

Economic losses in livestock due to diseases

Losses due to livestock diseases are one cause of low milk production and farm incomes. There are many fatal diseases in Pakistan including Foot and Mouth Disease (FMD), Hemorrhagic Septicemia (HS), Bovine Viral Diarrhea (BVD) and black quarter. Farmers do not regularly vaccinate their animals against these fatal diseases regularly which lower dairy production. Every third cow/buffalo suffers from mastitis, greatly contributing to loss of milk production. Parasites such as ticks are also lowering the production of the sector (Saleem and Ashfaq, 2009). The consequences of livestock diseases are generally seen as direct impacts only but, in reality, they can be quite complex. The diseases affect the productivity of animals and deprive the farmers of dairy earnings. Morbidity due to diseases is responsible for short term, and long term, product losses. These losses are economically more important than as compared to mortality (Husnain and Usmani, 2006). Livestock diseases also cause the loss of income from other activities which require the use of animals, such as, farming, transportation, and tourism etc.

The welfare losses related to animal diseases are caused due to suboptimal use of scarce resources in the instance of diseases. Within this background, the present study examines four different diseases with an aim to investigate the factors affecting the economic losses caused by these diseases. The main focus of the study is on the diseases mastitis, Parturient Hemoglobinuria, FMD and tick infestation. The results of studies conducted in Pakistan, and in other countries, show that diseases selected in current study have important economic consequences. In the United States, an annual loss of \$1 billion is caused to dairy industry by subclinical mastitis, which is the most economically important type of mastitis because of its chronic effects (Ott, 1999). An annual loss of \$35 billion is caused by this disease globally (Ratafia, 1987). Nine percent of total mortality in buffaloes in Pakistan, and five percent of total mortality in cows, is due to Parturient Hemoglobinuria. This disease causes an estimated annual loss of Rs. 490.2 million in buffaloes and Rs. 153.1 million in cows in Punjab province (DPE, 1996).).

Due to the severity of its economic impacts, and the nature of the virus, FMD is also the most important disease which affects the trade of animals and related products throughout the world (Arzt *et al.*, 2011a,b). The economic losses caused by ticks and tick-borne diseases are estimated to have an annual value of as much as \$18 billion (deCastro, 1997). In Brazil alone, cattle ticks cause annual losses as high as \$2 billion (Grisi *et al.*, 2002). The annual losses caused by external parasites to the US beef cattle industry amount to \$2.4 billion (Tolleson *et al.*, 2007)