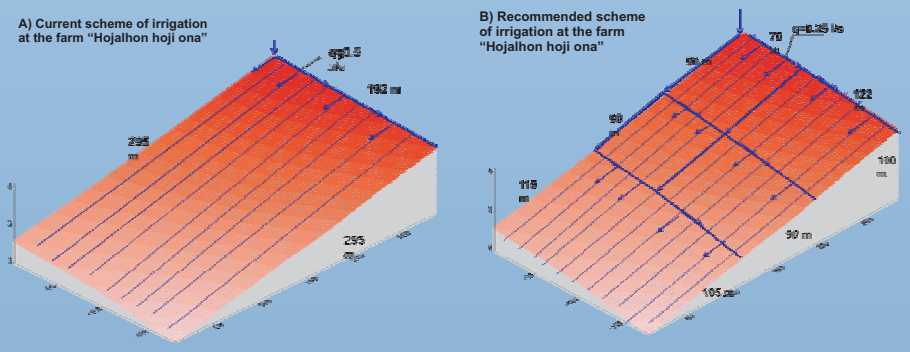
WATER PRODUCTIVITY IMPROVEMENT AT THE FIELD LEVEL

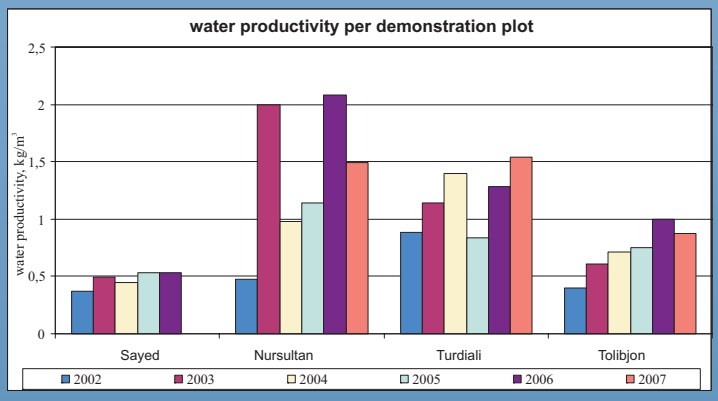
The results achieved within "IWRM-Ferghana" Project during the period from 2002 till 2008 enable water users to practice the obtained experience in irrigated agriculture for the purpose of efficient irrigation water use and crop productivity improvement.



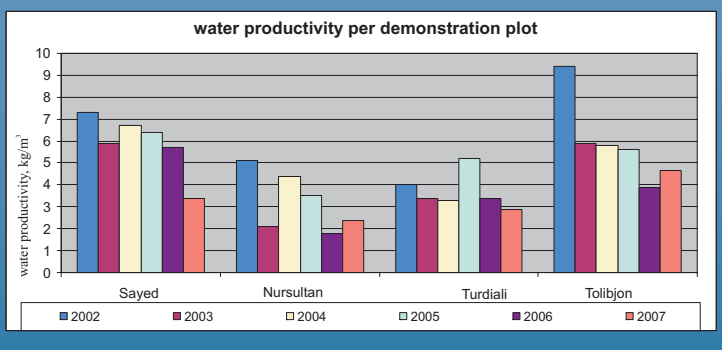
Monitoring of demonstration plots (DP) enabled the project executors to identify major factors reducing irrigation water use efficiency (wrong irrigation technology, overrated irrigation norms, great release losses, etc.). Adjustments were made with regard to watering and farming processes, - resulting in considerable water saving (from 18% up 45%), in higher cotton crop productivity (from 3.6 quintal/ha up 10.8 quintal /ha) and increase in irrigation water productivity (by 59% - 136%).

Experience obtained on DP made it possible to develop series of recommendations, bulletins and target thematic presentations, which were further disseminated through seminars and workshops for district water managers and farmers.

