Seroprevalence of African Swine Fever in Senegal, 2006

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In Senegal, during 2002–2007, 11 outbreaks of African swine fever (ASF) were reported to the World Organisation for Animal Health. Despite this, little was known of the epidemiology of ASF in the country. To determine the prevalence of ASF in Senegal in 2006, we tested serum specimens collected from a sample of pigs in the 3 main pig-farming regions for antibodies to ASF virus using an ELISA. Of 747 serum samples examined, 126 were positive for ASF, suggesting a prevalence of 16.9%. The estimated prevalences within each of the regions (Fatick, Kolda, and Ziguinchor) were 13.3%, 7.8%, and 22.1%, respectively, with statistical evidence to suggest that the prevalence in Ziguinchor was higher than in Fatick or Kolda. This regional difference is considered in relation to different farming systems and illegal trade with neighboring countries where the infection is endemic.

African swine fever (ASF) is a disease caused by a DNA virus in the family *Asfarviridae*. The disease is highly contagious and often lethal for pigs and is of considerable economic importance, due to the direct loss of animals as well as resulting trade restrictions. No vaccine is available against the virus. The epidemiology of ASF is complex, transmission is direct and vector-borne, and the disease has well recognized sylvatic and domestic cycles.

ASF is currently considered enzootic in eastern and southern Africa, and the epidemiologic cycles of importance in many of the countries in these regions are well understood (*1*). In contrast, little is known about the epidemiology of the infection in West Africa, despite evidence of considerable spread of disease in this region in the late 1990s. Since it was first identified in Senegal in 1959, frequent reports of outbreaks of ASF in the country have been made to the World Organisation for Animal Health (OIE). Since 1986, a total of 54 outbreaks have been reported, with periods of frequent reports (19 outbreaks during 1986–1989; 15 outbreaks during 1999–2003) and periods with a lower frequency of reports (15 outbreaks during 1989–1998; 5 outbreaks during 2004–2006). The sylvatic cycle likely plays little role in the epidemiology of ASF in West Africa.

The suggestion has been made that in Senegal a domestic cycle of infection involving ticks may be possible because of the enzootic nature of disease in the country and the identification of infected soft ticks in some pig pens (*2*). Nevertheless, a pig-to-pig domestic cycle appears to be the main cycle of infection in the country, due to the large free-ranging pig population, along with regular reintroduction from disease-endemic countries. The pig sector plays a large part in the economy in several regions of Senegal, and has dramatically increased in size in recent years (from 191,000 pigs in 1997 [*3*] to 320,000 in 2005 [*4*]). The consequences of ASF outbreaks in many countries are catastrophic, with major economic losses, and in developing countries, considerable social effects may result: the loss of employment for farm workers, the loss of an major source of income for farmers, the loss of a major source of high quality and cheap protein for poor communities, and the consequences for traditional ceremonies (for which pigs are often required, as is seen in Cameroon and Côte d'Ivoire) (*5*,*6*).

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DOI: 10.3201/eid1701.100896