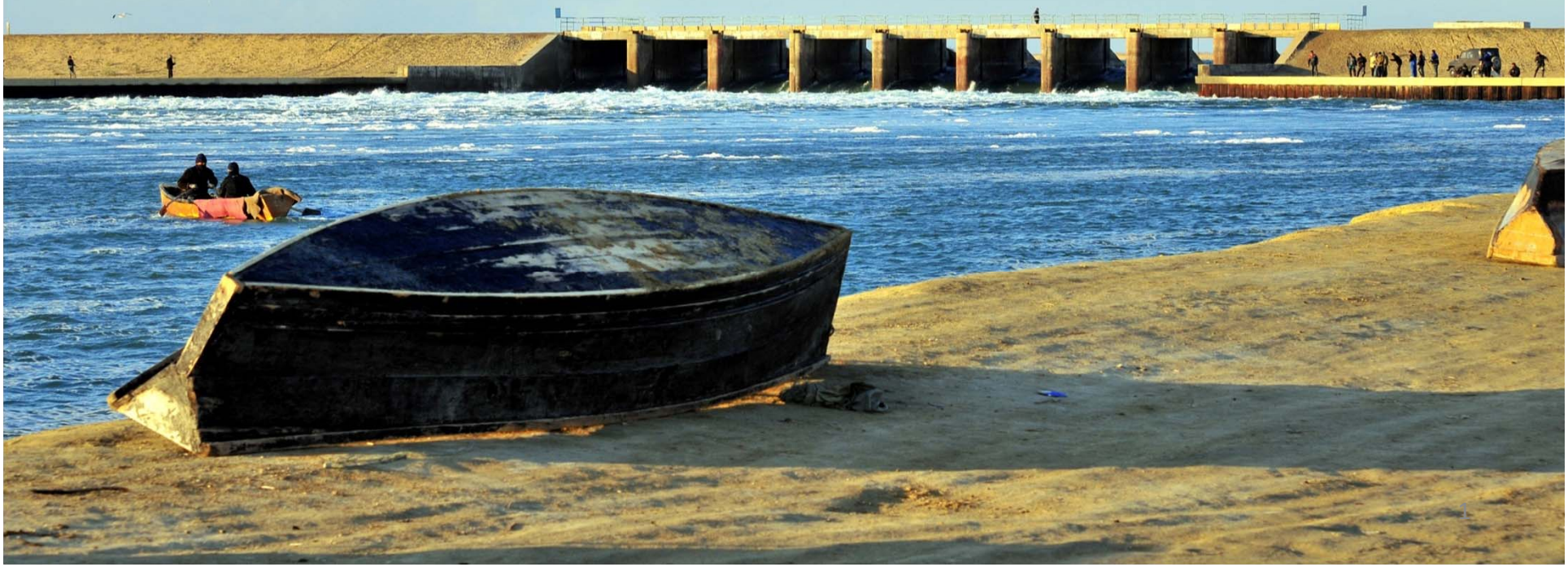
"TRANSBOUNDARY WATER COOPERATION IN CENTRAL ASIA"

Dr. Saghit Ibatullin, Chairman
Executive Committee of International Fund for saving the Aral Sea



The dynamics of the Aral Sea shrinkage

Aral Sea	1960	End of 2009
Surface Area	67,500 km^2 (4th in the world)	8,409 km^2 (88% loss)
Level	53.4 m	Large Aral = 26.5 m; Small Aral = 42 m
Volume	1090 km^3	84.5 km^3 (92% loss)
Average salinity	10 g/l (brackish)	Large Aral > 100 g/l, In Western part is probably > 200 g/l, In Eastern part (hyper saline); Small Aral = 10-14 g/l

