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Director SIC ICWC**

Water recourses of Central Asia vis a vis power

Almaty, 3-5 September, 2009

The Aral Sea Basin





Framework of collaboration

Political will of 5 Presidents

Creation of ICWC, Agreement 18 March 1992

Decision by the Head of States of March 1993

Decision by the Head of States of January 1994 – PBAM 1

“Concept decision of the Aral Sea basin problems”

Agreement on IFAS status, 1999

PBAM 2, 2002, but failed. Why?

Principles of ICWC works

The operation and management of international waters on the basin of two rivers: Amudarya and Syrdarya will be mutual by this Commission on behalf of all five states;

All decisions related to water management should be accepted by the members of this Commission on the regular meeting taking place each quarter on the base of full consequences;

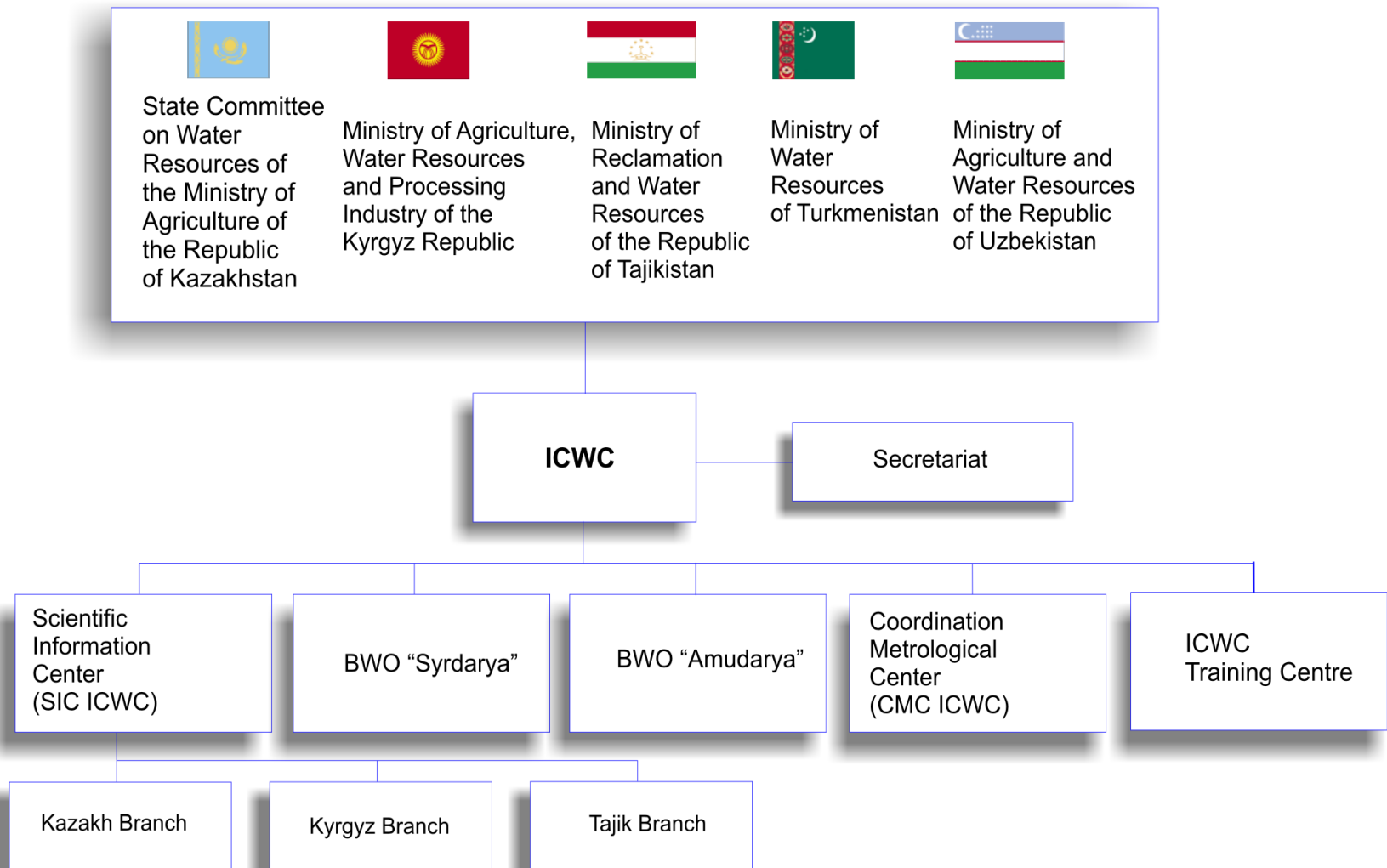
Executive bodies of Commission take responsibilities for implementation of decision of ICWC members;

The water allocation is based on the existing water resources rules;

Parties agreed to avoid any actions that can cause harm or damage to other partners.

