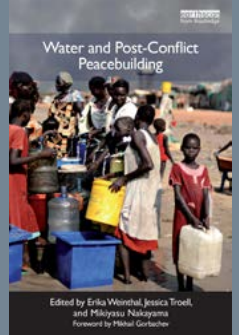


Water and Post-Conflict Peacebuilding



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Conflict can have a severe impact on water management and infrastructure. Water governance frameworks and institutions are often weak or nonexistent in the aftermath of conflict, lacking the technical, financial, and infrastructural capacities needed to provide water and sanitation services. Water and sanitation facilities may have been damaged by the fighting or been directly targeted by combatants; for example, ethnic cleansing campaigns poisoned wells in Kosovo and Darfur. And at the critical period immediately after conflict, the state's ability to invest in water management is limited, which results in the further deterioration of infrastructure and staff capacity, and ultimately the degradation of services.

The need for water services in conflict-affected states is significant. People in conflict-affected countries are twice as likely to lack clean water as people in other developing countries. Failing to quickly deliver clean water to a conflict-affected populace will endanger public health, restrict livelihood options, and weaken state legitimacy, and thereby threaten peacebuilding efforts. Establishing adaptive and resilient water management systems must therefore be among the highest priorities for communities, governments, and donors in a post-conflict situation.

Water, if properly restored and managed, can be harnessed to play a critical role in post-conflict recovery by protecting public health, restoring livelihoods, supporting economic recovery, and facilitating reconciliation. The provision of water and sanitation services strengthens the social contract between a post-conflict government and its citizens (reestablishing the government's credibility and accountability) and also between communities, provided that users have equitable access to and control over the resource.

Because water-reliant sectors like agriculture are among the largest sources of employment in post-conflict situations, investments in water infrastructure, governance, and management will promote more sustainable poverty eradication, support broader economic recovery, and enhance livelihoods, including those that underpin peacebuilding programs by reintegrating excombatants into society. But each post-conflict situation is unique, and the sequence and mechanisms for managing water resources must be tailored to the specific ecological, political, cultural, economic, geographic, and institutional context.

Improving post-conflict water management must involve stakeholders in decision making; prioritize, sequence, and coordinate water management; invest in infrastructure; rebuild institutions and capacities for water governance; engage the informal sector; and use water as a platform for cooperation and peacebuilding.

*This is the fourth in a series of policy briefs on post-conflict peacebuilding and natural resource management; it draws upon findings from *Water and Post-Conflict Peacebuilding*, edited by Erika Weinthal, Jessica Troell, and Mikiyasu Nakayama (London: Earthscan 2014). Erika Weinthal is an associate professor of environmental policy at the Nicholas School of the Environment at Duke University. Jessica Troell is a senior attorney and director of the International Water Program at the Environmental Law Institute (ELI). Mikiyasu Nakayama is a professor in the Graduate School of Frontier Sciences at the University of Tokyo. This policy brief was produced by Alec Crawford, David Jensen of the United Nations Environment Programme, and Carl Bruch of ELI.*

Key components of managing water for peacebuilding

1. Involve stakeholders in decision making
2. Prioritize, sequence, and coordinate water interventions
3. Invest in resilient infrastructure and adaptive management
4. Assess institutions and rebuild capacities for water governance
5. Engage the informal sector
6. Use water as a platform for cooperation and confidence building



Hydroelectric plant, Democratic Republic of the Congo. Photo credit: UNEP.

INVOLVE STAKEHOLDERS IN DECISION MAKING

Developing a shared vision for sustainably allocating water among different economic sectors—including energy, industry, agriculture, and household use—should be a strategic priority for post-conflict countries. To accomplish this, post-conflict water management must be an inclusive, participatory process that ensures that the needs of all stakeholders are taken into account. At the outset of the peacebuilding process, informing and involving all of the competing water users—men and women, communities, government ministries and agencies, the private sector, civil society, and transboundary partners—will help ensure that water resources are managed in an equitable, sustainable, gender-sensitive, and socially appropriate manner.

Participatory processes are especially important in post-conflict situations, where there is often profound distrust of the government and some nongovernment groups, and where there is a legacy of resolving disputes through violence. Participation is a critical means for identifying issues between users or communities that could reignite conflict, or could become a basis for collaboration; it also helps to prevent the marginalization and neglect of certain groups or areas. Reintegrating excombatants, for example, often depend on water access for their agricultural livelihoods, and including them in decision making will support more successful reintegration efforts.