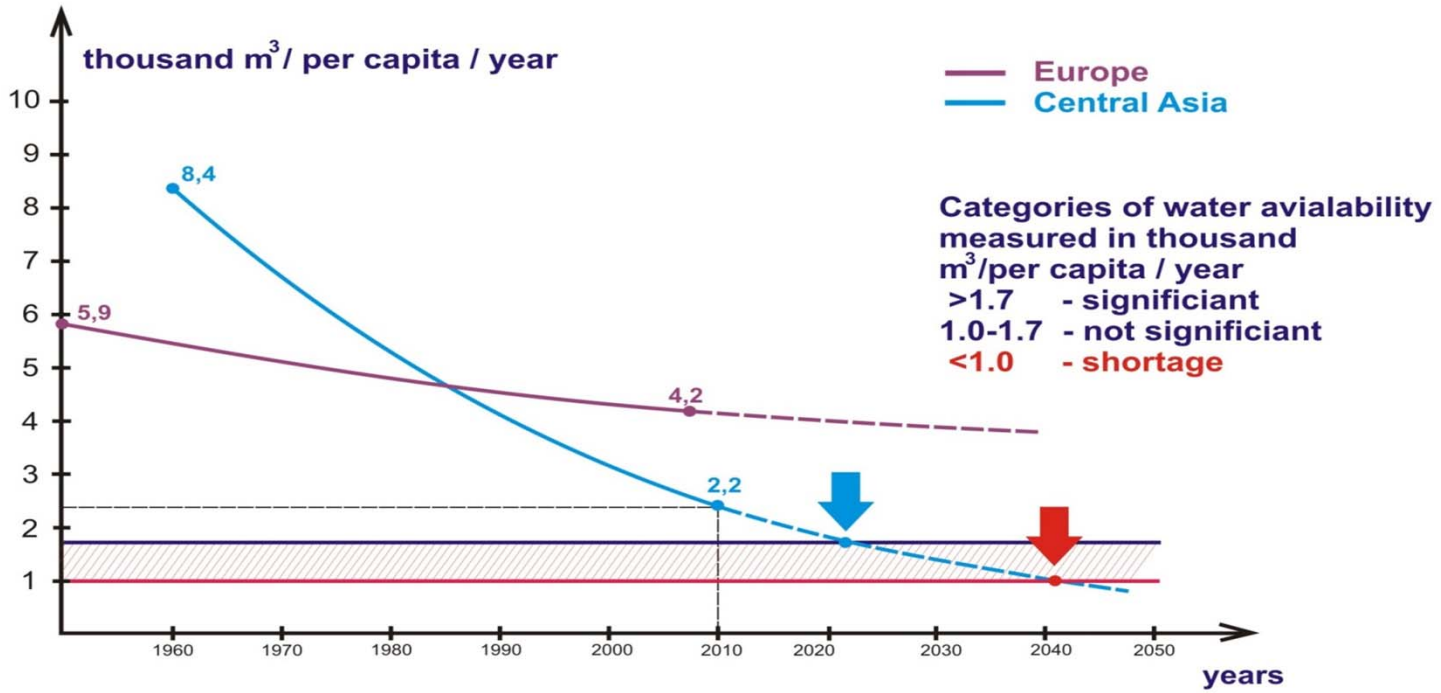
Water and land resources of the Central Asian region

Country	Volume of runoff km^3/year			Irrigated lands	Population
	Syrdarya	Amudarya	Total	thousand ha	mln
Kazakhstan	4,5	-	4,5	560,5	3,1 *share of population in the Aral Sea Basin
Kyrgyzstan	27,4	1,9	29,3	477,7	5.3
Tajikistan	1,1	62,9	64,0	744	7.6
Turkmenistan	-	2,78	2,78	1752	6.7
Uzbekistan	4,14	4,7	8,84	4259	29.7
Afghanistan	-	6,18	6,18	250	8.0
Total	37,14	78,46	115,6	8043,2	60.4

Key indicators of water and land resources use in the Aral Sea Basin

Indicators	Measurement unit	1960	2007-2012
Population	mln	14,1	60,4
Irrigated agricultural lands	thousand hectares	4510	8043,2
Irrigated land per capita	hectares/per capita	0,32	0,131
Total water withdrawal	km3/year	60,61	105,0
Total runoff to the Aral Sea	km3/year	54,99	10,6

Dynamics of water availability change in the countries of Central Asia. thousand m^3/ per capita



Major factors affecting transboundary water cooperation in Central Asia:

- **Population growth: increasing deficiency of water resources, reduction of specific water availability in 3,5 times, requiring additional annual 700-800 mln m3 of water.**

- **Climate change: loss of glacier reserves, expected reduce of water flow by 10-15%, growing frequency of floods and droughts.**

- **Consequences of the Aral Sea shrinkage resulted in the degradation of natural resources and ecosystems destruction: desertification, pollution and loss of biodiversity, water quality deterioration etc.**

- **Conflict of interests in the use of transboundary water resources between the upstream and downstream countries of the Aral Sea basin.**