STRUCTURE of Interstate Coordination Water Commission of Central Asian states

FOUNDERS OF ICWC





Water collaboration takes place as

Mutual planning and control of annual water Allocation; operation by two BWO's

Capacity building of ICWC

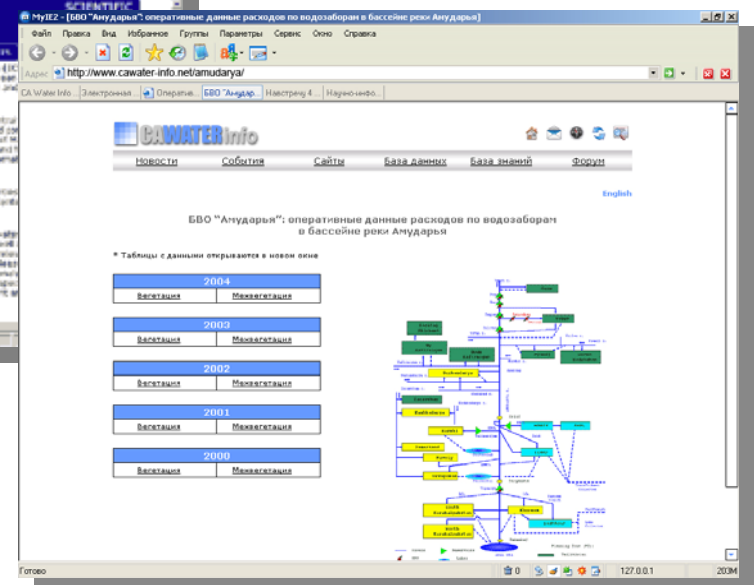
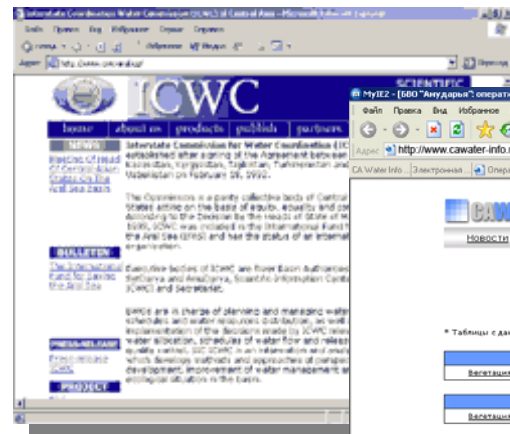
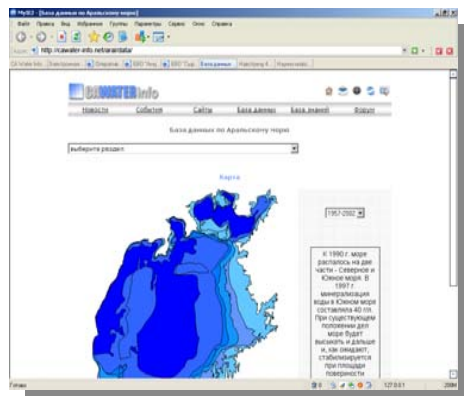
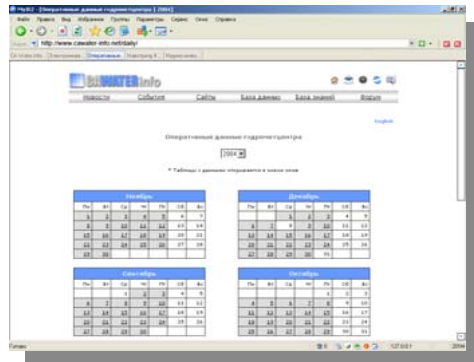
Information system – transparency and trust – thanks SDC!!!

Strengthening legal, institutional, and technical Frameworks of executing bodies - ADB;

Implementation of IWRM – thanks SDC!!!

