

# Chapter 11

## Climate Change and Animal Farming



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**Abstract** In recent years, extreme climate change (CC) and atmospheric events have become a global issue. It is now well known that livestock production contributes to global warming to a certain extent. The impacts of climate change on animal production can be analysed as the direct or indirect effects of the climatic factors. The direct impacts of climate change on animals are caused by climate factors with direct impacts on physiology, such as atmosphere temperature, relative humidity and wind speed. The animals' reactions to changing climate conditions differ, depending on being a ruminant or non-ruminant and their climate comfort zones. Animal farming impacts on climate change, as well. Global warming and climate change are mainly caused by three gases: carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>) and dinitrous oxide (N<sub>2</sub>O). Moreover, the increased humidity level in the atmosphere is another factor contributing to global warming. In addition to these gases, chlorofluorocarbon, which has commonly been used in industry in the past, has also made a considerable contribution to global warming. The gases which are naturally produced have no harmful effect; on the contrary, their presence in the atmosphere within normal limits contributes to preventing some heat loss from the Earth and establishing the atmospheric conditions which ensure the sustainability of life in the earth. But the high-level release of these gases causes an increase in the rational shares of this layer and thus keeps the long- and short-wave infrared rays from the sun at a higher level. Climate change is likely to have indirect impacts on the quality and the amount of animal feeds, feeding strategies, seasonal usability of grasslands, genetic studies (hybridisation, etc.), performance and the number of animals. The other element of pressure on animal production is political, social and economic sanctions which are aimed at decreasing greenhouse gas emissions. Climate experts have been made to adjust livestock production systems to forecast future climate changes based on climate modelling. From this point of view, it is

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