# 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 Utilisation of the Water Resources of the Incomati and Maputo Watercourses

PREAMBLE

The Republic of Mozambique, the Republic of South Africa and the Kingdom of Swaziland (hereinafter jointly referred to as the "Parties");

BEARING IN MIND the principles advocated in the Declaration by the Heads of State or Government of Southern African States "Towards the Southern African Development Community" and the Treaty of the Southern African Development Community signed on 17 August 1992 and the Revised Protocol on Shared Watercourses in the Southern African Development Community signed on 7 August 2000;

HAVING RESOLVED to pursue the guidelines established by the Agreement between the Government of the Republic of South Africa and the Government of the Republic of Portugal in regard to Rivers of Mutual Interest and the Cunene River Scheme signed on 13 October 1964, to which the Republic of Mozambique succeeded in 1975 and the Kingdom of Swaziland acceded to in 1967;

MINDFUL of the spirit of co-operation and good understanding reached by the implementation of the Piggs Peak Agreement of 15 February 1991;

TAKING INTO ACCOUNT the modern principles and norms of International Law as reflected in the Convention on the Law of the Non-Navigational Uses of International Watercourses adopted by the General Assembly of the United Nations on 21 May 1997;

CONSCIOUS of the mutual advantages of concluding agreements on co-operation on shared watercourses;

DETERMINED to co-operate and seek mutually satisfactory solutions for the needs of the Parties towards water protection and to the sustainable utilization and development of the water resources with a view to improving the standard of living of their populations;

EXPRESSING the common desire to proceed with sustainable development on the basis of Chapter 18 of Agenda 21, adopted by the United Nations Conference on Environment and Development on 14 June 1992;

RECOGNISING that the Parties need to agree on water use in the shared watercourses to enable sustainable development;

MINDFUL of the fact that good relationships between the people and the governments of the Parties, good neighbourliness and mutual respect, will contribute to the improvement of co-operation on the protection and utilization of waters for the benefit and the welfare of their populations;

TAKING into consideration the interim nature of this Agreement;

HEREBY AGREE as follows:

## Article 1

Definitions

For the purposes of this Agreement the following terms shall have the meanings ascribed to them hereunder:

“catchment” means an area through which any rainfall will drain into the watercourse through surface flow to a common point;

“emergency situation” means a situation that causes or poses an imminent threat of causing serious harm to the Parties and which results suddenly from natural causes, such as torrential rains, floods, landslides or earthquakes, or from human conduct;

“environmental impact assessment” means a national procedure for evaluating the likely impact of a planned measure on the environment;

“impact” means any effect on the environment caused by an activity; such effects on the environment include effects on human health and safety, flora, fauna, soil, air, water, climate, landscape, socio-economic environment or the interaction among these factors and cultural heritage or socio-economic conditions resulting from alterations to these factors;

“Incomati watercourse” means the system of the Incomati River, which includes the tributaries Mazimechopes, Uanetze, Massintonto, Sabie, Crocodile, Komati Rivers and the estuary;

“Maputo watercourse” means the system of the Maputo River, which includes the tributaries Pongola and Usuthu Rivers and the estuary;

“ministers” means Ministers responsible for the water affairs of the Parties;

“ongoing activity” means any activity that would have been subjected to a decision of a competent authority in accordance with an applicable national procedure if it had been a planned measure;

"Piggs Peak Agreement" means the agreement reached at the Tripartite Ministerial Meeting of Ministers Responsible for Water Affairs, signed in Piggs Peak on 15 February 1991;

“planned measure” means any activity or a major change to an ongoing activity subject to a decision of a competent authority in accordance with applicable national procedures;

“pollution” means any detrimental alteration in the composition or quality of the waters of a shared watercourse, which results directly or indirectly from human conduct;

"Protocol" means the Revised Protocol on Shared Watercourses in the Southern African Development Community signed on 7 August 2000 in Windhoek;

“sustainable development” is development which meets the needs of present generations without compromising future generations to meet their own needs;

“TPTC” means the Tripartite Permanent Technical Committee established by the Agreement between the Government of the Republic of South Africa, the Government of the Kingdom of Swaziland and the Government of the People’s Republic of Mozambique relative to the

establishment of the Tripartite Permanent Technical Committee, signed in Pretoria on 17 February 1983;

“transboundary impact” means any adverse effect, caused by human conduct, within an area under the jurisdiction of a Party caused by a proposed activity, the physical origin of which is situated wholly or in part within the area under the jurisdiction of another Party;

“watercourse” means a system of surface and ground waters constituting by virtue of their physical relationship a unitary whole normally flowing into a common terminus such as the sea, lake or aquifer.

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## Article 2

General Objective

This Agreement aims to promote co-operation among the Parties to ensure the protection and sustainable utilisation of the water resources of the Incomati and Maputo watercourses.

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## Article 3

General Principles

For purposes of this Agreement, the general principles of the Protocol shall apply, especially-

(a) sustainable utilization principle;

(b) equitable and reasonable utilisation and participation principle;

(c) prevention principle; and

(d) co-operation principle.

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## Article 4

Responsibilities of the Parties

The Parties shall, individually and, where appropriate, jointly, develop and adopt technical, legal, administrative and other reasonable measures in order to-

(a) prevent, reduce and control pollution of surface and ground waters, and protect and enhance the quality status of the waters and associated ecosystems for the benefit of present and future generations;

(b) prevent, eliminate, mitigate and control transboundary impacts;

(c) co-ordinate management plans and planned measures;

(d) promote partnership in effective and efficient water use;

(e) promote the security of relevant water related infrastructures and prevent accidents;

(f) monitor and mitigate the effects of floods and droughts;

(g) provide warning of possible floods and implement agreed upon urgent measures during flood situations;

(h) establish comparable monitoring systems, methods and procedures;

(i) exchange information on the water resources quality and quantity, and the uses of water;

(j) promote the implementation of this Agreement according to its objectives and defined principles;

(k) implement capacity building programmes in accordance with Article 14; and

(l) co-operate with the SADC organs and other shared watercourse institutions.

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## Article 5

Shared Watercourses Institution

(1) The joint body for co-operation between the Parties shall be the TPTC.

(2) The TPTC shall exercise the powers established in this Agreement, as well as those conferred by the Parties, in order to pursue the objectives and provisions established herein.

(3) For the purpose of implementation of this Agreement the TPTC shall meet at least twice a year.

(4) The official working languages for the purpose of implementation of this Agreement shall be English and Portuguese.

(5) After the entry into force of this Agreement, the TPTC shall adopt, by consensus, rules of procedure which will govern its meetings. Until such rules of procedure are adopted by the TPTC, those contained in the TPTC Agreement shall govern such sessions of the TPTC, taking into account the provisions of subArticles (3) and (4).

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## Article 6

Protection of the Environment

(1) The Parties shall, individually and, where appropriate, jointly, protect and preserve the aquatic environment of the Incomati and Maputo watercourses, taking into account generally accepted international rules and standards.

(2) The Parties shall, individually and, where appropriate, jointly, take all measures to protect and preserve the ecosystems of the Incomati and Maputo watercourses.

(3) The Parties shall take all measures necessary to prevent the introduction of species, alien or new, into the Incomati and Maputo watercourses, which may have effects detrimental to the ecosystems of the watercourses resulting in significant harm to other Parties.

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## Article 7

Sustainable Utilisation

(1) The Parties shall be entitled, in their respective territories, to optimal and sustainable utilisation of and benefits from the water resources of the Incomati and Maputo watercourses, taking into account the interests of the other Parties concerned, consistent with adequate protection of the watercourses for the benefit of present and future generations.

(2) The Parties shall co-ordinate their management activities by-

(a) the exchange of information on their respective experiences and perspectives; and

(b) the co-ordination of management plans, programmes and measures.

