Technology Fact Sheet

Sector	Agriculture
Category	Water Management, Supply – side
Adaptation needs	**Increasing of seasonal and multiannual volume of water storage**
Technology Name	**Construction of new and proper maintenance of existing dams and water reservoirs**[i]
How this technology contributes to adaptation	Dams and reservoirs represent the main option for adaption to climate change in the water sector in Europe. Being deficient in natural lakes and with abundant intermittent streams, Moldova has already developed a large network of ponds and reservoirs for inter-seasonal and inter-annual redistribution of water. Proper maintenance of existing dams and reservoirs, as well as construction additional ones could help in redistributing precipitation between seasons, serving as an important object for both water storage and diminishing flash flood risk. Moldova needs till 2020 to increase volume of the water accumulated to 50 miln $м^3$.
Background/Notes, Short description of the technology option sourced from ClimateTechWiki, Seminars, etc	The main source of water for agricultural irrigation in Moldova is the surface water of rivers, lakes and artificial reservoirs. An increase in the accumulated amount of water would reduce the risks associated with climate change. Construction technology of dams and water reservoirs is not new for Moldova. These works have been executed earlier and continue to be carried out now. Almost all of the previously constructed dams are earthen dams, equipped with concrete or earthen discharge structures. The most widespread and approved method of their construction in Moldova is layer-by-layer stacking of an earthen body of the dam by scrapers with simultaneous compacting by compacting machines. To reduce the filtration of water through the dam body are various impervious options, including the device impervious screens in the dam body, upland slope facing concrete slabs, and others. TNA Guidebook – Technologies for Climate Change Adaptation – The Water Sector
Implementation assumptions, How the technology will be implemented and diffused across the subsector?	The state program of dams and water basins building across territory of Moldova should be developed. Construction of water basins of long-term redistribution on the small rivers of Moldova being between the rivers Nistru and the Prut should be made.

Costs	• 3,650 € /per 1th m^3 water accumulated (Source: Average data of 6 water reservoirs designed and built by Întreprinderea de Stat „Protecţia Solurilor şi Îmbunătăţiri Funciare" in Moldova) • Total investments for technology implementation to increase water accumulated volume on 50 million m^3 – 182,5 million €
Country social development priorities	• Hotărîre cu privire la aprobarea Programului de dezvoltare a gospodăririi apelor şi a hidroameliorației în Republica Moldova pentru anii 2011-2020 (nr. 751, 5 octombrie 2011) Monitorul Oficial Nr. 170-175 • ***National Report "Millennium Development Goals Report: New Challenges – New Objectives", NHDR 2009/2010*** http://www.undp.md/mdg/MDG1/poverty.shtml, http://www.endpoverty2015.org • National Strategy for Sustainable Development of the Agricultural Complex of the Republic of Moldova for 2008-2015 (Government Decision No. 282 of 11.03.2008.Official Monitor No. 57-60, 21.03.2008) • The National Development Strategy (NDS) for 2008-2011 • Program of Water Supply and Sewerage in Communities of the Republic of Moldova until 2015 (Government Decision No. 1406 of December 30, 2005, Decree No. 662 of June 13, 2007)
Country economic development priorities – economic benefits	• High value agricultural development • Impacts on water supply • Increased water security • Support to development stability
Country environmental development priorities (Environmental benefits)	• Increase water use for Agricultural sector • Wetlands rehabilitation • Creation of the nature restoration zones
Social benefits	• Reliable water supply • Reduction of water dependency risks • Improved water safety • Increased community welfare
Other considerations and priorities (such as market potential)	Till 2020 it is necessary to built in Moldova no less 500 water reservoirs with total accumulated capacity of 50 million m^3 of water
Capital costs (per facility)	• Water reservoir of 100th m^3 of water accumulated Capital costs – 350,000 € • Total capital investments needed for building 500 water reservoirs with total accumulated capacity of 50 million m^3 of water – 175 million €

Operational and Maintenance costs (per facility)	• Water reservoir of 100th m^3 of water accumulated Operational and Maintenance costs – 15,000 €/ per year • Total Operational and Maintenance cost of 500 water reservoirs with total accumulated capacity of 50 million m^3 of water - 7,5 million €

[i] This fact sheet has been extracted from TNA Report - Technology Needs Assessment for climate change adaptation - Republic of Moldova. You can access the complete report from the TNA project website **http://tech-action.org/**