



Lake Titicaca Basin: Peru and Bolivia

Enhancing transboundary cooperation through
technical coordination and institutional reforms





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CHALLENGES TO COOPERATION

There have been significant challenges in dispensing the Titicaca Basin Authority's responsibilities due to a number of political and institutional factors. The institution reports directly to the Department of Foreign Affairs from both Peru and Bolivia and is therefore primarily accountable to officials at ministerial levels. Additionally, legal constraints have limited how the Titicaca Basin Authority functions as a water management organisation. Bolivia does not have a comprehensive water law and this complicates the execution of water management activities on the Bolivian side of the basin.

Institutional constraints have prevented the Titicaca Basin Authority from having broad and effective interactions with water users at multiple levels. Most of the organisation's involvement with stakeholders has been through public consultations for informational events. As a result the institution has struggled to gain credibility and legitimacy from municipalities and provincial water users.

Another constraint to transboundary cooperation in Lake Titicaca has been the mandate of the Basin Authority. The Master Plan was originally focused on technical projects neglecting institutional and participatory processes. This prompted calls to revise it to better reflect a wider range of stakeholder needs and concerns.

Recently both Bolivia and Peru have called for a review of the Titicaca Basin Authority's mandate and its role in the management of water in the Titicaca basin. Particular attention has been given to increasing public participation in dialogue with the Titicaca Basin Authority through workshops and other opportunities facilitated by BRIDGE. Many municipalities and civil society organisations have asked for a more 'modern' basin organisation, signaling great potential in facilitating discussions among national, provincial, and municipal levels.



Figure 2. BRIDGE in a diversity of transboundary basins around the world.

