

## PREVALENCE OF PPR CASES AMONG SAHEL GOATS PRESENTED AT THE BORNO STATE VETERINARY CLINIC MAIDUGURI NIGERIA FROM 1996-2005

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### SUMMARY

A study of the prevalence of PPR among Sahelian goats of the semi-arid region of North-eastern Nigeria, presented at the Borno State Veterinary Clinic over a period of 10 years (1996-2005) was carried out using clinical reports. The results revealed that the number of cases rose to a peak (36.5%) in 1999 and later showed a continuous decline in the subsequent years. The study also showed seasonality, gender and age distribution of the disease among Sahel goats.

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**KEYWORDS:** PPR, Sahel goats, Semi-arid region, Nigeria

### INTRODUCTION

Small ruminants are a major component of the livestock sub-sector in most parts of the world including Nigeria (Odo, 2003). Nigeria is blessed with abundant livestock resources with most of the animals concentrated in the northern parts of the country (Egwu *et al.*, 1995). The semi-arid zone of north-eastern Nigeria is reported to account for about 25% of the ruminant population in Nigeria that is put at 13.3 million cattle (Ngere *et al.*, 1984), 20.1 million sheep and 34.5 million goats (Shamaki *et al.*, 2004). Small ruminants accounts for a substantial share of the total household income in most parts of the world and plays a significant role in the religious, social, traditional and cultural rites as well as the provision of high quality animal protein for most developing countries (Saliki *et al.*, 1987). However, the major constraint to a successful

development of this industry is the menace of infectious diseases, often associated with high morbidity and mortality and decline in productive and reproductive performances and even public health concern (Odo, 2003). Principal among these diseases is the peste des petits ruminants (PPR) (Diallo, 2003; Odo, 2003). This is a trans boundary animal disease characterised by fever, erosive stomatitis, nasal and ocular discharges, pneumonia and diarrhoea (Ozkul *et al.*, 2002; Couacy-Hymann *et al.*, 2005). This disease is a contagious trans-boundary disease with significant impact on rural poor farmers, whose control should be considered in the programmes that aim at alleviating poverty in developing countries (Diallo, 2006). However, scanty information exists on the prevalence of this disease among the small ruminant population of the semi-arid region of north-eastern Nigeria.

This study is therefore designed to initiate a preliminary investigation of the prevalence of PPR among the goat population of the semi-arid region of north-eastern Nigeria.

## MATERIALS AND METHODS

### Study area

This study was carried out in Maiduguri, the capital of Borno state Nigeria. The area is characterised by shrubs and thorny trees with grasses on the low-land areas. The inhabitants of the area are predominantly farmers engaged in crop cultivation and/or animal rearing. The climate of the area is divided into rainy season (June September), cold dusty harmattan season (October February) and the hot dry season (March May) (El-Yuguda *et al.*, 2005).

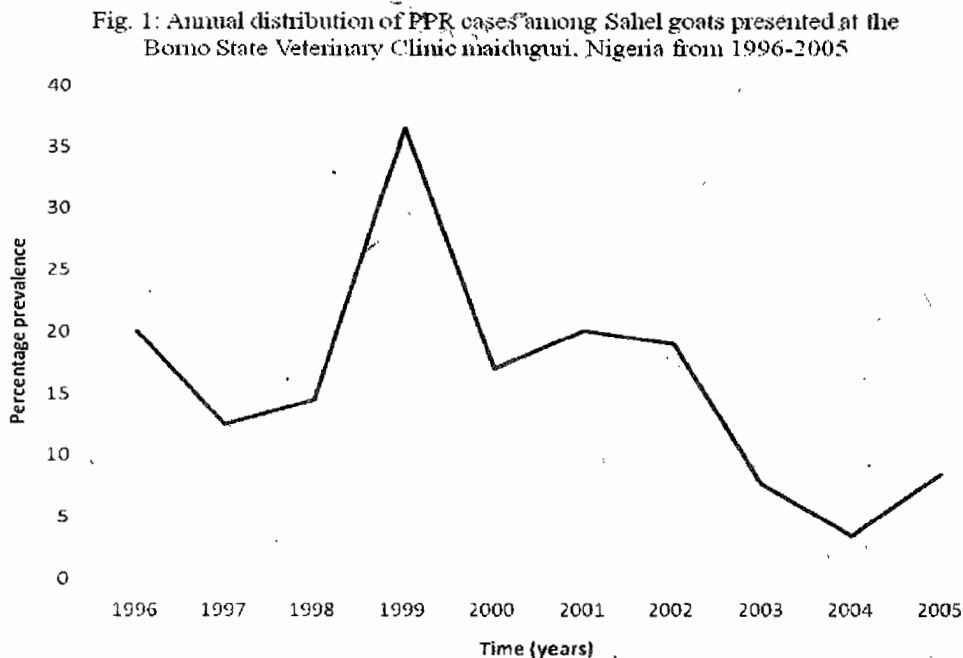
### Data collection

The data presented in this report were collected from clinic records of cases involving goats presented at the Borno state Veterinary clinic from 1996 to 2005. The data was subjected to annual, seasonal, age and sex distribution. However,

because of lack of proper aging records we restricted ourselves to using the terms kids (<1 year) and adults (=1 year).

