

**Economic and Social Commission for Western Asia (ESCWA)**

Committee on Water Resources  
Ninth session  
Beirut, 23-25 March 2011

Item 6 (b) of the provisional agenda

**INTEGRATED MANAGEMENT OF SHARED WATER RESOURCES****LESSONS LEARNED FROM THE EXPERIENCE IN SHARED WATER RESOURCES  
MANAGEMENT IN THE REGION OF THE SOUTHERN AFRICAN DEVELOPMENT  
COMMUNITY (SADC)****Summary**

Proper management of shared water resources is vital for the sustainable development of the ESCWA region where water scarcity is prevalent. However, the sustainable and mutually beneficial management of shared water resources cannot be achieved without the appropriate development of regional agreements followed by political commitment. Within that context, the ESCWA region can learn valuable lessons from the successful experience of the Southern African Development Community (SADC) in managing shared water resources and in developing appropriate legal frameworks and institutions.

SADC has promoted communications of its member countries, coordination of studies and projects, and integration of policies regarding shared watercourse management. Specifically, 15 countries in Southern Africa signed the Protocol on Shared Watercourses in 1995 and revised it in 2000. While the Protocol includes equitable and reasonable utilization, it stresses the principle of no significant harm by which member countries are obliged to take all proper measures not to cause significant harm to other watercourse countries, and to take appropriate measures to eliminate or mitigate harm where such occurs to other watercourse countries. Moreover, the Protocol compels member countries to notify other riparian countries of planned measures which may have a significant adverse effect upon these countries prior to their implementation, and acknowledges the importance of environmental preservation and protection. This Protocol has served as a regional guideline by providing practical measures to achieve regional goals and, subsequently, has resulted in a series of basin-level agreements aimed at establishing river basin organizations.

This report examines the Protocol on Shared Watercourses, established river basin organizations as well as SADC institutions; and presents lessons to learn for the ESCWA region.

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## Introduction

1. Since the early 1990s, countries in Southern Africa have achieved a considerable level of regional cooperation and integration by developing a broad range of protocols, memoranda of understanding and declarations. This has been achieved within the framework of a regional development community, namely, the Southern African Development Community (SADC). This report provides an overview of the SADC experience in shared water resources management, with a particular focus on the Revised Protocol on Shared Watercourses, and the subsequent development of river-basin organizations (RBOs) in the region.

2. Chapters I and II focus on SADC and the SADC Protocol, respectively, while chapter III summarizes subsequent basin-level agreements and established RBOs. Chapter IV discusses the following issues: (a) the establishment of RBOs; (b) the institutional framework of SADC; (c) the dispute prevention and resolution mechanism; (d) the development of national water legislation as well as regional protocols; (e) the development of water allocation rules; and (f) the institutional mechanisms to keep power balances of SADC member countries, within the context of lessons learned from the SADC experience in the management of shared water resources. Chapter V provides the conclusions.

## I. SOUTHERN AFRICAN DEVELOPMENT COMMUNITY

### A. A BRIEF INTRODUCTION OF SADC

3. The Southern African Development Coordination Conference (SADCC), which was the predecessor of SADC, was established in 1980 by nine countries of the region in order to coordinate regional development projects and aimed at reducing their dependence on South Africa. By the end of the 1970s, the formation of SADCC was made possible as the political leaders of the region came to realize that they could not meet the needs of their populations in terms of higher living standards without regional cooperation. Equally, the work of the then so-called Frontline States, which opposed the Apartheid regime in South Africa, provided positive cooperation experiences.<sup>1</sup>

4. This loose regional alliance was transformed into the institutionalized SADC in 1992 during the Coordinating Conference into a Development Community (Windhoek, Namibia, 17 August 1992), with the aim of promoting an equal and mutually beneficial integrated regional economy. Since its establishment, SADC has served as an institutional framework for regional cooperation, and has developed protocols, memoranda of understanding and declarations, including, the Protocol on Shared Watercourses, which was first signed in 1995 and later revised in 2000.

5. SADC currently comprises 15 member countries, namely: Angola, Botswana, Democratic Republic of Congo, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe. It is headquartered in Gaborone, Botswana.

### B. SADC INSTITUTIONS AND THEIR ROLES

6. SADC institutions and their functions are explained in Chapter 5 of the “Declaration and Treaty of SADC, as Amended”. According to Article 9 of the Treaty, the established institutions are as follows: (a) the Summit of Heads of State or Government; (b) the Organ on Politics, Defence and Security Cooperation; (c) the Council of Ministers; (d) the Integrated Committee of Ministers; (e) the Standing Committee of Officials; (f) the Secretariat; (g) the Tribunal; and (h) SADC national committees.