(3) In pursuing the objective of this Article, the Parties shall follow the flow regimes stipulated in Annex I as determined according to Article 9.

(4) In further pursuance of the objective of this Article the Parties disclose in Annex II their intentions of developing new projects that fall outside the scope of Annex I during the period of validity of this Agreement.

(5) The Parties are committed to develop measures towards improvement of efficiency and rational use of water and its conservation and to promote more efficient water use through adopting better available technology.

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## Article 8

Water Quality and Prevention of Pollution

(1) In order to protect and conserve the water resources of the Incomati and Maputo watercourses, the Parties shall, through resolutions adopted by the TPTC, and, when appropriate, through the co-ordination of management plans, programmes and measures, proceed to-

(a) endeavour to develop an evolving classification system for the water resources of the Incomati and Maputo watercourses;

(b) classify and state the objectives and criteria in respect of water quality variables to be achieved through the agreed classification system for the water resources;

(c) adopt a list of substances the introduction of which, into the water resources of the Incomati and Maputo watercourses, is to be prohibited or limited, investigated or monitored;

(d) adopt techniques and practices to prevent, reduce and control the pollution and environmental degradation of the Incomati and Maputo watercourses that may cause significant harm to the other Parties or to their environment, including human health and safety, or to the use of the waters for any beneficial purpose, or to the living resources of the watercourses; and

(e) implement a regular monitoring programme, including biological and chemical aspects for the Incomati and Maputo watercourses and report, at the intervals established by the TPTC, on the status and trends of the associated aquatic, marine and riparian ecosystems in relation to the water quality of the said watercourses.

(2) Until such time that water quality objectives and criteria are determined, the Parties shall comply with the provisions of the Resolution of the TPTC on Exchange of Information and Water Quality. The Resolution may be reviewed by the TPTC from time to time.

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## Article 9

Flow Regimes

(1) The agreed flow regime of the Incomati watercourse is contained in Annex I, which complements the flow regime as determined in the Piggs Peak Agreement, and the agreed flow regime of the Maputo watercourse is contained in the same Annex.

(2) Any abstraction of waters from the Incomati or Maputo watercourses, regardless of the use or geographic destination of such waters, shall be in conformity with the flow regimes of Annex I and relevant provisions of this Agreement and its Annexes.

(3) The Parties have considered the following criteria in establishing the flow regimes contained in Annex I:

(a) The geographic, hydrological, climatic and other natural characteristics of each watercourse;

(b) the need to ensure water of sufficient quantity with acceptable quality to sustain the watercourses and their associated ecosystems;

(c) any present and reasonably foreseeable water requirements, including afforestation;

(d) existing infrastructure which has the capacity to regulate streamflow of the watercourses; and

(e) agreements in force among the Parties.

(4) The following short to medium term water requirements of each of the Parties are recognised in particular:

(a) The strategic importance to Mozambique of augmenting the water supplies to the city of Maputo and its metropolitan area from one or both of the Incomati and Maputo watercourses;

(b) the importance to Swaziland of developing the Lower Usuthu Smallholder Irrigation Project in the Usuthu River catchment; and

(c) the importance to South Africa of establishing and developing emerging irrigation farmers in the Incomati River catchment.

(5) The additional water requirements of the city of Maputo, for which additional water must be secured, have been reserved in Annex I.

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## Article 10

Droughts and Floods

(1) The Parties undertake to co-ordinate their actions within six months to one year and to develop measures to mitigate the effects of droughts and floods.

(2) The flow regimes of the Incomati and Maputo watercourses during flood and drought periods shall be adjusted in accordance with the measures referred to in subArticle (1).

(3) The Parties shall notify each other without delay and by the most expeditious means of any flood danger.

(4) During flood alarm situations, the affected Party may require the other Parties to adopt the measures referred to in subArticle (1) and any other urgent measures agreed upon, which may be deemed necessary.

(5) During a drought period, the Parties shall be obliged to manage, in a co-ordinated manner, water storage infrastructure in accordance with the measures referred to in Sub-Articles (1) and (2).

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## Article 11

Incidents of Accidental Pollution and Other Emergency Situations

(1) The Parties shall, without delay and by the most expeditious means available, notify other potentially affected Parties, the SADC organs or any other authorized institutions and competent international organisations of any incidents of accidental pollution and other emergency situations originating within their respective territories and shall promptly supply the necessary information to such affected Parties and competent organisations with a view to co-operate in the prevention, mitigation and elimination of the harmful effects of the emergency.

(2) The Parties shall, individually and, where appropriate, jointly, develop contingency plans for responding to any incidents of accidental pollution and other emergency situations in co-operation, where appropriate, with other potentially affected Parties and competent international organisations, to take immediately all practicable measures necessitated by the circumstances to prevent, mitigate and eliminate the harmful effects of the emergency.

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## Article 12

Exchange of and Access to Information

(1) The Parties shall, within the TPTC, exchange available information and data regarding the hydrological, geohydrological, water quality, meteorological and environmental condition of the Incomati and Maputo watercourses to enable planning, development and management of these shared watercourses.

(2) The Parties shall exchange data, information and study reports on the activities that are likely to cause significant transboundary impacts.

(3) To enable compliance with subArticle (2), the polluting substances subject to special attention shall be as agreed in the Resolution and regularly reviewed by the TPTC.

(4) The Parties shall exchange information and consult each other and if necessary, negotiate the possible effects of planned measures on the condition of the Incomati and Maputo watercourses. The Parties shall employ their best efforts to collect and where appropriate, to process data and information in a manner, which facilitates its utilisation by the other Party to which it is communicated.

(5) If a Party is requested by another Party to provide data or any information in subArticles (1) and (2), and that information is not readily available, it shall employ its best efforts to comply with the request but may condition its compliance upon payment by the requesting Party of the reasonable costs of collecting and where appropriate processing such data or information.

(6) The Parties shall provide one another, at intervals agreed to by the TPTC, information on the use, quantity and quality of the water resources and the ecological state of the Incomati and Maputo watercourses necessary for the implementation of this Agreement.

(7) The Parties shall develop the appropriate measures to ensure that the information is homogeneous, compatible and comparable, as agreed by the TPTC.

(8) The Parties shall create the necessary conditions to ensure that, in conformity with applicable domestic law or International Law, information on matters covered by this Agreement is available to whoever makes a reasonable request.

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## Article 13

Transboundary Impacts

(1) Planned measures listed in Annex II, regardless of their location, that by themselves or by accumulation with the existing ones, have the potential of a significant transboundary impact on the watercourse, shall not commence before the provisions of Article 4(1) of the Protocol are complied with.

(2) Whenever, a planned measure, not listed in Annex II, is likely to cause a significant transboundary impact or any of the Parties expresses concern that such may occur, it shall not commence before the provisions of Article 4(1) of the Protocol are complied with.

(3) In case of a planned measure involving significant transboundary impact of substantial magnitude the Parties shall conduct an environmental impact assessment, which takes transboundary impact into account in accordance with procedures determined by the TPTC.

(4) Whenever an ongoing activity causes or is likely to cause a significant transboundary impact, which will lead the Party to fail to comply with an obligation under Articles 4, 8 or 9, the national procedures on the subject shall apply and the Parties concerned shall endeavour to address the matter through the co-ordination of management plans, programmes or measures.

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## Article 14

Capacity Building

(1) The TPTC shall -

(a) identify capacity building programmes necessary for the implementation and monitoring of this Agreement; and

(b) prioritise the capacity building programmes for implementation.

(2) The Parties shall, individually and, where appropriate, jointly, be responsible for ensuring that capacity is developed in their respective States and in the shared basins to effectively implement this Agreement.

