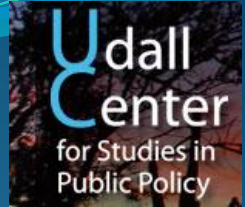




Workshop Hydroenergy and Climate Change



HYDROPOWER DEVELOPMENT AND THE URUGUAY RIVER CASE

Víctor Pochat
Buenos Aires, 29 July 2014

URUGUAY RIVER BASIN

Area 365,000 km²



**LA PLATA
BASIN**
3.1 M km²



URUGUAY RIVER
Length 1,850 km
Mean annual flow 4,500 m³/s

URUGUAY RIVER BASIN DAMS UNDER OPERATION



Foz do Chapecó



Rincón del Bonete



Salto Grande

Countries	Rivers	Dams	Capacity (Mw)
BRAZIL	Uruguay	Itá	1,450
		Foz do Chapecó	855
	Canoas	Campos Novos	880
	Pelotas	Barra Grande	708
	Passo Fundo	Passo Fundo	226
	Chapecó	Quebra-Queixo	121
	Machadinho	Pelotas	1,140
URUGUAY	Negro	Rincón del Bonete	160
		Baygorria	108
		Palmar	333
ARGENTINA- URUGUAY	Uruguay	Salto Grande	1,890



WORLD DECLARATION WATER STORAGE FOR SUSTAINABLE DEVELOPMENT (Kyoto, 2012)

The **global increase in population** and the **socio-economic development** with increasing **living standards** for all, will continuously **raise the requirement for water, food and energy** consumption.

Due to **climate change, water distribution** may become **more irregular**, and **disasters** related to **floods and droughts** will worsen.



WORLD DECLARATION WATER STORAGE FOR SUSTAINABLE DEVELOPMENT (Kyoto, 2012)

Energy sources are limited:

Fossil energies are **polluting** and **emitting** greenhouse **gases** and their **reserves** are **limited**;

Nuclear energy is **restricted** to industrial **countries** which have the **technology** and the **security** of nuclear energy has aroused **people's** wide **concern**;

Variable **renewables** such as **wind** and **solar** sources are valuable and **should be developed** as much as possible; however, they **need back up**. **Hydropower** can play this **role**.



WORLD DECLARATION WATER STORAGE FOR SUSTAINABLE DEVELOPMENT (Kyoto, 2012)

To **face** this century's **greatest challenge** – to manage **water** sustainably –we need to strengthen **existing** water **systems** and further develop **new** water **storage** infrastructure. This will **require** adequate **legislation** and **funding**.

It must also **include** the **optimization** of the **use** of water by combining **multiple purposes**: **flood** management and **drought** mitigation, **irrigation** for food production, **energy** production, **drinking** water and **sanitation**, **industrial** water supply, **navigation**, **environmental** services, etc.

ENVIRONMENTAL AND SOCIAL CONCERNS



Misiones dice:
NO a Garabí

NO a la Represa de Garabí
Que **NO** inunden nuestros pueblos
Que **NO** enfermen a nuestros hijos
Que **NO** nos dejen sin hogar
Que **NO** nos mientan más
Que **NO** destruyan lo que Dios creó
Que **NO** agredan a la naturaleza
Que **NO** nos engañen, ya sabemos lo que es una represa.
Únete con tu firma al NO a Garabí.



**DÍA INTERNACIONAL
DE ACCIÓN CONTRA LAS
REPRESAS Y POR LOS RÍOS
EL AGUA Y LA VIDA**





UNITED NATIONS ENVIRONMENT PROGRAMME DAMS AND DEVELOPMENT PROJECT

The role of dams is considered in the context of **sustainable development**. This involves dealing not only with **environmental** and **social** issues but also **economic** aspects associated with the **benefits** of dams.

A **narrower** perspective, focusing **only** on **negative** social and environmental **impacts**, leads invariably to **polarizing** the debate on whether dams **should be built** or **not**.

When the **full range** of social, environmental and economic issues is **considered**, **dams** become a **valid option** and the question changes to **how** to **build** a **good dam**.



UNITED NATIONS ENVIRONMENT PROGRAMME DAMS AND DEVELOPMENT PROJECT

Sustainability of dams involves consideration of the **engineering, environmental, social, economic** and **financial** aspects within the context of an **informed** and **participatory** decision-making process.

This **integrated** approach also **includes** dealing with the **entire basin** when planning, developing and managing water resources, recognizing **upstream** and **downstream** interlinkages and being aware of particular **stakeholder interests** and areas of **potential conflict**.

Source: United Nations Environment Programme, Dams and Development. Relevant practices for improved decision-making, available at www.unep.org/dams

Workshop Hydroenergy and Climate Change

THANK YOU VERY MUCH

Víctor Pochat
vpochatm@yahoo.com.ar