7. The role of SADC institutions are as follows:

(a) The Summit of the Heads of State or Government is the supreme policymaking institution of SADC and is “responsible for the overall policy direction and control of the functions of SADC”;<sup>2</sup> while the Organ on Politics, Defence and Security is coordinated by the Summit;

<sup>1</sup> SADC, *About SADC*. Available at: [www.sadc.int/index/browse/page/715](http://www.sadc.int/index/browse/page/715).

<sup>2</sup> SADC, *The Treaty of the Southern African Development Community as Amended* (2001), Article 10.

(b) The Council of Ministers consists of one minister (usually the minister of foreign or external affairs) from each member country. It is responsible for overseeing the functioning and development of SADC; advising the Summit; approving and implementing policies, strategies and work programmes; and determining the terms and conditions of service of staff members;

(c) In support of the Council, the Integrated Committee of Ministers, which consists of more than two ministers from each member country, is responsible for overseeing the activities of the core areas of integration including as follows: (a) trade, industry, finance and investment; (b) infrastructure and services; (c) food, agriculture and natural resources; and (d) social and human development and special programmes;<sup>3</sup>

(d) The Standing Committee of Officials, which consists of one permanent secretary or a high-ranking official from each member country, is a technical advisory committee to the Council;

(e) As the principle executive institution of SADC, the Secretariat is responsible for planning and managing the work programme; implementing the decisions made by the Summit, the Organ, the Council and the Integrated Committee of Ministers; and coordinating and harmonizing the policies of member countries as well as representing and promoting SADC;

(f) The Tribunal was established in 1992 in order to ensure adherence to and the proper interpretation of the provisions of the SADC Treaty and subsidiary instruments; and to adjudicate upon such disputes as may arise, as described in Article 16 of the SADC Treaty. The Tribunal, which is located in Windhoek, Namibia, started to operate in November 2005, with the appointment of its members. The decisions of the Tribunal are final and binding;

(g) Each member country is requested to create a SADC national committee, comprising key stakeholders that include, under Article 16A of the SADC Treaty, the public sector, private sector, civil society, non-governmental organizations (NGOs) and labour organizations. SADC national committees are responsible for providing input at the national level; coordinating and overseeing the implementation at the national level of SADC programmes; and creating national steering committees, sub-committees and technical committees as well as national secretariats.

## II. REVISED PROTOCOL ON SHARED WATERCOURSES

### A. OVERVIEW

8. SADC has been successful in encouraging regional cooperation and integration and, consequently, a number of protocols have been signed in several fields, including energy, fisheries, forestry, trade and legal affairs to tourism. Among these is the Protocol on Shared Watercourse, which was first adopted in 1995 by the member countries and came into force in 1998. The original Protocol was based on the Rules on the Non-Navigational Uses of the Waters of International Rivers (referred to as the Helsinki Rules), which stress the sovereignty of member countries in the use of shared watercourse. The Protocol was subsequently revised in 2000 to take into consideration new principles and perspectives that are articulated in the Convention on the Law of the Non-Navigational Uses of International Watercourses (United Nations Watercourse Convention), which was adopted by the United Nations General Assembly and opened for signature in 1997, and that gives more serious consideration to environmental and downstream needs.

9. While the United Nations Watercourse Convention provides a global guiding framework at the international level, the SADC Protocol provides practical measures at the regional level and guides the achievement of regional goals. As a result, the SADC Protocol has served as a framework since 2000 for subsequent basin-level agreements in the region. Based on the SADC Protocol, several basin-level agreements have been concluded.

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<sup>3</sup> Ibid., Article 12.

## B. GENERAL PRINCIPLES (ARTICLE 3)

10. The SADC Protocol highlights the importance of regional integration and harmonization of national policies and plans by stressing the principle of the unity and coherence of each shared watercourse. In this respect, the exchange of data and information, and cooperation regarding studies and execution of all projects among countries are encouraged.

11. Moreover, the SADC Protocol emphasizes the balance between resource development, and conservation and enhancement of the environment in order to achieve sustainable development goals; and requests its member countries to cooperate with regard to the study and execution of all projects that can have an effect on the regime of shared watercourses.