- **The principles of Integrated Water Resources Management are not fully applied in the countries of Central Asia.**

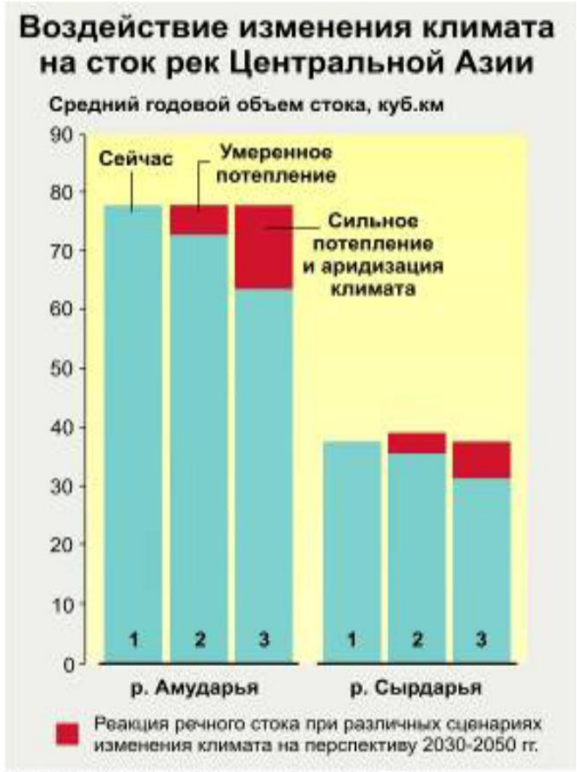
- **The need in the development of effective early warning systems and preventive measures to prevent and reduce risks and consequences of natural disasters.**

- **The outdated water saving technologies: lack of modern irrigation techniques, advanced methods of recycling etc.**

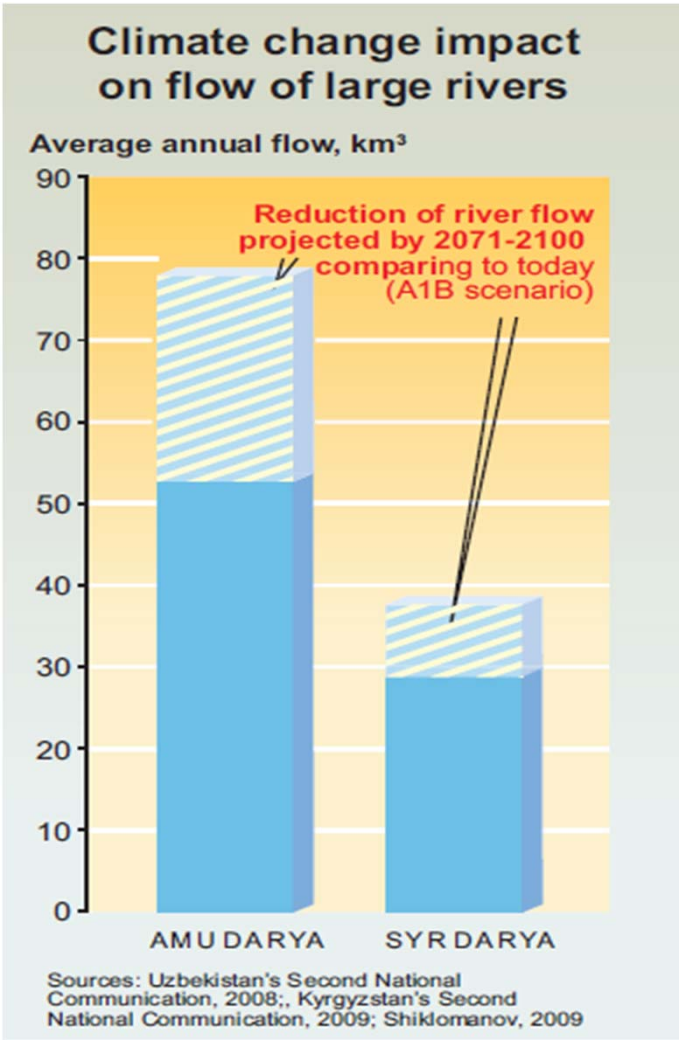
Glaciers of Central Asia

Glaciers presently contribute up to **70% of the water flow** in the major river systems of the region during hot, dry summers.
(TSNC-Tajikistan Second National Communication, 2009).

