



United Nations
Educational, Scientific and
Cultural Organization



International
Hydrological
Programme

Water



UNESCO

International Hydrological Programme

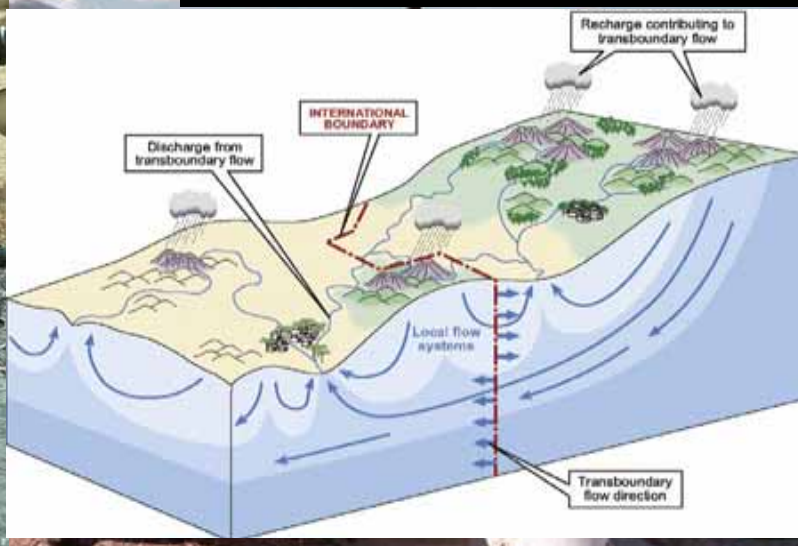
The role of UNESCO-IHP in supporting Member States on Transboundary Water Cooperation

Dr Jose Luis Martin-Bordes
UNESCO IHP

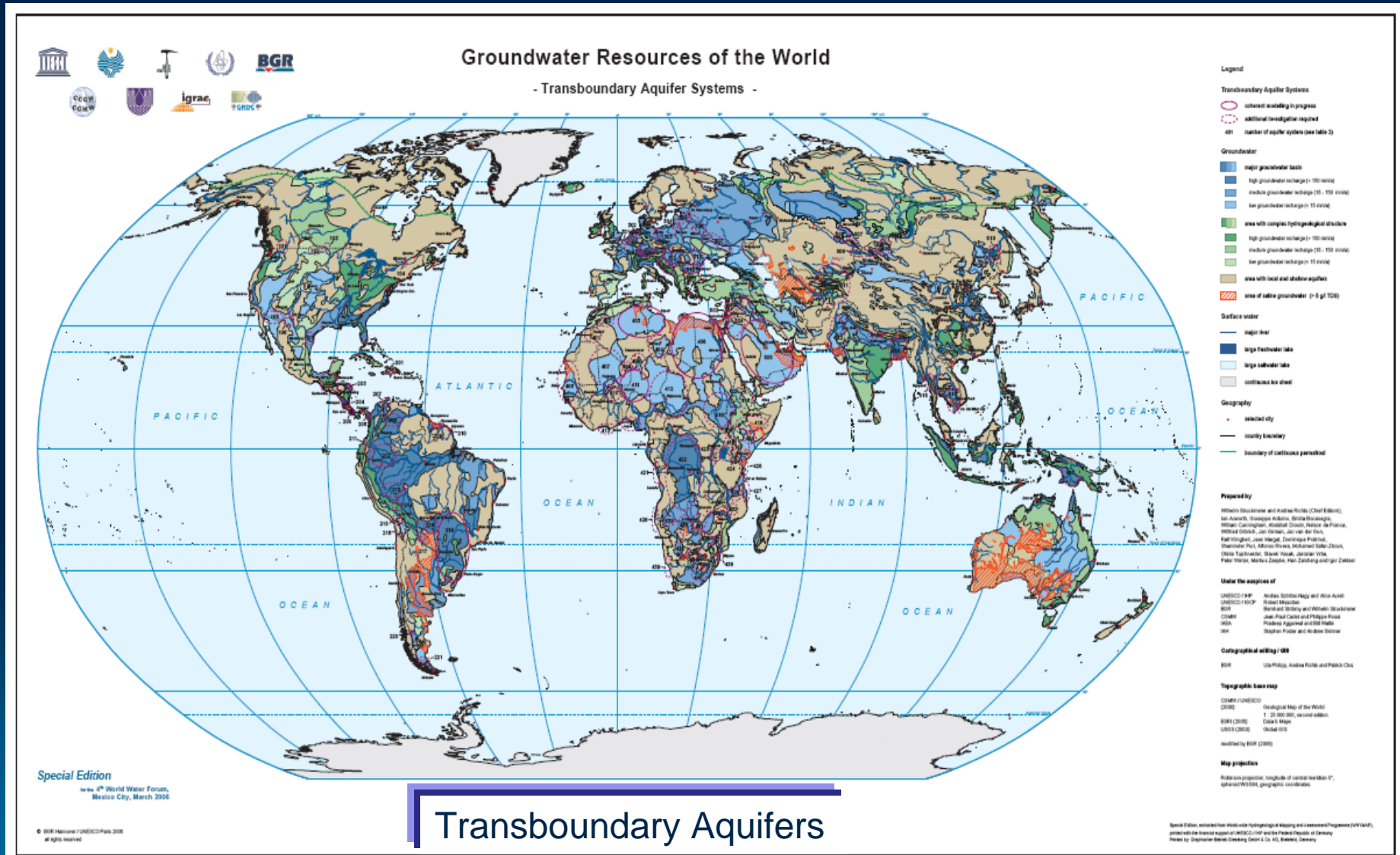
Europe Region Process Towards the 6th World Water Forum
Tashkent, 12-13 May 2011