- ❑ Develop a shared vision among stakeholders about how water governance arrangements should be rebuilt to bring about equitable sharing. Water services and the rules by which they are shared lie at the heart of equitable relationships within a country, and the process of establishing the rules is central to both peacebuilding and development.
- ❑ Work with stakeholders to design and continually improve programs and projects that reflect their livelihood and health needs, as well as the local

water ecology. Focus on the capacity needs and long-term roles of national and local governments and community-based structures in sustainable service provision and management, particularly in rural areas and informal settlements.

- ❑ Create mechanisms for ensuring transparent, participatory, and accountable decision making and policy making related to water management. Where possible, establish a forum under the auspices of the water utility for stakeholders to raise grievances over water resources.
- ❑ Use environmental and social impact assessments as a platform for engaging civil society and the informal sector.
- ❑ Ensure an inclusive approach to negotiating and implementing water agreements that includes civil society.
- ❑ Expand the role and representation of women in water resource management at all levels, and ensure that the perspectives and priorities of women's groups are reflected in decision making. Design gender-specific interventions in the water sector that improve water management for women. Consider gender dynamics within the system as a whole. Management strategies should consider both male and female perspectives across social and community traditions, class structures, ethnic relations, urban and rural environments, livelihood practices, and age.
- ❑ Increase security patrols in areas where water is collected to protect against gender-based violence.

PRIORITIZE, SEQUENCE, AND COORDINATE WATER INTERVENTIONS

Prioritizing and sequencing water interventions and coordinating those activities among multiple actors with diverse objectives present a number of challenges. There is no fixed sequence for how water interventions should progress beyond the immediate humanitarian demands at war's end. However, integrating water management into peacebuilding efforts will generally focus on four key peacebuilding objectives: (1) establishing security; (2) restoring basic services; (3) revitalizing the economy and enhancing livelihoods; and (4) rebuilding governance and inclusive political processes.

It is important to strike a balance between allocating financial resources to technical efforts that meet immediate needs and generate early peace dividends, and earmarking funds for the institutional and governance reforms and capacity building required to sustain water interventions over the long run.

Immediate needs include safe drinking water and sanitation to prevent the spread of disease; in the longer term, interventions turn toward providing access to safe and reliable sources of water for the restoration of agricultural livelihoods and food security.

Early interventions must also be designed to lay the foundation for a sustainable recovery and the transition to peace consolidation and development; if not, there is a risk that early, unsustainable decisions on water use will become locked in. International efforts often prioritize support to water delivery institutions and infrastructure as part of humanitarian assistance, without providing equal support to those institutions responsible for managing the water supply; delivery policies can be set and infrastructure built without proper consideration of whether such water management is sustainable. In Darfur and elsewhere, organizations that extract water from aquifers to meet emergency needs receive international humanitarian funding, unlike organizations with resource management mandates. Over time this can distort the water sector and deplete water resources.

To ensure the efficient use of water resources from early humanitarian interventions through to long-term development, coordination is required among the institutions providing post-conflict water services at the local, district, and state levels; across various geographic regions; and among the competing demands for water, such as subsistence and commercial agriculture, grazing, household consumption, industrial mining, and hydroelectricity production. Policymakers also must work to coordinate the actions of the many local, national, and international stakeholders—NGOs, donors, humanitarian organizations, and private operators—that emerge due to the absence or weakness of government capacity.

The need for coordination extends to the private sector, particularly large-scale, post-conflict investments in commercial agriculture and mining. Foreign investments in large-scale agriculture for domestic and export markets may require the construction of extensive irrigation networks, and will often compete for water with small-scale subsistence farming, resulting in new conflicts over land access, water, and livelihoods. Similarly, the mining sector could have significant impacts on local water resources, from its use of water in operations and processing to the potential contamination of surface and groundwater sources. Many concession contracts do not take these water impacts into account. Doing so can be a challenge for post-conflict governments with poor negotiating capacities and asymmetrical access to risk information.



Water sampling, Nigeria. Photo credit: UNEP.

