MEDRC

TRANSBOUNDARY WATERS

PRACTITIONER BRIEFING SERIES

Peace Parks and Integrated Water Resources Management

Transboundary Protected Area Peace Parks and IWRM in Practice

"I know of no political movement, no philosophy, no ideology, which does not agree with the peace parks concept as we see it going into fruition today. It is a concept of the cornerstones of the future. Peace parks are a building block in this process, not only in our region but potentially in the entire world." - Nelson Mandela, with the signing of the Great Limpopo Transboundary Park Treaty

Introduction

As governance regimes, transboundary protected areas (TBPAs) have been applauded for their potential in contributing positively to peacebuilding efforts among nations through shared management responsibilities. As early as 1932, the relationship between Canada and the United States was celebrated by the establishment of the Waterton-Glacier International Peace Park to emphasize natural and cultural connections. Similarly, through environmental peacebuilding negotiations, the Cordillera del Condor Peace Transborder Reserve was established in 1998 between Peru and Ecuador with the signature of the Brasilia Agreement.

While in 1998 there were 59 TBPAs in 136 countries, by 2007, more than 227 TBPAs had been established [1]. Although all Peace Parks are TBPAs, not all TBPAs are Peace Parks. Both TBPAs and Peace Parks are subsets of protected areas that are formally recognized by the respective nation-states. Some TBPAs may not have an explicit peace designation, yet they still stand to contribute to peacebuilding efforts by presenting an entry point for negotiations and institutionalizing shared management activity over jointly valued resources. At a theoretical level, TPBAs are a good idea. At the level of implementation, however, the reality may be less than ideal.

The complexity of actors, objectives, regulatory frameworks and instruments that emerge from transboundary environmental resources make for challenging governance settings.

Shared Governance

Transboundary protected areas (TBPAs) seek to strengthen interstate relations and cooperation around shared natural resources. This practitioner briefing unpacks water governance and management structures in a peace park setting to see how they have contributed to integrated water resources management at the national and transboundary level.

Source: Shutterstock

Transboundary Protected Areas (TBPAs), also known as Transfrontier Conversation Areas (TFCAs), Transfrontier Parks (TFPs), Peace Parks or Transfrontier Conservation Complexes, are governance regimes at an interstate level.

As mechanisms that aim to strengthen interstate cooperation through ecological transboundary conservation, TBPAs stand to impact the environment, society, politics and economics of the geographical spaces they traverse. This briefing will look more closely at the Great Limpopo Transboundary Park (GLTP) to unpack the extent to which shared governance structures within a TBPA contribute to integrated water resources management (IWRM).

Practical Summary

- Transboundary Protected Areas (TBPAs) are effective mechanisms for identifying and promoting common values through natural resources management systems.
- TBPAs have been shown to advance interstate coordination and cooperation.
- Agreement on common values and processes is important to have in place for transboundary integrated water resources management to be advanced. Agreement alone, however, does not transfer to the operational and implementational effectiveness of IWRM.
- Sustained and resilient capacity-building mechanisms that include all stakeholders are necessary to move toward IWRM and transboundary IWRM that do not reinforce power asymmetries.
- National interests often differ within the same international river basin which leads to divergent policy and plans being developed at the national level that may not be compatible at the transboundary level.
- New legislation, data collection, management, procedures and technologies may be required to facilitate developments that arise from TBPA establishment and cooperation.
- Having conflict prevention or resolution mechanisms in place within the TBPA treaty is critical for interstate relations, however, it does not necessarily prevent the rise of tensions or conflicts at a local level.
- The scale and the opaqueness of system interactions over large distances (upstream and downstream) in shared international water resources systems results in unforeseen negative consequences.
- Cross-border collaboration and coordination does not necessarily translate to sectorial integration. This risks making policy ineffective toward IWRM in practice.

Types of TBPAs

Transboundary Protected Areas (TBPAs) have been applauded for a wide range of perceived benefits. Principal to such benefits includes enhancing environmental protection across ecosystems, trust building and cooperation among countries, communities and agencies, enabling better cross-border control of problems and creating shared opportunities. As spaces that involve and affect many parties, TBPAs present unique governance challenges. In response to such challenges, TBPAs have been classified into three types.

- **Type A** areas are governed by one or more government bodies and the national legal framework guides the extent of management decisions and accountability measures. Type A governance of TBPAs becomes particularly complex when parts of the land are owned or customarily controlled by communities, companies or individuals.
- **Type B** areas engage in shared governance where formal arrangements between one or more sovereign States or Territories are negotiated and a collaborative network of institutions are set-up for joint governance through various ways.
- **Type C** areas are centered on private governance through conservation established and run by individual landowners, non-profit organizations and for-profit organizations. Governance of Type C TBPAs are established and run by indigenous peoples and local communities.

Governance Guidelines

Although the different governance types can be distinguished from one another, a TBPA is not necessarily restricted to one form of governance. Depending on the scale of TBPAs there may be multiple legal systems at play within the shared governance of a TBPA, making it challenging to reconcile different, at times conflicting, laws and policies.

To guide best practices the International Union for Conservation of Nature has outlined the following as key elements needed to ensure good governance of transboundary protected areas:

- The legal right to access information
- Public participation and decision-making
- Clear strategic vision
- Access to justice on environmental matters
- Adherence to customary laws [2]

Boundaries of governance may not always be clear, and activity on the ground may not always reflect the legal requirements inscribed. Even so, institutionalizing effective transboundary governance of shared natural resources is key to implementing procedural provisions at a water governance level in order to effectively manage transboundary water resources.

What constitutes good governance of transboundary water resources remains debated and demands greater empirical examples of success.

Since the mid-1990s the Integrated Water Resources Management (IWRM) approach has been advanced as a preferred water resource management process. By considering all water as a single resource whether in the form of water supply, stormwater or wastewater, the IWRM approach to water management deals with water governance and water management processes.

IWRM aims to influence both the mechanisms through which rules around water management are guided and the manner in which actions are taken to achieve water management goals. Effective IWRM requires the establishment of an enabling environment, including appropriate policies, strategies and legislation, institutional framework and management instruments, while applying the following four principles:

Principle 1: Water is a finite and vulnerable resource
Freshwater is a finite and vulnerable resource, essential to sustain life, development, and the environment.