12. While it recognizes each country's right to utilize shared watercourses in its territory in line with the Helsinki Rules, it also emphasizes equitable and reasonable use of shared watercourses by forcing its member countries to utilize a shared watercourse and to participate in the use, development and protection of shared watercourses in an equitable and reasonable manner. In particular, it recommends member countries to take all the factors into account for the use of a shared watercourse as follows. Bold text in the points listed below refers to additions to the original Protocol that are in line with the United Nations Watercourse Convention.<sup>4</sup>

- (a) Geographical, hydrographical, hydrological, climatical, ecological and other factors of a natural character;
- (b) The social, economic and **environmental needs** of the Watercourse Countries concerned;
- (c) **The population dependent on the shared watercourse in each Watercourse State;**
- (d) The effects of the use or uses of a shared watercourse in one Watercourse State on other Watercourse States;
- (e) Existing and potential uses of the watercourses;
- (f) **Conservation, protection, development and economy of use of the water resources of the shared watercourse and the costs of measures taken to that effect;**
- (g) **The availability of alternatives, of comparable value, to a particular planned or existing use.**

13. Furthermore, the SADC Protocol stresses the principle of no significant harm by which member countries are obliged to take all proper measures not to cause significant harm to other watercourse countries, and to take appropriate measure to eliminate or mitigate harm where such occurs to other watercourse countries.

## C. SPECIFIC PROVISIONS (ARTICLE 4)

1. *Planned measures*

14. The SADC Protocol sets procedures that member countries need to follow with regards to the implementation of planned measures. First, before a country implements planned measures that can have significant adverse effects on other watercourse countries, it is obligated to notify the other watercourse countries in advance. Subsequently, the notified countries are requested to study and evaluate the effects of

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<sup>4</sup> Extracted from SADC, *Revised Protocol on Shared Watercourses* (2000), Article 3.8.

the planned measures, and to reply within six months (with a possible extension of a further six months), while the notifying country is obliged to cooperate with the other watercourse countries and provide data and information as deemed necessary for the relevant studies and evaluations.

15. During this time, the notifying country is not allowed to implement the planned measures without the consent of the other watercourse countries. In case the notifying and notified countries do not agree on the planned measures, they enter into consultations and negotiations. The SADC Protocol also provides for the procedures to take when the advance notification is absent as well as when urgent implementation of planned measures is necessary.

#### *2. Environmental protection and preservation*

16. With regards to environmental protection and preservation, member countries are compelled to take individual and joint actions to preserve and protect the ecosystems of a shared watercourse; to address pollution and environmental degradation of a shared watercourse that can cause significant harm to the environment; and to pursue harmonized policies and legislation in this regard. Member countries are also obliged not to introduce alien or new species that can harm the ecosystems of watercourses, and to take all measures to preserve and protect aquatic environment of a shared watercourse.

#### *3. Management of shared watercourses*

17. The SADC Protocol encourages joint management of a shared watercourse. Upon the request of a riparian country, watercourse countries enter into consultations that can include the establishment of a joint management mechanism. In addition, the SADC Protocol recommends cooperative regulation of the flow of the waters; and urges best efforts to maintain installations, facilities and other works related to a shared watercourse in the respective territories.

#### *4. Prevention and mitigation of harmful conditions*

18. Member countries are obliged to take individual and, where appropriate, joint actions to prevent or mitigate conditions that can be harmful to other watercourse countries regardless of their causes. Moreover, it is required for countries to authorize permissions or licences for the use or discharge of a shared watercourse, only if the intended use or discharge will not cause significant harm on the watercourse.

#### *5. Emergency notification*

19. In cases of emergency, the SADC Protocol asks member countries to notify promptly other potentially affected countries, SADC as well as other relevant international organizations; and to provide all necessary information.

### **III. BASIN-LEVEL AGREEMENTS AND RIVER BASIN ORGANIZATIONS**

#### **A. OVERVIEW**

20. There are 13 river basins in the SADC region, excluding the Congo and Nile Basins which are shared with non-SADC countries. Among these, seven RBOs have been established in eight river basins; and these cover 91.17 per cent of the total river basin area (3,636,162 km<sup>2</sup> out of 3,988,162 km<sup>2</sup>), of which five that have been established since the adoption of the SADC Protocol cover around 80 per cent of the total river basin area. Table 1 lists the river basins and RBOs in the SADC region.