- ❑ Understand how competing interests of various national and international actors affect post-conflict reconstruction and peacebuilding, and how they can be more effectively coordinated. Incorporate this understanding into sectoral plans and promote intersectoral coordination, particularly between the land and water sectors, and between the demands for drinking water and irrigation.
- ❑ Establish mechanisms to coordinate humanitarian water-related interventions. Such coordination is often undertaken as part of the water, sanitation, and hygiene (WASH) cluster approach, and broader coordination across WASH and water-resource management interventions should be encouraged.
- ❑ Work to coordinate demand-side and supply-side water management by introducing—when feasible—incentives and technologies to reduce water demand and increase water availability.
- ❑ Encourage donors to sustain their commitments, rather than parcelling their support into neatly segmented time frames with clearly delineated transitions from humanitarian assistance to development.
- ❑ Link local water governance to national processes to ensure that local initiatives contribute to national objectives, taking into account local knowledge and mechanisms for water use and allocation. Where needed, strengthen the capacities of local water-management institutions.
- ❑ Coordinate regional water strategies with large infrastructure projects undertaken by large donors and multilateral organizations in urban areas and NGO-led initiatives that provide water services to off-grid communities.
- ❑ Encourage transparency and best practices in foreign investment in mining and large-scale land

acquisitions, especially regarding impacts on the water sector. Encourage foreign investors to support local water interests, promote inclusion of payments for commercial water use in contracts, and require social and environmental impact assessments for proposed projects.

INVEST IN RESILIENT WATER INFRASTRUCTURE AND ADAPTIVE MANAGEMENT

By the end of the second Liberian civil war in 2003, pipe-borne water systems had been almost entirely destroyed, leaving the population dependent upon (often untreated) wells, ponds, and rivers for their primary source of drinking water. Investments in national and household water infrastructure such as pipes, wells, and sewers are crucial to economic development, and serve as a visible demonstration of a government's viability. Repairing damaged irrigation networks helps address threats to food security, restore livelihoods, and provide temporary jobs, and in doing so helps to incentivize the return and reintegration of refugees, displaced persons, and excombatants. Investments in restoring damaged ecosystems further augment the water supply.

There are significant challenges to restoring water infrastructure in the post-conflict context: the prevalence of informal settlements complicates service delivery, while corruption, insecurity, lack of markets and government subsidies, and little assurance of a return on investment are barriers to private domestic and foreign investment. In fragile settings like Afghanistan, water infrastructure can be used for the production of illegal drugs, further undermining stability. But a lack of action on rebuilding hard infrastructure could undermine state legitimacy and become a source of grievance and public protest.

Water not only has to be available, but must also be clean. Clean water and basic sanitation improves public health by reducing the contamination of water services. Despite its importance, sanitation is frequently overlooked in the aftermath of conflict in favor of providing clean drinking water. In Afghanistan, for example, less than one-third of the population has access to an improved toilet facility. Complex structures like sanitation facilities and sewage infrastructure are difficult to construct in post-conflict situations due to high upfront costs and maintenance requirements. Sanitation and water quality must instead rely heavily on public awareness and participation: education, social capital, small-scale maintenance, and hygienic practices at the individual and household level can improve a community's health prospects and sustain a system's physical infrastructure. These local water management capacities are as important as the hard infrastructure of water and sanitation systems, but can often be more difficult and time-consuming to build up.



Low-water level at Kargan dam, Kabul, Afghanistan. Photo credit: UNEP.

- ❑ Assess the conflict's damage to water and sanitation infrastructure and define priority areas for interventions. Identify those projects that can be completed rapidly to produce visible peace dividends, such as increased agricultural production to improve food security, purification systems for reducing contamination of water sources, and short-term employment opportunities in reconstructing water infrastructure (including food-for-work). Carry out social and environmental impact assessments prior to rehabilitating and reconstructing infrastructure.
- ❑ Monitor water withdrawals and quality in cities, rural areas, and camps to assess the sustainability of the water supply given the withdrawal, use, and recharge rates.
- ❑ Design and build water and sanitation infrastructure that fits the needs, priorities, and capacities of the users, factoring in the return of displaced populations and anticipating how future water usage and climate change will affect the demands on water infrastructure. Ensure that the benefits of water infrastructure are equitably shared across and within communities. Set realistic timelines, and clearly communicate timelines for infrastructure restoration in order to manage public expectations.
- ❑ Strengthen the adaptive capacity and resilience of both physical infrastructure and institutional arrangements for water and sanitation to conflict, disasters, and climate change. Conduct assessments of the vulnerabilities of existing and proposed infrastructure to current conflict threats and climate forecasts, and modify where needed.
- ❑ Remove barriers to investment in water infrastructure by addressing corruption, increasing the protection of key water infrastructure, and incentivizing investment.