Principle 2: Participatory approach
Water development and management should be based on a participatory approach, involving users, planners, and policy-makers at all levels.

Principle 3: Role of women
Women play a central part in the provision, management and safeguarding of water.

Principle 4: Social and economic value of water
Water is a public good and has a social and economic value in all its competing uses.

The Dublin Principles [3]

Strong narratives of progress have emerged around integrated water resources management at a sub-national, national and transboundary level. The overlap between TBPA governance principles and IWRM principles make them reinforcing toward one another in theory. In practice, however, integrated water resources management in shared transboundary basins remains challenging. Even though IWRM is generally considered central to achieving the UN Sustainable Development Goal 6 on clean water and sanitation, few examples of practical success exist at present. Within national jurisdiction, implementing an IWRM approach is practically challenging as it stands. An operational water governance regime in a transboundary basin does not necessarily advance IWRM, nor do IWRM practices guarantee greater coordination and cooperation in water governance. IWRM has been identified as a necessary approach for transboundary water governance and management, however, IWRM and water governance are not mutually exclusive. The Great Limpopo TBPA provides a case study to explore how IWRM principles are or aren't advanced through TBPA governance principles.

Source: SAN Parks

The Great Limpopo Transboundary Protected Area

Shared among Mozambique, South Africa and Zimbabwe, the Great Limpopo Transboundary Protected Area (GLTP) consists of nearly 100,000 square kilometer of national parks, reserves and private and communal land [4]. Signed in 2000, the Skukuza agreement signaled the intention of the three nations to establish and develop a transboundary park. The establishment of the GLTP became official through a treaty signed in 2002 [4].

The primary objectives of the GLTP as set out in the international treaty include:

- Foster transnational collaboration and cooperation among the parties toward effective ecosystem management in the GLTP area.
- Advance alliances in the management of natural resources and encourage socio-economic development across sectors.
- Strengthen ecosystem integrity and natural ecological processes by harmonizing environmental management procedures across international boundaries.
- Establish mechanisms that facilitate the technical, scientific and legal exchange of information for the joint management of the ecosystem.
- Development frameworks, strategies and work plans should facilitate, establish and maintain a sustainable sub-regional economic base.

There is a clear strategic focus on advancing shared interests toward greater environmental and economic benefits for all signatories at a technical and diplomatic level. These strategic objectives set a promising foundation from which shared or transboundary IWRM processes can extend. Initiatives toward these objectives are guided by a trilateral Joint Management Board. All operational and implementation steps taken by the Joint Management Board must be reported to the Ministerial Committee. The relevant work plans that unfold out of bilateral and trilateral policy and coordination agendas toward these objectives are implemented by several Joint Park Management Committees that operate at designated cross-border intersections of the GLTP [5].

This top-down approach aims to ensure high-level political commitment to initiatives whilst work plans that are contextually relevant to the different ecological and socio-economic demands at different geographical points in the park become developed and operational.

There appears to be a degree of progress in generating policy harmonization in operationalizing the objectives outlined in the treaty, however, there remain shortcomings in enabling multi-stakeholder engagement. In support of improved ecological services in the GLTP, fences were dropped between the Kruger National Park and the adjacent private, state and community-protected areas to advance the conservation estate and the associated socio-economic outcomes. In dropping the fences, however, no formal agreements were signed with all the private, community and state areas in South Africa. This was addressed retrospectively through the 2018 Cooperative Agreement.

The Cooperative Agreement enforced stronger regularization between South Africa's national legislation and the GLTP governance framework [6]. The Cooperative Agreement makes compliance with national legal provisions mandatory for all areas within the open system of the Park. In South Africa, the GLTP initiatives must comply with the provisions of the National Environmental Management: Protected Areas Act (NEMPAA). For Zimbabwe and Mozambique, Country Specific Protected area requirements must be adhered to. Across all of the GLTP areas, the Cooperative Agreement of 2018 also formalized the application of IUCN best practices for category I or II protected areas.

Through strengthening the connection points between the GLTP governance framework and national legislation the minimum standards of legal protection become set. This regularization of legislation sets a baseline for the implementation of initiatives that align with best practices of transboundary protected area governance and some core principles of IWRM. In a joint statement released by the Trilateral Ministerial Committee in April 2022, it was noted that major developments of the GLTP since February 2017 included institutional reform toward better collaborative management through multiple new strategic policies, such as the Sustainable Finance Strategy and the Joint Security Plan [7]. Institutional arrangements and policy coordination that align in such a way hold the potential to advance further cooperation on more contentious issues such as catchment-level water resource management and landscape scale management of various animal species.

The GLTP was established for the primary reason of environmental protection. Beyond Article 15 on the Settlement of Disputes in the GLTP, there is no conflict resolution mechanism outlined in the treaty. The regional political context in which the GLTP was formed, however, was one where multilateralism became more advanced as political transitions in Mozambique and South Africa took place. Nevertheless, all signatories to the GLTP treaty are also signatories to the Southern African Development Community (SADC) treaty, placing them under binding protocols of cooperation. In response to the water scarcity concerns, for instance, SADC developed a Climate Change Adaptation Strategy aimed at promoting the application of IWRM to reduce climate vulnerability. Being embedded in a regional framework where conflict resolution clauses apply through the SADC treaty and an over-arching political culture of development and cooperation is what adds the peace element to the GLTP as a Peace Park.

Water and Water Governance in the Great Limpopo Transboundary Protected Area

To look at water resources management and transboundary cooperation within the GLTP, the focus is placed on the Limpopo River Basin. As the largest river basin in the GLTP area, with both the Changane river and the Olifants river as main tributaries, the Limpopo River Basin hold a significant influence on the livelihood systems across the riparian nations.