TABLE 1. RIVER BASINS AND RBOS IN THE SADC REGION

River basin	Riparian countries	Area (km <sup>2</sup> )	Accumulated percentage	RBO	Year
Kunene	Angola, Namibia	106,560	2.67	PJTC (Kunene Permanent Joint Technical Commission)	1990
Okavango	Angola, Botswana, Namibia, Zimbabwe	323,192	10.78	OKACOM (Permanent Okavango River Basin Water Commission)	1994
Orange-Senqu	Botswana, Lesotho, Namibia, South Africa	1,000,000	35.85	ORASECOM (Orange-Senqu River Commission)	2000
Incomati, Maputo	Mozambique, South Africa, Swaziland	76,710	37.77	TPTC (Inco-Maputo Tripartite Permanent Technical Committee)	2002
Limpopo	Botswana, Mozambique, South Africa, Zimbabwe	408,000	48.00	LIMCOM (Limpopo Watercourse Commission)	2003
Zambezi	Angola, Botswana, Malawi, Mozambique, Namibia, Tanzania, Zambia, Zimbabwe	1,570,000	87.37	ZAMCOM (Zambezi Watercourse Commission)	2004
Ruvuma	Mozambique, Tanzania	151,700	91.17	Ruvuma JWC (Ruvuma Joint Water Commission)	2006
Umbeluzi	Mozambique, South Africa, Swaziland	10,900	91.45		
Cuvelai (Estosha)	Angola, Namibia	167,400	95.64		
Buzi, Pungwe, Sabi	Mozambique, Zimbabwe	173,700	100		

Source: Compiled by ESCWA, based on data collected from the SADC Water Sector, ICP Collaboration Portal. Available at: [www.icp-confluence-sadc.org](http://www.icp-confluence-sadc.org).

21. Among the five RBOs that have been established since 2000, three are set forth below.

#### B. ORANGE-SENQU RIVER BASIN

22. The Orange-Senqu River Basin, which flows from Lesotho to South Africa, Botswana and Namibia, is one of the largest river basins in Southern Africa, with a total area of 1,000,000 km<sup>2</sup>. In November 2000, just a few months after the adoption of the SADC Protocol, the four riparian countries concluded the Agreement on the Establishment of the Orange-Senqu River Commission (ORASECOM), which represents the first RBO following the regional ratification of the SADC Protocol.<sup>5</sup> In its preamble, the Agreement clearly states that ORASECOM was inspired by the SADC Protocol, while also recognizing the Helsinki Rules and the United Nations Watercourse Convention.<sup>6</sup> In addition, the Agreement underscores the general principles of the SADC Protocol, the notification and reply procedures of planned measures, the dispute settlement procedure, and provisions related to the pollution and introduction of alien species.

23. The Council, which consists of one delegation from each riparian country, oversees ORASECOM and makes the necessary decisions for the implementation of the Agreement. The Council meetings take place on

<sup>5</sup> ORASECOM, *About ORASECOM*. Available at: [www.orasecom.org](http://www.orasecom.org).

<sup>6</sup> ORASECOM, *Agreement Between the Government of the Republic of Botswana, the Kingdom of Lesotho, the Republic of Namibia, and the Republic of South Africa on the Establishment of the Orange-Senqu River Commission* (2000).

a rotation basis and the chairperson is the leader of the delegation of the hosting country. The ORASECOM Secretariat, which is located in South Africa, coordinates and manages programmes; acts as an ORASECOM focal point; mobilizes resources; and performs administrative functions. Moreover, technical task teams are established by the Council.

#### C. ZAMBEZI RIVER BASIN

24. The Zambezi River Basin, which constitutes the largest river basin in the SADC region, is located across eight countries, namely: Angola, Botswana, Malawi, Mozambique, Namibia, Tanzania, Zambia and Zimbabwe. In order to manage the shared water resources, the eight riparian countries concluded the Agreement on the Establishment of the Zambezi Watercourse Commission (ZAMCOM) in 2004. Like the ORASECOM Agreement, the ZAMCOM Agreement reveals, through its preamble, that it is based on the SADC Protocol as well as the United Nations Watercourse Convention. Moreover, in Article 12 of the ZAMCOM Agreement, it provides principles of implementation of the Agreement, and states that these principles are interpreted in accordance with the SADC Protocol. Additionally, it adopts dispute settlement procedures of the Protocol.

25. The Council of Ministers, comprising one delegate from each member country, oversees the plans, programmes, and implementation of ZAMCOM; approves plans, programmes and projects of the Secretariat; appoints the Executive Secretary; and adopts the rules of ZAMCOM. The Technical Committee and the Secretariat support the Council.

#### D. RUVUMA RIVER BASIN

26. In 2006, the riparian countries of the Ruvuma River Basin, namely, Mozambique and Tanzania, signed the Agreement on the Establishment of a Joint Water Commission (JWC), with the support of SADC Water Division, aimed at ensuring the sustainable development and equitable utilization of the watercourse. In the preamble, it indicates that it recognizes the SADC Protocol and adopts, in Article 11 of the Agreement, the dispute settlement procedures of the SADC Protocol.

27. The Ruvuma JWC, which consists of officials from each country, advises on all technical matters, including utilization, protection, monitoring, information exchange and investigations of water resources. Moreover, the two countries are obliged to provide the Commission with the development and utilization information and plans of the water resources.

