

Economic Impact of FMD in Chazhoor Panchayath

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Abstract

Foot and mouth disease is probably the most important livestock disease in the world in terms of economic impact. Of all the vesicular diseases prevalent in India, FMD remains the greatest and most feared scourge. In Chazhoor Panchayat, 62 animals were affected with FMD, out of which 28 were vaccinated. The economic loss was calculated taking into consideration milk loss, losses due to abortion and treatment charges. The total economic loss was calculated as Rs 313900/- out of which loss in milk production accounted for 80.68%. Cost of milk was calculated at the rate of Rs. 12/ litre, to assess the economic loss. Treatment cost includes vehicle charges and cost of medicine. An average loss of 8 hrs/ day/ animal was calculated. Vaccination cost of Rs. 5/ animal was also considered. Towards the nursing of animal and disinfection of shed, loss of manpower of 2-hrs/ animals for 5 days was calculated.

key words:- FMD, economic impact, production loss, manpower, Chazhoor Panchayath

Introduction

Foot and mouth disease is caused by an aphthovirus (family picorna viridae), which occurs as seven major serotypes, viz. O, A, C, SAT1, SAT2, SAT3 and ASIA 1. Out of the possible seven, only four serotypes O, A, C and ASIA-1 were reported in India and serotype C has not been recorded since 1995. FMD affects all cloven-footed animals and in India, it is present almost in all parts of the country occurring round the year. Morbidity of the disease is extremely high although mortality is low, generally below 2% (though it may be as high as 20 in younger animals). Due to the highly contagious nature, the disease has devastating effects economically. About 2500 outbreaks are reported annually in India. The direct loss due to FMD in India is roughly estimated as 2250 crores of rupees, and indirect loss is much more. It is calculated that the economic loss due to death of the animal in the Kerala state and is Rs.66.33 lakhs and loss due to reduction in milk yield is Rs.121.50 lakhs (Vijaykumar,1999).

Materials and Methods

Objective of the study was to assess the potential economic impact of an outbreak of FMD in Chazhoor Panchayath of Thrissur District. An outbreak was reported on 4th January 2007. Samples collected for confirmation of the disease include foot lesions, oral lesions, intact vesicles and serum. Samples were sent to Indian Immunologicals Limited, Hyderabad and Chief Disease Investigation Office, Palode, Thiruvananthapuram and it was typed as serotype A.

Data was collected from about 51 owners (59 cows and three he-buffaloes), which were affected by FMD in a specifically designed questionnaire on the basis of interview with the farmers. Production details were collected from the milk co-operative society (Alappad) also. The quantity of milk produced before and immediately after the disease was collected. Milk production after one month of the disease was also recorded and standardized to a lactation period of 305 days, after taking into account the depreciation of milk yield (as one litre reduction in a period of three months) and stage of lactation of the animal. Cost of milk was calculated at the rate of Rs. 12/litre, to assess the economic loss. Treatment cost includes vehicle charges and cost of medicine. Most of the medicines were supplied from the veterinary hospital and hence exempted from the expenses.

During the period of study, two cases of abortion were reported, and economic loss was calculated taking into consideration milk loss, cost of calf and treatment charges. Abortion may also leads to long-term effects like endometritis, delayed conception etc. Mortality of two cows and one calf also reported as a result of FMD outbreak. Economic loss due to death includes cost of animal and expenses of burial of carcass.

The disease also affected three draught buffaloes. An average loss of 8 hrs/ day/ animal was calculated. Out of the 62 animals affected, 28 were vaccinated. Vaccination cost of Rs. 5/ animal was also considered. Cost of vaccination also includes

the cost for maintaining vaccine banks, procuring vaccine, maintaining cold chain, transportation and carrying out vaccination campaigns. For disinfection of animal shed and surroundings, formaldehyde and sodium carbonate were used which were supplied from the Veterinary Hospital. Towards the nursing of animal and disinfection of shed, loss of manpower of 2-hrs/ animal for 5 days was calculated.

Results and Discussion

Foot and mouth disease is probably the most important livestock disease in the world in terms of economic impact. The reasons for this are not only due to the ability of the disease to cause losses of production but are also related to the reaction of Veterinary Science to the presence of disease and to restrictions on the trade of animals both locally and internationally. Under Kerala condition, most important loss is, reduction in milk yield. Milk yield is reduced to about 50% or less. Besides, it reduces the meat value as well as the potential of draught power. The economic loss of farmers due to FMD in Chazhoor Panchayat can be summarized as follows;

Reason	Loss in Rs.	%
Reduction in milk yield	2,53,260/-	80.68
Death of Animal	23,000/-	7.33
Abortion	8,000/-	2.55
Treatment charges	12,750/-	4.06
Loss of manpower	7,750/-	2.47
Loss of draught hours	9,000/-	2.87
Vaccination cost	140/-	0.04
TOTAL	313900/-	100

Total population of cattle and buffalo in Chazhoor Panchayath is 2,553. Only 2.42 % of animals were affected in this outbreak, which caused an economic loss of Rs. **313900/**. Reports from the nearest milk co-operative society shows that there is average reduction of 18.10% in milk production. In this outbreak, animal suffered an immediate 50%-60% loss in milk production. This is equal to an average loss of 25% through a given lactation. This finding is in accordance with study result of Avis aleff group.(www.aleff group.com).

The infected animals remained severely debilitated for a considerable period of time, and lost weight considerably, which may be due to, reduced feed intake resulting from foot and mouth lesions. Another important loss is that of professional work hours. It includes the time for examination and blood testing of animals for FMD in and around the infected

areas, containment vaccination, cost of sending samples for confirmation and further investigation, cost for visit by experts and researchers. In addition to the peri-natal mortality as a direct result of the disease, young animals also were affected by the reduced milk production as well as unwillingness to suckle the dam. So they have retarded growth rate and remain as weaklings.

Consumption of milk and meat was reduced on account of consumer fear of contracting F.M.D. Although there is no scientific basis for this concern, the effect would be reduced consumption and further decrease in prices. FMD is a major constraint in Indian's participation in international livestock and animal products. The presence of FMD can affect the export of other products, such as fresh fruit and vegetables to FMD free countries.

FMD has a socioeconomic impact also. It retards the labour potential of several economically weaker sections of the society, who depend on livestock production activities for their daily bread. Moreover it creates a negative feeling among farmers, especially in the context of increasing production costs.

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