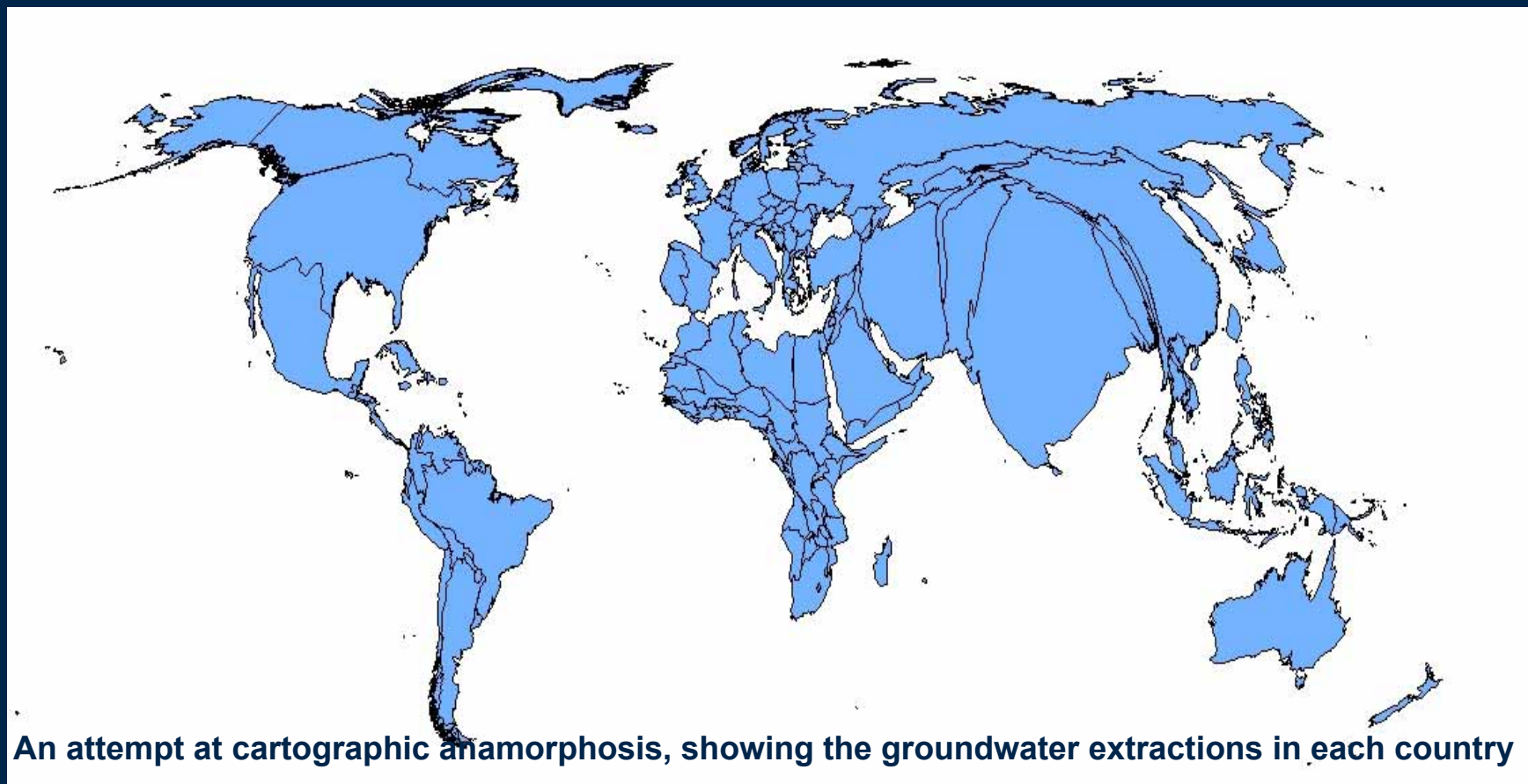
Groundwater
Resources contained
in Aquifers