### IV. LESSONS LEARNED

#### A. ESTABLISHMENT OF RIVER BASIN ORGANIZATIONS

28. Based on the SADC Protocol, countries in Southern African have successfully concluded basin-level agreements aimed at establishing RBOs, thereby promoting communication among riparian countries, coordinating joint studies and projects and, ultimately, integrating policies regarding the management of shared water resources. As can be seen from table 1 above, five RBOs were established through the signature of basin-level agreements based on the SADC Protocol, covering more than 80 per cent (3,206,410 km<sup>2</sup>) of the total river basin areas within the SADC region.

29. All the riparian countries signed and participated in the abovementioned RBOs, thereby sharing data and information, conducting joint studies and projects, and implementing harmonized policies and programmes on the shared watercourses in the framework of RBOs. Consequently, a series of established RBOs based on the SADC Protocol represents real progress towards the management of shared water resources in the SADC region.



30. While it is hard to claim *ex post* that these basin-level agreements, which resulted in RBOs, could not have materialized without the SADC Protocol, it is clear that these basin-level agreements were inspired by the SADC Protocol. While some of the agreements explicitly state that they are based on the SADC Protocol, the general principles of the Protocol were reflected in all the agreements. In addition, it is likely that the emphasis of shared watercourse management in the SADC Protocol has called the attention of member countries to recognize the need for joint management of shared watercourses, and to discuss with one another the establishment of RBOs.<sup>7</sup> Besides, given the existence of a regional protocol on shared watercourses, riparian countries were likely to understand what they could expect from basin-level agreements, thereby encouraging them to engage in the negotiations for the establishment of RBOs.

## B. INSTITUTIONAL FRAMEWORK

31. The management of shared water resources in the SADC region has focused on the implementation of the SADC Protocol, which was developed under the umbrella of the SADC Treaty. However, it would have been considerably harder to implement the Protocol without the comprehensive institutional framework of the Committee of Water Ministers and the Committee of Water Senior Officials, the SADC Secretariat (at a regional level), shared watercourse institutions such as RBOs (at the basin level), and national institutions.

32. The SADC Protocol establishes the Committee of Water Ministers, which oversees the implementation of the Protocol in coordination with the Council as well as the Committee of Water Senior Officials. The existence of high-level regional committees regarding shared watercourse management is meaningful given that it provides a regular venue for coordination among member countries. Through the committees, member countries can discuss and set the directions and rules regarding the implementation of the SADC Protocol; and can cooperate in planning and implementing legislation, policies and programmes at the regional level.

33. The SADC Secretariat, under the supervision of the committees, has a responsibility in promoting and implementing the SADC Protocol, and in supporting the harmonization of national water policy and legislation. This resulted in the development of the Regional Water Policy (RWP) and Regional Water Strategy (RWS) in 2005 and 2006, respectively, which drew the participation of senior government officials, academicians, local and regional NGOs, and community leaders. Specifically, RWP and RWS have identified nine thematic areas of water resources management in the SADC region including “Regional Cooperation in Water Resources Management” and “Regional Water Resources Institutional Framework”, and have presented strategies and policies aimed at overcoming constraints against the effective management of shared water resources of the region.

34. Moreover, the SADC Secretariat has supported shared watercourse institutions in order to implement the SADC Protocol. In particular, the SADC Water Division has been holding annual RBO workshop since 2006 and has developed a series of guidelines for strengthening RBOs (see table 2). The draft guidelines were presented at the third workshop and were launched at the fourth workshop (Gaborone, April 2010).<sup>8</sup>

35. Established shared watercourse institutions, such as RBOs, also play vital roles in coordinating sustainable development and equitable utilization of shared watercourses at the basin level, as discussed above. Riparian countries are encouraged to plan joint development of water resources and to operate joint infrastructure through these institutions. This has resulted in the launch of such joint projects as the “Orange River Integrated Water Resources Management Plan”, in which all four riparian countries participated; and the publication of such joint studies as “Joint Water Resources Quality Baseline Survey” by ORASECOM.

<sup>7</sup> See, in particular, SADC, *Revised Protocol on Shared Watercourses* (2000), Articles 4.3 and 5.3.

<sup>8</sup> SADC, *Report of the Fourth Annual River Basin Organizations (RBO) Workshop* (2010).