- ❑ Train both national and local technicians to maintain water and sanitation equipment and systems to create local livelihoods and improve initiative sustainability.
- ❑ Design and undertake locally appropriate awareness-raising campaigns on proper hygiene and household maintenance of water infrastructure.
- ❑ Invest in the long-term restoration of ecosystems within the overall plan for protecting the water supply and reducing flood risks.

ASSESS INSTITUTIONS AND REBUILD CAPACITIES FOR WATER GOVERNANCE

In post-conflict situations, water governance frameworks may need to be rebuilt to ensure that they equitably address the social, economic, and environmental needs of society. A long-term commitment to these three pillars of sustainability requires that policies, laws, institutions, and practices balance competing demands for an often-scarce resource, can adapt to natural variations in supply and shocks such as drought, and can prevent and manage pollution, regulate service provision, and maintain infrastructure. This is particularly complicated in post-conflict situations, when formal state governance mechanisms and institutions are often weak or nonexistent, and competing legal systems (statutory, customary, and religious) often operate simultaneously or may have been undermined, politicized, or delegitimized during the conflict. Conditions also may have changed considerably on the ground during the conflict. Nyala, capital city of South Darfur, nearly tripled in size over the course of the conflict, and now requires a significant overhaul to its urban water system. Post-conflict water governance frameworks and institutions must be able to adapt to changing, complex, and uncertain conditions related to water allocation, water quality, and sustainability. Rapid development, population growth, climate change, and an expected increase in the frequency and intensity of extreme weather events underscore the need to integrate adaptability into water governance frameworks.

Policymakers should formally align local and national water and land reforms due to the central role that land reform plays in peacebuilding strategies and the importance of water availability to land use, development, and value. This is especially important when land reforms are undertaken to increase agricultural production. Aligning the two reform processes can be done through cross-sectoral coordination and participatory decision making, as well as through integrated water resource management (IWRM), which promotes the coordinated development and management of water, land, and related resources.

National governments should take advantage of the comparative advantages held by local governments in

water management. Local governments can bring national institutions into direct contact with citizens, give those citizens a voice in decision making, connect directly with individuals and communities, and help deliver important local peace dividends. Local governments may also have a better understanding of the local appropriateness of water management techniques and technologies. The decentralization of water management could improve accountability, support local ownership and management, and tailor delivery mechanisms to local needs.

Assess water governance:

- ❑ Assess, and make public, the baseline hydrological data, focusing on water quality, availability, and natural variation. Complement scientific data with local knowledge. Build domestic capacity to monitor water quality and engage in transboundary water management institutions. Periodically review water policy to ensure that decisions remain relevant as new data become available, new capacities are built, and policies mature.
- ❑ Understand the role that water may have played in the conflict, and how different groups or economic sectors may monopolize water access in the post-conflict period.
- ❑ Identify existing statutory and customary laws, institutions, and practices governing water; evaluate their effectiveness; understand how they relate to other tenure and resource rights systems, particularly land; and analyze the ways they were impacted by the conflict. Determine whether to build on existing water governance arrangements or design new approaches to achieve peacebuilding goals.
- ❑ Conduct strategic environmental and social assessments of the water sector to analyze the potential consequences of proposed policies, plans, and programs.

Rebuild water governance:

- ❑ Through a participatory, conflict-sensitive process, develop new water legislation, regulations, and institutional arrangements that reflect best international practice tailored to national and local circumstances; implement national obligations made in international water agreements; promote IWRM; ensure inclusivity, transparency, equity, and accountability regarding access, affordability, and quality; and align water policy with land reform, economic development policies (such as the country's Poverty Reduction Strategy Paper), and policies pertaining to livelihoods and agricultural recovery.

