**CHAPTER 1**

**INTRODUCTION**

Goat is considered as the poor man’s cattle. There are about 33.5 million goats out of 58.98 millions livestock in Bangladesh. Goats are big sources of milk, meat and skin. A few years back Bangladesh government took a national scheme of poverty alleviation through goat rearing. But there are several diseases of goat, especially Pests des petits ruminants (PPR), which cause higher mortality and great economic losses, was one of the major constraints for not having a fully successful implementation of the said programme. PPR is now endemic and epidemic in Bangladesh **(Debnath, 1995; Islam et al., 2001)**.

Rinderpest was arguably the most fearful livestock disease that the farmers in Bangladesh experienced with their cattle which has successfully been eradicated. A related virus of that of rinderpest virus however causing the similar nature of disease in goats called PPR particularly in Asian and African countries and international efforts are also underway how to eradicate it **(Peter Roeder, FAO)**.

Peste des Petit Ruminants (PPR) is a highly contagious disease causing varying degree of morbidity and mortality in susceptible animals (**Radostits *et al.,* 2000**). It is an important viral disease of goats and sheep, first described by Gargadennec and Lalane (1942) from Ivory Coast in West Africa. It is also known an pseudorinderpest of small ruminants, pest of small ruminants, pest of goats, Kata, stomatitis-pneumoenteritis syndrome, contagious pustular stomatitis and pneumoenteritis complex The disease is characterized by high fever, ocular and nasal discharge, pneumonia, necrosis and ulceration of the mucous membrane and inflammation of gastro-intestinal tract leading to severe diarrhoea **(Gibbs *et al.,* 1979**). Morbidity and mortality rates can be as high as 100 and 90%, respectively **(Abu-Elzien *et al.,* 1990).**

Causative agent of this economically important disease is a Morbillivirus, the Peste des Petits Ruminants Virus (PPRV), under the family Paramyxoviridae*.* Like all members of the family, the PPRV is an enveloped pleomorphic particle of size between 150 and 390 nm (**Durojaiye *et al***., **1985**) containing non-segmented single stranded RNA genome of negative polarity. The genome of attenuated vaccine strain of PPRV (Nigeria 75/1) was sequenced entirely and the physical map of the genome is the same as that of the other Morbilliviruses (**Rima *et al.,* 1986**; **Diallo, 1990**). PPR in different pattern (endemic/epidemic) are found throughout the world (East and WestAfrica, the Middle East, Nigeria, Senegal, Ghana, Sudan, Nepal, Pakistan, India Bangladesh’( **Roeder and obi; 1999**). Among the South Asian countries, PPR Virus first recorded in India from the southern state of Tamil Nadu in 1987 and it continues to be present in the southern states and Tamil Nadu (**Taylor; 1995, Debnath; 1995**).In Bangladesh, outbreak of Rinderpest like disease, later confirmed by a reference laboratory to be PPR during 1993 in border belts area of South Western districts (Sathkhira, Jessore and Barguna) of Bangladesh by Dr Taylor in 1993. PPR was not clearly recognizable up to 1972, but the true extend of the disease has become apparent in recent years and is still being clarified.(**Reader and obi;1999**). It is assumed that 75% of the districts in Bangladesh are affected with PPR. In Bangladesh it is thought that the disease might have come from India (**Debnath; 1995**). It has been reported that the Black Bengal goats (67.24%) are more susceptible to PPR than Jamunapari breed (32.76%). In epidemic areas morbidity rate been estimated to be 80% to 90% and mortality rate of 50% to 80% endemic condition, it may be less dramatic or may occur as a sub clinical or even in apparent form (**Debnath; 1995**). Rainy season is more susceptible to occur the disease as compared with dry season (**samad; 2000**).

Clinically the disease is to be suspected with the presence of so called “3D syndrome”: diarrhea, dyspnoea and death. There are different virological, serological and molecular tools reported for the laboratory diagnoses of PPR. Among them, Agar Gel Precipitation Test (AGPT) test can be applied with the involvement of minimal biologics: nasal swabs as a source of antigen and serum from a hyper-immunized goat with a PPR vaccine as a source of antibodies. The sensitivity and specificity of AGPT test are also high (**OIE Manual, 2008**).

In Bangladesh, the incidence of PPR outbreak was noticed during 1993-95 despite the vaccination of goats using live rinderpest vaccine. The vaccine used in the field failed to protect goat against existing local PPR virus strain. On the other hand rainy season is more susceptible to occur this disease. Muddy floor is the most vulnerable risk factor to develop pneumonia. That is why large number of cases found during this period. Goats also infected through shared grazing, water and housing.

Considering all aspects, the present study was undertaken with the following objectives

1. To have some epidemiological information on PPR occurred in different breeds, age categories of goats along with their vaccination status in Chittagong metropolitan area

2 To record characteristic clinical pictures observed in goat

3. To know the efficacy of different symptomatic treatments given to PPR-affected goats at teaching veterinary hospital in CVASU.