





Red Internacional de Organismos de Cuenca

الشبكة الدولية لهيئات الأحواض





FRESH WATER IS A TIME BOMB!!!





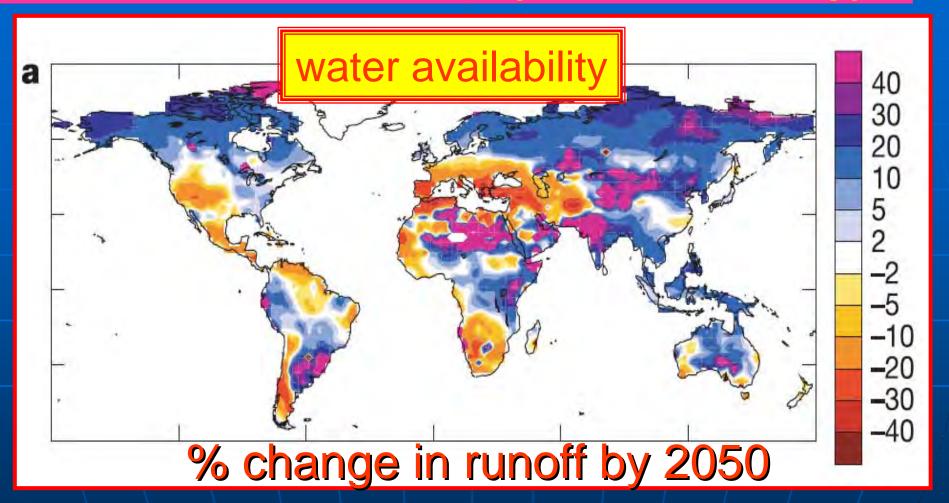




- Natural hazards are poorly controlled,
- Wastage is inadmissible,
- Water pollution is significantly increasing,
- -The situation of the poorest people is intolerable,
- Ecosystems are destroyed...

Wastage and pollution of inland freshwater might limit development in most countries of the world!

Global warming cannot now be avoided. Fresh water resources will be directly affected in the coming years!



- Many of the major "food-bowls" of the world are projected to become significantly drier
- Globally there will be more precipitation
- Higher temperatures will tend to reduce run off
- A few important areas drier (Mediterranean, southern South America, northern Brazil, west and south Africa)



Climate change consequences







The climate change is likely to increase the frequency of extreme events, such as floods and droughts:



Adaptation of water management to climate change is needed



The demographic, economic and ecological consequences of the climate change are likely to be very significant.

It is thus essential to adapt water resources management policies, by taking into account the new elements of this change.

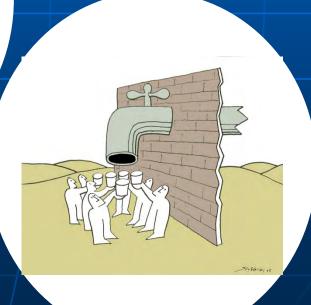
It is especially necessary to quickly evaluate the hydrological consequences of this change, according to various scenarios, to increase the thinking about and prospective, by developing adapted research programs.

Water resources and global changes









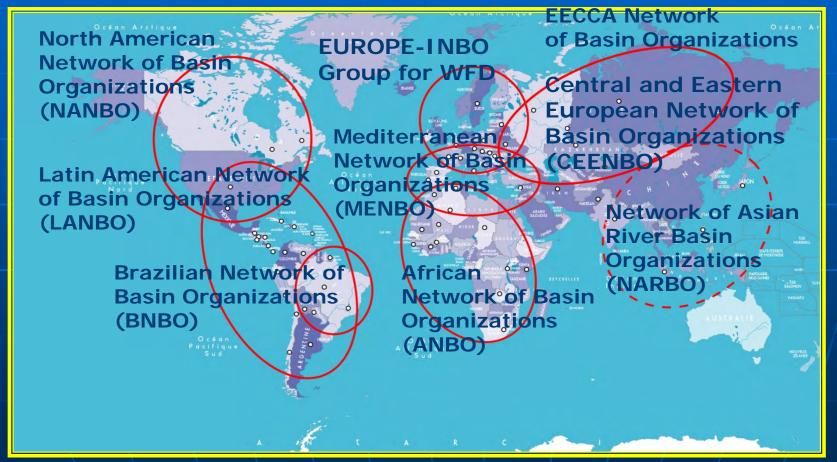


Created in 1994 to facilitate operational exchanges between BO



Organizations

INBO's REGIONAL NETWORKS



188 FULL MEMBERS or PERMANENT OBSERVERS in 81 COUNTRIES



RIVER BASIN MANAGEMENT EXPERIENCED A QUICK DEVELOPMENT IN MANY COUNTRIES



INTEGRATED WATER RESOURCE MANAGEMENT

OVERALL MEETING
 OF RATIONAL AND LEGITIMATE DEMANDS

Agriculture Electricity

Domestic uses Transports

Industry Leisure

Fish farming Fishing

- WASTEWATER TREATMENT AND RECYCLING,
- CONSERVATION OF ECOSYSTEMS: rivers, lakes, wetlands, aquifers, costal areas,
- RISK PREVENTION :

