Technology Fact Sheet

Sector	Agriculture. Animal breeding sub-sector.
Adaptation needs	Adaptation of animals to higher temperatures.
Technology Name	**Semi-intensive(semi-intensive) system of animal husbandry.** [i]
How this technology contributes to adaptation	The semi-intensive system of animal breeding implies breeding of animals at mini-farms. For example, dairy cattle - at farms of 10-20-50 heads, provided such farms are model farms meeting the basic maintenance requirements of breeding technologies (areas, number of stock, microclimate), employment of mechanized milking, etc., breeding cattle for meat – at farms with 50-100 heads; breeding of pigs – at mini-farms of 10-20 breeding sows; pig fattening farms - with a capacity of 100-500 heads / year, sheep and goats - 100-200 sheep or goats. It is a family business operated by family members.
Background/Notes, Short description of the technology option sourced from ClimateTechWiki, Seminars, etc	Along with best genotypes of indigenous breeds, some world renown breeds may be raised at such mini-farms. They can be grown in optimum conditions and therefore will be less prone to unfavorable environmental conditions and, being fed with proper feed, are more likely to yield better production.
Implementation assumptions, How the technology will be implemented and diffused across the subsector?	Such mini-farms may employ modern technologies allowing mechanization of many processes, both in terms of fodder preparation, as well as milking cows, sheep or goats, manure disposal; installation of some biogas plants. The animals will be milked inside the barn.
Costs	The costs of semi-intensive animal husbandry system and construction of mini-farms are higher in comparison with extensive animal breeding systems. For example, construction and furnishing of a mini-farm with a herd of 10 dairy cows and 10 calves and heifers would cost about 650,000 lei, while setting a mini-farm with a herd of 20 dairy cows and 20 calves and heifers would need an investment of about 1,125,600 lei. Such farms can be profitable provided the average production of one milking cow is not lower than 5500 kg of milk. In pig breeding, setting a mini-farm of 20 reproductive sows would need an investment of about 1.13 million lei, while a feeding lot for raising and fattening with a capacity of 360 heads would need an investment of about 287,000 lei.

<table>
<tr><td>Country social development priorities</td><td>The animal breeding sector contributes to:
• ensuring the population with high quality products;
• improving human health;
• reducing human mortality rate.</td></tr>
<tr><td>Country economic development priorities – economic benefits</td><td>The semi-intensive animal breeding system is economically more superior to the intensive one. In case of farms, the livestock sector depends on crop production to a larger extent than in case of extensive animal breeding.
• More diverse feed contribute to increased productions.
• Makes it possible to improve the breeds.</td></tr>
<tr><td>Country environmental development priorities (Environmental benefits)</td><td>• In case of mini-farms, construction of manure storage platforms will be required, what will lead lo a reduction in environmental pollution.
• It will become possible to set biogas plants which will ensure the energy needs of the farm.
• Manure fermentation will produce valuable organic fertilizer.</td></tr>
<tr><td>Social benefits</td><td>• Use of best practices.
• Compliance with sanitary and veterinary requirements and obtaining animal products of higher quality.
• Ensuring human health.</td></tr>
<tr><td>Other considerations and priorities (such as market potential)</td><td>• It is possible to set cultivated pastures.
• Along with the most productive genotypes of indigenous breeds, imported breeds with high production will be used.
• It will be necessary to develop rations that ensure high yields and will produce less elimination of greenhouse gases in the atmosphere.</td></tr>
<tr><td colspan="2">Costs</td></tr>
<tr><td>Capital costs</td><td>
<table>
<tr><td>Species</td><td>20% extensive</td><td>80% semi- intensive and intensive</td></tr>
<tr><td>Beef</td><td>180 000 anim. X 50 euro = 9 000 000 euro</td><td>720 000 anim.: 500 anim.=1440 ferme X 1 500 000 euro=2 166 000 000 euro</td></tr>
<tr><td>Swine</td><td>140 000 anim. X 24 euro = 3 000 000 euro</td><td>560 000 anim,: 2000 anim.=560 ferme X 750 000 euro= 420 000 000 euro</td></tr>
<tr><td>Sheeps, goars</td><td>200 000 anim. X 10 euro = 2 000 000 euro</td><td>800 000 anim.: 1000 anim.=800 ferme X 200 000 euro=160 000 000 euro</td></tr>
<tr><td>Hourses</td><td>20 000 anim. X 50 euro = 100 000 euro</td><td>_</td></tr>
<tr><td>Poultry</td><td>6 000 000 anim. X 1 euro = 6 000 000 euro</td><td>24 000 000 anim.: 100 000 anim.= 240 întreprinderi X 1 000 000 euro= 240 000 000 euro</td></tr>
<tr><td>Total</td><td>20 000 000 euro</td><td>2 980 000 000 euro</td></tr>
<tr><td colspan="3">Total costs 3 000 000 000 euro</td></tr>
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Operational and Maintenance costs	Beef costs per capita of bred animal – 1500 euro 400 000 anim X 1500 euro = 600 000 000 euro Per capita costs of other types of beef – 500 euro 500 000 anim X 500 euro = 250 000 000 euro Swine costs per capita – 100 euro 700 000 anim X 100 euro = 70 000 000 euro Sheep/ goat costs per capita – 50 euro 1 000 000 anim X 50 euro = 50 000 000 euro Horse costs per capita – 100 euro 20 000 anim X 100 euro = 2 000 000 euro Poultry costs per capita – 1 euro 30 000 000 anim X 1 euro = 30 000 000 euro Total costs of animals -1 002 000 000 euro Total costs of feed - 1 300 000 000 euro Labour – 198 000 000 euro Total opertional costs– 2 500 000 000 euro

[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/**