Climate change impacts on water resources in Central Asia

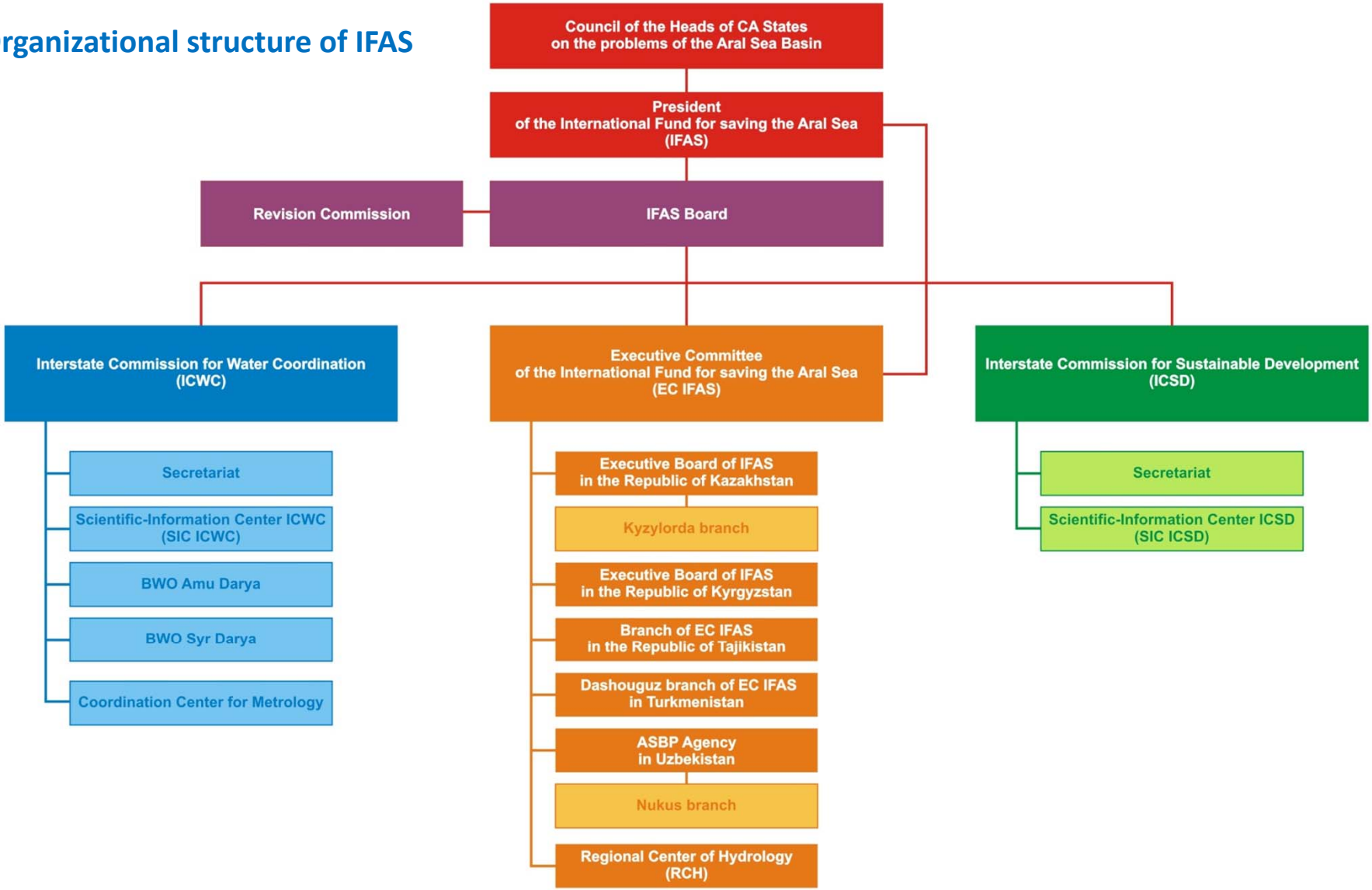


Источник: ТАДЖИКГИДРОМЕТ и УЗГЛАВГИДРОМЕТ



It is expected that by 2050 the volume of river runoff in Amu-Darya basin will reduce by 10-15%, and in Syr-Darya basin by 6-10%.

