DECLARATION - 12th INTERNATIONAL DRAINAGE WORKSHOP

23-26 June, 2014, St. Petersburg, Russia

The 12th International Drainage Workshop on "Drainage on Waterlogged Agricultural Areas" brought together participants from 23 countries: Bangladesh, Great Britain, Hungary, Germany, Egypt, India, Indonesia, Iran, Ireland, Kazakhstan, China, Republic of Korea, Latvia, Norway, Pakistan, The Russian Federation, Turkey, Uzbekistan, Finland, France, Sri Lanka, Estonia, South Africa.

The background of the sustainable development comprises both the elimination of poverty and rational utilization of natural resources as the basis of the future social-economic development of the society. Agriculture must provide conditions for food security. At the same time climate variability characterized with extreme weather conditions causing natural disasters such as flooding and waterlogging of the framing lands, extreme droughts has taken a toll on human lives, food shortages and production instability which are the most serious challenge facing the world. Irrigation and drainage play the key role in preventing the negative effects of the climate variability and change as well as stabilizing agricultural production.

Drainage application in the agriculture provides sustainable crops productivity and forms one component of the integrated approach on water and land management. Drainage issues are important not only for the humid regions but also for the irrigated lands which occupy up to 110 million hectares in the arid regions of the world. Drainage is equally necessary in the rain fed areas both in humid and arid zones. Appropriate drainage promotes diversification and intensification of production, cultivation of high-yielding and valuable crops as well as efficient application of high technologies in agriculture. In addition, it presents the possibility of increasing the occupational level and new production capacities.

Drainage provision in saline and waterlogged soils promote rehabilitation of land, increase in potential for soil productivity and crop productivity, resulting in increase of farmers' income and thus imparts social and economic significances to drainage. One of the main environmental significance of drainage is its positive influence on health of people, crops and farm animals. At the same time it is necessary to understand potential deleterious environmental effects of the excessive draining: surface and ground water pollution with drained water.

Need for transition from the technical solution to the issues of the sustainable development ensuring efficient water resources management thereby providing worldwide food safety has been emphasized at various ICID fora. Management rules and decisions must be focused not only on production but also on natural resources conservation which can provide sustainable development and land usage.

As a result of presentations and discussions at the 12th IDW participants reached at the following consensus approaches to meet the strategic objectives of "Drainage on Waterlogged Agricultural Areas".

1. There is an obvious relationship between investments in reclamation of land and poverty reduction, including ensuring food safety. In many countries such as the Russian Federation, China, Turkey, India, Indonesia, South Africa and many others, drainage is provided

extensively, accompanied with measures for rational use of water and land. Potential benefit of the above mentioned measures is proven to be high but the political will is required to apply these measures worldwide.

2. Irrigation and drainage, facing many challenges, provide the basis for the global food security. Modernization and upgrading measures to improve operation of drainage are being implemented throughout the world at different speed and in different scale. A great deal has been achieved by force of innovation and technological advance. However, not only innovation techniques but also traditional technologies need to be provided to the farmers through the Advisory Service.

3. Social and economic significance of drainage in the waterlogged agricultural lands lies in improvement in working conditions in the reclaimed lands, increased employment in the rural areas, attraction of the expert labor to the farms and infrastructure improvement. Therefore, drainage must be planned and implemented on the basis of an integrated approach incorporating the innovative techniques of crops growing; cultivation of high yield crops, varieties and hybrids; application of calculated rates of fertilizers; and integrated plant protection system.

4. Financial support from government as well as private investors is required to provide not only for technological interventions such as construction and remodeling of drainage systems but also for soil fertility improvement; financial management; developing public awareness of the local farmers and agricultural producers; and drainage systems maintenance.

5. Experience of the many advanced nations shows that high productive and energy-intensive equipment machinery can provide qualitative construction and operational works. Therefore, it is advisable to organize special-purpose interregional (international) firms to fulfil works within the drainage systems according to the orders of the farmers.

6. In order to meet the requirements of emergency situation due to extreme weather risk analysis is required for the better management of the irrigation and drainage systems. In order to mitigate risks to farmers' income, adaptation to climate variability and change should be carried out on the basis of the developed hydrometeorology forecasts and techniques related to water, nutrition and air regimes in the reclaimed lands.

7. In order to impart training in new principles of management and transfer of knowledge and techniques, it is advisable to organize international training courses for the specialists from the developing countries and countries with economies in transition to study and exchange experiences of the developed countries in the field of agriculture management practice in the reclaimed areas.