Agriculture,
Food Security,
Drinking Water
Supply



Until 2000 there was no global accurate and reliable information





Jean Margat, UNESCO-BRGM 2008

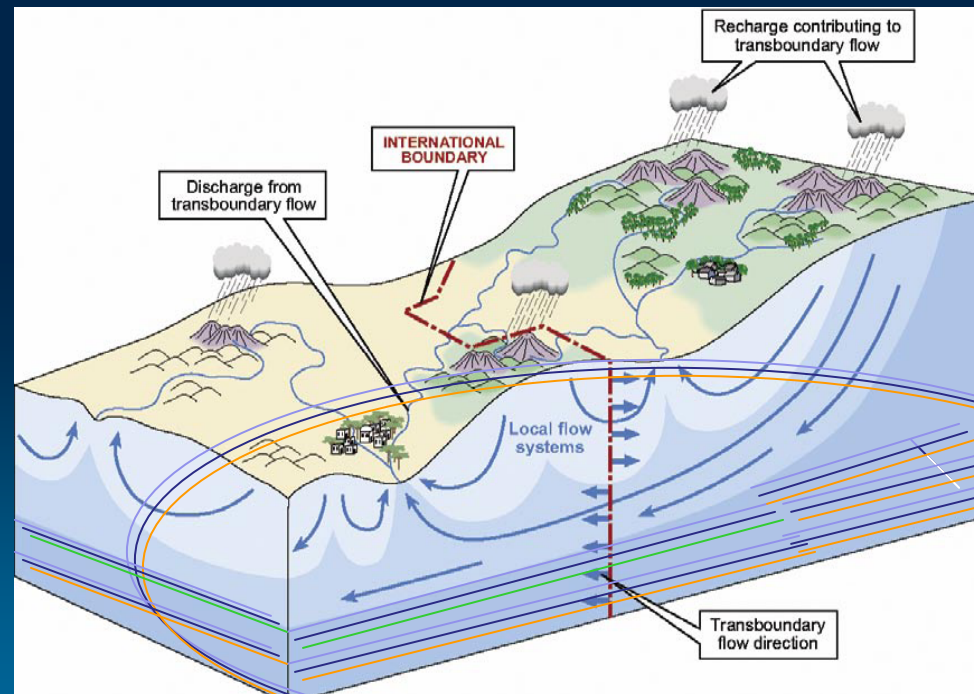
Many countries still lack

- **coherent policies and strategies for the management of aquifers and groundwater resources**
- **adequate legal settings and institutional arrangements to administer related legislation**

Aquifer : Geological Formation and the (groundwater) water contained in it

Article 2 Use of terms

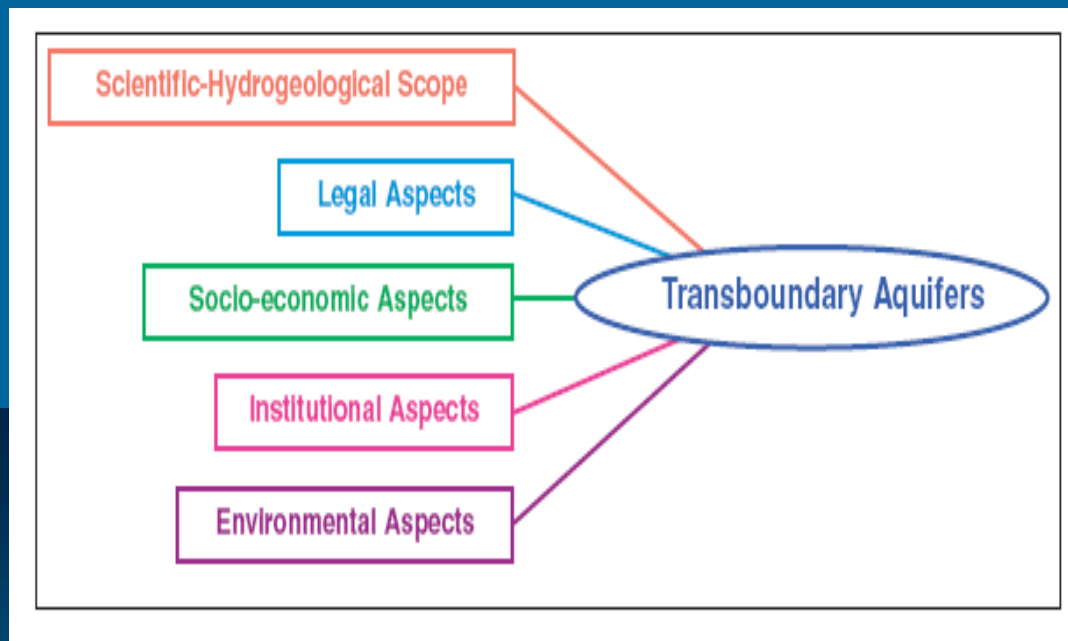
(a) “aquifer” means a permeable water-bearing geological formation underlain by a less permeable layer and the water contained in the saturated zone of the formation;



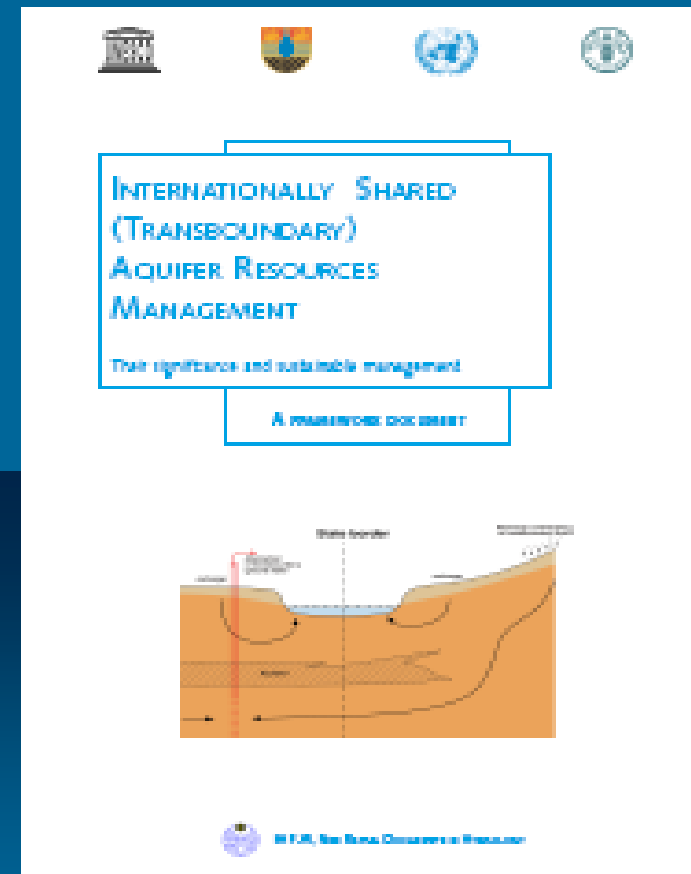
UNESCO-WMO

Permeable
water-bearing
formation
capable of
yielding
exploitable
quantities of
water