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## Article 15

Settlement of Disputes

(1) Any dispute between the Parties concerning the interpretation or implementation of this Agreement shall be settled amicably through consultation and negotiations between the Parties.

(2) Where the dispute has not been settled within one year, from the date upon which such negotiations were requested, it may be submitted to arbitration by either Party. If the disputing parties do not agree on the subject matter of the dispute, the arbitral tribunal shall determine the subject matter.

(3) The arbitration shall operate according to the following rules:

(a) The number of arbitrators shall amount to a total of three.

(b) The Parties initiating the arbitration shall appoint one arbitrator and the other Party or Parties shall appoint one other arbitrator. The aforesaid two arbitrators shall jointly designate a third arbitrator who shall chair the arbitral tribunal.

(c) The arbitrators shall be appointed within a three-month period. Should the time limit elapse and any one of the disputing parties have not appointed any arbitrator, the arbitrator shall be appointed by the President of the SADC Tribunal at the request of a Party. Pending the establishment and entering into operation of the SADC Tribunal the aforementioned appointment shall be made by the President of the International Court of Justice.

(d) In case of a dispute between the arbitrators designated by the disputing parties as to the designation, within two months, of the final arbitrator, the latter shall be designated by the President of the SADC Tribunal at the request of a Party. Pending the establishment and entering into operation of the SADC Tribunal the aforementioned designation shall be made by the President of the International Court of Justice.

(e) Based on International Law and in particular on the basis of this Agreement, the rules of procedure to be followed by the arbitral tribunal shall be decided by the tribunal, who shall also determine the distribution between the disputing parties of the costs of the arbitration.

(f) The arbitral tribunal shall render its decisions in accordance with the provisions of this Agreement and International Law.

(g) The arbitral tribunal may, at the request of one of the disputing parties, recommend interim measures of protection.

(h) Decisions of the arbitral tribunal, both on procedure and substance, shall be taken by a majority vote of its members.

(i) The arbitral award shall be submitted in writing and shall be signed by all arbitrators.

(j) The arbitral award shall be final and binding.

## Article 16

Annexes

The Annexes are an integral part of this Agreement. Annexes I, II, III, IV and V can be modified by a decision of the Ministers upon recommendation by the TPTC.

## Article 17

Existing Watercourse Agreements

The stipulations of existing bilateral and trilateral agreements among the Parties concerning the present subject (Annex IV) will remain in force as far as they are not in conflict with this Agreement.

## Article 18

Entry into Force, Termination and Amendments

(1) This Agreement shall enter into force on the date of the last notification to the Depositary of this Agreement of the fulfilment of the internal procedure for the conclusion of international agreements.

(2) This Agreement shall remain in force until 2010 or until superseded for the relevant watercourse by comprehensive water agreements on the Incomati and Maputo watercourses supported by joint studies, whichever is the earlier. The Parties shall adhere to the time frames set out in Annex V.

(3) This Agreement may be amended at any time by mutual consent of the Parties, by an exchange of notes between the Parties through the diplomatic channels. The date of entry into force shall be the date of the last notification.

## Article 19

Depositary of the Agreement

(1) The Republic of Mozambique shall be the Depositary of this Agreement.

(2) The Depositary of this Agreement shall perform the following functions:

(a) Inform the Parties of instruments of ratification, withdrawal or termination or of any other information or declarations relevant to this Agreement;

(b) inform the Parties of the date of the entry into force of this Agreement;

(c) register this Agreement with the Secretariat of the United Nations and with the SADC Secretariat; and

(d) send certified copies of the authentic texts of this Agreement and other relevant documents to the Parties.

IN WITNESS WHEREOF the undersigned, being duly authorised by their respective Governments, have signed and sealed this Agreement in triplicate, in the English and Portuguese languages, all texts being equally authentic.

Signed at Johannesburg on this 29th day

of the month of August 2002

Minister Roberto Costley-C. White

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For the Republic of Mozambique

Hon Magwagwa BE Mdluli

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For the Kingdom of Swaziland

Minister Ronnie Kasrils

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For the Republic of South Africa

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## ANNEX I

FLOW REGIME

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## Article 1

Determining Criteria

(1) Determination of the flow regime is based on the criteria in Article 9(3) of the Agreement.

(2) The Parties accord a first priority to supply water for domestic, livestock and industrial use, as well as ecological water requirements as recognised by the TPTC.

(3) If, upon review of the hydrology of the system, more water is found to be available in the Incomati or Maputo watercourses than that contemplated in this Annex, the Parties shall give priority to the water uses referred to in subArticle (2), when considering the allocation of the water.

(4) Monitoring of the flow regime will be carried out at appropriate hydrometrical stations. The TPTC will determine their location and the conditions of installation and operation.

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## Article 2

Incomati Watercourse

(1) The Incomati River Basin, covering 46 740 km2, is made up of the following catchments:

Komati 11 200 km2

Crocodile 10 470 km2

Sabie 7 050 km2

Massintonto 3 430 km2

Uanetze 3 930 km2

Mazimchope 3 970 km2

Incomati 6 690 km2

(2) The net contributions to the total net natural mean annual runoff (mean annual runoff in the natural condition without any land and water use effects and allowing for river channel losses) (MAR) of 3 590 million m3 of the Incomati watercourse at the estuary by the various catchments are estimated as follows:

Catchment[TAB]Contributions to MAR (million m3)

[TAB]Mozambiq[TAB]South[TAB]Swazilan[TAB]Total

[TAB]ue[TAB]Africa [TAB]d[TAB]

Komati [TAB]0[TAB]955[TAB]475[TAB]1 430

Crocodile[TAB]-[TAB]1 225[TAB]-[TAB]1 225

Sabie[TAB]0[TAB]750[TAB]-[TAB]750

Massintonto[TAB]10[TAB]10[TAB]-[TAB]20

Uanetze[TAB]10[TAB]5[TAB]-[TAB]15

Mazimechopes[TAB]20[TAB]-[TAB]-[TAB]20

Incomati[TAB]130[TAB]0[TAB]-[TAB]130

Total[TAB]170[TAB]2 945[TAB]475[TAB]3 590

(3) The irrigation areas developed and utilised within the Incomati River Basin are estimated as follows:

Catchment[TAB]Irrigation Development and Utilisation (ha)

[TAB]Mozambique [TAB]South Africa [TAB]Swaziland

[TAB]Devel[TAB]Util-[TAB]Devel-[TAB]Util-[TAB]Devel[TAB]Util-

[TAB]-[TAB]ised[TAB]oped[TAB]ised[TAB]-[TAB]ised

[TAB]oped[TAB](2000[TAB]-1991[TAB](1991[TAB]oped[TAB](1991

[TAB](1991[TAB])[TAB] [TAB])[TAB](1991[TAB])

[TAB])[TAB] [TAB] [TAB] [TAB])[TAB]

Komati [TAB]-[TAB]-[TAB]29 100[TAB]24 060[TAB]14[TAB]14

Crocodile[TAB]-[TAB]-[TAB]42 320[TAB]37 780[TAB]210[TAB]60

Sabie[TAB]1[TAB] [TAB]11 590[TAB]9 990[TAB] [TAB]

Massintonto[TAB]200[TAB]500[TAB]0[TAB] [TAB]-[TAB]-

Uanetze[TAB] [TAB]0[TAB]0[TAB] [TAB] [TAB]

Mazimechopes[TAB]0[TAB]0[TAB]-[TAB]-[TAB]-[TAB]-

Incomati[TAB]0[TAB] [TAB]-[TAB]-[TAB] [TAB]-

[TAB] [TAB]0[TAB] [TAB] [TAB]-[TAB]-

[TAB]100[TAB]7[TAB] [TAB] [TAB] [TAB]-

[TAB]22[TAB]410[TAB] [TAB] [TAB]-[TAB]-

[TAB]20[TAB] [TAB] [TAB] [TAB] [TAB]