Erosion

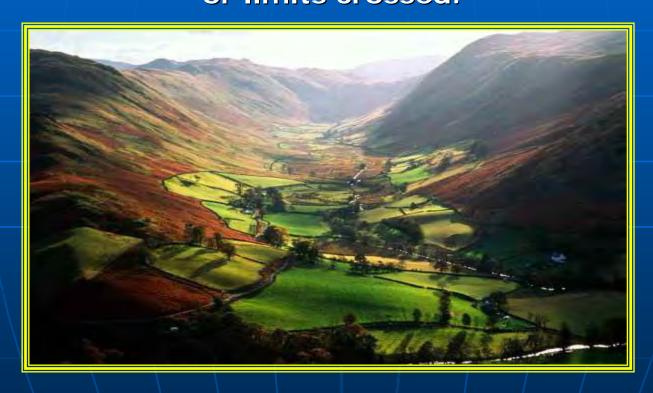
Drought

Floods





Indeed, basins are the natural territories, in which water runs, on the soil or in the sub-soil, whatever are the national or administrative boundaries or limits crossed.



An overall approach should be organized on the relevant scale of basin areas of rivers, lakes and aquifers,







Implementation of the European Water Framework Directive in the 28 countries

of the enlarged European Union,

as well as in the candidate countries for accession, is a major milestone for promoting the principles of good governance advocated by INBO.

Directive 2000/60/EC of 23 October 2000

establishing a framework for the Community action in the field of water policy.



water resources management should be organized:



- 1) on the scale of local, national or transboundary basins of rivers, lakes and aquifers;
- 2) based on integrated information systems, allowing knowledge on resources and their uses, polluting pressures, ecosystems and their functioning, the follow-up of their evolutions and risk assessment.
- 3) with the participation in decision-making of the concerned Governmental Administrations, local Authorities, the representatives of different categories of users and associations for environmental protection or of public interest.



water resources management should be organized:



- 4) based on management plans or master plans that define the medium and long-term objectives to be achieved;
- 5) through the development of Programs of Measures and multiyear priority investments;
- 6) with the mobilization of specific financial resources, based on the « polluter-pays » principle and « user-pays » systems;







• A clear legal framework must specify, in each country, the rights and obligations, the possible levels of decentralization, the institutional responsibilities of the different stakeholders, the processes and means needed for good water governance,

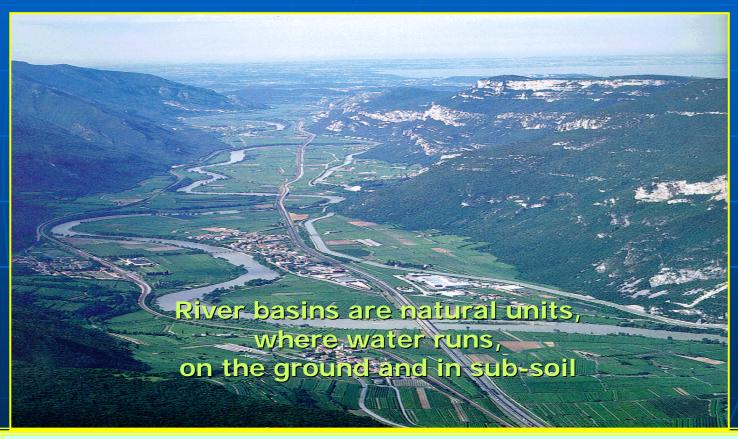


water resources management should be organized:

International Network of Basin

Organizations

1)on the scale of local, national, transboundary basins of rivers, lakes and aquifers



« UPSTREAM-DOWNSTREAM » COMMON CAUSE ON THE SCALE OF BASINS AND SUB-BASINS

What do we consider as a Basin?

The concept includes all water resources





Groundwater



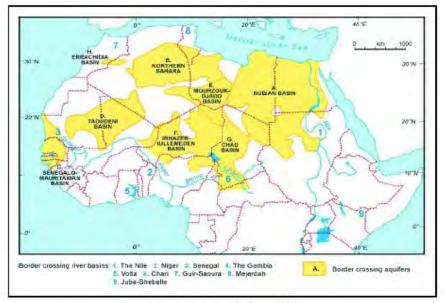


FIGURE 1. Transboundary aquifers in N Africa

« Water has no boundary »



RESEAU INTERNATIONAL DES ORGANISMES DE BASSIN INTERNATIONAL NETWORK OF BASIN ORGANIZATIONS RED INTERNACIONAL DE ORGANISMOS DE CUENCA



TWO HUNDRED AND SEVENTY SIX RIVERS OR LAKES AND HUNDREDS OF AQUIFERS ARE TRANSBOUNDARY ONES



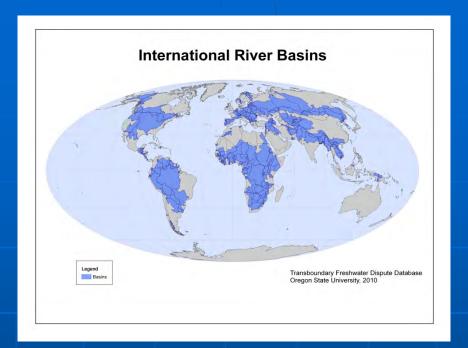
International Network of Basin Organizations



Transboundary basins per continent.

