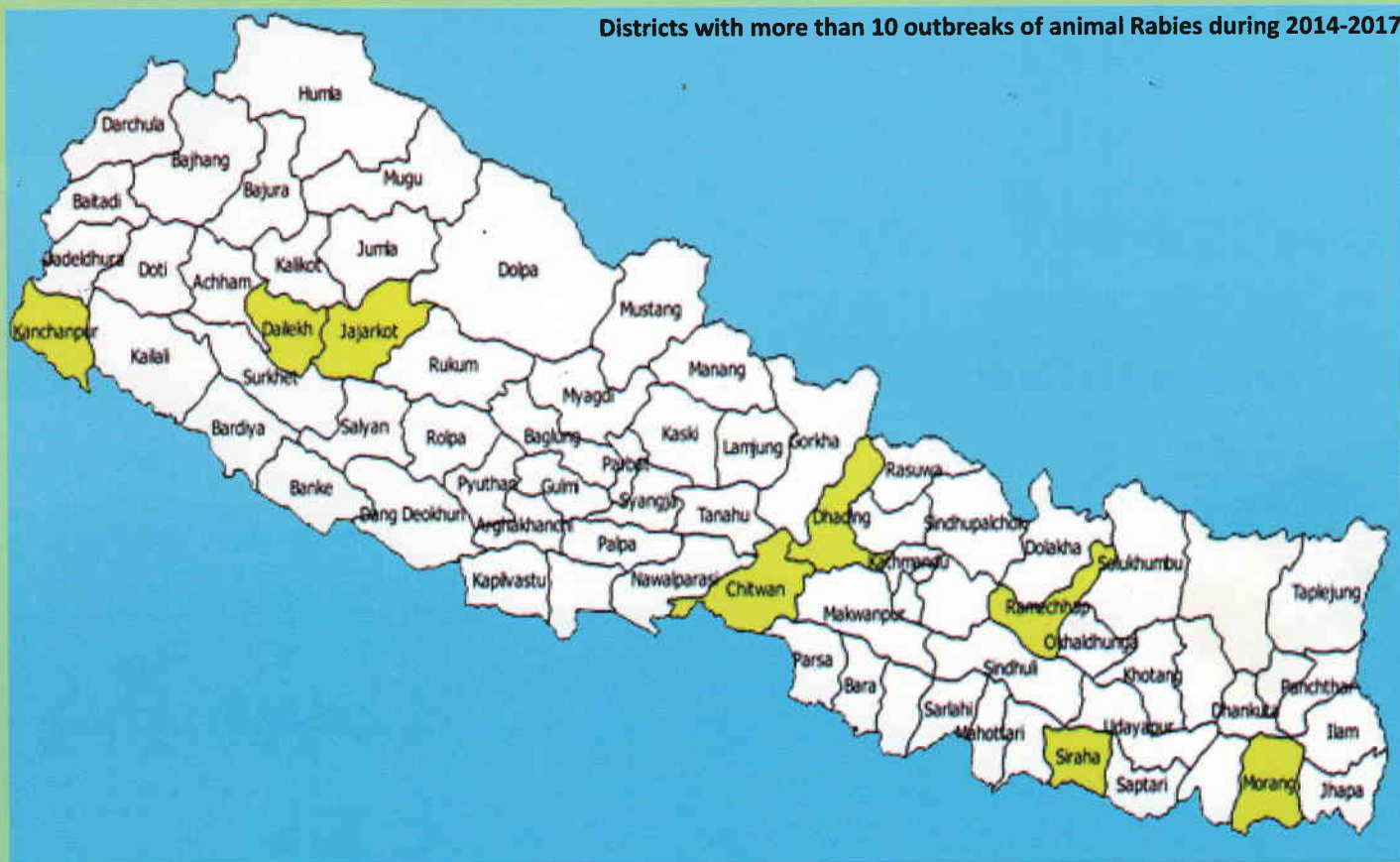




Quarterly Animal Health E-Bulletin (Rabies specific) Jan-April, 2018

This Quarterly Animal Health E-Information bulletin aims to share the information related to animal health specific to Animal Rabies and related news to all stakeholders involved that might trigger a positive spark on program planning and decision making for the prevention and control of Rabies in Nepal. We have compiled information received from different districts and institutions in this publication as per the request of our stakeholders. This bulletin is still in the process of rejuvenation and we assure you to provide the quality bulletin in the days to come and expect your valuable suggestions and support for the sustainability of this bulletin.

Districts with more than 10 outbreaks of animal Rabies during 2014-2017



Rabies is an acute, fatal viral disease of mammals most often transmitted through the bite of a rabid animal and impacts public health, livestock, and wildlife. It is endemic in Asia and Africa causing death of 70,000 people globally with more than 95% deaths occurring in Asia and Africa. All warm blooded mammals are susceptible to rabies. Dogs and cats are the most susceptible domestic species and act as spill-over host. Mongoose, raccoons, jackals, foxes, wolves, bats, skunk and squirrels are the wildlife reservoir host. Human get infected through bites, scratches, saliva of rabid animals. Dogs play major role as reservoir vector of human death with 96% of cases in Southeast Asia (SEA). (WHO). Incubation period of disease ranges from days to several weeks mostly 3-8 weeks.