CAWater-Info

www cawater-info.net



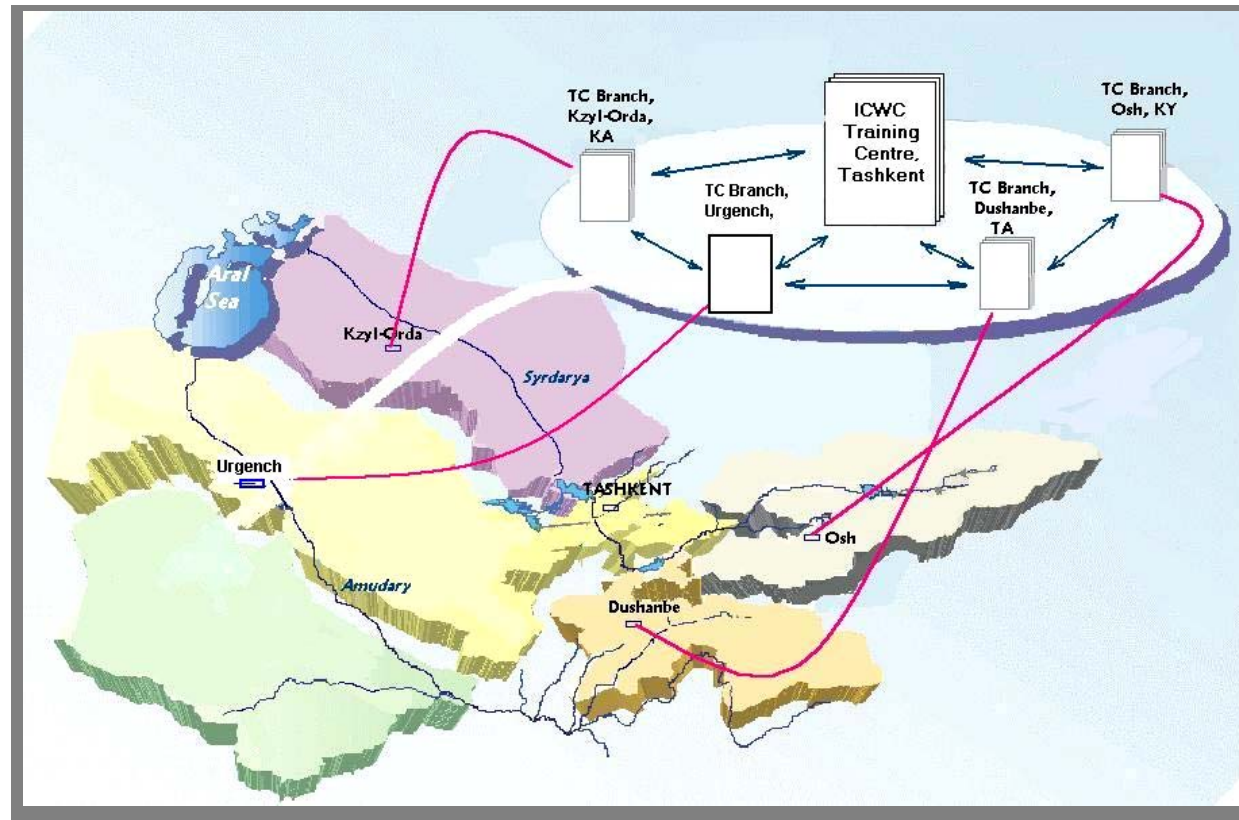
Widespread campaign on training of water users and water specialists;

Advanced training of 6.000 – 10.000 specialists at middle and lower levels should be provided every year

•SDC

•IHE – UNESCO

Who else?





With the support of CIDA, USAID and SDC, BWO “Syrdarya” together with SIC ICWC started implementing SCADA in 10 stations.

This system allows for continuous registration of water discharge, level, and salinity, as well as for improvement of water distribution accuracy at the main off-takes from $\pm 10\%$ to $\pm 2\%$. It is planned to cover the mid-stream up to Chardara by 2010 together with SDC.



Region

– present problems

Growth of population;

Climate changes;