	2002	Percentage Of territory
Africa	5 9	62 %
Asia	5 7	3 9 %
Europe	69	54 %
America North	<u>각</u> ()	3 5 %
America South	જી જી	<u>60 %</u>
TOTAL	276	45 %







today, there are still too few agreements, conventions or treaties, dealing with:

- pollution control,
- aquifers management,

and, a fortiori,

- the integrated management of shared river and aquifers basins.







Implementation of the UN Convention for the international water courses management in Europe – HELSINKY 1992

Building the data administration and sharing capacities of the national and local Authorities involved in 2 pilot basins, by using methodologies that can be replicated in other transboundary basins of the region.



« the World Pact for better basin management »



о повышении эффективности

الشبكة الدولية لهيئات الأحواض

» أنَّ أم واحد الألها، والمدرات والنياء الموجية العام الكنديد يفخي أن تعطي جعمام بعدرية لل يشكل مشاركتين شيق المشاطعة : يسم وهي دو يعدل مشاركان في المناطقة الي الله في مع مجالة أن ودون المداكل أثاثو طاحة والسيدا طل حالة أن المناطقة أن المناطقة أن المناطقة المناطق

له حدود العزو النامرُ القيم من خارُ مياسة اسياسية، والنا

 الدار خارل ليداء أو زيادًا الهويات المنصحة إذا الدور الحارة وارتقا الدار وشال دار الم الدور القيراء المراد مناد التغيير أو تعزيز فأكر هيد التالديين اليغرف التناية أو منسدة فالغراد عي هذا السبال من يترد الأمواس. مروز الشراد النهاد النجادي المجتبع المجتبع المجاد المجادية الله المجتبع المجادية المجتبع المجتبع

سرور دائوی الاستینین جران والیفتر فی بسید آمند الطبیقی ای منطقه السیم داخل الفران والرایه بشدی آفادش استرا می ایاز الشوادی پذاریها فی میواند مناطقاً

من حيال الهادات البيادة على منا ، البيألل المامي النسين دينا الأموم عظره بالطين الإلى الله البيرات بييله وطن مين أنابة في ما يقطل بدلة مؤلفا الشريعية وجس دويا فوسال التي بيرانة بالأفرام إلى بالد داوها الوقائل والبراسة المؤلف في الوارد إلى بالي

 تما قارير خاد النسبين إدار البياد بإنسبين إدار شاه بيناد أو ميت الإمراد أنها طبر الآن ومع البياد فاضلة وحساما أقساد العسادات العالمات التنايد الإصلامات إلى من شبالها أن تكرير عليه والجدار سامه - 1/1/10 قست أما الميام دارم ساية لإراة الوسيقات البنادك المستونة والشرار ليد الد الدار خواجات منطقا على السيان الماكم بالمستا الأمراض ال أو الوطية أو الدير الاسرد، مصر الاقتصاد

» تنظيم ميزار دو آسدان العمال البدل بين القسيدا لأمواها وسائل ما در الهر المقال العلي راية مسائل ما دران العمال العمال والوسي في التنظيم اللامة بشأل الإيون واليسال العباد الدارة المقال والمثان والمسائل العباد الدارة المثان والمثان والم





لمنثباق المالمين تحسين إدارة الأحواض

نمن سناو هبات أموان كأنهار والبحيرات أو المياه الموفية في مناطق مختلفة وطنية والإعليمية والحقرة البسوب وموايعها التنديان التي تواجه توكيبا هي فرقع پيدي أن مفتق الاستدار المايدة الأنته وتعسن بالسو الاسترد وجارد فرقته رداد الطويد المنتماء الرابة السريعة في 100 ســـال الطائر. والبيدة والنسر فيتراند والتر الماي جاران 100

والم وحد من المسائل معاقب التي هذه القطارة على مستيين المعاقبي أو معاقب. أن يعاول من جمعها الجعاب جوساً من نائد بيدن أن يأسر أد المعاقب العاقب صدح العائمان على ينهم متاكمان والمعاقب بالأسميل مع الوحاث الهيدر والهائدة في مسئل داخل الاستعادم المسائلة المهادية العاقبة.

💌 هرور داوندال وألو العزيز البستير تأثثك الينيد تعريض البوارد البخية راهان برواطي بالل (1997) وراج (1962) و واليسان (1998) ولاهان (1904) ويواطي (1902) والواح (1905) والأساط (1904) والمحاول (1905) لا يواط

. Althorities of Southing Still deaths

是(2002年), 京都(2003年), 長西哥(2003年)和伊斯

水相共业务联合管理的适合区域。

管理流域的

我们代表全球各地的河流、湖泊或含水层的流域组织。加 《为更好管理流域的全球公的》, 旨在对国家, 地区和

为更好

事实上,我们必须实现千年发展目标,确保"绿色增长", 2对因会理人口迅速增长、转回、城市化的目前发展。90 候安化引起的全球变化。 我们得通过努力,孤弱自然灾害,可靠地满足城市和农村