Transboundary Water Governance in the GLTP

Much of the GLTP's governance and developments have been guided by regional trends and goals. Several protocols and strategies have been developed by the Southern African Development Community (SADC) to promote an enabling multilateral environment for establishing and developing TBPAs in the region. Policies such as the SADC Protocol on Wildlife Conservation and Laws Enforcement (1999), the SADC Protocol on Shared Water Courses (2002) and the SADC Regional Biodiversity Strategy (2006) reinforce the primary objectives of the GLTP and provide an enabling environment for integrating national water resources management policies at the national and regional level.

At the transboundary level, the Limpopo Watercourse Commission (LIMCOM) was established in 2003 to develop a shared vision of how to manage and develop appropriate institutional arrangements between South Africa, Botswana, Zimbabwe and Mozambique in the Limpopo River Basin.
The primary organ of LIMCOM is the Commission which consists of no more than twelve permanent commissioners representing the four riparian states [8].

The Commission is informed by specialized legal, flood and technical task teams. The structure of LIMCOM has placed technical and diplomatic representation at the forefront of joint management at the basin level. This has had a positive impact on the understanding of surface water in the Limpopo River Basin through resilient data gathering and data sharing. At the national level, each country of the Limpopo River basin has its own surface water monitoring infrastructure and procedures. Although national processes on hydrological monitoring vary the riparian nations have agreed on the methods used for monitoring processes.

To assist in integrating SADC-wide monitoring and sharing of data, a program known as SADC HYCOS has also been put into action in the form of automated flow-gauging stations [9]. Developing shared technical knowledge in such a structured way supports IWRM principles in two ways. Firstly, it advances the national and regional water systems knowledge. Secondly, it develops, enforces and adds accountability and legitimacy to shared values and principles across policy discourse.

Unfortunately, the same level of development in water system knowledge has not been acquired over groundwater resources in the Limpopo River Basin. Although SADC has been leading initiatives to build stronger water systems knowledge of groundwater, consolidating data on it from different member states to SADC has been restricted by the reality that there are different methods of data capture and management. From an IWRM and transboundary IWRM perspective, it is important that transboundary agreements and regulations are better informed by technical parameters as they relate to water systems knowledge so that LIMCOM can better facilitate it.

Water Governance at the National Level

Of the four riparian nations that share the Limpopo River Basin, Botswana is not a member of the GLTP. For Mozambique, South Africa and Zimbabwe, water resources are managed in the first instance by national governance before cross-boundary legal provisions are considered. This reinforces the importance of policy harmonization across national and regional objectives and governance frameworks.

Mozambique

In Mozambique, water supply and security are prioritized within the Nation's 2025 Vision and Strategies. Being extremely vulnerable to natural disasters and environmental change, Mozambique also developed a National Adaptation Programme of Action (NAPA) in 2007 where water resources management stands as one of its five priorities. The introduction of IWRM Principles into the national strategy changed the institutional set-up of water management bodies in Mozambique. Adopting a decentralized approach to water resources management, the National Water Policy gives the responsibility of water resources management to five autonomous entities at the basin and provincial levels through Regional Water Authorities (RWA) [10].

There are five RWAs. Within the Limpopo River Basin on the Mozambique side, the RWA-South is the one responsible for the operation and maintenance of dams, monitoring, flood management and water use licensing. To advance greater participatory engagement from multiple stakeholders, river basin management units have been formed at a catchment level as well as river basin management committees (RBCs).

Decentralization has helped to increase multi-stakeholder participation only at the national and district level, it has been poor in including stakeholder involvement at the group or individual level. Consider, for instance, the town of Massinger in the Gaza Province of Mozambique where there is no official platform for stakeholders at the local community level. The different water users at the local level are therefore not part of the water management process, which veers directly away from the principles of IWRM.

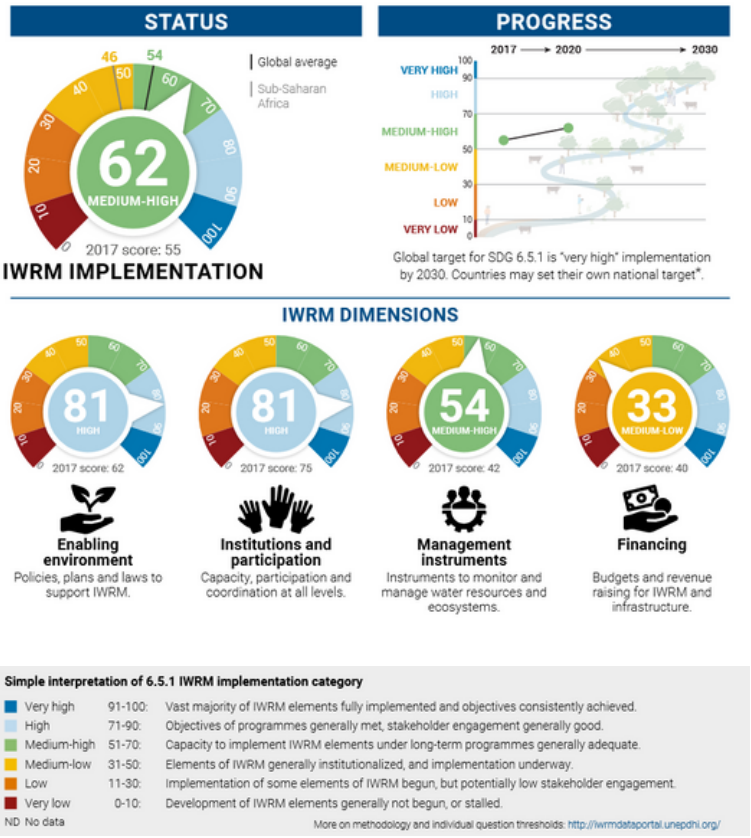
In practice, this disconnect between the local community and the regional water authorities has caused poor practices of water and land management as is shown by the acquisition of 35,000 ha of land in 2007 by the privately-owned company ProCana [11]. The land is part of the Mozambican side of the GLTP and was allocated to the development of sugarcane plantations for the production of sugar and bioethanol under conditions that the local community would also benefit from. By 2009, ProCana had received a water license for allocation of up to 750 million cubic meters of water per year (at the time estimated to be about 65% of the total annual flow into Massinger lake on the Olifants river) [12].