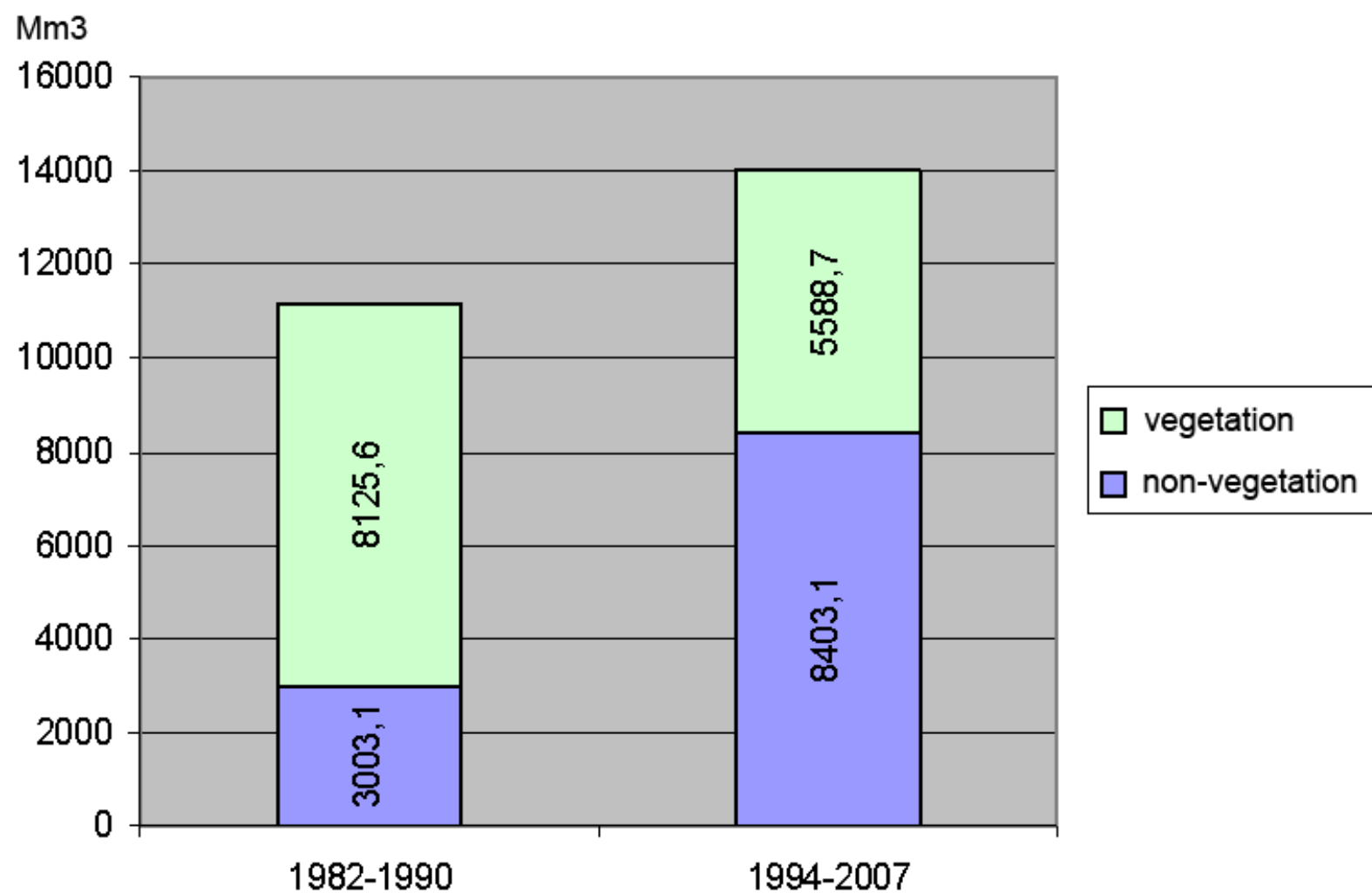
Future requirements of Afghanistan;

**Growth of hydropower pressure as reflection
of globalization and local conditions.**

Comparison of results obtained under two scenarios of climate change (Chirchik-Akhangaran-Keles Basin)