TABLE 2. SADC GUIDELINES FOR STRENGTHENING RIVER BASIN ORGANIZATIONS

Name	Launched	Contents
Establishment and Development	2010	Guidelines for 1. Establishment Process 2. Watercourse Agreement 3. Organizational Structure
Environmental Management	2010	Guidelines for 1. Environmental Policy; 2. Environmental Management Information System (EMIS) 3. Environmental Management Programme
Funding and Financing	2010	Guidelines for 1. Financial Planning 2. Revenue Streams 3. Financial Management
Stakeholder Participation	2010	Guidelines for 1. Participation Framework 2. Communication and Outreach 3. Stakeholder Consultation 4. Collaboration with Stakeholders, and Participation Positioning System (PPS)
Benefit Sharing	(Not Yet)	(Developing)

*Source:* Compiled by ESCWA, based on SADC, “Guidelines for Strengthening River Basin Organizations: Establishment and Development” (2010); “Guidelines for Strengthening River Basin Organizations: Environmental Management” (2010); “Guidelines for Strengthening River Basin Organizations: Funding and Financing” (2010); and “Guidelines for Strengthening River Basin Organizations: Stakeholder Participation” (2010).

36. The activities of the abovementioned institutions would not have been effective without the support of national institutions in the SADC region. Through the SADC Treaty and Protocol, member countries are obliged to establish appropriate institutions at the national level. These institutions aim to provide inputs at the national level so that coherent SADC policies, strategies and programmes can be formulated; and to implement provisions of the SADC Protocol at the national level, including harmonizing national policies and legislation with the SADC Protocol. While the harmonization of policy and legislation has been inadequate and institutional capacity is still lacking,<sup>9</sup> reforms of national water laws in line with the principles of SADC Protocol have been identified in the SADC region during the past decade.

#### C. DISPUTE PREVENTION AND RESOLUTION MECHANISM

37. Dispute prevention and resolution mechanism of SADC can be found in dispute preventative provisions of the SADC Protocol and in the SADC Tribunal, while the existence of Tribunal itself suggests that the regional integration has proceeded to a considerable extent.

38. First, the clear provisions of the SADC Protocol have prevented unnecessary disputes among member countries, particularly the abovementioned advance notification procedures of planned measures. Given that riparian countries are notified at least six months prior to the implementation of planned measures that can have significant harm on shared watercourses, they can study the impact of these measures in the shared watercourses and consult with the notifying country, rather than claim retroactively after the implementation of these measures. In other words, it has helped member countries to engage in ex ante communications rather than ex post disputes. In fact, it has been reported that Botswana and Mozambique have formally notified their planned measures to other riparian countries according to this provision.

<sup>9</sup> SADC, *SADC Regional Water Strategy* (2006).

39. Moreover, the SADC Protocol encourages member countries to exchange available information and data, including those of emergency situations. Exchange of information and data can help member countries to cooperate for and discuss the equitable and reasonable utilization of shared water resources. Furthermore, the emphasis on joint activities regarding environmental protection and preservation, joint management of shared watercourses, and prevention and mitigation of harmful conditions reduce disputes among member countries regarding shared water resources.

40. Despite these provisions aimed at reducing disputes among member countries, the whole regional cooperation mechanism would probably collapse without a final and binding dispute resolution mechanism. Without an effective dispute resolution mechanism and the ability to penalize parties that fail to meet their contractual obligations, member countries would not necessarily commit to the principles and provisions of the agreements. Consequently, it is critical to have a dispute resolution institution, such as the SADC Tribunal, that can ensure the implementation of agreements.

41. While the decisions of the SADC Tribunal are final and binding, it is possible for parties not to follow the rulings of the Tribunal, especially when the decisions are made against governments of member countries that are supposed to implement such rulings. In such cases, the Tribunal reports the non-compliance to the Summit, which in turn can take appropriate action according to the Article 32 of the Protocol on Tribunal and Rules of Procedure Thereof.<sup>10</sup> Within that context, the Government of Zimbabwe has not complied with the decisions of the SADC Tribunal, which reported that country's non-compliance to the Summit in 2009 and 2010 in line with the decisions of case number 3 of 2009 and case number 1 of 2010, respectively, of the SADC Tribunal.<sup>11</sup> While the Summit has not yet reached a decision, the manner in which the Summit ensures the compliance of Zimbabwe is likely to indicate the effectiveness of the dispute resolution mechanism of SADC.

#### D. REGIONAL PROTOCOL AND NATIONAL WATER LEGISLATION

42. The implementation of the SADC Protocol and the subsequent basin-level agreements required the proper development of national laws of member countries, which recognize their international obligations and reflect the principles of the Protocol. Given that national legislation clarifies the responsibilities of the State and provides legal means of enforcement, it would be difficult for member countries to comply with the obligations under the SADC Protocol and river basin-level agreements without the adequate promulgation of national laws.