饮用水的需求。改善卫生与健康各件、预防进行病、债保 所含的格。工业发展和能源生产、水路运输、泵进中核间 级平。预防并应对各种污染,技持养鱼全,从更广泛地采 设,保护水生环境的生物多样性。

陈石改品接收都不能原朝或区域传统处理。也不能分开

加入水公约、即兼味着非们承认 必须不能引入和/或孔网新形式的水资源治理。至目前 为止召开的会议主要有都相林(1991年)、里的热内卢 (1992年)、巴黎(1998年)、淮牙(2000年)。約翰内斯

河流、建石和含水层是水烫漆、水生生态系统和所有可

连城中现有的各种生态系统无论对于生物多样性还是 环境服务都具有重大意义。尤其是对水文循环的调整、

流域组织国际网

跨境河流、湖泊和含水层流域应量于特别关注。由临 采用要给水的形式建立和巩固各种流域组织, 特别是

本月東京日1925天建3年5月6月東
東阪委员会、主管部门或其他世界法域组织。可使利 対応。合作、信息交流和挪实行动与联合项目。可共同 分享益处、预见未采并防止利益相关各方之间的滞在

管理改进代表公共利益心不可少的地区项目

➤ 必須成立或汎関管理水瓷源和水环填管理的专项资金。 并对水的"大周期"进行全面管理。

 建立或加强统一性的框架,促进流域管理领域的双边或多边偏议是有用的; ▶ 保留計会報業方和地方計区必須更好金額入其與有額

 点便知識分別和某个他区後被目的协会性,但该会會 流域管理最佳等指的经验和技术交流及其存不同背景

我们承认采取行动的进切性。代表《为更好管理流域的全 球公约》的签约机构。表达我们在该定权利下、在我们拥 有的能力范围中。与国家政府和国际机构一起共同携手的

 采取行动,改进水资源的治理,在尚无流域组织存在 的区域推动流域组织的建立。在已有流域组织的区域 加以巩固。协助主管部门进行有益的改革并制定水资 源可持续管理政策和事实政策实际应用必需的调纸 麻研情况, 支持协大, 国营和政绩设施大等调制大会





International Network of Basin Organizations

World Pact for better basin management

Gathered in Merseilles on the occasion of the 6ª World Water Forum on 16 March 2012 Wa, recresentatives of river lake or antifer hasin crosnitstions, from different parts of the world, subscribe to the present "World Pact for better basin management" in view of the development of integrated and joint water resources management at national, regional and transboundary level to meet the challenges facing our planet.

Indeed, we must achieve the Millennium Development Goals and ensure "green growth" and face the global changes associated with the rapid world population growth, migration, increasing urbanization, climate change, etc. Our efforts should indeed allow lighting against natural disasters, reliably meeting the drinking water needs of urban and rural populations to improve hydiene and health and prevent epidemics, securing food sufficiency. developing industry, energy production, waterways transport, fourism and recreational activities, preventing and controlling pollution of all kinds to preserve aquatic ecosystems, support fish production and more generally preserve the biodiversity of water-related environments.

All these stakes cannot be tackled on a sectoral or local basis, or separately from each other. The search for solutions must instead involve all stakeholders in an integrated and joint approach, organized in cooperation with the river basin units and for the sustainable use of water resources.

Through our commitment to this Pact, we recognize that:

- > It is becoming imperative to introduce and/or permanently strengthen new forms of governance of water resources, such as those already recommended at Dublin (1991), Rio (1992), Paris (1998). The Hague (2000), Johannesburg (2002), Kyolo (2003), Mexico (2006) and Istanbul (2009) in narticular
- River, take and aquillor basins are the relevant territory for the organization of joint management of water resources, aquatic ecosystems, and all water-related activities:
- > The different ecosystems found in river basins are very important both for biodiversity and environmental services, including for the regulation of the hydrological cycles and risk prevention, as well as for the treat ment of pollution;
- > The basins of transboundary rivers, lakes and aquifers are to be paid special attention and be jointly managed by the riperian Countries;

- suited forms, especially international commissions, authorities or other transboundary basin organizations, facilitate dialogue, cooperation, information exchange and implementation of joint projects and actions, for sharing benefits, anticipating the future and preventing potential
- It is necessary to increase regional integration by harmonizing policies and laws and by implementing the regional programmes of common interest needed to improve surface and groundwater resources mana-
- > It is necessary to create or strengthen the funding dedicated to the management of water resources and aquatic environments and gonerally of the "great water cycle",
- It is useful to develop or strengthen federating frameworks for facilitating bilateral or multilateral initiatives in this strategic field of basin
- The stakeholders of the civil society and the local authorities should be better associated and involved in the management of the basins where
- around the world and in each region to facilitate the sharing of experience and know-how on best practices in river basin management and their adaptation to different contexts.