## RESULTS

The results of the retrospective survey for the prevalence of PPR among the Sahelian goats presented at the Borno State Veterinary Clinic Maiduguri from 1996 to 2005 showed a gradual increase in percentage prevalence that peaked in 1999 with 36.5% and thereafter exhibited a gradual decline in the subsequent years (Fig. 1). The seasonal distribution of the PPR cases showed the rainy season (June September) to have recorded the highest cumulative prevalence 47.7%, followed by the cold dusty harmattan season (October February) with 28.2% and then the hot dry season (March May) with 24.1% (Fig. 2). The gender distribution of the disease showed higher cumulative prevalence for all the years among the females (63.9%) than the males (36.1%) (Fig.3). The age distribution of the cases showed the adults to be more infected (81.2%) than the kids (18.8%) (Fig.4).



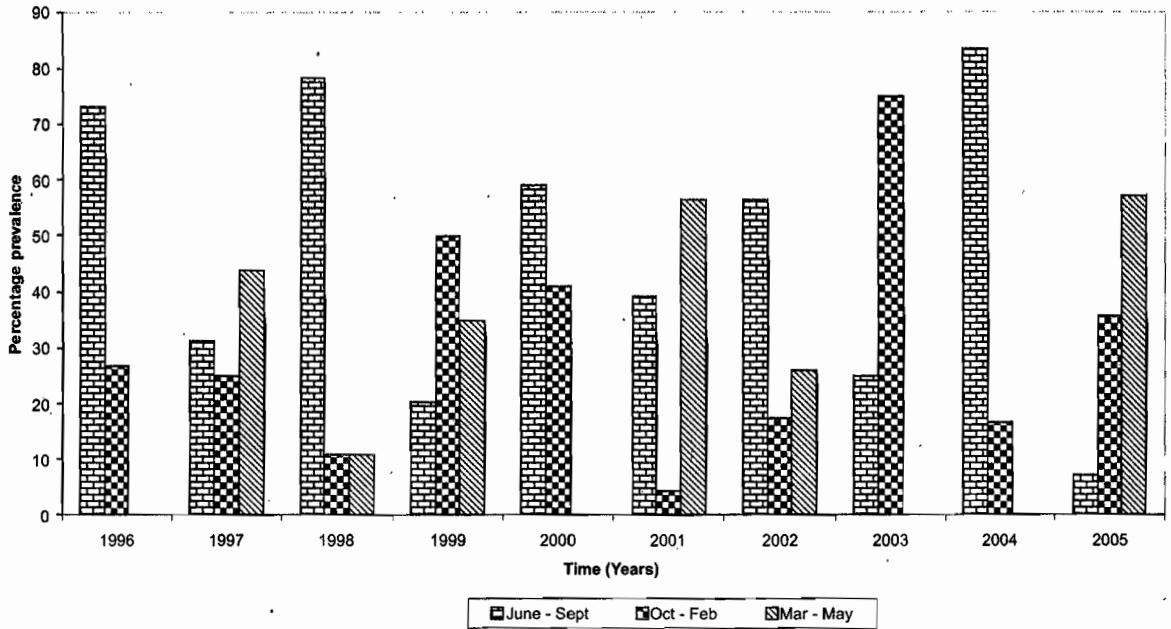


Fig. 2: Seasonal distribution of PPR among sahel goats presented at Borno state Veterinary clinic Maiduguri Nigeria from 1996 to 2005