43. Generally speaking, at the time that the SADC Protocol was adopted, national water laws of SADC member countries did not address the issue of shared watercourse management, and did not state their international obligations, with the notable exception of South Africa.<sup>12</sup> However, during the past decade, countries are reforming their water laws in line with the principles and obligations of the SADC Protocol and subsequent basin-level agreements. This ensures the implementation of SADC Protocol, thereby contributing to further development of the regional cooperation mechanism.

44. In the case of South Africa, national laws clearly recognize its international obligations. In chapter 1 of the National Water Act (No. 36 of 1998), it is stated that meeting international obligations is one of the purposes of the Act; and throughout, it tries to meet international obligations regarding water quality and water use, among others.<sup>13</sup> Moreover, the National Water Resources Strategy, which was published in 2004, reflects the principles and provisions of the SADC Protocol. The then Minister of Water Affairs and Forestry

<sup>10</sup> SADC Tribunal, *SADC Tribunal in 20 Questions: A Guide to SADCT*. Available at: [www.sadc-tribunal.org](http://www.sadc-tribunal.org).

<sup>11</sup> SADC Tribunal, *Campbell vs. Zimbabwe, Contempt of Court Ruling: Case no 3 of 2009* (2009); and *Fick & Others vs. Republic of Zimbabwe: Case no 1 of 2010* (2010).

<sup>12</sup> T. Mvalo, *Harmonization of National Laws with SADC Protocol on Shared Watercourse Systems* (1999).

<sup>13</sup> Republic of South Africa, *National Water Act: Act No 36 of 1998* (1998). Available at: [www.dwa.gov.za/Documents](http://www.dwa.gov.za/Documents).

stated that the SADC Protocol provided a framework for the management of the four international rivers that South Africa shares with neighbouring countries. Moreover, in chapter 5 on “National Planning and Co-ordination, and International Cooperation in Water Management”, the Strategy also recognizes that regional cooperation on water matters was taking place within the framework of the SADC Protocol.<sup>14</sup>

45. Unlike South Africa, the Water Act of Botswana (No. 34 of 1968), which provides the framework for water resources management, is outdated. However, the new draft water bill of 2005 clearly recognizes international agreements on shared water resources and the resulting obligations of Botswana; and asks the Water Resources Council and national water resources strategy to consider these international agreements.<sup>15</sup>

46. When the SADC Protocol was produced, the main water law of Lesotho, namely, the Water Resources Act 1978, was outdated and did not recognize international obligations or the need for international cooperation.<sup>16</sup> However, the Water Act (No. 15 of 2008) acknowledges the sustainable utilization of water resources as well as Integrated Water Resources Management (IWRM) principle, while Lesotho Water and Sanitation Policy (LWSP) of 2007 explicitly states that it is consistent with the SADC Protocol as well as other international agreements, rules and principles on water.

47. Water resource management in Namibia was based on the Water Act (No. 54 of 1956), which did not take modern principles into account.<sup>17</sup> However, new national water law recognizing international agreements, including the SADC Protocol, was adopted in 2004. In the Water Resources Management Act (No. 24 of 2004), it states that, in dealing with neighbouring countries with regards to internationally shared water resources, Namibia “must uphold the principles and rules of customary international laws as are accepted and observed by all nations and as are reflected in (i) the United Nations Convention on the Law of the Non-Navigational Uses of International Watercourses; and (ii) the Southern African Development Community Protocol on Shared Water Courses.”<sup>18</sup>

#### E. DEVELOPMENT OF WATER ALLOCATION RULES

48. Some agreements in the SADC region contain actual water allocation rules. While the SADC Protocol sets general principles of water resources allocation, the development of actual water allocation rules indicates the level of integration on the management of shared water resources in the SADC region. The Incomaputo Agreement, which was signed by Mozambique, South Africa and Swaziland in 2002, has the rules of water allocation in the annex I of the Incomaputo Agreement, as summarized in table 3. In a drought situation, each country has to reduce its water use in the irrigation sector first, and then the water use in the first priority, as determined by the Tripartite Permanent Technical Committee (TPTC).

49. The Agreement also sets the average and minimum water requirement in order to sustain the ecology of the Incomati and Maputo Rivers. It requests its parties to maintain the annual mean interim target instream flow as well as minimum instream flow in the various key points of each river. In cases of adverse weather conditions, short-term flows can be agreed by TPTC.

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<sup>14</sup> Republic of South Africa, *National Water Resource Strategy: Our Blueprint for Survival*, First edition (2004).

<sup>15</sup> Republic of Botswana, *Botswana Draft Water Bill, 2005* (2005). Available at: [www.orangesenqurak.com](http://www.orangesenqurak.com).

<sup>16</sup> ORASECOM, *Orange-Senqu River Basin: Preliminary Transboundary Diagnostic Analysis Adopted by ORASECOM in April 2008* (2008).