[TAB] [TAB] [TAB] [TAB] [TAB]-[TAB]

[TAB] [TAB] [TAB] [TAB] [TAB]-[TAB]

Total[TAB]23[TAB]7 910[TAB]83 010[TAB]71[TAB]14[TAB]14

[TAB]320[TAB] [TAB] [TAB]830[TAB]210[TAB]60

(4) The mean annual irrigation water requirements for actual developed areas and utilised areas within the Incomati River Basin are estimated as follows:

Catchment[TAB]Irrigation Water Requirements (million m3/a)

[TAB]Mozambique [TAB]South Africa [TAB]Swaziland

[TAB]Deve[TAB]Util-[TAB]Devel[TAB]Util-[TAB]Devel[TAB]Util-

[TAB]l-[TAB]ised[TAB]-[TAB]ised[TAB]-[TAB]ised

[TAB]oped[TAB]areas[TAB]oped[TAB]areas[TAB]oped[TAB]areas

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[TAB]([TAB]0)[TAB](1991[TAB])[TAB](1991[TAB])

[TAB]1991[TAB] [TAB])[TAB] [TAB])[TAB]

[TAB])[TAB] [TAB] [TAB] [TAB] [TAB]

Komati [TAB]-[TAB]-[TAB]271,0[TAB]232,1[TAB] [TAB]

Crocodile[TAB]-[TAB]-[TAB]307,3[TAB]281,1[TAB]176,0[TAB]174,9

Sabie[TAB] [TAB] [TAB]91,3[TAB]80,4[TAB]-[TAB]-

Massintonto[TAB]12,0[TAB]4,1[TAB]0[TAB]0[TAB]-[TAB]-

Uanetze[TAB]0[TAB]0[TAB]0[TAB]0[TAB]-[TAB]-

Mazimechopes[TAB]0[TAB]0[TAB]-[TAB]-[TAB]-[TAB]-

Incomati[TAB] [TAB]0[TAB]-[TAB]-[TAB]-[TAB]-

[TAB]1,0[TAB] [TAB] [TAB] [TAB]-[TAB]-

[TAB] [TAB]94,5[TAB] [TAB] [TAB] [TAB]

[TAB]267,3[TAB] [TAB] [TAB] [TAB] [TAB]

Total[TAB]280,3[TAB]98,6[TAB]669,6[TAB]593,6[TAB]176,0[TAB]174,9

(5) The stations for monitoring the flow regime, apart from others to be specified by the TPTC, shall be as follows:

Diepgezet (at border between RSA and Swaziland)

Mananga (GS-30)

Matsamo (GS-34)

Driekoppies Dam Outflow (X1H049)

Komatipoort (X2H036)

Machatuíne (E-30)

Corumana Dam Outflow

Manhiça (E-28)

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## Article 3

Maputo Watercourse

(1) The Maputo River Basin, covering 29 970 km2, is made up of the following catchments:

Lusushwana 1 390 km2

Mpuluzi 1 870 km2

Usuthu 5 970 km2

Ngwempisi 3 570 km2

Mkhondvo 3 890 km2

Ngwavuma 2 130 km2

Pongola 9 580 km2

Maputo 1 570 km2

(2) The net contributions to the total net natural mean annual runoff (mean annual runoff in the natural condition without any land and water use effects and allowing for river channel

losses) (MAR) of 3 800 million m3 of the Maputo watercourse at the estuary by the various catchments are estimated as follows:

Catchment[TAB]Contributions to MAR (million m3)

[TAB]Mozambiq[TAB]South[TAB]Swazilan[TAB]Total

[TAB]ue[TAB]Africa [TAB]d[TAB]

Lusushwana[TAB]-[TAB]80[TAB]340[TAB]420

Mpuluzi[TAB]-[TAB]220[TAB]40[TAB]260

Usuthu[TAB]5[TAB]100[TAB]505[TAB]610

Ngwempisi[TAB]-[TAB]290[TAB]210[TAB]500

Mkhondvo[TAB]-[TAB]370[TAB]200[TAB]570

Ngwavuma[TAB]-[TAB]20[TAB]160[TAB]180

Pongola[TAB]-[TAB]1 100[TAB]60[TAB]1 160

Maputo [TAB]100[TAB]-[TAB]-[TAB]100

Total[TAB]105[TAB]2 180[TAB]1 515[TAB]3 800

(3) The irrigation areas developed by 1995 within the Maputo River Basin are classified into Class 1 and Class 2 categories for the purpose of preferential access to water during periods of low flow and are estimated to be as given in the table below. Class 1 irrigation areas will be supplied with water at a higher assurance of supply than Class 2 irrigation areas. Class 2 irrigation areas will be the first to have their water abstractions and diversions from the rivers reduced and even completely curtailed during the low flow months of the year before any curtailments of the water supplies to Class 1 irrigation areas are considered.

Catchment[TAB]Irrigation Development (ha)

[TAB]Mozambiq[TAB]South[TAB]Swazilan[TAB]Total

[TAB]ue[TAB]Africa [TAB]d[TAB]

Lusushw[TAB]-[TAB]10[TAB]1 343[TAB]0[TAB]1 353

ana[TAB]-[TAB]110[TAB]0[TAB]0[TAB]110

Mpuluzi[TAB]#####[TAB]0[TAB]15 390[TAB]6 877[TAB]22

Usuthu[TAB]-[TAB]640[TAB]344[TAB]227[TAB]267

Ngwempi[TAB]-[TAB]1 850[TAB]636[TAB]0[TAB]1 211

si[TAB]-[TAB]100[TAB]2 846[TAB]2 032[TAB]2 486

Mkhondv[TAB]-[TAB]22 730[TAB]538[TAB]0[TAB]4 978

O[TAB]6 000[TAB]-[TAB] [TAB] [TAB]23 268

Ngwavu[TAB] [TAB] [TAB] [TAB] [TAB]6 000

ma[TAB] [TAB] [TAB] [TAB] [TAB]

Pongola[TAB] [TAB] [TAB] [TAB] [TAB]

Maputo [TAB] [TAB] [TAB] [TAB] [TAB]

Total[TAB]6 000[TAB]25 440[TAB]21 097[TAB]9 136[TAB]61 673

(4) The mean annual irrigation water requirements for the areas of irrigation developed by 1995 within the Maputo River Basin are estimated as follows:

Catchment

Catchme[TAB]Irrigation Water Requirements (million m3/a)

nt[TAB]Mozambiq[TAB]South[TAB]Swaziland [TAB]Total

[TAB]ue[TAB]Africa [TAB] [TAB]

[TAB][TAB][TAB](Class[TAB](Class[TAB]

[TAB](Class 1)[TAB](Class 1)[TAB]1)[TAB]2)[TAB]

Lusushw[TAB]-[TAB]0,2[TAB]12,7[TAB]0,0[TAB]12,9

ana[TAB]-[TAB]0,8[TAB]0,0[TAB]0,0[TAB]0,8

Mpuluzi[TAB]0[TAB]0[TAB]197,3[TAB]87,9[TAB]285,2

Usuthu[TAB]-[TAB]4,8[TAB]2,6[TAB]1,7[TAB]9,1

Ngwempi[TAB]-[TAB]13,9[TAB]4,8[TAB]0,0[TAB]18,7

si[TAB]-[TAB]1,3[TAB]34,2[TAB]24,4[TAB]59,9

Mkhondv[TAB]-[TAB]256,9[TAB]6,4[TAB]0,0[TAB]263,3

o[TAB]60,0[TAB]-[TAB] [TAB] [TAB]60,0

Ngwavu[TAB] [TAB] [TAB] [TAB] [TAB]

ma[TAB] [TAB] [TAB] [TAB] [TAB]