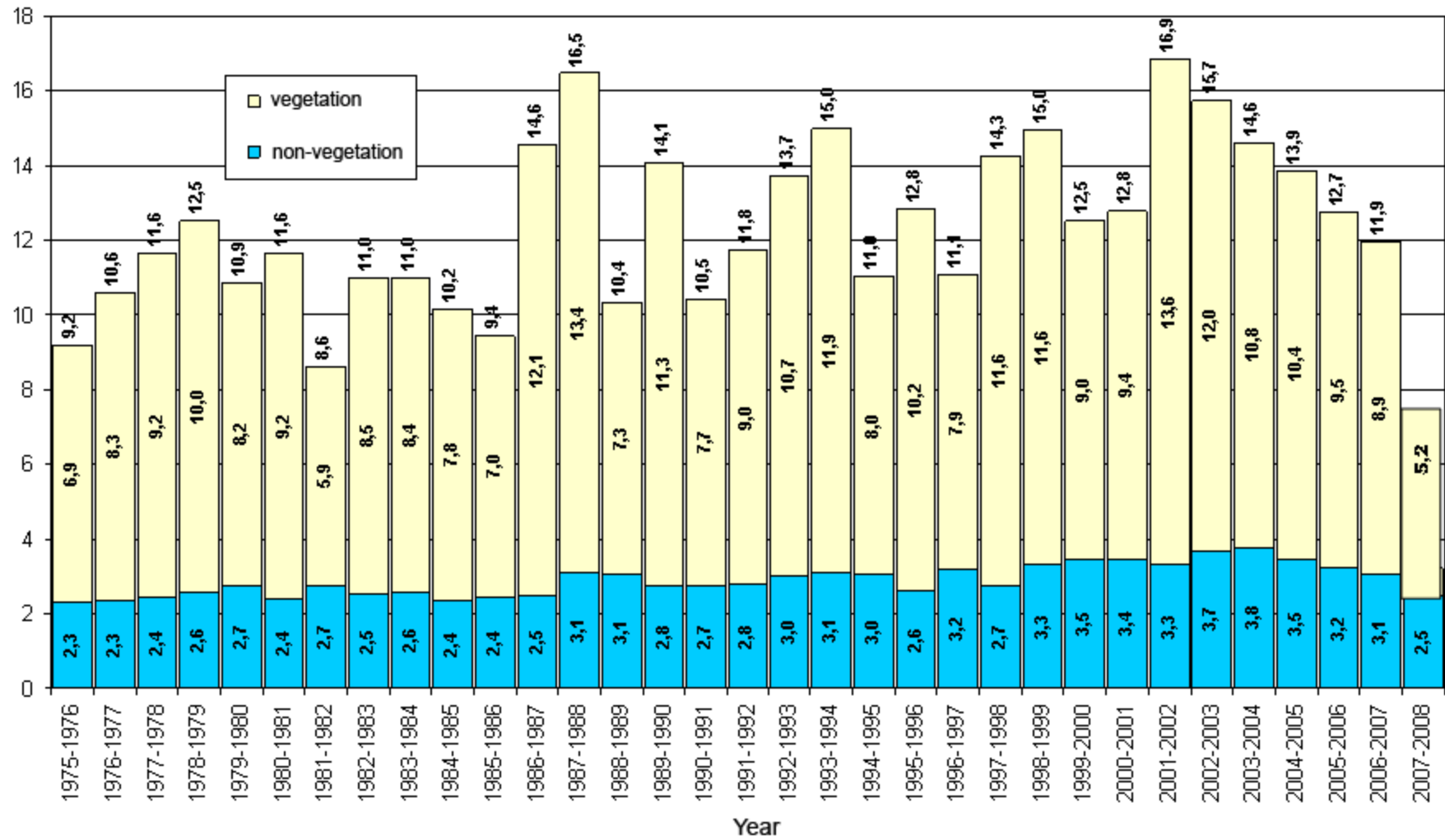
	Resources		Simulated withdrawal for irrigation	
	ECHAM	HADCM2	ECHAM	HADCM2
Basic year 2003	9213		4380	
min	5131	5440	4225	4210
max	12552	12775	6285	6270
Mean for 2003-2030	8107	8403	5360	5190

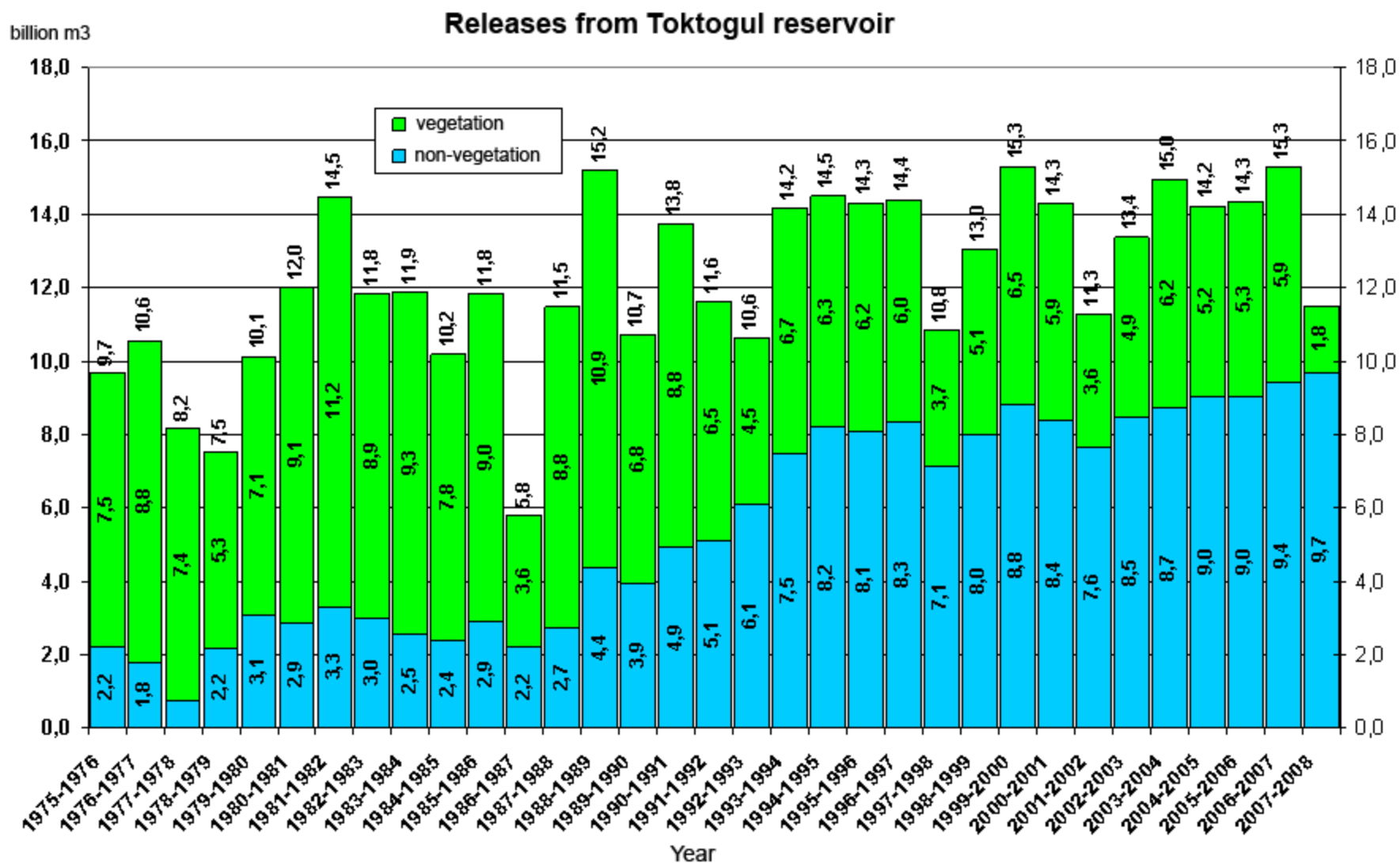
Mean releases from Toktogul reservoir
over 1982-1990 and 1994-2007