With none of the economic and social developments unfolding as expected, the government of Mozambique revoked the concession in 2009 on premises of noncompliance and transferred it to a consortium of Massinger Agro-Industrial (MAI) in 2012 for a continuation of the development. Although the RBC is responsible for informing and engaging with the local communities in the area, it is RWA-Sul that decides water allocation.

Much of the socio-economic benefits that were conditioned under the concession remain unachieved. Moreover, given that residents in the Massinger area were asked to resettle for the establishment of the Limpopo National Park yet the same land was granted for large-scale agricultural development signals economic growth as a primary driver of development. The reality is that surrounding communities were not informed of the water allocation given to MAI and the consequences that it would hold on irrigation schemes, particularly downstream. This signals a weak link between the decentralized network of water management from an IWRM point of view in practice.

Source: Figure 1 from IWRM Avant la Lettre? Four Key Episodes in the Policy Articulation of IWRM in Downstream Mozambique

Source: Shutterstock



Source: UNEP-DHI IWRM Country Report Database

Administrative decentralization in the water sector was not met with robust financial decentralization. Across the RWAs in Mozambique, there is a lack of legal and technical instruments in place that give RWAs authority to enforce water fee collection or to technically inform decision-making processes. Different priority areas and disparities in capacity have emerged between the different RWAs. RWA-South, for instance, prioritizes water allocation, economic and demand management and water monitoring. In contrast, RWA-Center focuses more on water pollution. Developments at RWA-South have advanced more than those at other RWAs. Given that RWA-South covers a transboundary river basin, it has received more financial investment support from international cooperation agencies and joint IWRM projects than other RWAs. Those RWAs that do not have reservoir storage capacity or responsibilities receive less support financially and developmentally as there has been less revenue to be gained [10]. Lack of reliable capital investment, central government inefficiency and devastating consequences of civil war and the lower mechanization of agriculture-based developments throughout the process of administratively decentralizing water resources have stood as constraints to IWRM processes at the national level in Mozambique.

Spill-over socio-economic dimensions

Community trust in Mozambique's Limpopo National Park area of the GLTP has been particularly low as a result of poor public participation being enabled and poor access to environmental justice. In 2010, negotiations between the park administration and local park residents became tenuous as the park administration requested residents to resettle elsewhere due to land pressure [13]. Land pressure resulted in greater human-wildlife conflict breaking out and placed more pressure on the park administration to source solutions. In terms of negotiating a resettlement with the community of Mavodze, however, the park administration rushed in passing a new policy on Limpopo National Park administration without negotiations with residents on resettlement reaching a mutual agreement. In effect, resident communities became considered illegal residents in the area. With greater drought frequency, these residents were denied improved livelihood conditions in the form of improved water infrastructure because they were no longer part of an inclusive and integrated approach to the area and water resources management [13]. As alienation of the resident communities took place, resistance against the Limpopo National Park and the broader GLTP rose. This demonstrates the extent to which community trust and participation inform natural resources management and the need for IWRM to be cross-sectoral in its policy directives and strategic implementation. Sustained gaps between people and power need to be narrowed for TBPAs to be effective.

Zimbabwe

Like in Mozambique, water security is emphasized as a priority in Zimbabwe at the national policy level and focus has been placed on decentralizing water management. While the Ministry of Agriculture, and Resettlement, Rural Development, Water and Climate is responsible for water resources policy, development and management (as of 2018), the Zimbabwean National Water Authority is responsible for water management implementation [14]. Extending from the 1998 Zimbabwe National Water Authority Act, catchment and sub-catchment councils manage water resources at the local level with elected representatives. Out of the seven catchments that divide Zimbabwe's surface water flows, the Mzingwane catchment flow drains into the Limpopo River.

Managed by the Mzingwane Catchment Council, all developments within the catchment are guided by the Catchment Outline Plan. Given that the catchment contributes between a quarter and a third of the run-off of the Limpopo Basin, interventions at the catchment level have significant downstream implications [15].