Resolution IHP-IC XIV -12-2000 of the Intergovernmental Council of the UNESCO-IHP

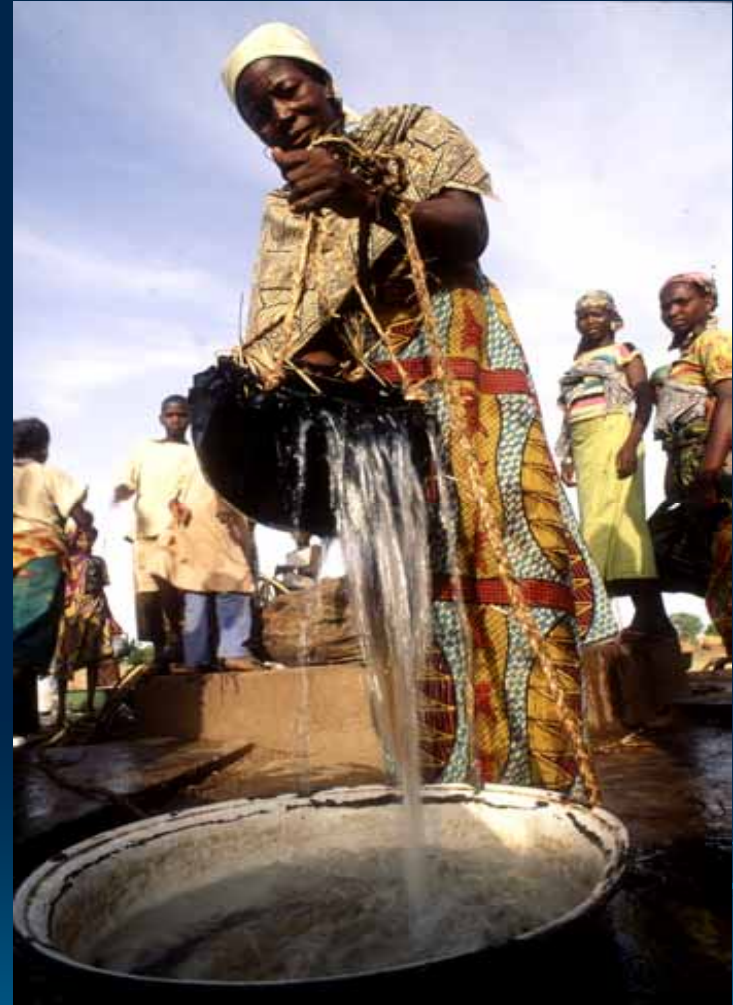


Focal Areas of the UNESCO ISARM Programme



**UNESCO inventory
already 273**

**Transboundary
Aquifers**

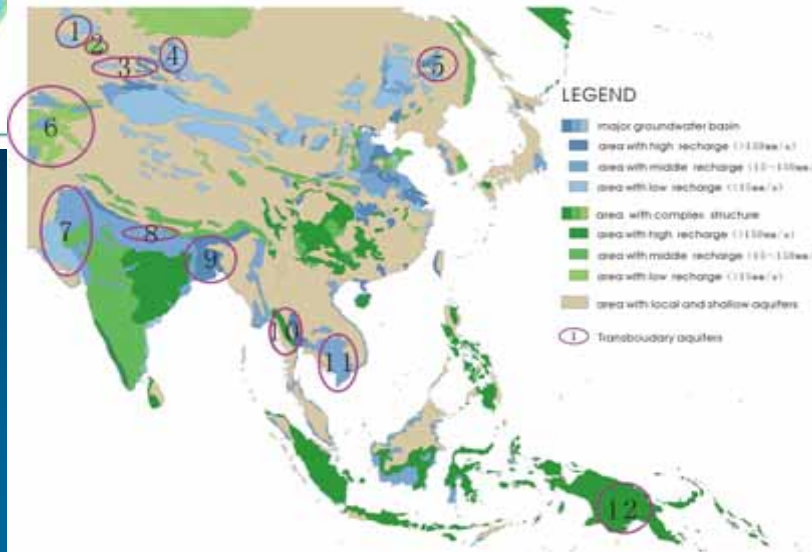


Sistemas Acuiferos Transfronterizos de las Américas

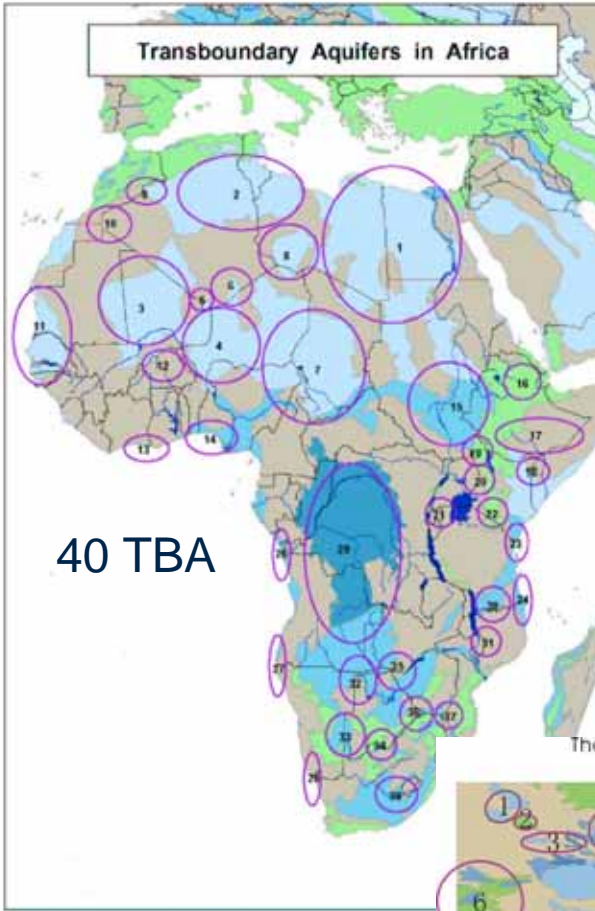
73 TBA



The occurrence of transboundary aquifers in Asia



Transboundary Aquifers in Africa



3 PHASES
ISARM Americas
2003-2010

- ▶ **Geology -Hydrogeology**
- ▶ **Legal-Institutional**
- ▶ **Socio-economic and Environmental Aspects**