Recognizing the need of urgent actions, We, representatives of the organizations, signatories of the "World Pact for better basin management", earness our will, in what comes under our statutory powers and within the limits of our own resources, to commit ourselves alongside our national governments and international institutions for

- acting to improve water governance, facilitating the creation of basin organizations where they do not exist, strengthening existing organizations, helping the concerned authorities develop useful reforms and policies for sustainable water management and the programmes needed for their implementation in the field:
- supporting processes of sustainable, integrated, joint and participative management of water resources and environments organized on the appropriate scale of local, national or transboundary basins according





Pact - - - -

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« UPSTREAM-DOWNSTREAM » COMMON CAUSE ON THE SCALE OF BASINS AND SUB-BASINS

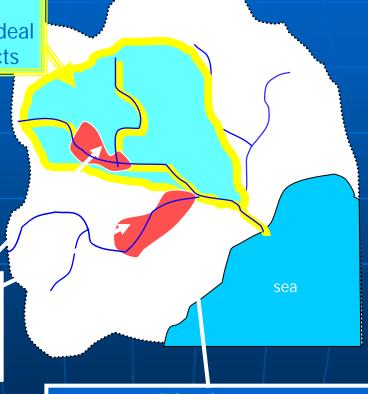
Sub-basin/Sector/ Water type

element of district to deal with particular aspects

THE DIFFERENT HYDROLOGICAL SCALES:

Water bodies

scale of evaluation of the achievement of good status



District =

river basins + associated groundwaters and coastal waters









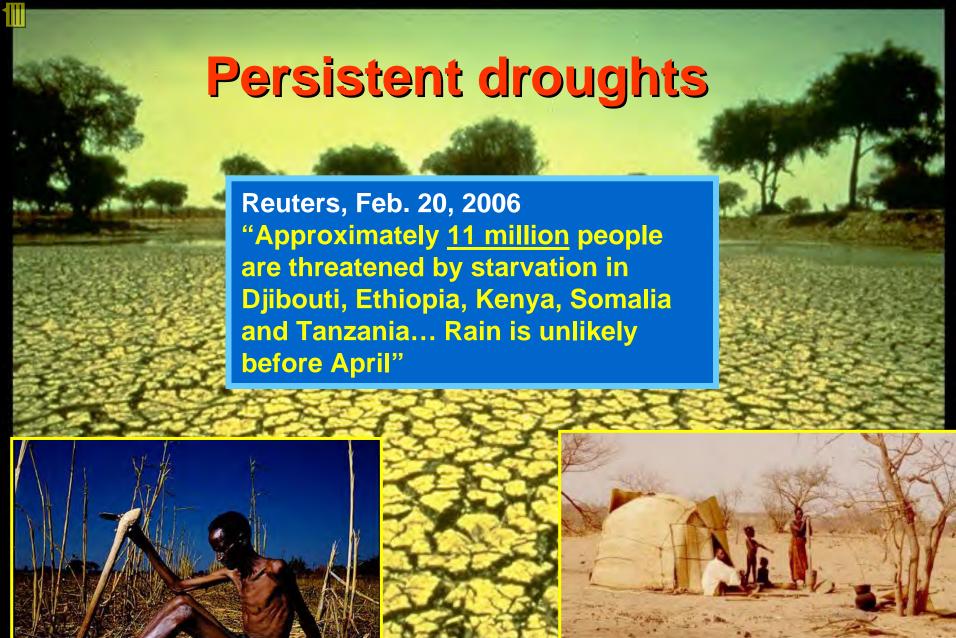


PREVENTION.

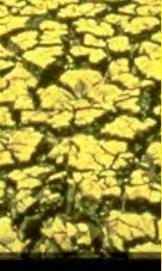
PROTECTION AGAINST FLOODS

MUST PASS THROUGH A COORDINATED APPROACH,
COMBINING, ON THE SCALE OF BASINS AND SUB-BASINS:

- Protecting people and properties,
- Reducing vulnerabilities,
 - Restoring the free flow of rivers,
 - Preserving rehabilitating the natural flooding areas,
- Foreseeing hazardous events,
 - Identification of hazardous areas,
 - Prohibition of buildings in the exposed areas,
- Warning and educating.











wastewater treatment

CLIMATE CHANGE CONCERNS ALL MAJOR WATER USES

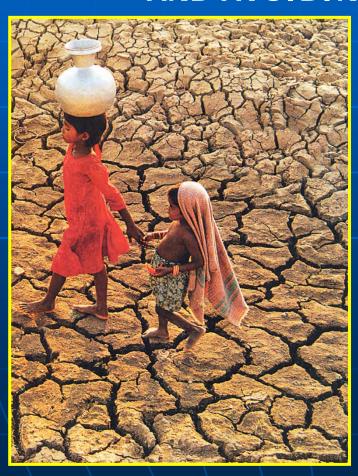


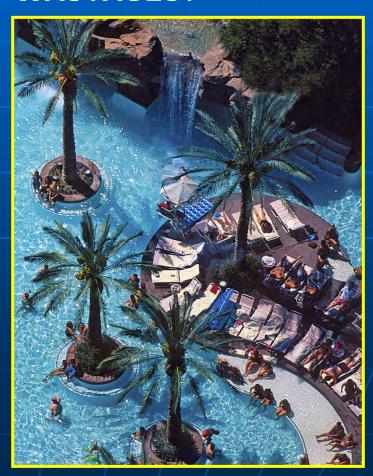






IS WATER EQUITABLY AND SOUNDLY SHARED BETWEEN THE VARIOUS USES, ENSURING A BETTER OPTIMIZATION OF WATER AND AVOIDING WASTAGES?