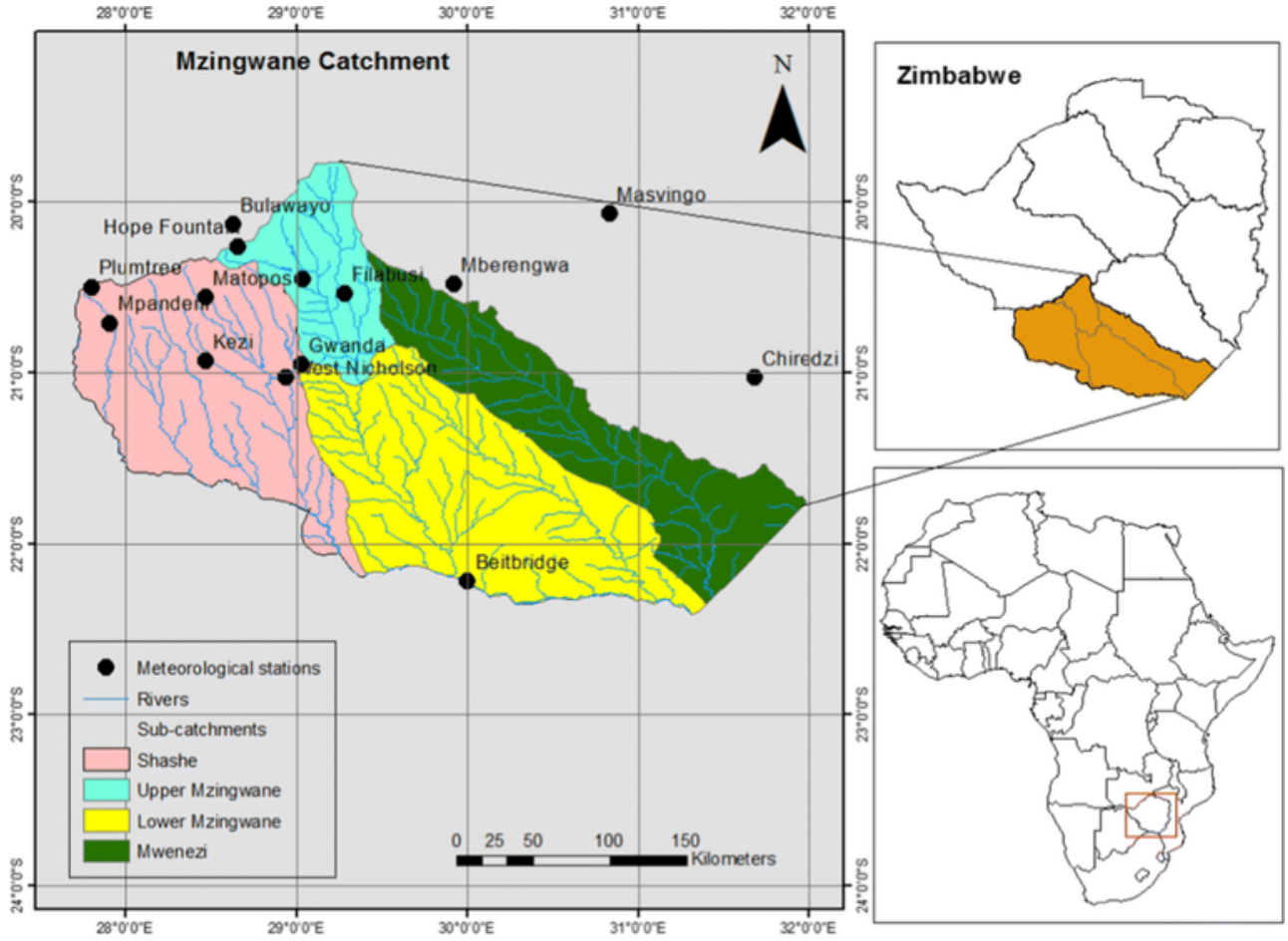
Water from the Limpopo Basin is of strategic importance to the urban center of Bulawayo in Zimbabwe for urban supply and irrigation. Efforts to decentralize water resources management nationally to incorporate multi-stakeholders have been done institutionally but fall short administratively and legally. The Mzingwane Catchment Council and its Rural District Councils are under legal obligation to develop and submit draft catchment plans to the national water authority to go through formal approval. To have draft plans reviewed, however, takes on average, three years and little success has been seen in any of the plans going through all stages of becoming legally enforceable [16]. Policy transfers from the Ministry of Agriculture, and Resettlement, Rural Development, Water and Climate to Catchment Councils and Rural District Councils through to the national water authority are restricted in effective implementation.

The cumbersome process of establishing regulations that are adaptive and enforceable by the relevant authorities without a gridlock forming makes for weak sub-national authorities for IWRM in Zimbabwe and does not address capacity disparities across catchments. In the Mzingwane catchment, there is a capacity disparity between the key stakeholders in the catchment as well as infrastructural developments across the sub-catchments.

The only official platform for key stakeholders to engage in at the catchment level is the Rural District Councils which report to subcatchment councils. The local government and water management boundaries do not overlap which means that some communities will not have Rural District Councils available to them. These disparities in representation and development restrict IWRM in practice by not facilitating clear data around water quantity, quality, usage and demand.

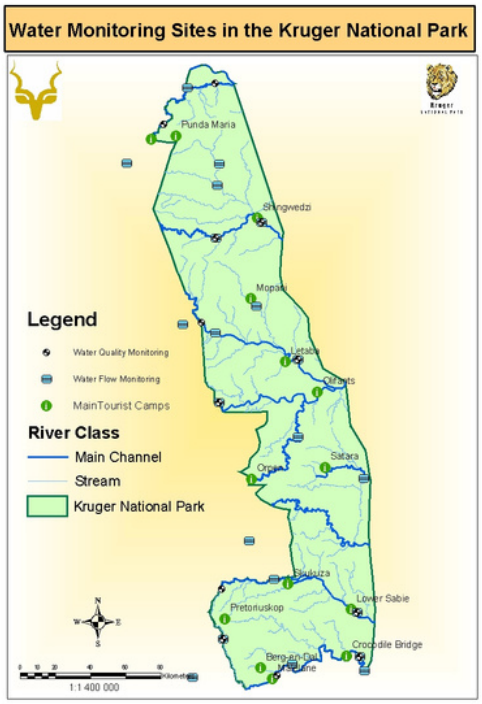
The National Parks and Wildlife Management Authority is responsible for administrative processes in the Gonarezhou National Park. The poor alignment between natural boundaries and administrative boundaries has restricted developments around water resources projects in the area. For instance, the widespread introduction of low-cost drip irrigation kits in communal lands for small-scale farming use remains unevaluated in the extent to which drip irrigation has impacted yields per water use [15].

This disconnect in water resources administration across different political and natural boundaries has also challenged the involvement of external stakeholders in water resources management. Consider how the implementation of the 'fast-track' land reform program in Zimbabwe in 2000 led to the suspension of large-scale donor funds from the governments of Germany, the Netherlands, Sweden and the UK from the water sector, given the interconnectedness of land policy and water security [16]. As much as IWRM principles have been mainstreamed in Zimbabwe, the gridlock in water management has limited the development of water system knowledge toward more effective IWRM in practice, including water availability monitoring, financing for water resources infrastructure and IWRM elements, pollution control or water ecosystem management.