- ❑ Ensure that water institutions across the statutory, informal, and customary sectors are connected and harmonized in a mutually reinforcing manner. Build on existing institutions and capacities, including those of the informal sector, and try to avoid establishing new institutions at odds with existing community institutions. Be careful not to entrench existing inequities in power and access, or reinforce existing discriminatory policies and institutions.
- ❑ Balance the trade-offs between immediate action and quick peace dividends with longer-term needs to assess resource capacities and ensure broad participation in decision making. Look beyond the immediate rehabilitation and construction of water infrastructure to consider the sustainability of watershed management systems.
- ❑ Embed the human right to water in international peace agreements and national constitutions, especially where water was a source of tension during conflict. Implement a rights-based approach to water and sanitation interventions that recognizes water and sanitation as human rights necessary to achieve life, dignity, and development.
- ❑ Try to ensure that ecological systems are considered and maintained to the greatest extent possible in the protection and allocation of water rights.
- ❑ Delineate the lines of responsibility between national and local authorities, and use water as a basis for cooperation between and across the different levels of government.
- ❑ Introduce adaptive water institutions and governance approaches capable of coping with natural variation and evolving governance structures (for example, sharing water among different users based on percentages of flow rather than absolute amounts). Maintain flexibility to respond to seasonal, annual, and decadal variations in rainfall, climate, and changes in water demand based on population growth, development levels, and urbanization. Align water policies and reforms with national climate-change response strategies such as the National Adaptation Programme of Action.
- ❑ Balance donor support between those institutions supplying water to users and those managing water resources in the environment. This will help maintain the balance between water use and its sustainable yield, minimizing the depletion of resources.
- ❑ Consider establishing frameworks governing public-private partnerships (PPPs) in water management. These should allow for substantial public-sector involvement in PPPs, and could include public approval for setting water rates and the use of build-operate-transfer agreements of a defined length of time.

ENGAGE THE INFORMAL SECTOR

Post-conflict societies are often faced with multiple levels of statutory and informal governance and service provision. Informal and private-sector providers are key stakeholders in the water sector and usually play an important role in alleviating capacity deficits in the immediate aftermath of a conflict until formal service provision is rebuilt, and in developing the social capital needed to foster community-level management of water services. But post-conflict informal and private providers often operate in the absence of regulation; after conflict, there often is little or no government oversight to ensure adequate water quality and access to all segments of society, while high tariffs can impose significant costs on the poor. To avoid undermining state legitimacy, informal service providers will eventually need to be regulated and integrated into the formal water sector in a way that avoids risking any loss of service.

- ❑ Include the informal sector in water resource assessments, in planning meetings to present and discuss options for water management, and in project implementation and monitoring. Build on the social capital established by the informal market.
- ❑ Engage the informal and private sectors to ensure that services are progressively formalized and effectively regulated, and build up the government's regulatory capacity to protect water consumers from discrimination, unfair pricing, and quality shortfalls.
- ❑ Where necessary, leverage private investments to make up for public funding shortfalls, and ensure safeguards are in place to protect against exploitative pricing.

USE WATER AS A PLATFORM FOR COOPERATION AND CONFIDENCE BUILDING

Water can be a platform for promoting cooperation and building confidence within and among states, government institutions, civil society, communities, and the private sector. Efforts to bring previously opposing groups together around a shared resource of mutual interest—water—can take a number of forms along a continuum: dialogue, information sharing, joint assessments, joint management, and coordinated legislation. In Darfur, peacekeeping efforts to improve livestock watering ponds along key migration routes were central to mitigating local water conflicts between farmers and pastoralists. Within governments, ministry-level cooperation on water, land, agriculture, and energy policies—all of which depend on water—help to align these policies and ensure that they do not work at cross-purposes.

Transboundary water cooperation can be fundamental to the achievement of water security. Institutions that govern cooperation over transboundary water resources