**Sistemas Acuíferos Transfronterizos
AMÉRICA CENTRAL Y CARIBE**



**Sistemas Acuíferos Transfronterizos
AMÉRICA DEL SUR**



**Sistemas Acuíferos Transfronterizos
AMÉRICA DEL NORTE**



Transboundary Aquifers of Central Asia

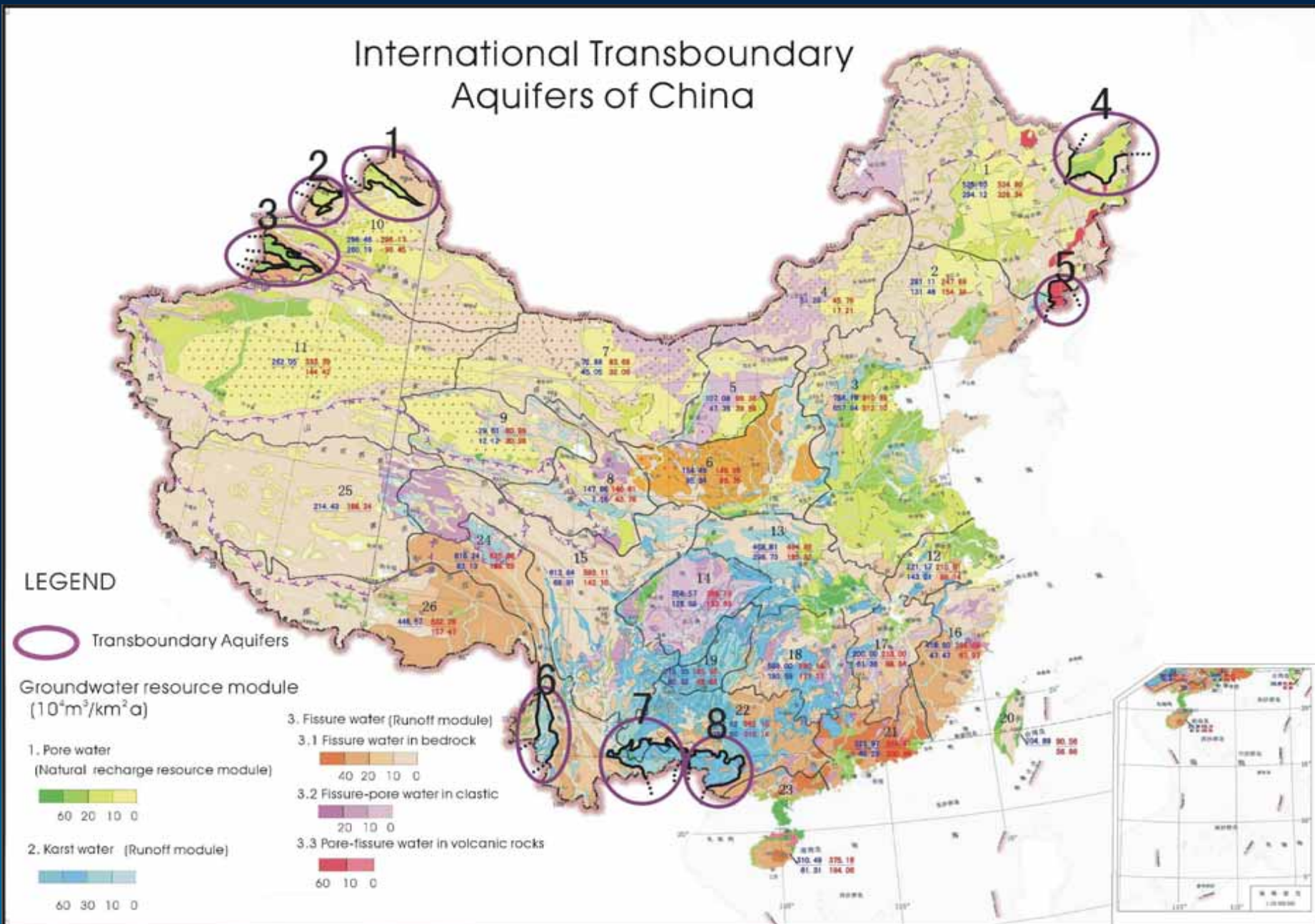


Possible Aquifers between Iran / Pakistan / Afghanistan




ISARM ASIA FIRST PHASE

International Transboundary Aquifers of China

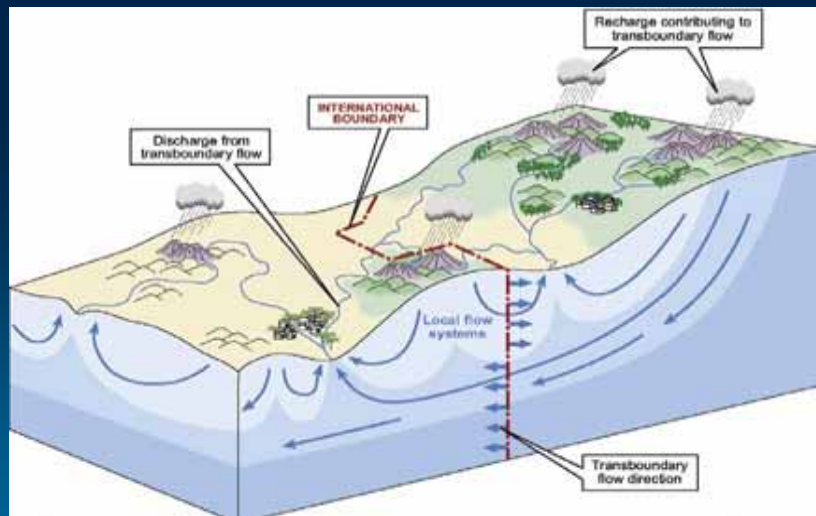
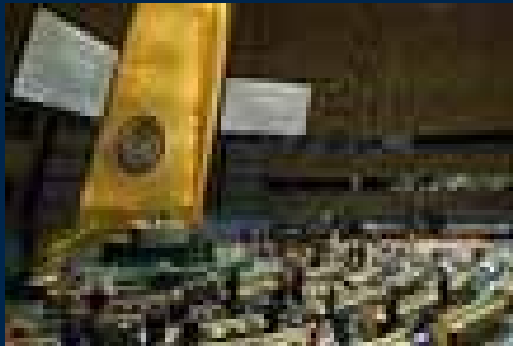


**Cooperation with the Special
Rapporteur of the UNILC
2002-2008**

**formulation of the draft articles
on the law of transboundary
aquifers.**



UNILC Draft Articles and the UN A/RES/63/124 on the Law of Transboundary Aquifers



United Nations

A/RES/63/124



General Assembly

Distr.: General
15 January 2009

Sixty-third session
Agenda item 75

Resolution adopted by the General Assembly

[on the report of the Sixth Committee (A/63/419)]

63/124. The law of transboundary aquifers

The General Assembly,

Having considered chapter IV of the report of the International Law Commission on the work of its sixtieth session,¹ which contains the draft articles on the law of transboundary aquifers,

Noting that the Commission decided to recommend to the General Assembly (a) to take note of the draft articles on the law of transboundary aquifers in a resolution, and to annex the articles to the resolution; (b) to recommend to States concerned to make appropriate bilateral or regional arrangements for the proper management of their transboundary aquifers on the basis of the principles enunciated in the articles; and (c) to also consider, at a later stage, and in view of the importance of the topic, the elaboration of a convention on the basis of the draft articles,²