Inflows to Toktogul reservoir since 1975 to 2008

Flow, km³





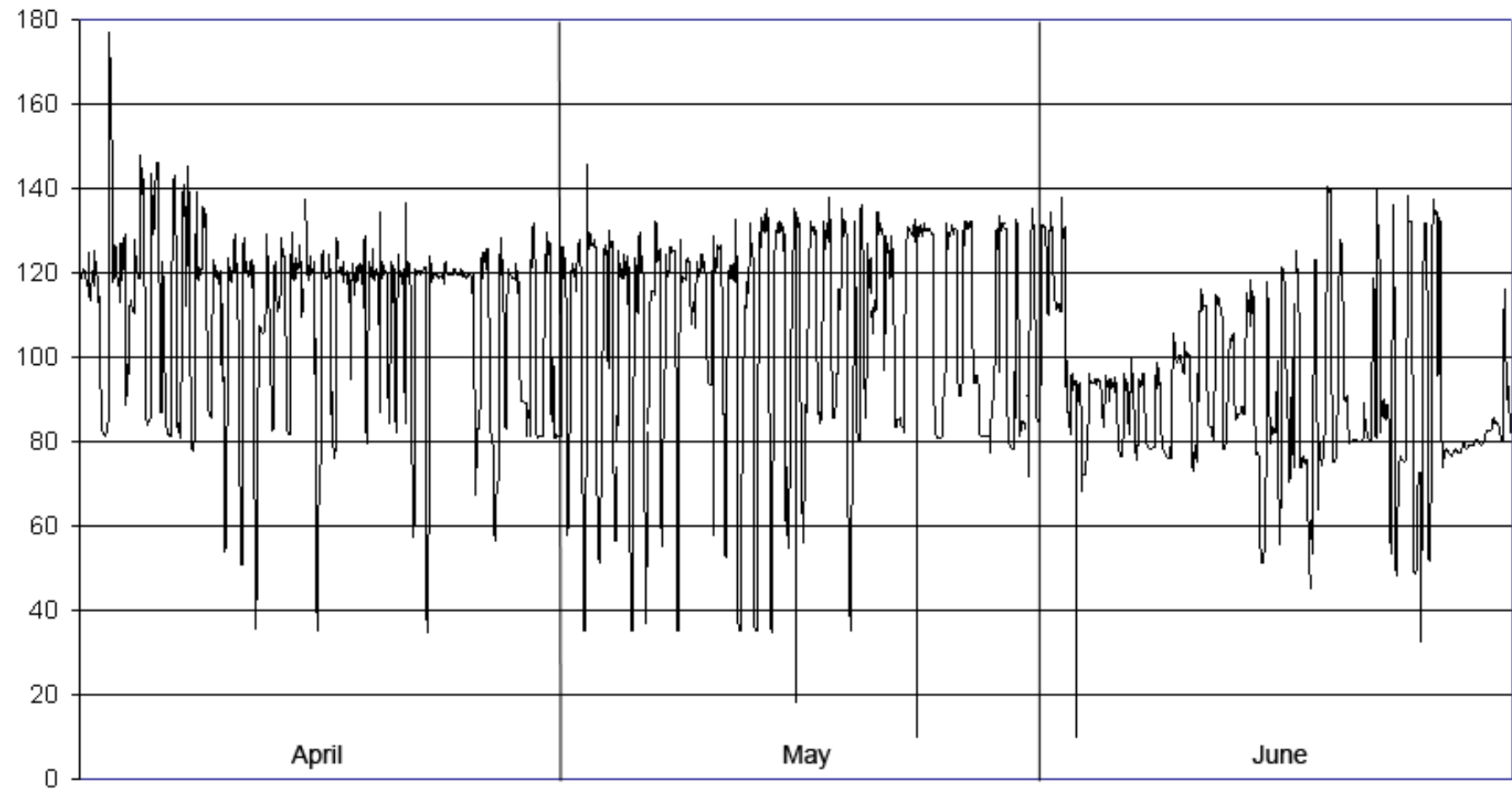
Competition: irrigation-power.