Pongola[TAB] [TAB] [TAB] [TAB] [TAB]

Maputo [TAB] [TAB] [TAB] [TAB] [TAB]

Total[TAB]60,0[TAB]277,9[TAB]258,0[TAB]114,0[TAB]709,9

(5) The stations for monitoring the flow regime, apart from others to be specified by the TPTC, shall be as follows:

Lusushwana (GS 33)

Usuthu (GS 23)

Usuthu (GS 31)

Ngwempisi (GS 21)

Hlelo (GS 22)

Mkhondvo (GS 25)

Ndlotane (GS 39)

Big Bend (GS 16)

Pongolapoort Dam Outflow (W4H013)

Madubula (E –6)

Salamanga (E-4)

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## Article 4

Utilisation of the Incomati Watercourse

(1) Based on the estimates of the present availability of water in the Incomati watercourse the Parties agree to the following water uses, excluding those shown as provisional, and areas of afforestation that will result in a reduction in streamflow of the Incomati watercourse:

(a) The Republic of Mozambique:

First priority supplies: 19 million m3/a

(up to 87,6 million m3/a-reserved)

Irrigation supplies: 280 million m3/a

Afforestation: Area 25 000 ha

Runoff reduction 25 million m3/a

The additional reserved water use of up to 87,6 million m3/a is intended for the city of Maputo and will be drawn from the total water available from the further development of the Incomati watercourse. A similar quantity of water is reserved from the Maputo watercourse to provide for wider options of choice. The final details and options to meet the growing water requirements of the city of Maputo and the greater Maputo Metropolitan Area will follow from further studies. These will be recorded by the Parties as an amendment of this Annex in terms of Article 16 of the Agreement after the provisions of subArticle (7) have been complied with.

(b) The Republic of South Africa:

First priority supplies: 336,6 million m3/a

Irrigation supplies: 786 million m3/a

Afforestation: Area 364 975 ha

Runoff reduction 475 million m3/a

(c) The Kingdom of Swaziland:

First priority supplies: 22 million m3/a

Irrigation supplies: 261 million m3/a

Afforestation: Area 32 442 ha

Runoff reduction 46 million m3/a

The first priority supplies include the water required by the Parties for domestic, livestock and industrial use and will be available to the Parties in the rivers subject to the conditions in subArticle(5).

The Parties will be allowed to convert some of their agreed irrigation use to first priority use at a conversion factor approved by the TPTC at the time that the need arises.

(2) The water use by Mozambique shall not exceed the following in the Incomati, Sabie, Massintonto, Uanetse, and Mazimechopes River catchments:

(a) The Incomati River catchment upstream of the Sabie River confluence:

First priority supplies: 1,1 million m3/a

(up to 87,6 million m3/a-reserved)

Irrigation supplies: 29 million m3/a

Afforestation: Area Nil.

Runoff reduction Nil.

The additional reserved water use of up to 87,6 million m3/a is intended for the city of Maputo and will be drawn from the total water available from the further development of the Incomati watercourse. A similar quantity of water is reserved from the Maputo watercourse to provide for wider options of choice. The final details and options to meet the growing water requirements of the city of Maputo and the greater Maputo Metropolitan Area will follow from further studies. These will be recorded by the Parties as an amendment of this Annex in terms of Article 16 of the Agreement after the provisions of subArticle(7) have been complied with.

(b) The Incomati River catchment downstream of the Sabie River confluence:

First priority supplies: 15,6 million m3/a

Irrigation supplies: 239 million m3/a

Afforestation: Area 25 000 ha

Runoff reduction 25 million m3/a

(c) The Sabie River catchment:

First priority supplies: 0,5 million m3/a

Irrigation supplies: 12,0 million m3/a

Afforestation: Area Nil.

Runoff reduction Nil.

(d) The Massintonto River catchment:

First priority supplies: 0,7 million m3/a

Irrigation supplies: Nil.

Afforestation: Area Nil.

Runoff reduction Nil.

(e) The Uanetse River catchment:

First priority supplies: 0,6 million m3/a

Irrigation supplies: Nil.

Afforestation: Area Nil.

Runoff reduction Nil.

(f) The Mazimchope River catchment:

First priority supplies: 0,5 million m3/a

Irrigation supplies: Nil.

Afforestation: Area Nil.

Runoff reduction Nil.

(3) The water use by South Africa shall not exceed the following in the Komati, Crocodile, Sabie, Massintonto, and Uanetse River catchments:

(a) The Komati River catchment:

First priority supplies: 183 million m3/a

Irrigation supplies: 381 million m3/a

Afforestation: Area 90 233 ha

Runoff reduction 99 million m3/a

(b) The Crocodile River catchment:

First priority supplies: 73 million m3/a

Irrigation supplies: 307 million m3/a

Afforestation: Area 199 715 ha

Runoff reduction 247 million m3/a

(c) The Sabie River catchment:

First priority supplies: 80 million m3/a

Irrigation supplies: 98 million m3/a

Afforestation: Area 75 027 ha

Runoff reduction 129 million m3/a

(d) The Massintonto River catchment:

First priority supplies: 0,3 million m3/a

Irrigation supplies: Nil.

Afforestation: Area Nil.

Runoff reduction Nil.

(e) The Uanetse River catchment:

First priority supplies: 0,3 million m3/a

Irrigation supplies: Nil.

Afforestation: Area Nil.

Runoff reduction Nil.

(4) The water use by Swaziland shall not exceed the following in the Komati River catchment:

(a) The Komati River catchment:

First priority supplies: 22 million m3/a

Irrigation supplies: 261 million m3/a

Afforestation: Area 32 442 ha

Runoff reduction 46 million m3/a

(5) When the TPTC determines that a drought condition exists and that the water use by the Parties as given in subArticles (1), (2), (3) and (4) must be reduced the irrigation use shall be the first to be reduced. This will be followed by reductions in the first priority use and the water for the riverine and estuarine ecosystems only under extreme drought conditions, as determined by the TPTC.

(6) The operating rules of the existing dams shall be reviewed by the TPTC from time to time. The operating rules developed by the Parties for those dams in their territory shall ensure that the river losses and the agreed water allocations of the various sectors in the Incomati River Basin, corresponding to the actual land use, can be supplied. The TPTC shall approve the criteria for reducing water use that are included as part of the operating rules. These shall take account of the availability of water and the water requirements in subArticles (1), (2), (3) and (4) the determining criteria defined in Article 1 and the

acceptability of restrictions for the first priority and irrigation users and the tolerance of the riverine and estuarine ecosystems to reductions in water supply. Adequate account shall be taken of transmission losses and other return flows.

(7) Mozambique shall perform further studies, including environmental impact assessments that also take account of any future transboundary impacts, approved by the TPTC to establish the water requirements of the city of Maputo, the supply capability of its existing sources of water. Mozambique shall notify the Parties through the TPTC of the findings of these studies in accordance with the procedures set out in Article 4(1) of the Protocol and Article 13 of the Agreement to enable the Parties to evaluate the same in own territories and for the TPTC to then recommend to the Parties the portion of the reserved quantity of water shown in subArticles (1) and (2) that is to be admitted in the respective subArticles.

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## Article 5

Water Requirements of the Ecosystems of the Incomati Watercourse

(1) The Parties acknowledge the need to maintain interim instream flows at various key points in the Incomati watercourse to sustain the ecology of the watercourse including the estuary of the Incomati River.

(2) The actual minimum river flows consistent with the operating rules referred to in Articles 4(5) and (6) shall be determined by the TPTC for the key points given in subArticle (3) after having reviewed the target flows given in subArticle (3). These river flows shall be maintained by the relevant Party or Parties, unless the actual weather and river flow conditions are worse than previously recorded in the Incomati River Basin, in which case revised short-term flows shall be agreed by the TPTC.