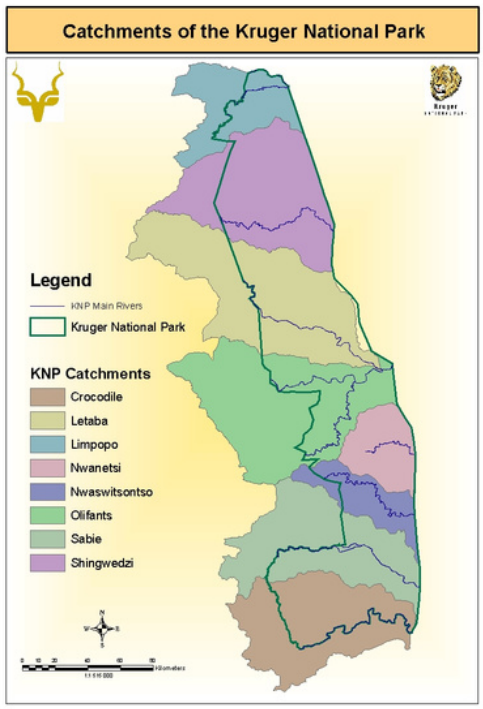


Source: Figure from Theoretical and Applied Climatology

Source: Shutterstock - Gonarezhou National Park



Source: SAN Parks

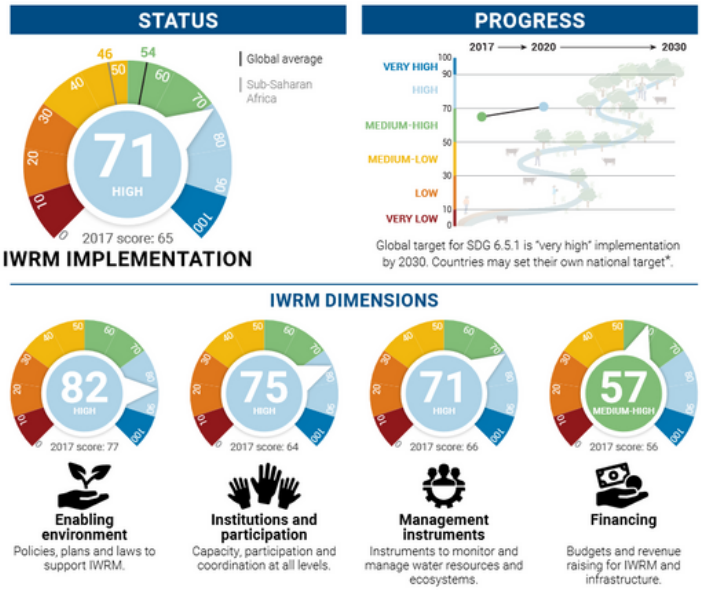


Source: SAN Parks

South Africa

In South Africa, the Vision for 2030 outlined in the National Development Plan notes the development of water resources is critical to economic infrastructure [17]. Emphasis is placed on adherence to international obligations and the need for greater and more consistent capacity-building support of Catchment Management Agencies and Water User Associations. These Catchment Management Agencies and Water User Associations are given the authority under the National Water Act of 1998 to manage local resources and issue water use authorizations and compliance, monitoring and enforcement directors. Nine regional offices under the authority of the Department of Water and Sanitation manage water resources in their designated areas. Different iterations of the National Water Resources Strategy are outlined and formalized to guide water resources management initiatives. The National Water Resources Strategy currently active in South Africa is the second iteration which was formalized in 2013. In July 2022 the government of South Africa released the draft of the third iteration. Although South Africa ranks higher than Mozambique and Zimbabwe in its overall water resources management instruments, its financing toward water resources and IWRM, particularly at the national budgetary and sub-national basin levels ranks poorly and has seen little advancement between 2017 and 2020 [18].

In the Limpopo River Basin there are three regional offices on the South African side of the GLTP that manage the water resources, particularly the Olifants Limpopo and Crocodile West areas: the Mpumalanga Regional Office, the Limpopo Regional Office and the North West Regional Office. Decentralization in South Africa's national water resources management approach has shown to have enabled better policy harmonization between national and sub-national water resources management authorities. The Reconciliation Strategies that the National Water Resources Strategy guided the implementation of is an example of this. The Reconciliation Strategies outline water supply requirements for the different provincial regions to better inform water resources investment and management decisions across the different governing bodies. As part of the GLTP, the Kruger National Park has advanced multi-stakeholder representation in water management governance as it has set up forums such as the Crocodile River Forum where policy and action plans between the Catchment Management Authorities and Kruger National Park can be communicated across. The better inclusion of different governing bodies is also reflected in the improved score South Africa had on its SDG indicator 6.5.1 from a 64 score in 2017 to a 75 score in 2020 for institutions and participation.



Source: UNEP-DHI IWRM Country Report Database

Poor inclusivity and transferring policy into effective implementation, however, is noticeable at the transboundary level when considering the water pollution in the Olifants river basin. As a sub-basin of the Limpopo River Basin that flows through South Africa, Botswana, Zimbabwe and Mozambique, and contributes to nearly 40% of the water flows in the Limpopo River Basin [19]. Considered as one of the most polluted water basins in the Southern Africa region, the Olifants river basin faces water quality concerns from fecal pollution, salinization, acid mine drainage and eutrophication. Efforts by the South African Department of Water and Sanitation have limited pollution from mining activities in the Kruger Park specifically. This success was largely due to the Kruger National Park's efforts to lobby place a zero-discharge policy on the Phalaborwa Mining Complex in 2002 [20]. Pollution from siltation caused by soil erosion in the Kruger Park remains an issue and so does heavy pollution in areas outside of the Kruger Park. The Kruger National Park has also played a pivotal role in data gathering and water management processes of the Crocodile, Sabie, Olifants and Luvuvhu within the GLTP [20]. The reduction of pollution and the advancement of water systems knowledge processes in the Kruger Park area stand as examples of an enabling environment toward effective water resources management adaptation between national entities in the water sector. It also demonstrates the power asymmetry that exists between different stakeholders that may not be considered part of the transboundary protected area, including local populations, natural parks and the mining industry. This power asymmetry is evident at the transboundary level with the downstream Limpopo Park in Mozambique where much less attention to water pollution has been given from a national or joint-basin knowledge exchange level.

MEDRC

Transboundary IWRM in the GLTP

Decentralization of water resources management has been hailed as preferred over a centralized approach toward IWRM. At the national level of water resources management, all GLTP riparian nations to the LRB have taken steps towards decentralizing water resources management processes. Despite water security and policy harmonization between national and international objectives being stated as priorities for Mozambique, Zimbabwe and South Africa, effective IWRM implementation remains constrained. Decentralization efforts of water resources management have been inhibited by the hierarchical policy and legal frameworks in place. Inhibiting the authority of local-level water management authorities also reduces multi-stakeholder participation as local community representatives and technical experts at the basin level are not fully incorporated. Such siloed decentralization has led to institutional overlap in water resources management and weakens implementation processes as it lessens the need for transparency and accountability by not enabling sub-national authorities with enough decision-making and implementation authority.