<sup>17</sup> Ibid.

<sup>18</sup> Republic of Namibia, *Act No. 24, 2004 (Water Resources Management Act, 2004)* (2004). Available at: [www.orangesenqurak.com](http://www.orangesenqurak.com).

TABLE 3. WATER ALLOCATION RULES OF THE INCOMAPUTO AGREEMENT  
(millions of m<sup>3</sup>/a)

		Mozambique	South Africa	Swaziland	Total	
Catchment <sup>a/</sup>	Incomati	170	2945	475	3,590	
	Maputo	105	2180	1515	3,800	
	Total <sup>c/</sup>	275	5125	1990	7,390	
Allocation	Incomati	1 <sup>st</sup> priority	19 (87.6) <sup>b/</sup>	336.6	22	377.6
		Irrigation	280	786	261	1,327
		Afforestation	25,000 ha	364,975 ha	32,442 ha	422,417 ha
	Maputo	1 <sup>st</sup> priority	6 (87.6) <sup>b/</sup>	242	44	292
		Irrigation	60	538	413	1011
		Afforestation	Nil	284,600 ha	97,300 ha	381,900 ha
		Runoff Reduction	Nil	198	82	280
	Total <sup>c/</sup> (except Afforestation)	365	2100.6	822	3287.6	

Source: Compiled by ESCWA, based on Tripartite Permanent Technical Committee (TPTC), "Tripartite Interim Agreement Between the Republic of Mozambique and the Republic of South Africa and the Kingdom of Swaziland for Co-operation on the Protection and Sustainable Utilization of the Water Resources of the Incomati and Maputo Watercourses" (2002).

Notes: a/ Net contributions to the total net natural mean annual runoff.

b/ Additional reserved water use up to 87.6 million m<sup>3</sup>/a is intended for the city of Maputo.

c/ Calculated from original data.

#### F. POWER BALANCE OF MEMBER COUNTRIES

50. Successful experiences of SADC would not have been possible without the active participation of countries in the region. While the political will of member countries and clear recognition of the need for regional cooperation are important, it is also critical to keep the power balance of member countries such that smaller and weaker countries can voice their positions in the management of shared water resources. SADC has developed mechanisms to keep the power balance of member countries and give voice to smaller and weaker countries.

51. First, the leadership of SADC is rotated among member countries. Article 10 of the SADC Protocol states that the Summit "shall elect a Chairperson and a Deputy Chairperson of SADC among its members for one year on the basis of rotation", while the Chairperson of the Summit cannot be elected as the Chairperson of the Organ. As a result, member countries can have equal opportunity to lead SADC regardless of their political, social and economic status. The Chairperson and Deputy Chairperson of the Council are appointed by those member countries holding the two respective posts.

52. Secondly, SADC reflects the opinions of all countries, irrespective of wealth or power, with the decision-making based on consensus. Unless otherwise specified in the SADC Treaty, decisions of the Summit, the Organ, the Council, and Integrated Committee of Ministers are made by consensus of their members. While such a decision-making system can impede rapid development of regional integration, it can prevent a few stronger member countries from controlling SADC, and can help comparatively weaker member countries to protect their own rights by exercising their veto.

#### V. CONCLUSIONS

53. As presented throughout the report, countries in Southern African have successfully cooperated on the management of shared watercourse of the region, with the development and implementation of the SADC Protocol. In addition to providing a regional framework for managing shared water resources, the SADC Protocol helps to promote the communication between riparian countries, coordinate studies and projects, and integrate policies relating to shared watercourse management.

54. Specifically, the SADC Protocol has encouraged the following:

(a) Based on the SADC Protocol, member countries have successfully concluded a series of basin-level agreements aimed at establishing RBOs and covering most of the basin area in the SADC region;

(b) SADC has developed effective institutional frameworks at the regional, basin and national levels through the SADC Treaty and Protocol; and as a result, SADC was able to implement the SADC Protocol successfully and to produce the Regional Water Policy (2005), Regional Water Strategy (2006) as well as various joint projects;

(c) While the SADC Protocol has such dispute preventative provisions as advance notification of planned measures, the SADC Tribunal has ensured the implementation of the SADC Treaty and various protocols agreed by member countries;

(d) The SADC Protocol has encouraged member countries to reform their national water laws, which were generally outdated and which did not recognize international obligations regarding shared water resources management. This development of national water laws reinforces the implementation of the SADC Protocol;

(e) While the SADC Protocol provides general principles of water resource allocation, actual water allocation rules have been developed in some agreements based on the SADC Protocol;

(f) SADC has been successful in keeping the power balance of member countries, with the rotation of the leadership and a decision-making system based on consensus.

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