MOBILIZING NEW RESOURCES SHOULD BE PLANNED WHEN THEY ARE ECOLOGICALLY ACCEPTABLE AND ECONOMICALLY REASONABLE.







PARIS

WITH REGARD TO DROUGHTS:



AVOIDING WASTAGES!

- WATER SAVING,
- LEAK DETECTION,
- RECYCLING,
- THE REUSE OF TREATED WASTE WATER,
- GROUNDWATER RECHARGE,
- THE DESALINATION OF SEA WATER,
- RESEARCH ON LOW-CONSUMPTION USES...

... MUST BECOME PRIORITIES.



A NEW APPROACH TO WATER USES IN AGRICULTURE SHOULD BE LOOKED FOR.













Technical

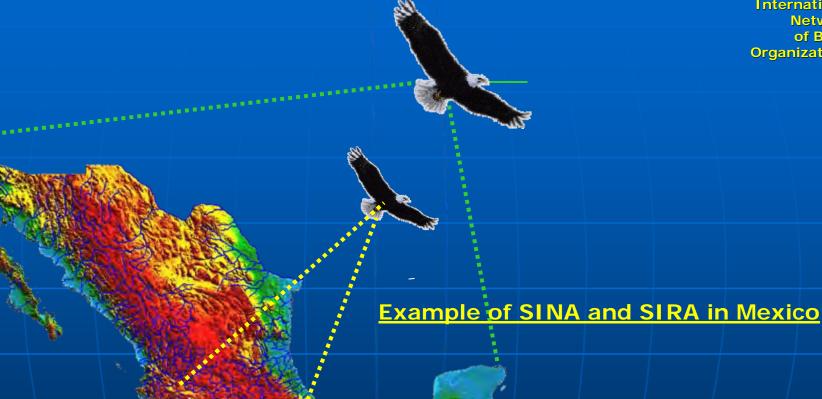
PARIS

Secretariat

water resources management should be organized:



International Network of Basin **Organizations**



2) based on integrated information systems,

allowing knowledge on resources and their uses, polluting pressures, ecosystems and their functioning, the follow-up of their evolutions and risk assessment.



If we cannot measure, we cannot manage!!



DIALOGUE



INFORMATION



Resources

- Surface water (Rivers –Lakes)
- Groundwater
- Wetlands



Uses

- Quantity
- Quality
- Ecology
- Requirements
- Abstractions
- Discharges
 - Flowrates
 - Pollution

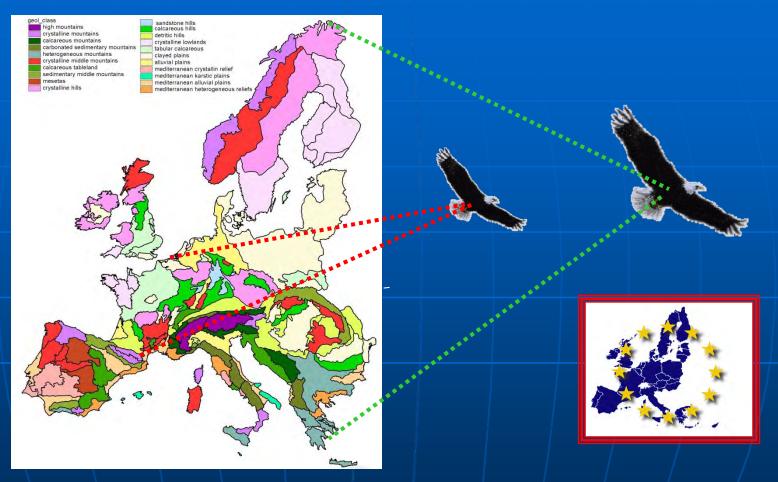
- Seasonal variations
- Geographic locations
- **Economical informations**

- Frequencies
- G.I.S
- Cost, budget...



Integrated information and monitoring systems





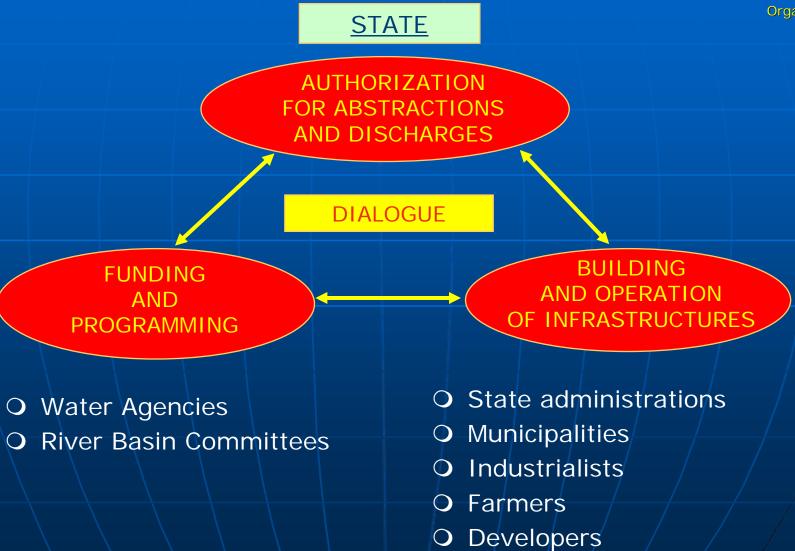
 Integrated information and monitoring systems which are reliable, representative, harmonized and easily accessible, and specific research should be organized in each basin,



