

3.4 Agricultural crops irrigation regime

Actual irrigation regime study showed the following:

Cotton is main agricultural crop (of 12 pilot plots 10 are under cotton), other plots under rice or maize and alfalfa.

Number of irrigations were from 1 to 12, but mainly, from 3 to 6. For Uzbekistan conditions actual irrigation regime under drainage water use is shown in table 3.6., on example of Fergana valley where specific names of collectors, water salinity and other indicators are given. It is worth to note, that 12 irrigations were conducted in desert-sandy soil conditions of Turkmenistan, i.e. more frequent irrigations by small depth 600-800 m³/ha were applied.

Irrigation norms fluctuated from 3000 to 8700 m³/ha during vegetation, excluding rice where 20,6-25,6 th.m³/ha was supplied during vegetation by means of persistent flow (South Kazakhstan). Besides, over plots for salts restoration preventing autumn-winter leaching by norm from 1500 to 6400 m³/ha or spring water recharge irrigations were conducted annually.

Soil moisture regime

Agricultural crops irrigation regime under drainage water use was kept by means of more frequent irrigations for high pre-irrigation soil moisture keeping and concentration of soil solution in optimal limits regulation.

Soil moisture over sites varied within the limits 0,7-0,9 of full field capacity.

Actual soil moisture changes under various irrigation schemes and ground water tables were observed on diagram (figure 3.1, 3.2) on example of the pilot plot of Fergana valley (Uzbekistan), and for Kyrgyzstan on example of the site in Chu valley (figure 3.3).