	Immediate Aftermath	Peace Consolidation
<p>Involve stakeholders in decision making</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Develop a shared vision among stakeholders on equitable water governance. <input type="checkbox"/> Reflect stakeholder livelihood and health needs and local water ecology in programs, projects, and policies. <input type="checkbox"/> Increase security patrols to protect against gender-based violence. <input type="checkbox"/> Reflect both men's and women's perspectives and priorities in decision making. <input type="checkbox"/> Establish forums for stakeholders to raise water grievances. 	<ul style="list-style-type: none"> <input type="checkbox"/> Expand the role of women in water resource management. <input type="checkbox"/> Include civil society in negotiating and implementing water agreements. <input type="checkbox"/> Use environmental and social impact assessments to engage civil society and the informal sector. <input type="checkbox"/> Create mechanisms for ensuring transparent, participatory, and accountable water management. <input type="checkbox"/> Build capacities of national and local governments and community-based structures for sustainable service provision and management.
<p>Prioritize, sequence, and coordinate water interventions</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Understand how competing interests affect post-conflict reconstruction and peacebuilding. <input type="checkbox"/> Coordinate humanitarian water-related interventions as part of the water, sanitation, and hygiene (WASH) cluster approach. <input type="checkbox"/> Promote intersectoral coordination between the land and water sectors, and between household consumption and irrigation. <input type="checkbox"/> Encourage donors to sustain commitments beyond the humanitarian phase. <input type="checkbox"/> Require social and environmental impact assessments for programs, projects, and policies. 	<ul style="list-style-type: none"> <input type="checkbox"/> Coordinate regional water strategies with the infrastructure projects of donors and multilateral organizations. <input type="checkbox"/> Reduce water demand and increase water supply through incentives and technologies. <input type="checkbox"/> Strengthen the capacities of local water management institutions. <input type="checkbox"/> Ensure that local water initiatives contribute to national objectives. <input type="checkbox"/> Encourage transparency and best practices in foreign investment in mining and large-scale land acquisitions, especially regarding water impacts, and include payments for commercial water use in contracts. <input type="checkbox"/> Encourage foreign investors to support local water interests.
<p>Invest in resilient infrastructure and adaptive management</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Assess damage to water and sanitation infrastructure. <input type="checkbox"/> Define priorities for interventions. <input type="checkbox"/> Identify projects that can rapidly produce visible peace dividends. <input type="checkbox"/> Design and build water infrastructure to fit the needs, priorities, and capacities of users. <input type="checkbox"/> Ensure benefits from water infrastructure are equitably shared. <input type="checkbox"/> Strengthen the adaptive capacity and resilience of water infrastructure and institutions to conflict, disasters, and climate. 	<ul style="list-style-type: none"> <input type="checkbox"/> Assess the sustainability of water use based on withdrawal and recharge rates. <input type="checkbox"/> Remove barriers to investment in water infrastructure. <input type="checkbox"/> Train national and local technicians to maintain water and sanitation equipment and systems. <input type="checkbox"/> Design and undertake awareness-raising campaigns on hygiene and household maintenance of water infrastructure. <input type="checkbox"/> Restore ecosystems to protect the water supply and reduce flood risks. <input type="checkbox"/> Set and clearly communicate realistic timelines for infrastructure restoration.
<p>Assess institutions and rebuild capacities for water governance</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Assess and make public baseline hydrological data. <input type="checkbox"/> Understand the role water played in the conflict, post-conflict power dynamics among user groups, and the impact of conflict on water laws, institutions, and governance. <input type="checkbox"/> Determine whether to build on existing water governance or design new approaches to achieve peacebuilding goals. <input type="checkbox"/> Build on existing formal and informal institutions and capacities. <input type="checkbox"/> Ensure inclusivity, transparency, equity, and accountability in water access, affordability, and quality. <input type="checkbox"/> Do not entrench existing inequities in power and access, or reinforce discriminatory policies and institutions. <input type="checkbox"/> Balance the trade-offs between quick peace dividends and longer-term needs. <input type="checkbox"/> Embed rights to water in peace agreements and national constitutions. 	<ul style="list-style-type: none"> <input type="checkbox"/> Develop new water legislation, regulations, and institutions that reflect best practice tailored to national and local circumstances. <input type="checkbox"/> Ensure statutory, informal, and customary water institutions are connected and harmonized. <input type="checkbox"/> Build domestic capacity to monitor water quality. <input type="checkbox"/> Promote integrated water resource management. <input type="checkbox"/> Align water policies with land reform, economic development, and livelihood and agricultural policies. <input type="checkbox"/> Clarify responsibilities of national and local water authorities. <input type="checkbox"/> Balance donor support between institutions supplying water to users and those managing water resources in the environment. <input type="checkbox"/> Consider ecological systems in the protection and allocation of water rights. <input type="checkbox"/> Introduce adaptive water policies and governance to cope with natural variations in supply. <input type="checkbox"/> Include public approval for setting water rates and the use of build-operate-transfer agreements in frameworks governing public-private partnerships. <input type="checkbox"/> Implement national obligations made in international water agreements
<p>Engage the informal sector</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Include the informal sector in water resource assessments, water management, and project implementation and monitoring. <input type="checkbox"/> Build on the social capital established by the informal sector. 	<ul style="list-style-type: none"> <input type="checkbox"/> Gradually formalize water services provided by the informal sector. <input type="checkbox"/> Build government capacity to protect consumers from discrimination, unfair pricing, and quality shortfalls. <input type="checkbox"/> Leverage private investments to make up for public funding shortfalls.
<p>Use water as a platform for cooperation and confidence building</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Assess the available data for transboundary waters and how water use may have changed during conflict. <input type="checkbox"/> Identify and address conflicts among upstream and downstream users. <input type="checkbox"/> Establish formal water negotiation teams. <input type="checkbox"/> Provide neutral, third-party facilitation for water negotiations. 	<ul style="list-style-type: none"> <input type="checkbox"/> Build capacities to generate and share water-related data. <input type="checkbox"/> Negotiate water-sharing treaties that include data sharing, conflict resolution mechanisms, adaptive management, and establishment of a basin commission. <input type="checkbox"/> Use shared water resources as a platform for cooperation between groups. <input type="checkbox"/> Institutionalize transboundary cooperation with regular meetings, joint data collection, and joint projects.