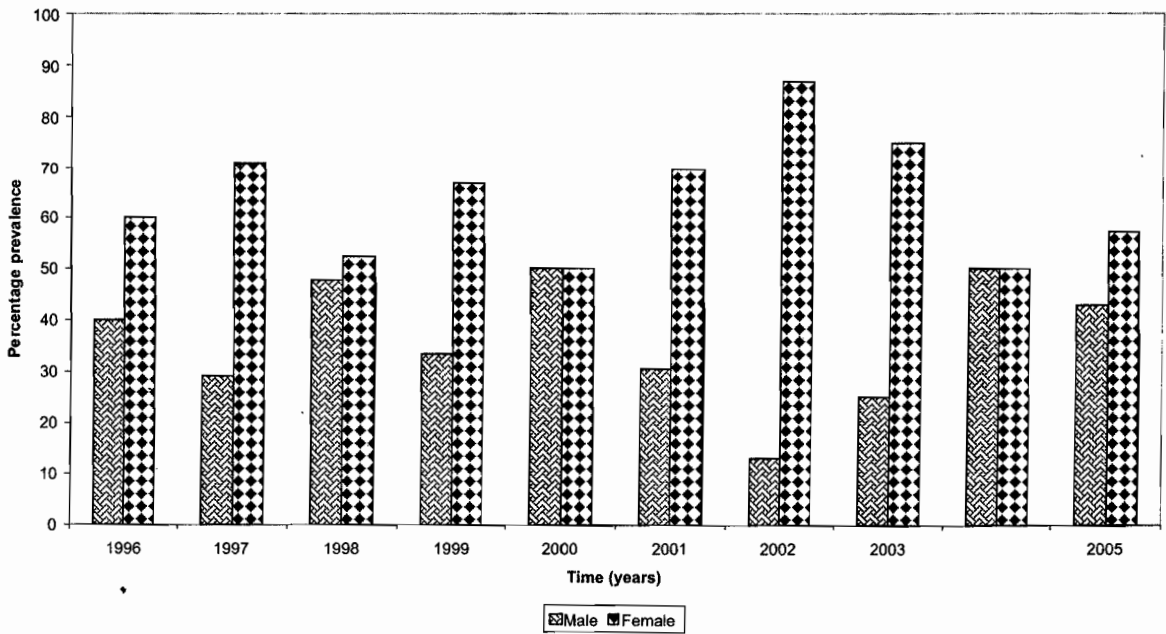


Fig. 3: Sex distribution of PPR cases among Sahel goats presented at the Borno state Veterinary clinic Maiduguri Nigeria from 1996 to 2005

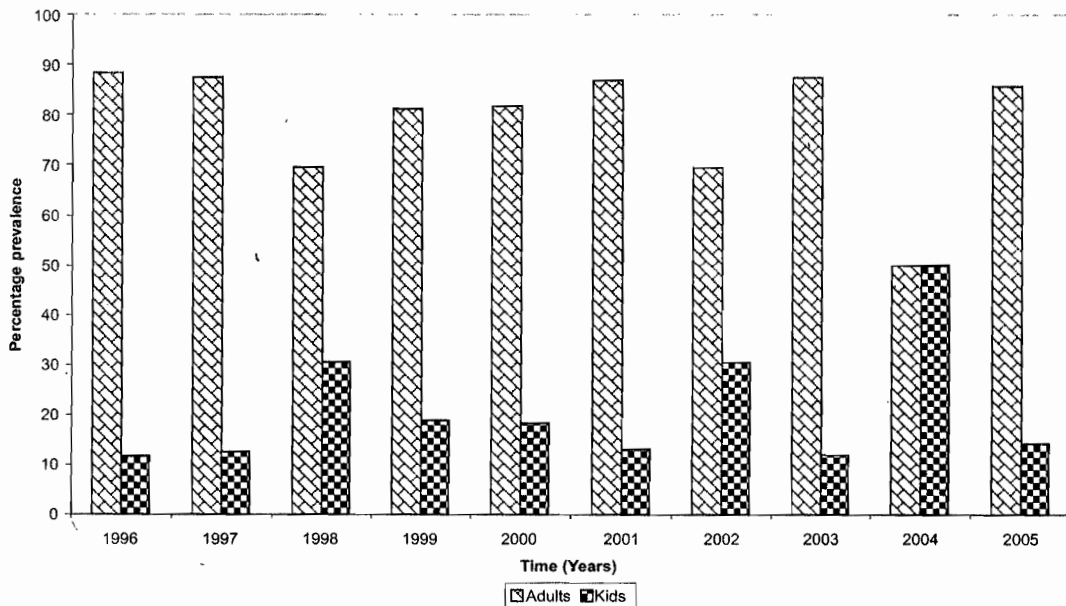


Fig. 4: Age distribution of PPR cases among sahel goats presented at the Borno state Veterinary clinic Maiduguri Nigeria from 1996 to 2005

## DISCUSSION

The outbreaks of PPR are recorded regularly by field Veterinarians in many parts of the world using the characteristics of the disease; fever, erosive stomatitis, nasal and ocular discharges, pneumonia and diarrhoea (Couacy-Hymann *et al.*, 2007). The occurrence of a fast spreading fatal disease with the above signs affecting mainly small ruminants should arouse the suspicion of PPR (Obi *et al.*, 1988).

The prevalence of the disease reported in this study was also diagnosed on the basis of these characteristic clinical signs and sometimes post mortem examinations. No plausible explanation could be given for the gradual decline in the cases observed in this report. It was observed in this report that PPR occurred all year round with peak periods in the rainy season followed by cold harmattan season and lowest in the hot dry season. This tally with other reports that showed PPR to occur all year round with tendency to peak during the rainy and cold dusty harmattan seasons (Obi *et al.*, 1988). The difference in sex distribution

observed in the report varies from other reports that indicated no difference in the sex distribution of PPR. The difference reported in this study could be associated with the fact that most farmers sell off their bucks early in life. The difference could also be attributed to reduction in immunity due to pregnancy among the females. More adult goats were also observed to be infected than the kids. This observation does not conform to other reports that showed kids to be more infected than the adult goats (Obi *et al.*, 1988; Ezeibe, 2000). Further studies of the active disease and serosurvey may be required for a better understanding of the epidemiology of the disease among Sahel goats.

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