(3) The key points and target flows to be maintained to sustain the ecology of the watercourse including the estuary of the Incomati River are as follows:

River[TAB]Key Point[TAB]Interim Target Instream Flow

[TAB][TAB]Mean (million[TAB]Minimum (m3/s)

[TAB] [TAB]m3/a)[TAB]

Sabie[TAB]Lower Sabie [TAB]200[TAB]0,6

[TAB]Incomati[TAB]200[TAB]0,6

[TAB]River[TAB] [TAB]

Crocodile[TAB]Tenbosch[TAB]245[TAB]1,2

Komati [TAB]Diepgezet[TAB]190[TAB]0,6

[TAB]Mananga[TAB]200[TAB]0,9

[TAB]Lebombo[TAB]42[TAB]1,0

Incomati[TAB]Ressano[TAB]290[TAB]2,6

[TAB]Garcia[TAB]290[TAB]2,6

[TAB]Sabie[TAB]450[TAB]3,0

[TAB]Marracuene[TAB] [TAB]

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## Article 6

Utilisation of the Maputo Watercourse

(1) Based on past water use and the estimates of the present availability of water in the Maputo watercourse the Parties agree to the following water uses, excluding those shown as provisional, and areas of afforestation that will result in a reduction in streamflow of the Maputo watercourse:

(a) The Republic of Mozambique:

First priority supplies: 6,0 million m3/a

(up to 87,6 million m3/a- reserved)

Irrigation supplies: Class 1 60 million m3/a

Afforestation: Area Nil.

Runoff reduction Nil.

The additional reserved water use of up to 87,6 million m3/a is intended for the city of Maputo and will be drawn from the total water available from the further development of the Maputo watercourse. A similar quantity of water is reserved from the Incomati watercourse to provide for wider options of choice. The final details and options to meet the growing water requirements of the city of Maputo and the greater Maputo Metropolitan Area will follow from further studies. These will be recorded by the Parties as an amendment of this Annex in terms of Article 16 of the Agreement after the provisions of subArticle (7) have been complied with.

(b) The Republic of South Africa:

First priority supplies: 242 million m3/a

Irrigation supplies: Class 1 538 million m3/a

Afforestation: Area 284 600 ha

Runoff reduction 198 million m3/a

(c) The Kingdom of Swaziland:

First priority supplies: 44 million m3/a

Irrigation supplies: Class 1 413 million m3/a

Class 2 114 million m3/a

Afforestation: Area 97 300 ha

Runoff reduction 82 million m3/a

The Class 1 irrigation water use of 413 million m3/a includes 155 million m3/a for Lower Usuthu Smallholder Irrigation Project.

The first priority supplies include the water required by the Parties for domestic, livestock and industrial use and will be available to the Parties in the rivers subject to the conditions given in subArticle(5).

The Parties will be allowed to convert some of their agreed irrigation use to first priority use at a conversion factor approved by the TPTC at the time that the need arises.

(2) The water use by South Africa shall not exceed the following in the Pongola, Ngwavuma, Mkhondvo, Ngwempisi, Usuthu, Mpuluzi, and Lusushwana River catchments:

(a) The Pongola River catchment:

First priority supplies: 18 million m3/a

Irrigation supplies: Class 1 517 million m3/a

Afforestation: Area 65 000 ha

Runoff reduction 46 million m3/a

(b) The Ngwavuma River catchment:

First priority supplies: 2 million m3/a

Irrigation supplies: Class 1 1,3 million m3/a

Afforestation: Area Nil.

Runoff reduction Nil.

(c) The Mkhondvo River catchment:

First priority supplies: 117 million m3/a

Irrigation supplies: Class 1 13,9 million m3/a

Afforestation: Area 57 000 ha

Runoff reduction 42 million m3/a

(d) The Ngwempisi River catchment:

First priority supplies: 60 million m3/a

Irrigation supplies: Class 1 4,8 million m3/a

Afforestation: Area 82 400 ha

Runoff reduction 52 million m3/a

(e) The Usuthu River catchment:

First priority supplies: 38 million m3/a

Irrigation supplies: Nil.

Afforestation: Area 21 800 ha

Runoff reduction 14 million m3/a

(f) The Mpuluzi River catchment:

First priority supplies: 6 million m3/a

Irrigation supplies: Class 1 0,8 million m3/a

Afforestation: Area 50 700 ha

Runoff reduction 37 million m3/a

(g) The Lusushwana River catchment:

First priority supplies: 1 million m3/a

Irrigation supplies: Class 1 0,2 million m3/a

Afforestation: Area 7 700 ha

Runoff reduction 7 million m3/a

(3) The water use by Swaziland shall not exceed the following in the Pongola, Ngwavuma and Usuthu River catchments:

(a) The Pongola River catchment:

First priority supplies: 2,0 million m3/a

Irrigation supplies: Class 1 6,4 million m3/a

Afforestation: Area 1 000 ha

Runoff reduction 0,5 million m3/a

(b) The Ngwavuma River catchment:

First priority supplies: 2,6 million m3/a

Irrigation supplies: Class 1 34,2 million m3/a

Class 2 24,4 million m3/a

Afforestation: Area 3 700 ha

Runoff reduction 1,5 million m3/a

(c) The Usuthu River catchment:

First priority supplies: 39,4 million m3/a

Irrigation supplies: Class 1 372,4 million m3/a

Class 2 89,6 million m3/a

Afforestation: Area 92 600 ha

Runoff reduction 80 million m3/a

The Class 1 irrigation water use of 372,4 million m3/a includes 155 million m3/a for Lower Usuthu Smallholder Irrigation Project.

(4) The water use by Mozambique shall not exceed the following in the Maputo River catchment:

(a) The Maputo River catchment:

First priority supplies: 6,0 million m3/a

(up to 87,6 million m3/a- reserved)

Irrigation supplies: Class 1 60 million m3/a

Afforestation: Area Nil.

Runoff reduction Nil.

The additional reserved water use of up to 87,6 million m3/a is intended for the city of Maputo and will be drawn from the total water available from the further development of the Maputo watercourse. A similar quantity of water is reserved from the Incomati watercourse to provide for wider options of choice. The final details and options to meet the growing water requirements of the city of Maputo and the greater Maputo Metropolitan Area will follow from further studies. These will be recorded by the Parties as an amendment of this Annex in terms of Article 16 of the Agreement after the provisions of subArticle (7) have been complied with.

(5) When the TPTC determines that a drought condition exists and that the water use by the Parties as given in subArticles (1), (2), (3) and (4) must be reduced the water abstractions for the Class 2 irrigation areas shall be the first to be reduced, followed if necessary by reductions in the water abstractions for the Class 1 irrigation areas, but only after all water abstractions for the Class 2 irrigation areas have been curtailed. This will be followed by reductions in the first priority use and the water for the riverine and estuarine ecosystems only under extreme drought conditions, as determined by the TPTC.

(6) The operating rules of the existing dams shall be reviewed by the TPTC regularly. The operating rules developed by the Parties for those dams in their territory shall ensure that the river losses and the agreed water allocations of the various sectors in the Maputo River Basin, corresponding to the actual land use, can be supplied. The TPTC shall approve the criteria for reducing water use that are included as part of the operating rules. These shall take account of the availability of water and the water requirements in subArticles (1), (2), (3) and (4), the determining criteria defined in Article 1 of this Annex and the acceptability of restrictions for the first priority and irrigation users and the tolerance of the riverine and estuarine ecosystems to reductions in water supply. Adequate account shall be taken of transmission losses and seepage and other return flows.