Emphasizing the continuing importance of the codification and progressive development of international law, as referred to in Article 13, paragraph 1 (a), of the Charter of the United Nations,

Noting that the subject of the law of transboundary aquifers is of major importance in the relations of States,

Taking note of the comments of Governments and the discussion in the Sixth Committee at the sixty-third session of the General Assembly on this topic,

1. Welcomes the conclusion of the work of the International Law Commission on the law of transboundary aquifers and its adoption of the draft articles and a detailed commentary on the subject;

2. Expresses its appreciation to the Commission for its continuing contribution to the codification and progressive development of international law;

3. Also expresses its appreciation to the International Hydrological Programme of the United Nations Educational, Scientific and Cultural Organization

¹ Official Records of the General Assembly, Sixty-third Session, Supplement No. 10 (A/63/10).
² *Ibid.*, para. 49.

The UN ILC mandate on 'Shared Natural Resources'

- 2001 The United Nations General Assembly recommended the International Law Commission (ILC) to consider the topic 'Shared Natural Resources' UN GA RES 56/82 12 Dec 2001**
- 2002 The ILC included the topic in its programme of work UN GA RES 57/21 19 Nov 2002**
- 2002 The ILC appointed Ambassador Chusei Yamada as Special Rapporteur (Session 30 May 2002)**

The ILC work in progress

2003 First report of the Special Rapporteur

General background. Proposes to deal with confined aquifers, oil and gas, and to begin with confined aquifers

ILC Report, A/58/10, 2003, chp. IX, paras. 369-406

2004 Second report of the Special Rapporteur

Definitions, general principles: no harm, cooperation, exchange of data and information; different kinds of uses