On indicators related to gender in IWRM processes, South Africa, Mozambique and Zimbabwe respectively rank at medium-high or high in having implemented gender-inclusive policies on the IWRM indicator report [18]. They rank lower in the participation of vulnerable groups and in water resources management [18]. The disconnect between local and basin-level participation in water resources management that has been discussed across the different riparian nations to varying degrees should be considered alongside these indicators. The generally lagging interconnection between local and basin-level water resources management alienates key water users from decision-making platforms and contributes to this gender gap between rationale and reality.

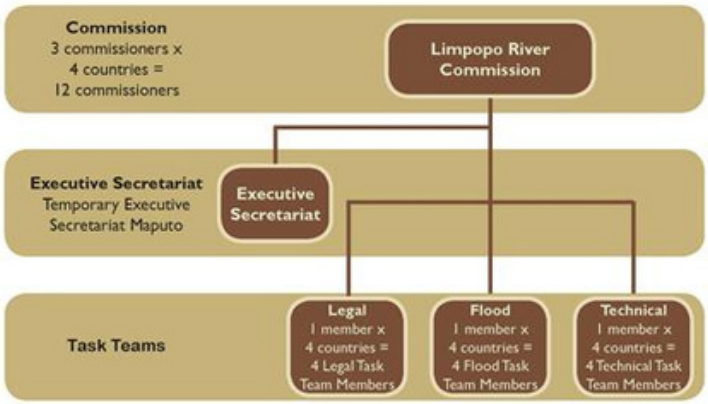
Source: UNEP-DHI IWRM Mainstreaming Gender Report

More gender-inclusive policies being advanced relative to the water sector has been a positive step in the right direction in terms of IWRM. Respectively, Mozambique, Zimbabwe and South Africa still need to have gender-disaggregated data in their data collection. Advancements at the policy level can be seen, however, at the implementation level, much remains to be further developed.

Effective implementation of water governance and management has been disjointed at the national and transboundary level in the GLTP. Mozambique, South Africa and Zimbabwe entered into transboundary cooperation from differing national conditions. The protection of sovereignty in the GLTP treaty means that all IWRM processes, including those that are transboundary directly or indirectly, need to be advanced from a national perspective first. IWRM requires a functional institutional framework, a management instrument and an enabling environment for a successful take-off. Where these elements are present but weak, they must be strengthened. In the case of the member states to the GLTP, these requirements vary in capacity. Community trust and multistakeholder engagement, for instance, inform how far IWRM and transboundary IWRM processes can be enabled.

The institutional mechanisms are in place for substantive progress to be achieved in shared water resources management through LIMCOM. All four riparian nations have signed the SADC Revised Protocol on Shared Watercourses which holds them to principles of joint management. The national water policies of Mozambique, South Africa and Zimbabwe also highlight that laws, regulations and institutions within their national water management approaches align with the broader principles of regional cooperation. In looking at the national water management and governance structures of Mozambique, Zimbabwe and South Africa, there is little intervening power that the GLTP governance has shown in how shared water resources are managed, particularly in the Limpopo River Basin.

Overall, the top-down institutional design of the GLTP has resulted in effective high-level or political collaboration across national and regional policy frameworks around water governance and resources management. Although regional and national policy directions have prioritized the principles of IWRM, it is clear from a basin catchment level, the key elements that are needed for effective implementation and operationalization of IWRM in its comprehensive form remain unsupported within the governance of the GLTP.



Source: Limpopo River Awareness Kit

Source: WikiCommons

Other Transboundary Protected Areas considered Peace Parks

Ais/Ais - Richtersveld TBPA between Namibia and South Africa

Kgalagadi TBPA between Botswana and South Africa

Lubombo TBPA between Mozambique, South Africa and Eswatini

Talamanca Range TBPA between Costa Rica and Panama

Wadden Sea TBPA between Denmark, Germany and The Netherlands

Sangha Trinational TBPA between Cameroon, Central African Republic and Congo

W-Arly-Pendjari Complex between Benin, Burkina Faso and Niger

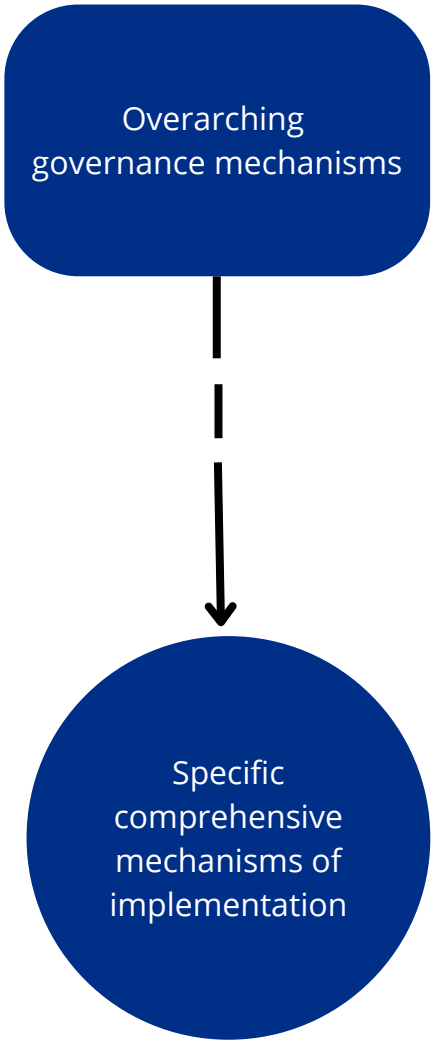
Malawi-Zambia TBPA between Malawi and Zambia

Conclusion

The GLTP forms an overarching governance structure around shared natural resources that advance transboundary cooperation, and political will and sets legal parameters for engagement. What becomes apparent in the discussion of the GLTP in relation to water management is that it has not contributed substantively to IWRM or transboundary IWRM processes. At the operational level of water management and governance, institutional complexity exists that overlaps networks of actors, rules, functions and organizations. It is perhaps worth considering that operationalizing procedures toward IWRM may not be what is at present the most effective method of supporting water management that is scalable and integrative at local, basin and national capacity.