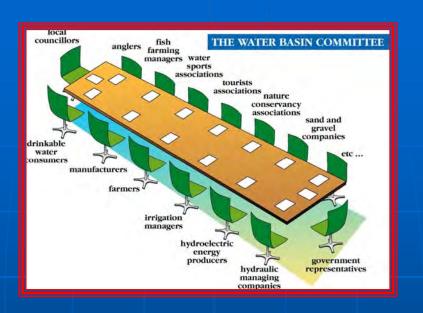
MORE AND MORE STAKEHOLDERS ARE INVOLVED IN WATER MANAGEMENT



International Network of Basin Organizations









2) with the participation in decision-making of the concerned Governmental Administrations and local Authorities,

the representatives of different categories of users and associations for environmental protection or of public interest, especially, in Basin Councils or Committees.

 Information, awareness and education of populations or users and of their representatives are essential,



TO SOLVE POSSIBLE CONFLICTS ON WATER USE: "DIALOGUE IS THE BEGINNING OF WISDOM".





Conflicts

requirements collected from each point of view



Designing a program through dialogue

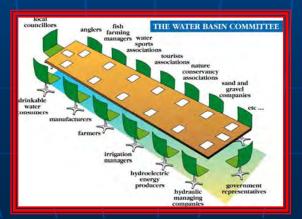
Reaching agreement with an ambitious program



• INBO RECOMMENDS THAT THIS PARTICIPATION BE ORGANIZED IN BASIN COMMITTEES OR COUNCILS.

IN PARTICULAR, THEY SHOULD BE ASSOCIATED TO:

- ■THE DEFINITION OF LONG-TERM OBJECTIVES,
- ■THE PREPARATION OF MANAGEMENT PLANS OR MASTER PLANS,
- ■THE SELECTION OF DEVELOPMENT AND EQUIPMENT PRIORITIES,
- ■THE JOINT IMPLEMENTATION OF PROGRAMMES OF MEASURES
 AND MULTIYEAR PRIORITY INVESTMENT PROGRAMMES,
- ■THE ESTABLISHMENT OF FINANCING PRINCIPLES AND THE CALCULATION OF WATER TAXES THAT CONCERN THEM.











Le passeport de demain? Tomorrow's passport? ¿El pasaporte de mañana?







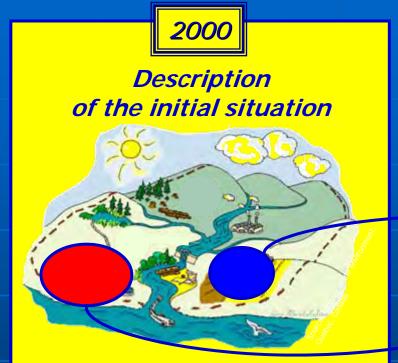




water resources management should be organized:



Permanent Technical Secretariat PARIS

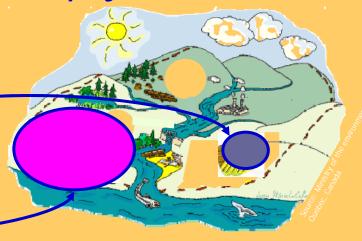


Focus on economic aspects:

- estimate the economic "weight" of water uses and services
- assess the level of recovery of costs of water services

2025

Baseline scenario: projection for 2025



Baseline scenario:

- appraisal of evolutions of uses, pressures...
- identification of potential gaps in water status with GES

4) based on management plans or master plans

that define the medium and long-term objectives to be achieved;



Secretariat

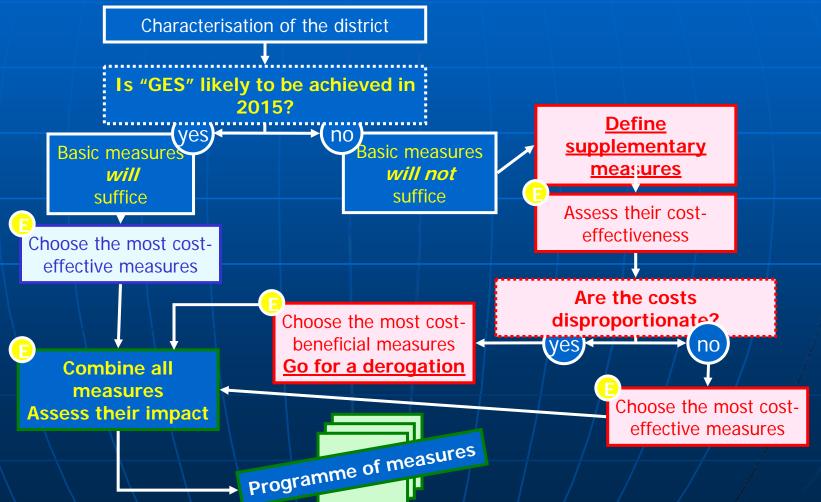
PARIS

water resources management should be organized:



5) through the development of Programs of Measures and multiyear priority investments;

International Network of Basin Organizations



6) with the mobilization of specific financial resources,

THE « POLLUTER - USER - PAYS » PRINCIPLE

Abstraction taxes

Pollution taxes

The Water Agency's Budget adopted by the Board of Directors with approval of the Basin Committee

10 %

90 %

Studies & Research

Operation

Measurement networks

Aid = 6-year Program

Big developers

Local authorities

Farmers

Industrialists





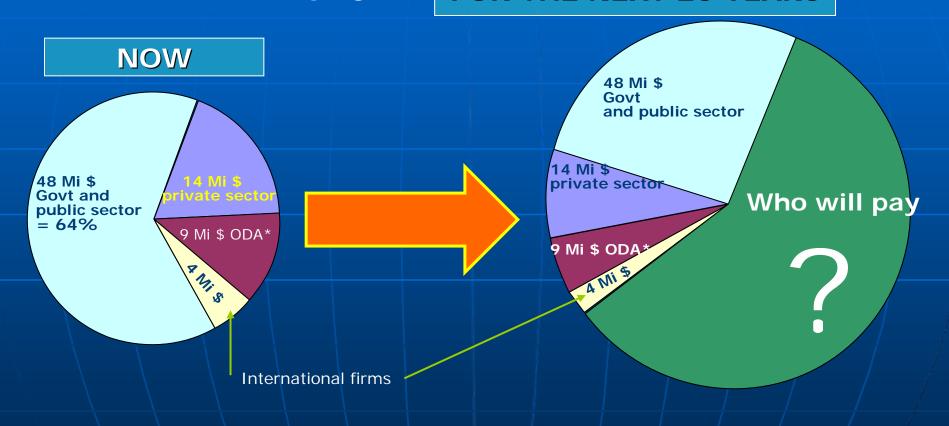


IF WE ARE NOT ABLE TO MOBILIZE ENOUGH MONEY, WE SHALL NOT HAVE THE FRESH WATER WE NEED!



Who will pay?

FOR THE NEXT 25 YEARS



75 milliards \$ / year

180 milliards \$ / year



FINANCING WATER POLICY:



The international official aid only represents 10% of the investments made worldwide.

Public budgets cannot bear alone all the investment and operating costs.

- The users must contribute according to the "polluter-pays" principle and the "users-pay" systems.
 - = WATER MUST PAY FOR WATER



Permanent Technical Secretariat PARIS

FINANCING WATER POLICY:



International Network of Basin Organizations

EQUALIZATION OF FINANCIAL EFFORTS:

- Territorial equalization: in the same geographic area or basin
- Sectoral equalization: between public services – drinking water – electricity – sanitation – solid wastes ...
- <u>Equalization between users</u>: rich, poor, big consumers / polluters, small consumers / polluters
- Equalization between functions: between upstream and downstream areas, between commercial services and administrative functions



water resources management should be organized:



6) with the mobilization of specific financial resources,

VARIOUS COMPLEMENTARY SYSTEMS FOR COST RECOVERY : THE 3x"T"

- **ADMINISTRATIVE TAXES:** paid to the general budget.
 - General taxes or penal fines
 New ecological tax.
 - WATER-RELATED CHARGES:
 - National water charges transiting through "Special Accounts of the Treasury"
 - Basin water charges levied by the Water Agency
 - THE PRICING OF COMMUNITY SERVICES:
 - Price of raw water levied by big developers
 - Price of drinking water levied by the municipalities or water suppliers
 - TRANSFERTS: International aid or from other economical sectors.

IN CONCLUSION: BUSINESS AS USUAL CANNOT CONTINUE!

• integrated and sound water resources management is more than ever a priority when this scarce resource is already a limiting factor for sustainable development in many countries in the world.

MOBILIZATION IS ESSENTIAL FOR HUMANITY TO WIN THE WATER BATTLE AND PREPARE THE FUTURE!











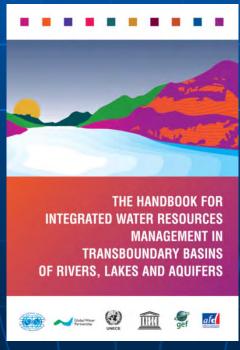






The International Network of Basin Organizations (INBO), The Global Water Partnership (GWP), The French Development Agency (AFD), The GEF, UNESCO and UNECE,









Secretariat PARIS





International Network of Basin Organizations







TODAY, IT IS USELESS TO "REINVENT THE WHEEL"

AS ALL EFFECTIVE TOOLS ARE AVAILABLE TO MOVE FORWARD FAST,
IF THERE IS A POLITICAL WILL TO DECIDE TO DO SO!

LET'S GET MOBILIZED! YES WE CAN....

THANK YOU FOR YOUR ATTENTION!



International Network of Basin Organizations
Red Internacional de Organismos de Cuenca







International Network of Basin Organisations

INBO initiatives are open to your participation:
your inputs are welcome!

http://www.inbo-news.org

For developing and strengthening basin organizations over the world