ILC Report, A/59/10, 2004, chp. VI, paras. 82-157

2005 Third report of the Special Rapporteur

Set of 25 articles on the law of transboundary aquifers

ILC Report, A/60/10, 2005, chp. IV, paras. 34-107

Adoption of the Draft Articles on the Law of Transboundary Aquifers by the ILC

- **2005 (57th session) Comments and observations received by the International Law Commission from Governments and intergovernmental organizations -U.N. Doc. A/CN.4/555**
- **2006 (58th session) The ILC's Drafting Committee adopts the title and texts of the preamble and 19 draft articles on first reading
U.N. Doc. A/CN. 4/L.688**
- **2008 (60th session) The ILC received comments and observations by Governments on the draft articles -U.N. Doc. A/CN.4/595**
- **2008 (60th session) The ILC's Drafting Committee adopts the title and texts of the preamble and 19 draft articles on second reading
U.N. Doc. A/CN.4/L.724**

A set of 19 draft articles jointly prepared by lawyers hydrologists and hydrogeologists from all regions of the world

PART ONE INTRODUCTION

Article 1 Scope The present draft articles apply to:

- (a) Utilization of transboundary aquifers or aquifer systems;
- (b) Other activities that have or are likely to have an impact upon such aquifers or aquifer systems;

Article 2 Use of terms For the purposes of the present draft articles:

- (a) “aquifer” means a permeable water-bearing geological formation underlain by a less permeable layer and the water contained in the saturated zone of the formation;.....
- (f) “recharging aquifer”
- (g) “recharge zone”
- (h) “discharge zone”



PART TWO GENERAL PRINCIPLES

Article 3 Sovereignty of aquifer States

Each aquifer Stateshall exercise its sovereignty in accordance with international law and the present draft articles.

Articles.4. Equitable and reasonable utilization

(a) ...utilize transboundary aquifers ... in a manner that is consistent with the equitable and reasonable accrual of benefits therefrom to the aquifer

States concerned;

(b) They shall aim at maximizing the long-term benefits derived from the use of water contained therein;

(c) They shall establish individually or jointly a comprehensive utilization plan, taking into account present and future needs of, and alternative water sources for, the aquifer States; and

(d) They shall not utilize a recharging transboundary aquifer or aquifer system at a level that would prevent continuance of its effective functioning.

Article 5 Factors relevant to equitable and reasonable utilization

2 The weight”special regard shall be given to vital human needs

Article 6 Obligation not to cause significant harm

Draft Articles

Article 7 General obligation to cooperate

1. Aquifer States shall cooperate on the basis of sovereign equality, territorial integrity, sustainable development, mutual benefit and good faith in order to attain equitable and reasonable utilization and appropriate protection of their transboundary aquifers or aquifer systems.
2. For the purpose of paragraph 1, aquifer States should establish joint mechanisms of cooperation.

Article 8 Regular exchange of data and information

.....international organizations.

Article 9 Bilateral and regional agreements and arrangements

.....to enter into bilateral or regional agreements or arrangements among themselves. an entire aquifer or aquifer system or any part thereof

Part III PROTECTION, PRESERVATION AND MANAGEMENT

Article 10 Protection and preservation ecosystems

.....ecosystems within, or dependent upon,

Article 11 Recharge and discharge zones

1. ... identify the recharge and discharge zones of transboundary aquifers prevent and minimize detrimental impacts on the recharge and discharge processes.

Article 12 Prevention, reduction and control of pollution

..... Aquifer States shall take a precautionary approach in view of uncertainty

Article 13 Monitoring

1.monitoring activities jointly with other aquifer States ...
2. agreed conceptual model of the aquifers

Article 14 Management

..... A joint management mechanism shall be established, wherever appropriate.

Article 15 Planned activities

1.environmental impact assessment,

PART FOUR MISCELLANEOUS PROVISIONS

Article 16 Technical cooperation with developing States

States shall, directly or through competent international organizations, promote scientific, educational, legal and other cooperation with developing States for the protection and management of transboundary aquifers or aquifer systems, including

Article 17 Emergency situations

1. “emergency” means a situation, resulting suddenly from natural causes or from human conduct,

Article 18 Protection in time of armed conflict

Article 19 Data and information vital .

Nevertheless, that State shall cooperate in good faith with other States with a view to providing as much information

The United Nations General Assembly

Adopted the resolution 63/124 entitled “The Law of transboundary aquifers” by **consensus on 11 December 2008**

Took note of the draft articles on the law of transboundary aquifers,

Annexed the draft articles to the resolution, and

Commended them to the **attention of Governments**

Without prejudice to the question of their future adoption or other appropriate action

Implementation of the UNGA Resolution 63/124

§ 5: “Encourages the States concerned to make appropriate bilateral or regional arrangements for the proper management of their transboundary aquifers, taking into account the provisions of these draft articles”

UNESCO IHP MANDATE

2010



The future format of the UNILC Draft Articles

The UNGA decided to include in the provisional agenda of its 66th session in 2011 an item entitled “the Law of transboundary aquifers” with a view to examining, inter alia, the question of the form that might be given to the draft articles

- **Hard vs Soft Law**
- Global treaty: binding [hard law] vs UN GA Resolution and UNILC Draft Articles: non-binding [soft law]
- ✓ **Soft law documents can still be persuasive and influential, even if they are not binding [Draft Articles on State Responsibility]**
- ✓ **Are the obligations within the UNILC Draft Articles really not binding?**
- ✓ **Choice between hard law and soft law becomes a political choice**

The Guarani Aquifer Agreement



Argentina,
Brazil
Paraguay
Uruguay

A First Response to the Call for Regional Arrangements

Agreement, preamble: “Taking into account also the Resolution 63/124 of the United Nations General Assembly on the Law of Transboundary Aquifers” (August 2010)

SADC

TRANSBOUNDARY AQUIFER MANAGEMENT INITIATIVE

PROPOSAL TO THE ORANGE-SENQU RIVER COMMISSION

1. Introduction

Groundwater is a strategic resource in meeting the Millennium Development Goals (MDG's), especially goals 1 and 7, dealing with issues such as rural water supply, sanitation and poverty alleviation in the rural environment. The degree, to which the unsustainable and inappropriate utilization of groundwater negatively impact the water resources and often leads to land degradation, requires that groundwater development and management should be given more attention in the Orange-Senqu River Basin.