have typically shown a great deal of resilience. India and Pakistan, for example, have cooperated on the management of the Indus River since 1948. Water-sharing treaties can provide an important legal mechanism for confidence building and peaceful conflict resolution among riparian states. Power and information asymmetries between upstream and downstream riparian countries and stakeholders can be mitigated through dialogue, information sharing, and joint assessments and management. Water is also increasingly included in peace agreements, such as the 1994 agreement between Jordan and Israel. Treaties that include provisions for the creation of joint water commissions or committees are most likely to build confidence and trust, resolve conflicts, and promote cooperation and peacebuilding over the long term.

- ❑ Use shared water resources as a platform for cooperation between divided communities. Relationships built among stakeholders around water management can be the basis for improved water governance, and can be developed through good communication, a sense of shared purpose and mutual understanding, and increased interactions among stakeholders.
- ❑ Assess the available data for transboundary waters and how water use may have changed during conflict. Build capacities to generate and share water-related data.
- ❑ Identify conflicts between upstream and downstream water users, and use existing conflict resolution mechanisms or develop new ones to address those tensions.
- ❑ Establish formal water negotiation teams as part of a line ministry or across relevant departments, and build negotiation skills. Negotiate water-sharing treaties that include data sharing, conflict

resolution mechanisms, adaptive management, and establishment of a basin commission.

- ❑ Institutionalize transboundary cooperation by holding regular meetings, facilitating joint data collection and monitoring, carrying out joint development and protection projects, and providing a venue for conflict resolution. When water allocations are included in the agreement, promote proportional allocations rather than absolute amounts.
- ❑ Provide neutral, third-party facilitation for transboundary and subnational water negotiations when necessary.

Further Reading

For further information, please see:

Weinthal, E., J. Troell, and M. Nakayama (eds.) 2014. *Water and post-conflict peacebuilding*. London: Earthscan.

USAID. 2014. Water and conflict. www.usaid.gov/sites/default/files/documents/1866/WaterConflictToolkit.pdf.

Sphere Project. 2011. Humanitarian charter and minimum standards in humanitarian response. Geneva, Switzerland.

Post-Conflict Peacebuilding and Natural Resource Management

The Environmental Law Institute, the United Nations Environment Programme, the University of Tokyo, and McGill University have coordinated a six-year global research initiative to analyze experiences in post-conflict peacebuilding and natural resource management; identify lessons; and raise awareness of those lessons among practitioners and scholars. This initiative has generated six edited books (published by Earthscan) that include 150 case studies and other analyses from 60 conflict-affected countries and territories, written by 225 scholars, practitioners, and decision makers from around the world. A seventh overarching book (published by Cambridge University Press) synthesizes the findings of across resources, peacebuilding activities, and countries. Contact: Carl Bruch, Environmental Law Institute, 202.939.3870, bruch@eli.org