Organizational structure of IFAS



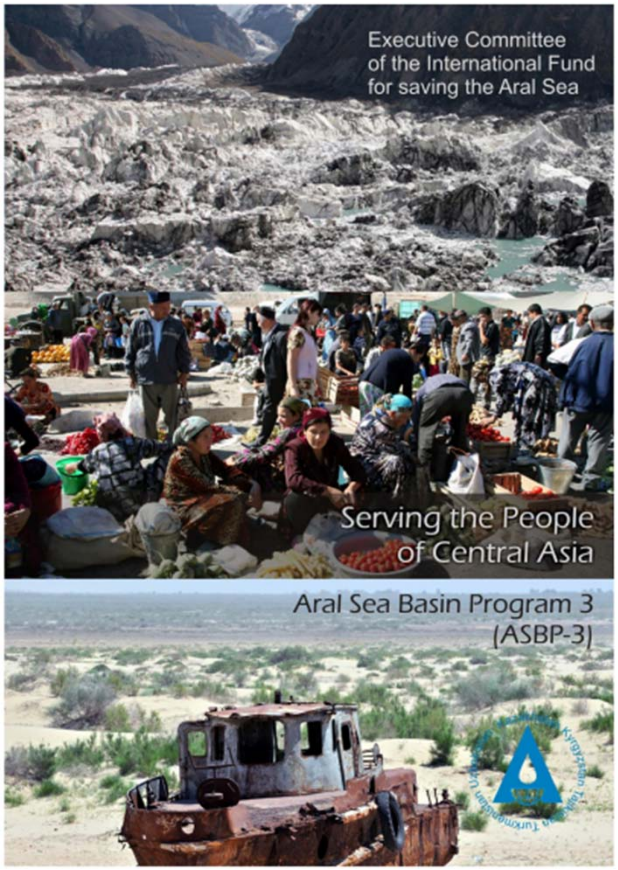
20 years of IFAS – an unique example of international coooperation

- **Joint Statement of Heads of states-founders IFAS (28th April 2009) – IFAS is the central institution for coordinating and addressing the fundamental aspects of cooperation in the Aral Sea Basin.**

- **IFAS has contributed to:**
  - **development of new quality interstate relations in the region;**
  - **Strengthened regional cooperation;**
  - **no conflict mechanism for resolving complex issues in water use.**
  - **interaction between donor and international organizations.**

- **A platform of dialogue among countries for development and implementation of bilateral, multilateral and international agreements.**
- **Assistance to the countries of the Aral Sea basin by developing Action Programmes (ASBP-1-2-3).**

ASBP - 3 as the basis of the current International cooperation



- Development of **Action Program on providing assistance to the countries of the Aral Sea Basin for the period of 2011-2015 (ASBP-3)** in consultations with national experts and donor community.

- December 9th, 2010 – International organizations and the donor community **made Statement about their full support to the Program and their close partnership with EC-IFAS.**

- **Main directions of ASBP-3:**
  - **Integrated use of water resources**
  - **Environmental Protection**
  - **Socio-economic development**
  - **Improving the institutional and legal mechanisms**