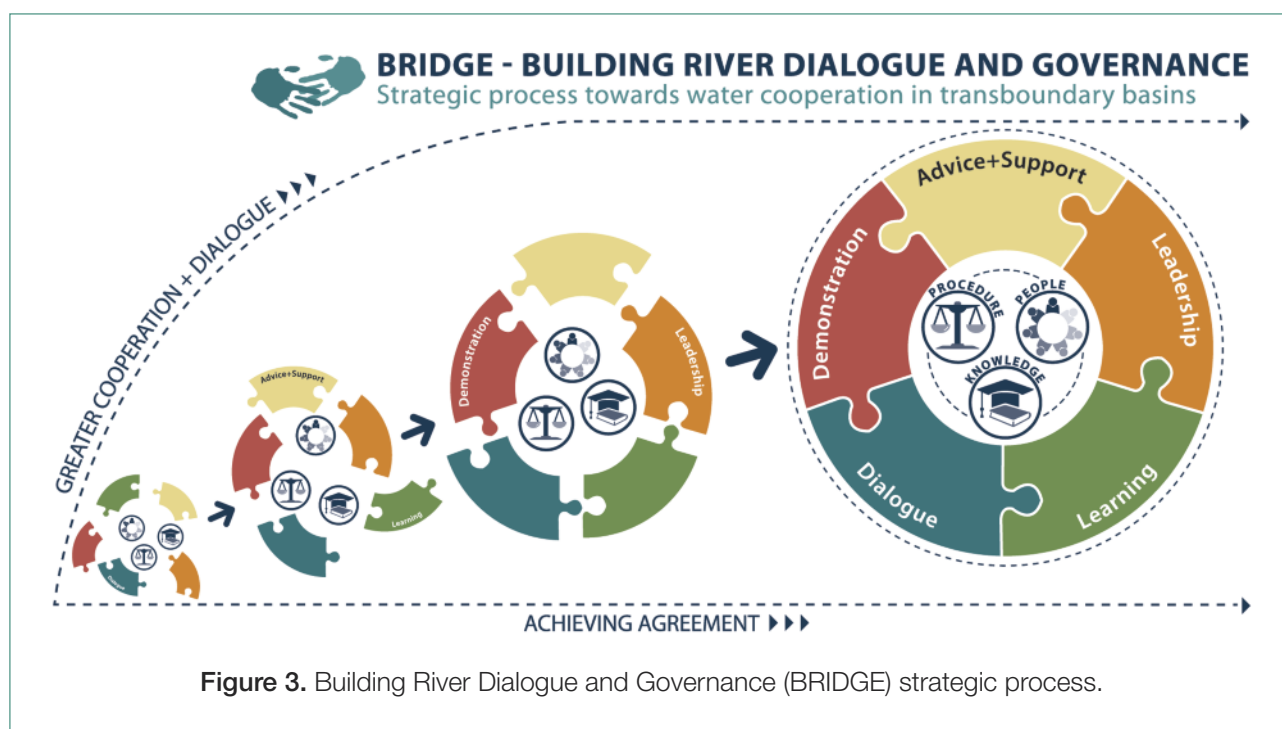
BRIDGE ACTIONS, MECHANISMS AND TOOLS

Implementing water diplomacy is not a simple process and BRIDGE incorporates a number of mechanisms and tools in Lake Titicaca. First, it uses **demonstration** of how to make cooperation operational in a basin as the basis for confidence and trust building through shared learning and joint action on concrete steps in building national and transboundary water governance capacity. Second, through **learning**, BRIDGE uses training and capacity building for multiple stakeholders, including municipal and civil society actors as well as high-level national officials, in water governance, international water law and benefit sharing to improve understanding. Third, it **facilitates dialogue for consensus building** using demonstration actions and learning events to catalyse new dialogues on technical, development and political matters. Fourth, BRIDGE implements **leadership** programmes supporting the empowering of champions for transboundary water cooperation and better water governance who can effectively advocate for mobilisation of water diplomacy. Finally, through **advice and support** functions, BRIDGE provides advice on demand and technical assistance to governments and stakeholders on water governance, including on effective institutional and legal frameworks, and communications to promote applications of lessons learned, advice and demonstration results in transboundary hot spots regionally and globally. Actions carried out in the Lake Titicaca Basin are outlined next.

Institutional reform and coordination

BRIDGE activities have supported the process of reforming the Titicaca Basin Authority to rebuilding trust and support from local stakeholders and sub-national institutions of Bolivia and Peru. At the basin level, support was given to the technical commissions in the development of the update of transboundary Statutes. Under the guidance of the IUCN Environmental Law Centre (ELC), analysis of the institutional and legal framework was conducted providing input into the process of updating Statutes that govern the Titicaca Basin Authority. Through workshops in both Bolivia and Peru, dialogue and exchanges were held with a wide range of stakeholders contributing to the process of reviewing the operating statutes of the Titicaca Basin Authority. Expanding the participation of stakeholders in the Titicaca Basin Authority was a priority, including sub-national and provincial authorities, municipalities, and local water users.

Working with institutional partners at the national level, BRIDGE coordinated meetings bringing together Meteorological and Hydrological Service (SENAMHI) in Bolivia and Peru to facilitate coordination of the hydro-meteorological network of the basin. During and as part of this coordination process, an agreement emerged over establishing a common reference (datum) for Lake Titicaca. Previous this was a contentious issue with no





BRIDGE Workshop with the Andean Community General Secretariat.

common agreement. Significantly, a commitment to a joint monitoring system was also agreed and has since extended to basins outside the Titicaca such as the Zarumilla and Catamayo-Chira basins, both shared between Ecuador and Peru.

Again using technical coordination as a precursor to cooperation, the adoption of a common mapping methodology for the basin by the national water agencies and the Titicaca Basin Authority led to establishing a prototype for a common Water Information System.

This required getting consensus for a local-level information system while also moving towards a regional approach with the Andean Community General Secretariat. Working together, BRIDGE initiated workshops on the National Water Information System with delegates from Hydrological and Meteorological institutes and the national water agencies from four

Andean countries. Building upon actions and increased cooperation at the national level, two trans-boundary technical working groups were created. The first brought together SENAMHI Bolivia and SENAMHI Peru on hydrometeorological monitoring. The second brought together water supply utilities from cities inside the Titicaca basin, such as El Alto and Oruro in Bolivia, and Puno and Juliaca in Peru, linking urban water supply with water sanitation. Water users involved in these dialogues were further supported through workshops, training courses, and leadership development activities.

Technical coordination with national agencies has paved the way for influencing regional IWRM strategies. Seizing upon this momentum, BRIDGE co-led the implementations of transboundary components of the Andean IWRM Strategy through facilitating a series of workshops. The strategy called for regional action on knowledge management, capacity building and

IWRM in transboundary river basins – areas influenced largely by ongoing project work at national levels. In nearly all the cases reported above, increased cooperation was precipitated by stepwise coordination over substantive issues such as data, knowledge systems, or technical coordination and agreements.

