

Animal Health and climate change in India

AH Group, NDDB, Anand

Animal health may be impacted by climate change in four major ways: heat-related diseases and stress, extreme weather events, adaptation of animal production systems to new environments, and emergence and re-emergence of infectious diseases, especially vector borne diseases critically dependent on environmental and climatic conditions. (World Bank, 2008)

The estimated annual milk loss due to heat stress in cattle and buffalo in India is estimated at around 1.8 million tonnes, amounting to around Rs.2,661 crore. (Upadhyay, 2010). Heat stress has also detrimental effects on reproduction by decreasing oestrus expression and conception rate and, also increasing length of service and dry period. (Updhyay RC., 2007) (Maurya R K., 2010)

Disease outbreaks were also observed to be correlated with the mass movement of animals which in turn is dependent on various climatic factors. A higher rate of mastitis was reported in dairy animals during hot and humid weather due to heat stress and greater fly populations associated with it. (Singh K B., 1996). A higher infestation of ticks was also found to be aggravated under hot and humid conditions (Basu A K., 2004) (Kumar S., 2004) thus increasing the chances of occurrence of tick borne diseases.

The three key entry points mentioned which may lead a better way to cope with the negative consequences of climate change: (1) Preventive medicine- early warning, early detection and early response being its 3 main components. (2) Adjustment of animal husbandry- which would include improved biosecurity and (3) Social resilience – Community based animal health protection efforts. (FAO)

Bibliography

- Basu A K., B. P. (2004). The effect of season on the incidence of ticks. *Bulletin of Animal Health Production in Africa*, 52(1):39-42.
- FAO. (n.d.). Climate change and animal health.
- Kumar S., P. K. (2004). Seasonal prevalence of different ectoparasites infecting cattle and buffaloes. *Birsa Agricultural University Journal of Research*, 16(1):159-163.
- Maurya R K. (2010). Alternate dairy management practices in draught prone areas of Bundelkhand region of Uttarpradesh. MSc thesis, IVRI.
- Singh K B., N. D. (1996). Studies on occurrence of clinical mastitis in relation to climatic factors. *Indian Journal Dairy Science*, 49(8):534-536.
- Upadhyay, R. (2010). Annual milk production loss due to global warming. National Dairy Research Institute.
- Updhyay RC., S. S. (2007). Impact of climate change on milk production of Murrah buffaloes. *Italian Journal of Animal Science*, 13299-1332.
- World Bank. (2008). Climate change impacts and risks for animal health in Asia. *Rev Sci Tech*, 27(2):581-97.