Technology Fact Sheet

Sector	**Agriculture**
Adaptation needs	1. Higher adaptability to more frequent droughts 2. Higher adaptation to limited natural resources 3. Higher adaptation to prices vulnerability for agricultural products and resources
Technology Name	**Conservation tillage with herbicides for sugar beet**[i]
How this technology contributes to adaptation	1. Minimum tillage in crop rotation contribute to the reduction of soil erosion and uncompensated mineralizational losses 2. By reducing soil erosion and mineralization losses of soil organic matter the global warming is decreasing through increased carbon sequestration 3. By reducing the consumption of fuel as a result of replacing moldboard plow with minimum tillage it is possible to adapt to the limited sources of non renewable energy, to the fluctuation of prices for non renewable sources of energy at the international level 4. By keeping mulch on the surface of soil it is possible to reduce evaporation of soil moisture and to increase the stoks of soil moisture in the soil.
Background notes, Short description of the technology	By using conservation system of soil tillage we can avoid using moldboard plow by replacing it with chisel plow in agregate with disks. For weed control herbicides are used, although they can't garantee always a good weed control.
Implementation assumption. How the technology will be implemented and diffused acrossthe subsector	Conservation system of soil tillage is studied in long-term field experiments at the Research Institute of Field Crops „Selectia" (Balti, Moldova). Research results are available for farmers through publication of books, recommendations, articles, TV, radio. Farmers are visiting the experimental plots of the institute with different system of soil tillage. Each year we are organising seminars at the institute.
Capital costs for one unit:	Chisel plow + disks – 80.000 lei The required amount for the total area of field crops in Moldova: chisel plow – 40.000 (the productivity per day is 6 ha. The optimal time for doing such work is 5 days). For the total area of spring sown crops the economy of fuel consists 17400 tonnes and for salary 43,4 mln.lei
Country social development priorities	• Reducing the pouverty • Increasing the employment of people • Increasing the rates of burth and decreasing the mortality of people • Improving the system of health care for people
Country economic priorities (economic benefits)	• Increasing the sustainability of agricultural sector, including profitability • Reducing the dependence from non renewable sources of energy and their derivates (mineral fertilizers and pesticides) • Creating condition for the development of smal and medium enterprises
Country enviromental development (enviromental	Achieving a more sustainable use of natural resources through preventing soil degradation, soil and water pollution, preservation of biodiversity. By implementing a conservative system of soil tillage it would be possible to increase, the

benefits)	environmental benefits through: • Higher carbon sequestration which allows to reduce global warming • Reduction of soil erosion and better storage of the soil moisture • Reduction of pollution of ground water with nitrates Reduction of GHG emision as a result of lower amount of burned fuel
Social benefits	• Maintaining soil fertility and productivity of crops as basis for economic stability • Improving health of people as a result of increased soil functionality and decreased inputs, which are leading to better quality of food and water.
Other consideration	• Decreasing expenditures for fuel will lead to higher competitivness of agr.products at the local, regional and international markets • Providing food self-sufficiency at different levels

[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/**