Sustainable water management, under changing and variable climatic conditions, demands responsive and adaptive institutions since water management occurs within primarily local and national settings. Transboundary water resources management in protected areas designated as peace parks does not signal practical effectiveness when considering IWRM processes under the governance structures. In terms of water resources governance and transboundary resources governance specifically, the case study of the GLTP with specific reference to the Limpopo River Basin, shows that effective IWRM and transboundary IWRM capacity is not strongly supported as it stands.

Peace parks in the form of transboundary protected areas hold the potential to generate interstate cooperation and be vehicles for conservation. Community involvement, however, is paramount to the success of a transboundary protected area. Without inclusive stakeholder participation and supportive institutions, the legitimacy that a TBPA is given at the policy level can be accessible at a functional level. Without the form of policy being met with strategic function, there is a risk of peace parks generating an exclusionary arena even if their governance is guided by a more inclusionary vision.



References

[1] IUCN Publication (2015) 'Transboundary conservation : a systematic and integrated approach' https://portals.iucn.org/library/node/45173

[2] IUCN Publication (2013) 'Governance of Protected Areas: From Understanding to Action' https://portals.iucn.org/library/sites/library/files/documents/pag-020.pdf

[3] Helene, J.H. (2021) 'Integrated Water Resources Management: A Tool for Sustainable Development' https://digitalcommons.aaru.edu.jo/cgi/viewcontent.cgi?article=1014&context=fej

[4] Matthew, R.A., Nizkorodov, E. & Murphy, C. 'Routledge Handbook of Environmental Security' https://doi.org/10.4324/9781315107592

[5] Treaty on the Establishment of the Great Limpopo Transfrontier Park https://static.pmg.org.za/211123Annexure_Signed_GLTP_Treaty.pdf

[6] South African National Parks 'Parliamentary Portfolio Committee Responses (29 November, 2021) https://static.pmg.org.za/211203Great_Limpopo_Transfrontier_ConservationFINresponses.pdf

[7] Department of Forestry, Fisheries and the Environment, Republic of South Africa Press Release on The Great Limpopo Transfrontier Conservation Area (2022) https://www.dffe.gov.za/mediarelease/greatlimpopotransfrontierconservationarea_20thanniversary

[8] LIMCOM Agreement (2003) https://www.limpopo.riverawarenesskit.org/LIMPOPORAK_COM/EN/GOVERNANCE/WATER_GOVERNANCE_IN_THE_LIMPOPO/AGREEMENT.HTM

[9] SADC-HYCOS Phase III Project Proposal https://library.wmo.int/doc_num.php?explnum_id=4880

[10] Inguane, R. Gallego-Ayala, J. & Juizo, D. 'Decentralized water resources management in Mozambique: Challenges of implementation at the river basin level' (2014) http://dx.doi.org/10.1016/j.pce.2013.08.004

[11] AllAfrica, (11 November 2012), 'Mozambique: Guebuza Visits Sugar Projects in Massingir' https://allafrica.com/stories/201211120298.html

[12] Alba, R., Bolding, A. & Ducrot, R. (2016) 'The Politics of Water Payments and Stakeholder Participation in the Limpopo River Basin, Mozambique' https://www.water-alternatives.org/index.php/alldoc/articles/vol9/v9issue3/334-a9-3-5/file?auid=178

[13] Merz, L., Yang. D. & Hull, V. (2020) 'A Metacoupling Framework for Exploring Transboundary Watershed Management' https://www.mdpi.com/2071-1050/12/5/1879

[14] LBPTC of LIMCOM (2010) 'Joint Limpopo River Basin Study Scoping Phase Final Report' http://www.limpopo.riverawarenesskit.org/LIMPOPORAK_COM/_SYSTEM/DMSSTORAGE/3451EN/LIMCOM2010_SCOPINGSTUDY_ENG.PDF

[15] Mabiza, C.C., van der Zaag, P., Manzungu, E. & Ahlers, Rhondante 'The Making of a Catchment Plan: experiences of the Mzingwane Catchment, Zimbabwe (20https://cgspace.cgiar.org/bitstream/handle/10568/21290/21290.pdf;jsessionid=185068AC47B2FE315188CC4234A90006?sequence=1

[16] WaterNet (2005) 'An overview of the Mzingwane Catchment, Zimbabwe' https://assets.publishing.service.gov.uk/media/57a08ca1e5274a27b2001305/WP1-Mzingwane.pdf

[17] The Republic of South Africa, 'National Development Plan 2030' https://www.gov.za/issues/national-development-plan-2030

[18] IWRM Data Portal Tracking SDG 6.5.1 http://iwrmdataportal.unepdhi.org/country-reports

[19] Kahinda, M.J., Meissner, R. Engelbrecht, F.A. (2015) 'Implementing Integrated Catchment Management in the upper Limpopo River basin: A situational assessment' http://dx.doi.org/10.1016/j.pce.2015.10.003

[20] Mirzabaev, A. (2019) 'Transboundary water resources for people and nature: Challenges and opportunities in the Olifants river basin' http://hdl.handle.net/10419/206967

Sources for Further Learning

[Limpopo River Awareness Kit
(https://www.limpopo.riverawarenesskit.org/LIMPOPORAK_COM/EN/GOVERNANCE.HTM)

IWRM Data Portal
(http://iwrmdataportal.unepdhi.org/)

South African National Parks
(https://www.sanparks.org/conservation/transfrontier/great_limpopo.php)

Peace Parks Foundation
(https://www.peaceparks.org/)

Environmental Justice Atlas
(https://ejatlas.org/)

GRID-Arendal - A UNEP Partner
(https://www.grida.no/activities/23)

Acknowledgements

MEDRC's Transboundary Waters Practitioner Briefing series has been developed for industry practitioners and government officials at the request of MEDRC's member countries. The briefings are meant to be informative and practical, providing an overview of the subject matter material, while remaining accessible to various backgrounds and disciplines. The briefings serve to develop shared knowledge and serve as a basis for further discussions between partners. If you would like to learn more about these subjects, please see the section 'Sources for Further Learning'.