- **B/C ratio in power – 200% in summer
- 400% in winter.**
- **B/C ratio in irrigation – 10-15%, but
it created social effect by processing,
marketing, employment, food security
in many times more.**

**Good result in irrigation need stability of
water delivery.**

**Discharge delivered to Feeder canal of Big Fergana Canal
since beginning of vegetation period 2008**

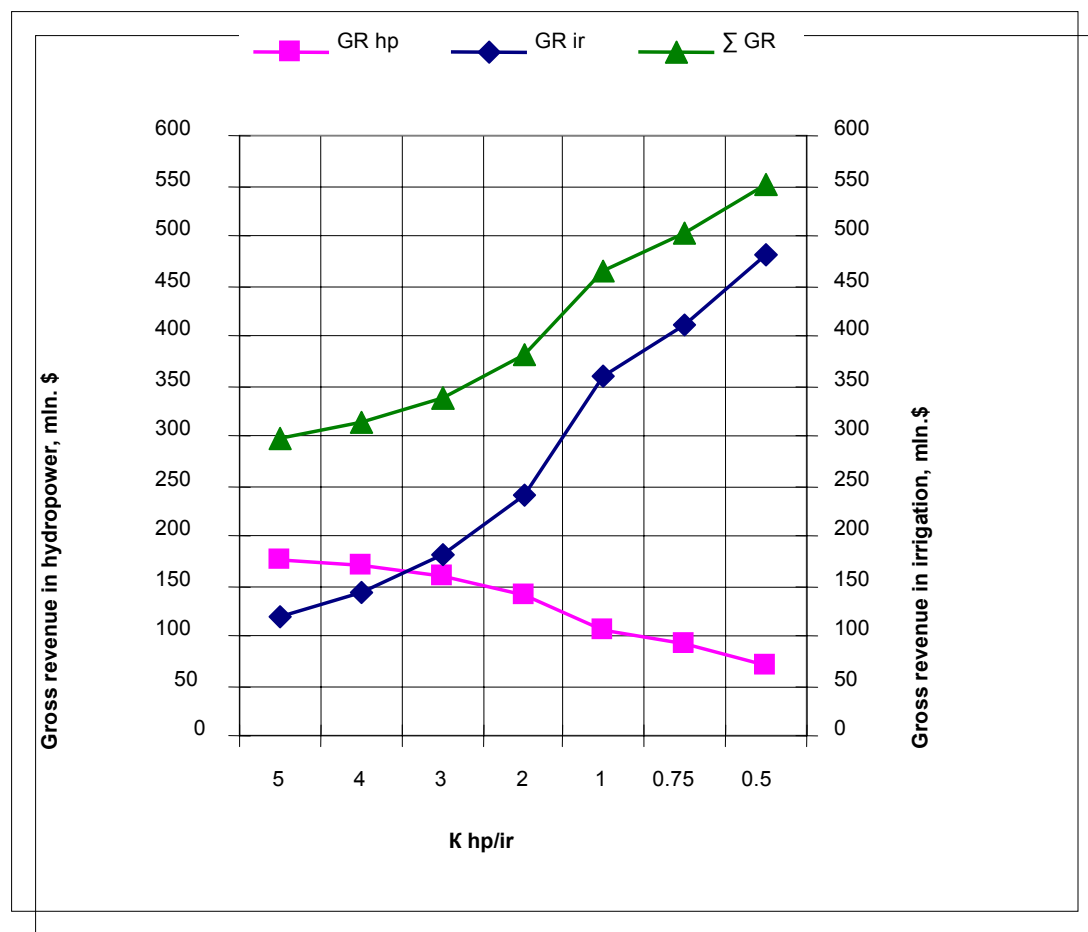
m³/s

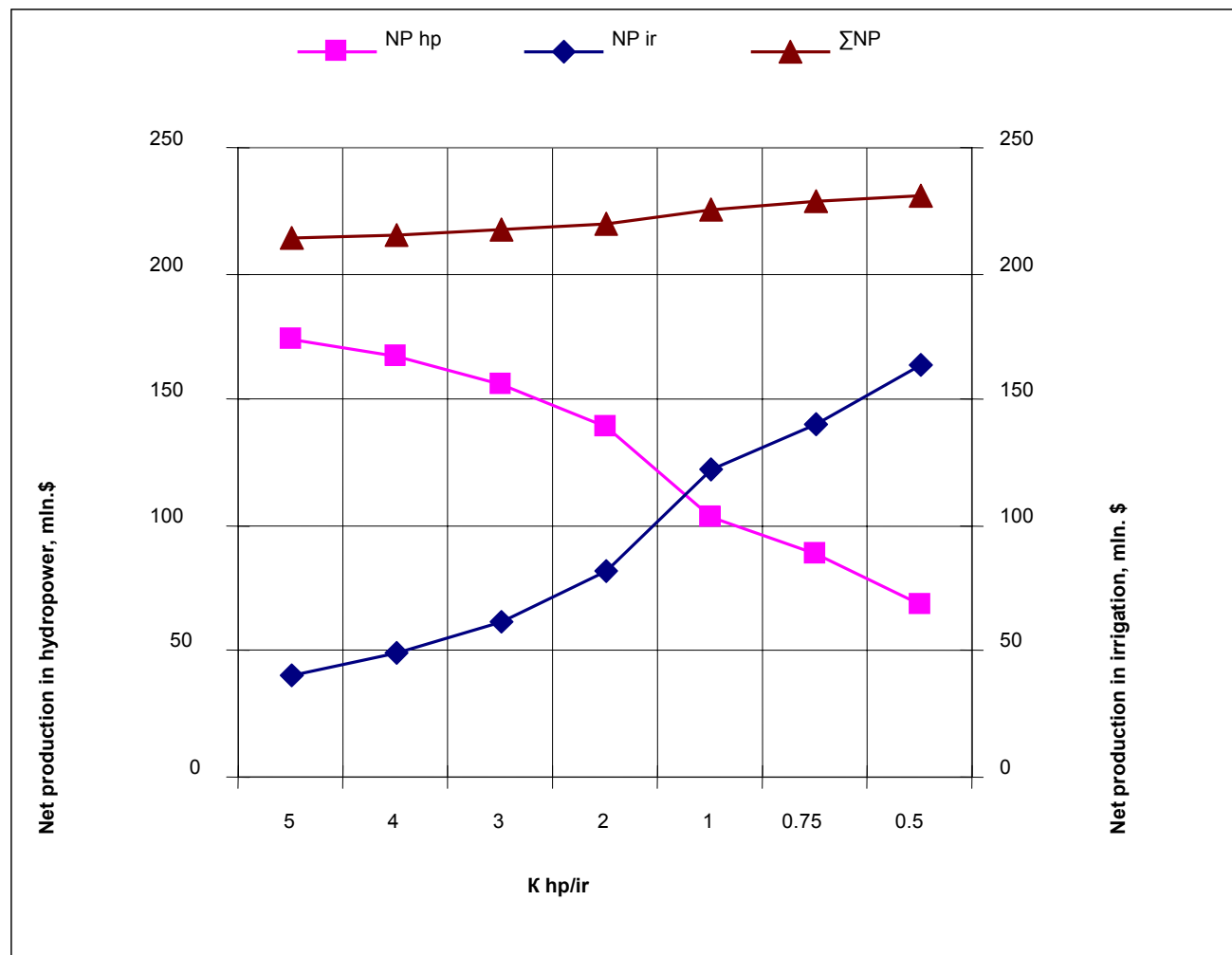


Water availability in Syrdarya 2008

Summer

Water natural availability of mean long-term norm, %	April	May	June	July	August	Sept.	
	77	86	65	55	76	70	
Delivery, %							
Kazakhstan	150	147	86	44	58	178	
Kyrgyzstan	105	64	57	60	67	81	
Tajikistan	34	59	69	74	85	81	
Uzbekistan	120	76	60	58	72	105	





What can be done?

- Water and electricity, but not water –fuel.
- 3 options:
 - model 3 Dr.Shamsiev but with differentiation of prices summer-winter;
 - payment for regulation+volume guarding;
 - water-power consortium as bridge between water (ICWC) and power (CPC CA).

Planned releases from the Toktogul reservoir, taking into account long-term flow regulation

Year in terms of water availability	Volumes of inflow to and releases from Toktogul reservoir, billion m ³				Volume of long- term regulation, Mm3	
	annual		Growing season	Non- growing season	drawdo wn	filling
	inflow	release				
Mean long- term	11,5	11,5	5,5	6,0		
Low-water	9.0	13,0	7,0	6,0	4,0	
High-water	14.0	10,0	4,0	6,0		4,0

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**Thanks for your
attention.**