(7) Mozambique shall perform further studies, including environmental impact assessments that also take account of any future transboundary impacts, approved by the TPTC to establish the water requirements of the city of Maputo, the supply capability of its existing sources of water. Mozambique shall notify the Parties through the TPTC of the findings of

these studies in accordance with the procedures set out in Article 4(1) of the Protocol and Article 13 of the Agreement to enable the Parties to evaluate the same in own territories and for the TPTC to then recommend to the Parties the portion of the reserved quantity of water shown in subArticles (1) and (2) that is to be admitted in the respective subArticles.

(8) Water use of 155 million m3/a has been included for Class 1 irrigation and is intended for the Lower Usuthu Smallholder Irrigation Project, details of which will be finalised by Swaziland, as agreed upon by the Parties.

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## Article 7

Water Requirements of the Ecosystems of the Maputo Watercourse

(1) The Parties acknowledge the need to maintain interim instream flows at various key points in the Maputo watercourse to sustain the ecology of the watercourse including the estuary of the Maputo River.

(2) The actual minimum river flows consistent with the operating rules referred to in Article 6(5) shall be determined by the TPTC for the key points given in subArticle (3) after having reviewed the target flows given in subArticle (3). These river flows shall be maintained by the relevant Party or Parties, unless the actual weather and river flow conditions are worse than previously recorded in the Maputo River Basin, in which case revised short-term flows shall be agreed by the TPTC.

(3) The key points and target flows to be maintained to sustain the ecology of the watercourse including the estuary of the Maputo River are as follows:

River[TAB]Key Point[TAB]Interim Target Instream Flow

[TAB] [TAB]

[TAB][TAB]Mean (million[TAB]Minimum (m3/s)

[TAB] [TAB]m3/a)[TAB]

Maputo [TAB]Salamanga[TAB]840[TAB]2,7

[TAB](E-4)[TAB] [TAB]

Pongola[TAB]Ndumo[TAB]300[TAB]0,8

Ngwavu[TAB]At the border[TAB]50[TAB]0,1

ma[TAB] [TAB] [TAB]

Mkhondv[TAB]GS 25[TAB]35[TAB]0,1

o[TAB] [TAB] [TAB]

Hlelo[TAB]GS 22[TAB]35[TAB]0,1

Ngwempi[TAB]GS 21[TAB]30[TAB]0,1

si[TAB] [TAB] [TAB]

Usuthu[TAB]GS 23[TAB]20[TAB]0,1

[TAB]Big Bend (GS[TAB]520[TAB]1,7

[TAB]16)[TAB] [TAB]

Mpuluzi[TAB]Dumbarton[TAB]65[TAB]0,1

Lusushw[TAB]GS 33[TAB]35[TAB]0,1

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## Article 8

Water Conservation

Any Party may use a reduction in the agreed water use by a particular sector, as a result of better management practices or other water conservation measures, including pricing policies, for any other purpose within its own territory, provided that the TPTC shall be notified accordingly.

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## Article 9

Generation of Hydropower

A Party may utilise water within its own territory for the generation of hydropower at existing hydropower installations, hydropower installations under construction at the time of this Agreement coming into force, and future hydropower installations after the TPTC has agreed to the operating rules.

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## Article 10

Concluding Provisions

The TPTC shall assess any problems regarding the flow regime, any problems that will affect the normal utilisation of dams and any problems arising from the minimum flows specified to maintain the ecosystems, taking into consideration the provisions of Article 10 of the Agreement. Any affected Party shall inform the TPTC about the problems so that measures may be considered and adopted to establish a temporary or revised interim flow regime conforming to the general criteria set out in Article 9(3) of the Agreement.

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## ANNEX II

REFERENCE PROJECTS

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## Article 1

Determining Criteria

(1) The Parties accord a high priority to supply water for domestic, livestock and industrial use, as well as ecological water requirements as recognised by the TPTC.

(2) In particular, the Parties recognise the strategic importance to Mozambique of augmenting the water supplies to the city of Maputo.

(3) The Parties recognise the projects in this Annex as projects that –

(a) are contemplated by the Parties to commence before 2010, but of which the implementation had not commenced at the time of coming into force of this Agreement; and

(b) have previously been identified and studied by one or more of the Parties for future implementation.

(4) The projects are classified into-

(a) water utilisation projects; and

(b) water resources development projects.

The Parties recognise the usefulness of studying, the creation of structural and non-structural measures in order to make more water available than admitted in Annex I.

(5) For the mere reason that a project is listed in this Annex the Party is not exempted from complying with the provisions of the Agreement.

(6) If more water is made available through structural and non-structural measures in the Incomati or Maputo watercourses, the Parties shall give priority to the water uses referred to in subArticle(1), when considering the allocation of the water, taking into account the equitable and reasonable utilisation by the Parties of the water resources of the Incomati and Maputo Watercourses.

(7) A Party may develop any other project not listed in this Annex, in accordance with the provisions of the Agreement.

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## Article 2

Reference Projects in Mozambique

(1) The following land and water use projects are contemplated in the Incomati River Basin:

(a) Increased irrigation development along the Sabie and Incomati Rivers supplied by the additional water secured by completing and increasing the storage capacity of the Corumana Dam.

(b) Increased irrigation development along the Sabie and Incomati Rivers supplied by the additional water secured by the Moamba Major Dam.

(c) Augmentation of the water supplies to the city of Maputo with additional water secured by the Moamba Major Dam.

(2) The following land and water use projects are contemplated in the Maputo River Basin:

(a) Augmentation of the water supplies to the city of Maputo with additional water secured by the Catuane Off-channel Reservoir.

(b) An increase of about 8 000 ha of irrigation development along the Maputo River in the vicinity of Catuane with additional water made available by the Catuane Off-channel Reservoir.

(c) Water supply to Ponta Dobela and associated activities with additional water secured by the Catuane Off-channel Reservoir.

(d) An increase of about 8 000 ha of irrigation development along the Maputo River in the vicinity of Salamanga with additional water made available by the Salamanga Off-channel Reservoir.

(3) The following water resources development projects are contemplated in the Incomati River Basin:

(a) Completing and increasing the storage capacity of the Corumana Dam on the Sabie River by the installation of spillway crest gates.

(b) Construction of the Moamba Major Dam on the Incomati River.

(4) The following water resources development projects are contemplated in the Maputo River Basin:

(a) Construction of the Catuane Off-channel Reservoir in the catchment of the Maputo River.

(b) Construction of the Salamanga Off-channel Reservoir in the catchment of the Maputo River.

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## Article 3

Reference Projects in South Africa

(1) The following land and water use projects are contemplated in the Incomati River Basin:

(a) Increased irrigation development in the Komati River catchment supplied by the additional water secured by the Tonga Dam.

(b) Increased irrigation development in the Komati River catchment supplied with water made available by the Silingane Dam in Swaziland.

(c) Increased irrigation development in the Komati River catchment supplied with water made available by the Ngonini Dam in Swaziland.

(d) Increased irrigation development in the Crocodile River catchment supplied by the additional water secured by the Mountain View Dam.

(e) Expansion of the domestic water supply networks in the Sabie River catchment supplied with the water secured by the Inyaka Dam.

(2) The following water resources development projects are contemplated in the Incomati River Basin:

(a) Raising of the Vygeboom Dam on the Komati River, diverting additional water into the Vygeboom Dam or the construction of a new dam such as the Boekenhoutrand Dam.

(b) Construction of the Tonga Dam on the Komati River as a joint project with Swaziland.

(c) Construction of the Mountain View Dam on the Kaap River.

(d) Construction of the New Forest Dam on the Mutlumuvi River.

(e) Construction of the Maroela Weir in the Crocodile River.

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## Article 4

Reference Projects in Swaziland

(1) The following land and water use projects are contemplated in the Incomati River Basin:

(a) Increased irrigation development in the Komati River catchment supplied with water from the Maguga Dam made available by the Tonga Dam in South Africa.

