

Climate change is defined as an average weather condition of an area that is characterized by its own internal dynamics, and it can affect by changing its external factors. Compromised liver function in heat-stressed cattle is testified by reduced albumin secretion and liver enzyme activities (Ronchi et al., 1999). This review looks to explore the linkage between climate change and livestock health and provide some guidelines to combat the impact on livestock from the Bangladesh perspective. The effect of climate change on animal health may be either direct or indirect (Figure 1) and may be due primarily to changes in environmental conditions, which include air temperature, relative humidity, precipitation, and frequency and magnitude of extreme events (i.e., heat waves, severe droughts, extreme precipitation events, and coastal floods). On the other hand, the weather is a set of all the phenomena occurring. The global carbon emission rate, due to energy-driven consumption of fossil fuels and anthropogenic activities, is higher at any point in mankind history, disrupting the global carbon cycle and contributing to a major cause of warming of the planet with air and ocean temperatures, which is rising dangerously over the past century. Indirect impacts follow more intricate pathways and include those derived from the influence of climate on microbial density and distribution, distribution of vector-borne diseases, food and water shortages, or food-borne diseases (Lacetera et al., 2013). With more frequent extreme weather events including increased temperatures, livestock health is greatly affected by resulting heat stress, metabolic disorder, oxidative stress, and immune suppression, resulting in an increased propensity for disease incidence and death. Although this article focuses on the effects of environmental factors, it should be noted that factors leading to the effects of climate change on health are extremely complex, involving not only environmental forces, but also ecological and social aspects, economical interests, and individual and community behaviors (Forastiere, 2010). The United Nations Framework Convention on Climate Change (UNFCCC) defines climate change as the change resulting from long-term direct and indirect activities that induce changes in the compared time, which are much more than the natural change (UNFCCC, 1992). The reduction of feed intake combined with increased energy expenditure for maintenance may alter energy balance and explain why heat-stressed animals lose body weight and/or mobilize adipose tissue during heat stress. Ketosis is a metabolic disease that occurs when the animal is in a severe state of negative energy balance, undergoes intense lipomobilization, and accumulates ketone bodies, which derive from incomplete catabolism of fat. The indirect health effects relate to the multiplication and distribution of parasites, reproduction, virulence, and transmission of infectious pathogens and/or their vectors. Managing the growing crossbreeding livestock industry in Bangladesh is also at the coalface for the emerging impacts of climate change, with unknown consequences for the incidence of emerging and re-emerging diseases. Depending on its intensity and duration, heat stress may negatively affect livestock health by causing metabolic alterations, oxidative stress, immune suppression, and death (Figure 2). In particular, during summer, early lactating dairy cows are more likely to experience subclinical or clinical ketosis (Lacetera et al., 1996) and are at higher risk to develop liver lipidosis (Basirico et al., 2009). The livestock sector is considered as a major part of food security for Bangladesh, alongside agriculture, and with one of the world's largest growing economies, the impacts are exaggerated with this disaster.

**Direct Effects** The direct effects of climate change on health may be due primarily to increased temperatures and frequency and intensity of heat waves (Gaughan et al.,

.2009).Figure 1.Figure 2.Figure 3