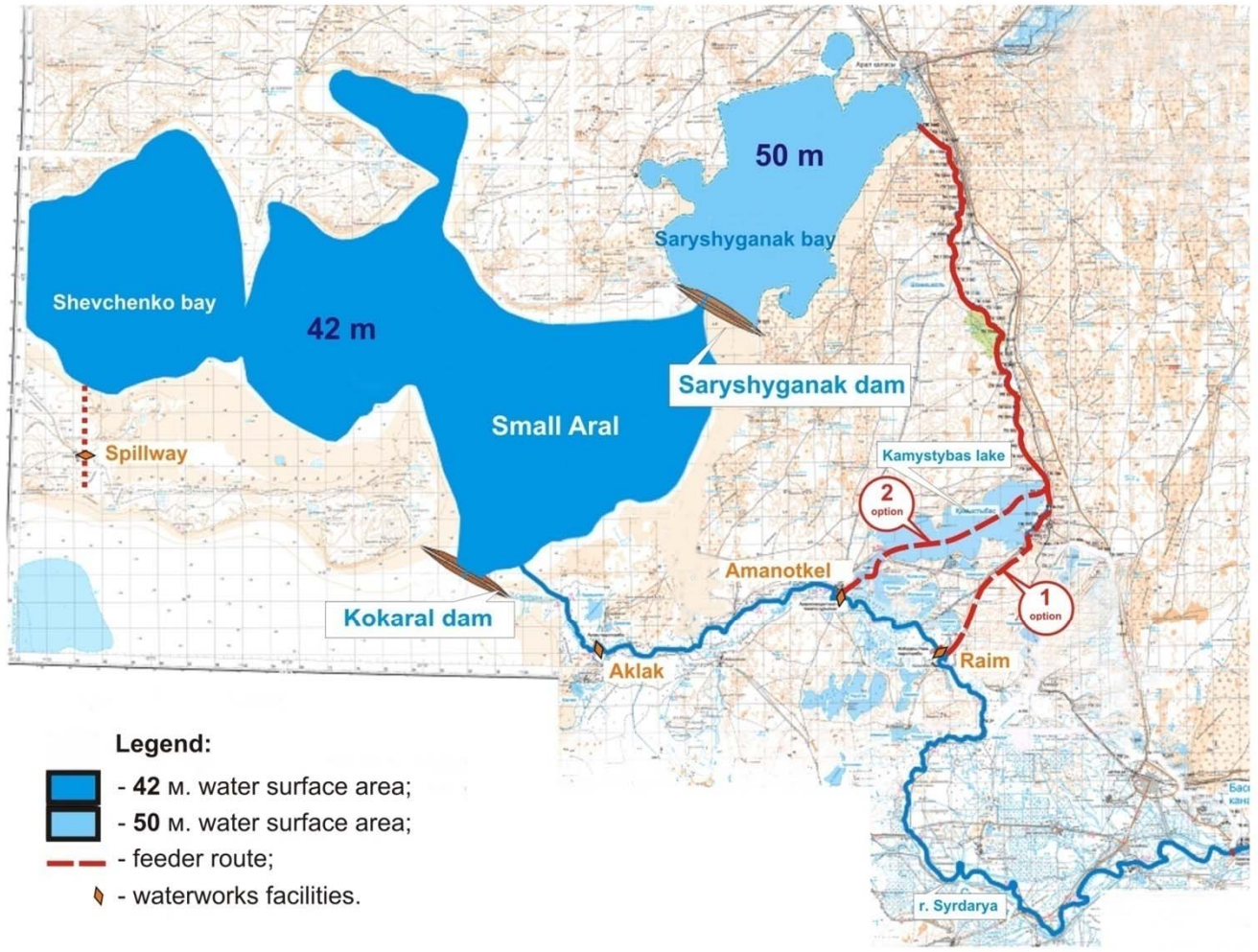
www.ec-ifas.org

Cooperation with international organizations and donor community

Prospects of strengthening transboundary water cooperation in CA

- Implementing the long-term regional Program ASBP-3.
- Developing and implementing jointly IWRM plan in transboundary basins.
- Improving socio-economic and environmental situation of the region.
- Improving the institutional structure of regional and basin organizations.
- Strenghtening and enlarging collaboration with international organizations and donor community.
- Ratifing previously prepared bilateral/multilateral agreements for transboundary cooperation, in particular those that have been negotiated for a long time and are ready to be signed (agreements stipulated in the 2009 Statement of Heads of IFAS state-founders).
- Developing the interstate relations on the basis of international law and best practices in the management and protection of transboundary water resources.
- Establishing a single interstate information system on water resources management.
- Building scenarios and economic models on shared water use and management aiming at enhancing interstate cooperation, etc.

Options of canals track to deliver water from the Syr-Darya river into the Saryshyganak Bay



The proposed option of cascade regulation of the northern Aral sea

The two-level option is characterized by having high stability and good characteristics of Saryshyganak water area.

Saryshyganak with the level of 50 m has large sizes:

- The length is about 50 km, average width of 16 km and average depth of 5 m (maximum 11 m), sufficient to eliminate the process of eutrophication which leads to death of juvenile fish.
- maximum mineralization is expected to be 5 g/l with subsequent decline to 1.5-2 g/l. The amplitude of water level fluctuations does not exceed 0.8 m., the estimated period of filling Saryshyganak is 6-7 years.
- Under this option the escapage (including fish) through the existing Kokaral dam is excluded.

The two-level Northern Aral Sea with sea level of **42 m** and Saryshyganak - **50 m** is most recommended for its stability in all aspects.


2013
WATER COOPERATION