Water Information System and data exchange

In the Lake Titicaca basin, sharing technical information and knowledge has been a stepping stone to greater coordination and wider cooperation. The use of maps, water information systems, and monitoring protocols have served as precursors to gaining agreement and

BOX 1. We Needed a Mediator, and IUCN was a Neutral Party

In the Andes, where Lake Titicaca crosses the border between Peru and Bolivia, public officials could not even seem to agree on a common set of principles for maps, instruments and measurements for basic record keeping. After a couple of foreign journalists questioned how the numbers for the lake's water level could be different in the respective countries, something that is physically impossible, the bi-national authority Titicaca Basin Authority teamed up with IUCN to help come up with a solution. Bernardino Tapia Aguilar, a hydrometeorology specialist at the National Service of Meteorology and Hydrology regional office in Puno, Peru made the point, *“We needed a mediator, and IUCN was a neutral party.”*



Collecting bundles of totora reeds for the islands of Lake Titicaca, in Chucuito Puno, Peru.

greater technical coordination. This has been supported to some extent by pre-existing technical capacities within State water agencies and the Titicaca Basin Authority.

The use of knowledge and information systems is not new in water management. However, in the case of BRIDGE, it has been utilised in new ways. First, rather than focus on the data itself, which is often the tendency with water professionals, interventions emphasised the process of bringing groups together to discuss and seek agreement on issues. Secondly, the process has focused on small deliberate steps, rather than larger achievements on formal agreements, such as water allocations or boundary issues. These steps were enabled by a series of capacity building and leadership activities.

Capacity building and leadership

BRIDGE has supported a range of capacity building and leadership activities in the Andes ranging from transboundary and national water governance and benefit sharing to institutional issues at different scales. At the regional level, workshops and training courses on hydro-diplomacy were conducted with the Andean Community General Secretariat and the Ministry of Foreign Affairs of Peru. A regional workshop was also conducted in La Paz on cooperation and institutional issues for transboundary water management in the Titicaca basin providing important inputs to the institutional reform process of the Titicaca Basin Authority led by Bolivia and Peru. Another workshop, this time with the General Secretariat of the Andean Community, focused on developing a work plan between the Andean IWRM and BRIDGE, resulting in agreement over key actions on knowledge management (including a regional water information system), capacity building (including hydro-diplomacy training courses), and IWRM implementation in transboundary river basins.

At the national and provincial levels, key training was held on benefit sharing and water governance in Puno, Peru, where over 25 water users participated from local, municipal, provincial, and national levels of government. Trainings at the national level were also held on water information systems and were very successful in providing a space for agreement on the prototype of water information system to be shared by Peru and Ecuador and the Andean Community.

Again at the national level and a key indication of trust, the Ministry of Foreign Affairs from both Bolivia and Peru asked BRIDGE to hold workshops on transboundary water management focusing on institutional capacities.

Champion's Network

Through BRIDGE, a very active and influential group of leaders referred to as the Leadership, or Champion's Network, has formed to focus on advocacy of good water governance and water management in transboundary basins. The group, composed of local, national and regional leaders have begun to share experiences on transboundary water management across transboundary river basins in the Andes region.

The Network met several times, initially only to share experiences about water management in transboundary river basins. However, since then, it has quickly transformed into a dynamic group of leaders with influence towards the creation of institutions for transboundary water management and act as a vehicle for promoting good governance in transboundary basins. Equally important, the group has embraced gender-balanced participation fostering greater participation of women and as leaders in water management.

Advice and support facilities

Support Facilities have been a key component of BRIDGE, completing and delivering water governance capacity training packages and 'Train-the-Trainer' workshops and providing crucial and timely technical support through the Water Law and Governance Support Platform (www.waterlawand-governance.org). Examples include requests from the Ministry of Foreign Affairs in Bolivia and Peru for hydro-diplomacy training and situational and institutional analysis of South American basins. Capacity building activities focused on water governance and benefit sharing training, 'Train-the-Trainers' workshops and supporting the formation of the Champion's Network through further training and knowledge resources. These products included water governance toolkits from the Water and Nature Initiative (WANI) such as SHARE, RULE and NEGOTIATE which were translated into Spanish. These have become key resources for delivering and communicating good water governance knowledge with provincial and national stakeholders.