SADC, through its AMCOV-TAC members recently requested a scoping study of groundwater resources management in the SADC sub-region to give effect to the AMCOV groundwater resolutions at their meeting in Brazzaville.

2. Background

Following initiatives in the SADC to promote Internationally Shared Aquifer Resources Management (ISARM), several meetings took place between groundwater managers in the Region to discuss the issues that require urgent attention. These ISARM SADC meetings were held in Pretoria, South Africa from 20 to 21 March 2007, and a follow-up meeting in Windhoek, Namibia, from 18 to 19 July 2007. These meetings led to the prioritization of the importance of the different transboundary aquifers in the SADC, in particular those in the Orange-Senqu River Basin. A consensus decision was taken by the representatives of the different countries present at the meeting in Windhoek that Botswana, Namibia and South Africa will submit a brief motivation to the Orange-Senqu River Commission (ORASECOM) to support an aquifer management project to be undertaken in the transboundary Stampriet/Ncojane (South Eastern Kalahari/Karoo) Aquifer System within the Molopo-Nossob River Basin.

The main objective of this project will be to prepare an integrated water resource management program to maximize the sustainable use of all natural resources to the benefit of the local communities and other stakeholders in the sub-basin.

This consensus decision by the representatives at the ISARM meeting is in line with recent recommendations by the African Ministers' Council on Water (AMCOV) at their 6th ordinary session held in Brazzaville from 28 to 31 May 2007. Those important resolutions regarding groundwater resource management require that:

- The institutionalization of groundwater management should be promoted by River Basin Organizations and that

J.Z.M.

P.P.

[Signature]



- Synergy should be created with the Rural Water Supply and Sanitation Initiative (RWSSI) to ensure the inclusion of groundwater in resource assessments and the sustainable management of water resources to the benefit of the local population.

The representatives of Botswana, Namibia and South Africa agreed at the ISARM SADC meeting in Windhoek to submit a joint proposal to their respective Leaders of Delegation to the ORASECOM to request support for a major transboundary aquifer management initiative in the Orange-Senqu Basin.

3. Recommendations

It is therefore recommended that the ORASECOM should favourably consider the following proposals:

- A Groundwater Technical Committee or Task Force is established by the Commission to assist in ensuring that groundwater issues are adequately addressed in conjunction with surface water issues.
- Groundwater is specifically included in the proposed Molopo-Nossob Basin study and the GEF funded study that is at present in the Transboundary Diagnostic Assessment stage.

By approving these recommendations, the ORASECOM will most probably be the first River Basin Institution in the SADC that will give effect to the resolutions of AMCOV and will make a constructive contribution to achieve the MDG's in the Basin.

DONE and signed on this nineteenth day of July 2007 in Windhoek, Namibia by the following representatives from the Orange-Senqu Basin States:

[Signature]

BOTSWANA

19/07/07

J.Z.M.

[Signature]

NAMIBIA

12/07/07

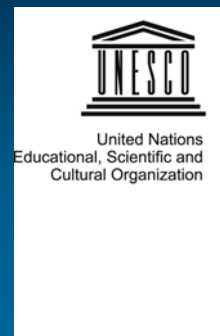
[Signature]

SOUTH AFRICA 17/07/2007

From Potential Conflict to Co-operation Potential



One of UNESCO's contributions to the
World Water Assessment Programme



Serving UNESCO's overall mandate

Fostering co-operation among Member States



P | C → C | P

Target audiences

Member States

Donors and funding agencies

Educators at all levels

**Professionals (current & future) involved
in water management**

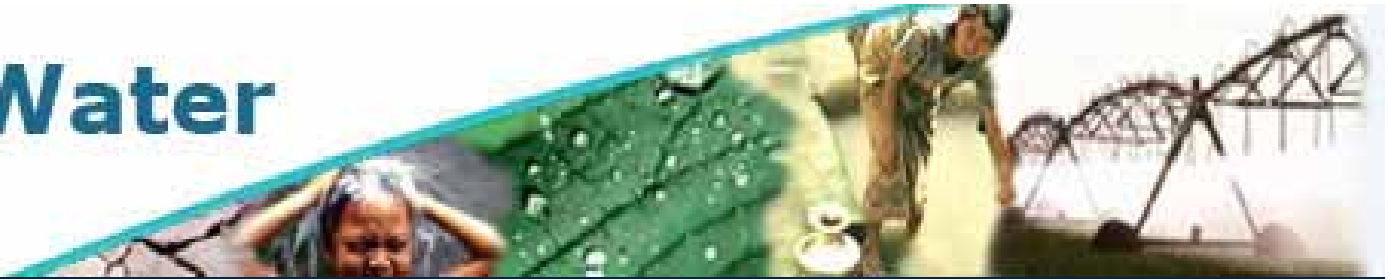
The general public





United Nations Educational
Scientific and Cultural Organization

Water



<http://www.isarm.net/>



Thank you



UNESCO IHP