Technology Fact Sheet for Adaptation

Technologies in the animal husbandry

B.8. Livestock Disease Management (High Quality Livestock) [i]	
1. Introduction	Livestock diseases contribute to an important set of problems within livestock production systems. These include animal welfare damages, productivity losses, uncertain food security, loss of income and negative impacts on human health. Livestock disease management can reduce disease through improved animal husbandry practices. These include: controlled breeding, controlling entry to farm lots, and quarantining sick animals. This is done through developing and improving antibiotics, vaccines and diagnostic tools, evaluation of *ethnotherapeutic* options, and vector control techniques.
2. Technology characteristics	Livestock disease management is made up of two key components: • Prevention (biosecurity) measures in susceptible herds • Control measures taken once infection occurs. The probability of infection from a given disease depends on existing farm practices (prevention) as well as the prevalence rate in host populations in the relevant area. As the prevalence in the area increases, the probability of infection increases.
3. Country specific applicability and potential	According to the national statistics for 2011, the number of animals infected by disease in 2011 has almost doubled compared to in 2008. About 500 incidences of animals infectious diseases were recorded in 2011 in majority of *soums*. A sharp rise in both animal and human brucellosis incidence has become a serious problem. Rabies and anthrax remain endemic with occasional human cases. Other prevailing infectious diseases are contagious *pustular* dermatitis, contagious *agalactia*, *enterotoxemia* and *pasteurellosis*. National level surveillance of infectious diseases in animals and management of appropriate preventive measures are urgently required in Mongolia. This technology would allow: • the establishment of national level surveillance system of infectious diseases including vector borne diseases among animals and mapping of potential outbreak areas • an action plan for common infectious diseases • a piloting of the surveillance and response system • setting up of local veterinary centers and strengthened treatment system • capacity building of herders, local veterinarians and other related workers

4. Status of technology in country	Currently, there are two major projects on animal health: - Animal health and livestock marketing with support of the EU: Improvement in diagnosis and tests would be improved through laboratory and facilities in 5 aimgs - Brucellosis eradication program by the Government and Swiss Development Agency.
5. Benefits and impact on the country development ✓ Economic (- Job creation; - Investment) ✓ Social (- Income generation; - Education; - Health) ✓ Environmental	Benefits of livestock disease prevention and control include: higher production (as morbidity is lowered and mortality or early culling is reduced), and avoided future control costs. When herders mitigate disease through prevention or control, they benefit not just themselves but any others at risk of adverse outcomes from the presence of disease on that operation. At-risk populations include herders, local residents, and consumers. The beneficiaries might also include at-risk wildlife populations surrounding the area that may have direct or indirect contact with livestock or livestock-related material.
6. Climate change adaptation benefits	The major impacts of climate change on livestock diseases have been on diseases that are vector-borne. Increasing temperatures have supported the expansion of vector populations into cooler areas. Changes in rainfall patterns can also influence an expansion of vectors during wetter years and can lead to large outbreaks. Climate changes could also influence disease distribution indirectly through changes in the distribution of livestock. Improving livestock disease control is therefore an effective technology for climate change adaptation.
7. Financial Requirements and Costs	Livestock disease management costs include: testing and screening, veterinary services, vaccines, training of livestock keepers and veterinary staff, and perhaps changes to practices and facilities to reflect movement restrictions and quarantines when animals are added to the herd. Prevention and control costs are generally evaluated against expected financial losses resulting from a disease outbreak in a cost-benefit analysis. The assumption is that increased prevention and control costs lower the expected losses by diminishing the expected scale of an infection. In 2011, the Government spent 4,700 million *tugrugs* (about 4 million USD) for prevention measures, about 700 million *tugrugs* (0.5 million USD) for laboratory tests and diagnosis and 1,800 million *tugrugs* (about 1.6 million USD) for vaccination anti infectious diseases of livestock.
8. Institutional requirements	Public policies range from bounties/indemnities for infected livestock to required herd depopulation and farm decontamination, to decentralization programme for provision of veterinary services and drug supplies. Livestock and animal health policy should be oriented to

	both the commercial and pastoral sectors and include pro-poor interventions to support the most vulnerable populations. Government investments in infrastructure (including early warning systems, roads, abattoirs, holding pens, processing plants, air freight/ports and so on), systematic vaccination, and in research and development can all contribute to providing an enabling environment for effective livestock disease management. Removing or introducing subsidies for improved management, insurance systems and supporting income diversification practices could benefit adaptation efforts.

[i] **This fact sheet has been extracted from TNA Report – Technology Needs Assessment For Climate Change Adaptation– Mongolia. You can access the complete report from the TNA project website http://tech-action.org/**