BOX 2. When Capacity Building Builds More than Capacity

The law of unintended consequences also allows for positive outcomes. Even subtle ones. *“When we meet with the Peruvians, we all speak the same language because of the workshops,”* said Oscar Céspedes, general director of watersheds and water resources in the Ministry of the Environment and Water in Bolivia. *“At the capacity building sessions we come together, and we see that we are really brothers. When we meet again, the process of formulating proposals and making adjustments takes less time and the outcomes are more sustainable over time. It helps that we have talked to these people before. We don’t dwell on petty topics.”*



Third Leadership and Champion’s Network workshop at Chucuito Puno in Peru in the Titicaca basin.

SOLUTIONS AND INTERVENTION RESULTS

Lake Titicaca is fortunate to possess many of the ingredients for transboundary cooperation. It has a well established bi-national institution with a firm mandate to manage Lake Titicaca. It has several associated technical committees staffed with well qualified water professionals. It has the highest political support in both Bolivia and Peru. Given all these strengths, why does the Titicaca Basin Authority need reform? Many agreed the organisation needed restructuring. The question was not whether or not to reform, but *what* and *how* to reform. This is where BRIDGE comes in.

Water diplomacy in transboundary basin is often about changing the dynamic on the ground while working across several levels of water governance. The seeds of change are often already planted but need food and water to grow. Workshops on water governance delivered to the ministries did not simply give information and knowledge to diplomats. They provided a space and context to change the discourse on transboundary water management. They opened avenues and ideas that eventually prompted a path forward on a reform agenda for the bi-national institution. Importantly, through dialogue and knowledge, once decisions were made to move forward, BRIDGE was there to give the appropriate legal and procedural expertise to support the interest of governments with reforms.

At the same time, through a completely different entry point, water diplomacy was working through the existing bi-national authority. Workshops on IWRM and water information systems, drawing upon technical strengths in the region and national water agencies, prompted water users to meet and address issues over maps and monitoring systems. This approach brought several strategies together – the sharing of

knowledge and information, opportunities for dialogue, and demonstrations of successful cooperation – to constitute a stepwise process for water diplomacy and transboundary cooperation.

Importantly, active engagement with national water agencies and state ministries has scaled up to the regional Andean Community. Facilitation of workshops jointly with the Andean Community on IWRM has led to the development of a regional work plan to invest in knowledge management, capacity building and IWRM implementation in transboundary river basins. This is an example of where demonstrations at provincial and national scales can create an enabling environment for greater regional cooperation. Progress in the Titicaca basin has promoted formalisation of cooperation in several river basins in the Andean region. Colombia and Ecuador have renewed interest in components of the IWRM plan as do members of the Amazon Cooperation Treaty Organisation.

BRIDGE in Lake Titicaca has employed non-traditional methodologies to trigger and produce greater transboundary cooperation in water management. The results have produced effective and successful technical results such as common mapping formats, a prototype regional Water Information System, and progress updating Master Plan and IWRM implementation. Next steps will focus on formalising the cooperative arrangements that have been achieved – transforming informal agreements into formal arrangements. This combined approach to interventions has led to a chain of events that have resulted in concrete steps towards greater cooperation. Some key events are included in Table 1.

Table 1. Key events enhancing cooperation and intervention strategies.

Year	Event	Intervention Strategy
2011	✓ Creation of technical bi-national support group established by SENAMHI Bolivia and SENAMHI Peru	Technical coordination; learning and workshops, meetings to formalise
	✓ Hydrological maps officially recognised by Bolivia on 2011 and previously by Peru	Technical agreement
	✓ Creation of a transboundary area within National Water Authority ANA of Peru	Learning & workshops and training
	✓ TDPS maps under the same methodology being developed	Technical agreement
2012	✓ Workshop to provide inputs to the revision of the Statute of bi-national authority for TDPS, ALT	Advice and support on institutions, learning & workshops, IWRM
	✓ Water Information System design begins	Technical coordination
	✓ Creation of an transboundary water issues Sub-direction (Peru)	Advice and support on institutions, learning & workshops
	✓ Bi-national workshop on institutional governance	Learning & workshops
	✓ Hydro-diplomacy training courses (SGCAN and Ministry of Foreign Affairs of Peru)	Advice and support on institutions, learning & workshops
	✓ Initiation of the Andean leadership network conducting two workshops	Leadership and learning, workshops
2013	✓ Legitimisation of ALT actors	Advice and support on institutions, learning & workshops, joint action
	✓ Leadership/Champion's Network active and planning activities	Leadership and learning, workshops
	✓ Benefit sharing workshop attended by multiple-level stakeholders from Bolivia and Peru	Learning & workshops
	✓ Elaboration of a baseline study of the hydro-biological resources of Lake Titicaca Basin	Technical coordination, learning

LESSONS LEARNED GOING FORWARD



Overlooking Lake Titicaca towards Juliaca, Peru.

