

## **Water management and land reclamation in Russia: problems of education and science**

D.V. Kozlov,  
Professor, Doctor of Engineering  
Moscow State University of Environmental Engineering,  
19, Pryanishnikov str., Moscow, 127550, Russia  
kozlovdv@mail.ru

Along with technological, economic, and environmental problems, water management and land reclamation in Russia has its specific problems related to the scientific and technical provision of the land reclamation and water management system (LRWMS), first, unsatisfactory state of basic and applied sciences (decision making in the LRWMS management is based chiefly on research results of 25-30 years' old; poor development of scientific basis for water monitoring system; insufficient financing of science; obsolescent instrumental and laboratory facilities of organizations; decrease in of number of scientific schools; etc.).

Development of the Russian society sets fundamentally new tasks before LRWMS, proceeding from which the basic directions of research work in the water and reclamation sphere propose the following: creation of scientific, legal and regulatory, scientific analytical and informational support to water and land resources use, reproduction, and conservation efficiency enhancement; improvement of the economic mechanisms of water use, in particular in the agribusiness industry; development of technical regulation, standardization, certification, and metrology principles, as well as methods for improvement of water bodies and irrigated lands; ensuring of operation and safety of hydraulic structures.

In recent decades, professional education in LRWMS in the Russian Federation faced with a number of organizational, material, and demographic problems: personnel training is carried out using obsolete equipment and with minimum field studies; there is no job placement of young specialists who acquired their education at the expense of the national budget to industrial enterprises; there are no specialists in advanced technologies, updating of professional capacity of the available personnel; the age of the faculty of education institutions has shifted toward the pension age; there are no motivational stimuli to attract young and gifted teachers; there are no up-to-date mechanisms and instruments for LRWMS staffing management that are able to efficiently balance demand and supply at today's labor market.

Given the above-mentioned problems, one can set forth the following topical issues related to the staffing of LRWMS of the Russian Federation: forming of modern mechanisms and instruments for LRWMS staffing management that are able to meet the demands for relevant specialists; modernization of the material and technical basis of education institutions; creation of motivational stimuli to attract young and gifted teachers; forming of system and technologies for the improvement of the available personnel's professional capacity to provide innovation development of the water management and land reclamation industry of the Russian Federation.