(b) Increased irrigation development in the Komati River catchment supplied with water made available by the Silingane Dam.

(c) Increased irrigation development in the Komati River catchment supplied with water made available by the Ngonini Dam.

(2) The following land and water use projects are contemplated in the Maputo River Basin:

(a) Increased irrigation development in the Usuthu River catchment on the 11 500 ha Lower Usuthu Smallholder Irrigation Project using 155 million m3 water per year supplied by the additional water secured by the Bulungapoort Diversion on the Usuthu River and the Lubovane Off-channel Reservoir.

(b) Development of a smallholder irrigation scheme to irrigate 500 ha, of which 175 ha has already been developed, and which will be supplied from the proposed reservoir on the Mhlatuzane River.

(c) Development of a smallholder irrigation scheme to irrigate 800 ha, and which will be supplied from the proposed new dam on the Lusushwana River.

(d) Increased irrigation development in the Mkhondvo River catchment supplied with water from the Mahamba Gorge Dam.

(3) The following water resources development projects are contemplated in the Incomati River Basin:

(a) Construction of the Silingane Dam on the Komati River as a joint project with South Africa.

(b) Construction of the Ngonini Dam on the Lomati River as a joint project with South Africa.

(4) The following water resources development projects are contemplated in the Maputo River Basin:

(a) Construction of the Bulungapoort Diversion on the Usuthu River and the Lubovane Off-channel Reservoir, which already has the support of Mozambique and South Africa.

(b) Construction of a new dam on the Mhlatuzane River with a storage capacity of 12 million m3.

(c) Construction of a new dam on the Lusushwana River with a storage capacity of 16 million m3.

(d) Construction of the Mahamba Gorge Dam on the Mkhondvo River.

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## ANNEX III

TRANSBOUNDARY IMPACT

The projects and activities referred to in Article 13(1) of the Agreement are the following:

(a) Industrial installation for energy production or mining activities which can impact significantly on water quality and quantity;

(b) pipelines carrying oil or chemical products;

(c) installations (facilities) for storage of dangerous products;

(d) reservoirs for river water regulation and storage with a capacity above 250 000 m3;

(e) river training and canalisation of river beds with a length exceeding 500 m, provided they are situated in the bordering rivers or in their tributaries;

(f) surface water abstraction facilities, regardless of their use or destination, when the minimum effective consumption exceeds 110 l/s, and in any case of water transfers to other river basins in volume exceeding 3,5 million m3 per year;

(g) groundwater abstraction facilities, regardless of the use or destination of the water, above 3,5 million m3 per year;

(h) artificial recharging of aquifers with volumes above 3,5 million m3 per year;

(i) waste water treatment plants with capacity above 1000 equivalent inhabitants;

(j) waste water discharges, of urban, industrial, cattle raising or other origin, in which the polluting charge is above 1000 equivalent inhabitants;

(k) use of water causing the cross border water temperature to change by more than 3o C in the aquatic environment;

(l) deforestation and reforestation works, affecting an area above 500 hectares and that have the potential to increase the sediment production or to increase flood peaks or to decrease the river flow.

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## ANNEX IV

BILATERAL AND TRILATERAL AGREEMENTS

The Parties took into consideration the existing bilateral and trilateral agreements listed hereunder, not excluding other agreements, which apply, but are not listed. If any of the

Parties becomes aware of the existence of any agreement not listed, the Party shall immediately notify the other Parties.

1. Agreement between the Government of the Republic of South Africa and the Government of the Republic of Portugal in regard to rivers of mutual interest and the Cunene River Scheme, signed at Lisbon on 13 October 1964.

2. Agreement between the Government of the Republic of South Africa, the Government of the Kingdom of Swaziland and the Government of the People's Republic of Mozambique relative to the Establishment of a Tripartite Permanent Technical Committee, signed at Pretoria on 17 February 1983.

3. Agreement reached at the Tripartite Ministerial Meeting of Ministers Responsible for Water Affairs, signed at Piggs Peak on 15 February 1991.

4. Treaty on the Development and Utilisation of the Water Resources of the Komati River Basin between the Government of the Republic of South Africa and the government of the Kingdom of Swaziland, signed at Mbabane on 13 March 1992.

5. Treaty on the Establishment and Functioning of the Joint Water Commission between the Government of the Republic of South Africa and the Government of the Kingdom of Swaziland, signed at Mbabane on 13 March 1992.

6. Agreement between the Government of the Republic of South Africa and the Government of the Republic of Mozambique on Establishment and Functioning of the Joint Water Commission, signed at Maputo on 26 July 1996.

7. Agreement between the Government of the Republic of Mozambique and the Government of the Kingdom of Swaziland on the Establishment and Functioning of the Joint Water Commission, signed at Piggs Peak on 30 July 1999.

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## ANNEX V

TIME FRAME FOR THE ESTABLISHMENT OF COMPREHENSIVE WATER RESOURCE DEVELOPMENT AND WATER USE AGREEMENTS

(1) Comprehensive Agreements shall be based on water use and water resource development and conservation studies of the Incomati and Maputo River Watercourses and the current and expected future utilisation and development of the resources.

(2) The finalisation of Comprehensive Agreements depends on the finalisation of these studies and the political willingness of the Parties.

(3) Phase 2 of the Joint Incomati Basin Study (JIBS) has been completed and can provide valuable information to contribute to the drafting of a comprehensive water resource development and water use agreement. However, additional work to JIBS is required in order to bring the study up to present day situation, to achieve a common holistic approach and to provide an updated knowledge base.

(4) A Scoping Study for the Maputo Basin will commence soon, but it will take some time to complete and will be followed by a detailed water resources and water use study.

(5) The programmes for completing Comprehensive Agreements for the Incomati and Maputo River Watercourses are different.

(6) The programme for concluding a Comprehensive Agreement for the Incomati River Watercourse is as follows:

July 2001: Complete the draft JIBS report.

October 2001: Technical review of the draft JIBS report by the Parties.

May 2002: Finalisation and adoption by TPTC of JIBS report.

January 2003: TPTC to prepare and sign report outlining the technical and institutional requirements to be incorporated into the Comprehensive Agreement for the Incomati River Watercourse.

January 2005: Completion and adoption of studies to determine the ecological water requirements of the river system and its estuary and feasibility studies to reconcile the water requirements and water supply.

January 2005: Legal teams with technical support to finalise the text of the Comprehensive Agreement for the Incomati River Watercourse.

July 2005: Signature of the Comprehensive Agreement for the Incomati River Watercourse by the Parties.

January 2006: Ratification of the Comprehensive Agreement for the Incomati River Watercourse by the Parties.

(7) The programme for concluding the Comprehensive Agreement for the Maputo River Watercourse is as follows:

September 2002: Commence Maputo Basin Scoping Study.

September 2003: Complete Maputo Basin Scoping Study.

January 2004: Commence Maputo Basin Water Resources Study.

July 2005: Complete the draft Maputo Basin Water Resources Study report.

January 2006: Technical review of the draft Maputo Basin Water Resources Study report by the Parties.

August 2006: Finalisation and adoption by TPTC of Maputo Basin Water Resources Study report.

April 2007: TPTC to prepare and sign report outlining the technical and institutional requirements to be incorporated into the Comprehensive Agreement for the Maputo River Watercourse.

February 2009: Completion and adoption of studies to determine the ecological water requirements of the river system and its estuary and feasibility studies to reconcile the water requirements and water supply.

February 2009: Legal teams with technical support to finalise the text of the Comprehensive Agreement for the Maputo River Watercourse.

August 2009: Signature of the Comprehensive Agreement for the Maputo River Watercourse by the Parties.

February 2010: Ratification of the Comprehensive Agreement for the Maputo River Watercourse by the Parties.