The experience of BRIDGE in the Andes has emphasised the need for a multi-faceted, multi-level approach to water diplomacy and transboundary river basin management. Previous existence of a binational authority has been both a benefit and a challenge given the historical political context between Bolivia and Peru. BRIDGE is designed to work around these limitations by pursuing multiple agreements at various levels. In the Andes, interventions have been found to be successfully implemented through three primary dimensions: **substantive** (knowledge, information, data), **procedural** (process, institutional, legal), and **relational** (personal, institutional, political). In each of these dimensions, BRIDGE has intervened and engaged at multiple scales – a crucial element of implementing water diplomacy.

Interventions through the *substantive* dimension have had the most effect on transboundary cooperation in Lake Titicaca. The combination of maps, information systems, monitoring, and agreements on technical details of the lake has multiplied the number of meetings and agreements produced since BRIDGE became active in the region. This has prompted reflection of how transboundary cooperation works and how it links to other activities. A significant learning from

work in Lake Titicaca is that basins that have well-established institutions can draw upon previous technical work as a framework for dialogue and coordination, for example basin maps and hydrologic data. These sometimes small steps can build upon existing knowledge and significantly move cooperation forward. However, data, information, and knowledge alone does not produce the necessary recipe for water diplomacy. To be successful, an enabling environment must exist in order to secure commitments among water users and institutions. This requires that when agreements are achieved, relevant institutions be present with the capacity to manage them, for example development of a Water Information System between Peru and Bolivia.

Progress in the *procedural* dimension has been primarily at the national and regional scales. A series of breakthroughs at the state level has opened opportunities for greater technical coordination and cooperation over joint monitoring between Bolivia and Peru. This has been complemented by a dedicated effort to support the highly political and procedural effort to reform the Titicaca Basin Authority, increasing stakeholder participation in the institution.

Lessons Learned Going Forward

Transboundary basins have unique legal and inter-governmental challenges to cooperation. To implement effective water diplomacy, specific capacities such as legal, technical, and procedural support for states are needed to move things forward. This has to be complemented with a multi-layered approach utilising workshops, political dialogue, technical and legal support and learning and knowledge through step-wise actions. It is only then that substantial change can be implemented.

The *relational* dimension has focused on relations between Bolivia and Peru, the Titicaca Basin Authority, national water agencies, and provincial and municipal stakeholders at local levels. Previously the Titicaca Basin Authority functioned at diplomatic levels with limited effective participation from state, provincial or local water users. Consequently over the last 17 years it lost some legitimacy as a transboundary river basin organisation particularly in eyes of municipalities and local water users. One of the primary learnings from BRIDGE was that river basin organisations build legitimacy through wide-ranging participation of stakeholders – an IWRM principle. Even with great political backing and high technical capacity, an institution requires legitimacy to be effective and resilient, particularly in a transboundary

basin such as Lake Titicaca. Institutional reforms therefore need to be supported and driven by the needs of water users at all levels.

Another significant finding is that a regional network of water Champions can complement conventional water diplomacy by providing new avenues through which sharing of experiences can occur. Formal avenues are still relevant forms of influence however, informal channels have the advantage of more flexibility and face fewer political and institutional barriers to effect change.

Taking these findings into 2014, BRIDGE will continue to support the Champion's Network through training and support for action and change. Support will extend to the water governance work of Bolivia, Peru and the Titicaca Basin Authority to build a more legitimate and effective transboundary river basin institution responsible to a broad base of water users. At the regional level, BRIDGE will facilitate the implementation of a Water Information System to demonstrate joint action among Andean Community members as part of a shared IWRM Strategy. BRIDGE will also expand its strategy by sharing lessons and results with other transboundary basins of the Andes region.

“Sharing information and knowledge is a stepping stone to greater coordination and wider cooperation in Lake Titicaca.”

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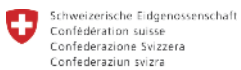
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