Water productivity by demonstration plots in the Project



Dynamics of specific water delivery by demonstration plots



To improve management of irrigation water use the work has been carried out within the framework of the Project on developing recommendations for each Demonstration Plot:

•- models were worked out concerning time-frame and norms of irrigation for crops.
•- specific individual technological patterns of irrigation were developed.
•- individual technological process lists were developed for cropping and soil-conservation certificates were worked out for every field containing land reclamation description.

Comparative assessment of major agro-economic showing obtained on demonstration plots in 2002-2007

farm	Crop capacity (quintal/ha)						Variable expenses ($/ha)						Net profit ($/ha)					
	2002	2003	2004	2005	2006	2007	2002	2003	2004	2005	2006	2007	2002	2003	2004	2005	2006	2007
	Cotton																	
Turdiali	35	39	46	44	45.5	45	282	398	451	531	606	712	197	397	627	590	711	497
Tolibjon	38	36	41	42	39	41	310	388	463	271	416	522	195	364	535	552	697	511
	Wheat																	
Nursultan-Aly	24	43	43		40	36	139	205	212		199	211	109	181	380		281	417

Comparative assessment of major irrigationwater productivity showing obtained on demonstration plots (cotton)

Provinces	Crop capacity. kg/ha			Amount of irrigation water. m^3/kg			Productivity of water use for irrigation. kg/m^3		
years	2002	2003	2004	2002	2003	2004	2002	2003	2004
Sogd	2807	2967	3048	3.51	2.13	2.53	0.29	0.47	0.4
Ferghana	2860	2870	3484	3.68	2.42	1.9	0.46	0.64	0.77
Andijan	3790	3620	4100	2.48	1.64	1.41	0.4	0.61	0.71
Osh	2767	3930	4155	2.05	1.11	1.31	0.47	0.55	0.57

Productivity of irrigation water use by demonstration plots in Andijan province

Districts	Cotton				Winter wheat			
	2005	2006	2007	2008	2005	2006	2007	2008
Andijan	0.34	0.35	0.49	0.72	0.78	0.81	0.64	0.83
Asaka	0.42	0.46	0.61	0.67	0.83	0.55	0.87	0.79
Balykchi	0.43	0.44	0.57	0.97	0.88	0.94	1.08	1.58
Buz	0.45	0.47	0.56	0.72	0.63	0.68	0.68	0.72
Bulakbash	0.71	0.79	0.89	0.5	1.01	1.2	1	1.44
Japakuduk	0.43	0.52	0.66	0.54	0.73	1.01	0.81	1.27
Izboskan	0.71	0.74	0.72	0.69	0.97	1.12	1.29	1.05
Ulugnor	0.3	0.32	0.41	0.66	0.46	0.51	0.6	0.57
Kurgantepa	0.39	0.67	0.51	0.59	0.98	1.29	1.21	0.99
Marhamat	0.26	0.28	0.52	0.59	1.1	1.62	0.75	0.98
Altynkul	0.51	0.53	0.57	0.63	0.99	1.03	1.05	1.48
Pahtaabad	0.39	0.4	0.52	0.79	0.77	1.09	0.94	0.83
Hujaabad	0.39	0.5	0.46	0.44	0.98	0.97	1.09	0.95
Shahrihan	0.46	0.54	0.68	0.69	0.9	0.76	0.92	1.07
Average by farms	**0.46**	**0.54**	**0.68**	**0.59**	**0.86**	**0.97**	**0.92**	**1.01**

Scientific-Information Center ICWC

11, Karasu-4,
Tashkent, 100 187,
Republic of Uzbekistan
Tel.: (998 71) 265 92 95,
266 41 96
Fax: (998 71) 265 27 97
e-mail: info@icwc-aral.uz,
http://sic.icwc-aral.uz;
www.cawater-info.net

IWMI Central Asia and Caucasus Office

Apt, 123, home 6,
Murtazaeva str.,
P.O. Box 4564,
Glavpochtamt
Tashkent, 100 000,
Republic of Uzbekistan
Telephone:
(998 71) 237 04 45
Fax: (998 71) 237 03 17