to implement a robust water resources management strategy, though even high-income countries will face unique political challenges. The principle of subsidiarity has emerged to become a pillar of integrated water resources management. So long as subsidiarity is pursued with rigorous and transparent intent, and not as a panacea, water resources and human communities will stand to benefit. ¶