The responsible virus causing rabies is *Lyssa virus* of

Rhabdoviridae family. Rabies in Nepal is maintained by two interrelated cycles viz. sylvatic and urban. Sylvatic cycle is mainly maintained by foxes and jackals. Also, rabies transmission by vampire bats (*Desmodus rotundus*) and is an important public health and economic concern. However, the major cause of rabies in both human and livestock is due to urban cycle i.e. dog bite.

Rabies costs governments and the people millions of rupees for diagnosis, investigation of animal bites, treatment of humans as well as through livestock losses, vaccination, running of rabies laboratories, and animal control programs. In addition, each year thousands of people are impacted by anxiety, fear, and trauma associated with potential or actual rabies exposure to themselves and their domestic animals (Rupprecht et al. 1995). Despite implementation

of aggressive rabies management strategies in many countries, rabies still results in 30,000 to 55,000 human deaths mostly in developing countries around the world. With globalization forest areas are declining devastatingly. Scarcity of food, natural calamities and unfenced forest will drive wild animals to human dwellings and becoming source of virus to stray dogs and vice-versa. Socio-economically weak people and children of 5-15 age group are mostly

affected by rabies. (WHO Strategic). 3.5 million Post Exposure Treatment (PET) cases are estimated annually in the world. Annually more than 30,000 population receive PET in human and 200 hydrophobia cases are estimated in Nepal. More than 94% of the reported human rabies cases are due to dog bites, 4% due to jackal and the rest due to mongoose, cat and other domestic animals' bites. The risk of human rabies is more on densely populated terai, inner terai and mid hills (Shrestha, 2009).

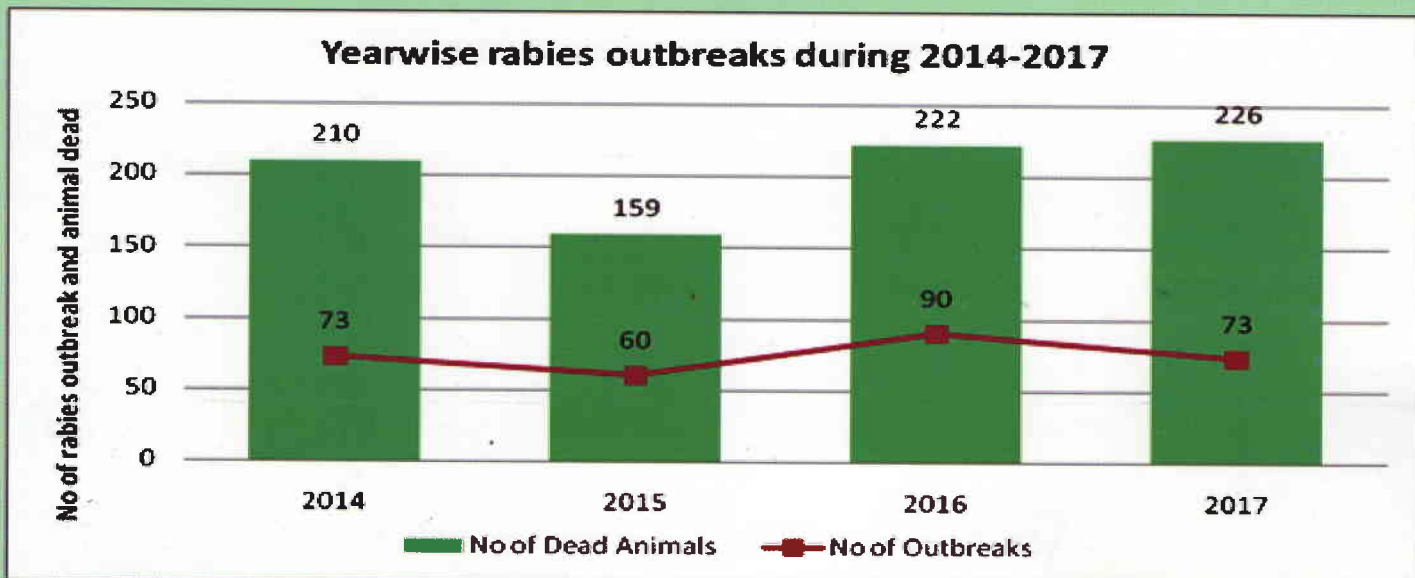


Fig 1: Year-wise trend of Rabies outbreak during 2014-17

Epidemiological pattern of rabies in Nepal

Rabies is endemic in Nepal with estimated incidence of 100-200 cases per year (Panta et al). It is persistent in all three eco-zones and regions throughout the year and almost in all the districts. Epidemiological analysis of data to overview animal rabies outbreak trend during 2014 to 2017 received at Veterinary Epidemiology Centre (VEC) showed rabies outbreak throughout year. There is slight decrease in trend in no. of outbreaks in 2015 but increased in the following year (Figure, 1). Implementation of free dog vaccination campaign by Directorate of Animal Health

and Veterinary Public Health (VPH) may have impact in less no of outbreaks. Several NGOs like Kathmandu Animal Treatment Centre (KAT), Animal Nepal, Himalayan Animal Rescue Team (HART, Nepal) and NGOs are also working in Rabies control program with mass vaccination and animal birth control program. (Source, VEC)

Monthly data showed that no of rabies case peak during two seasons. That is between March to April and September to November. (Figure, 2)

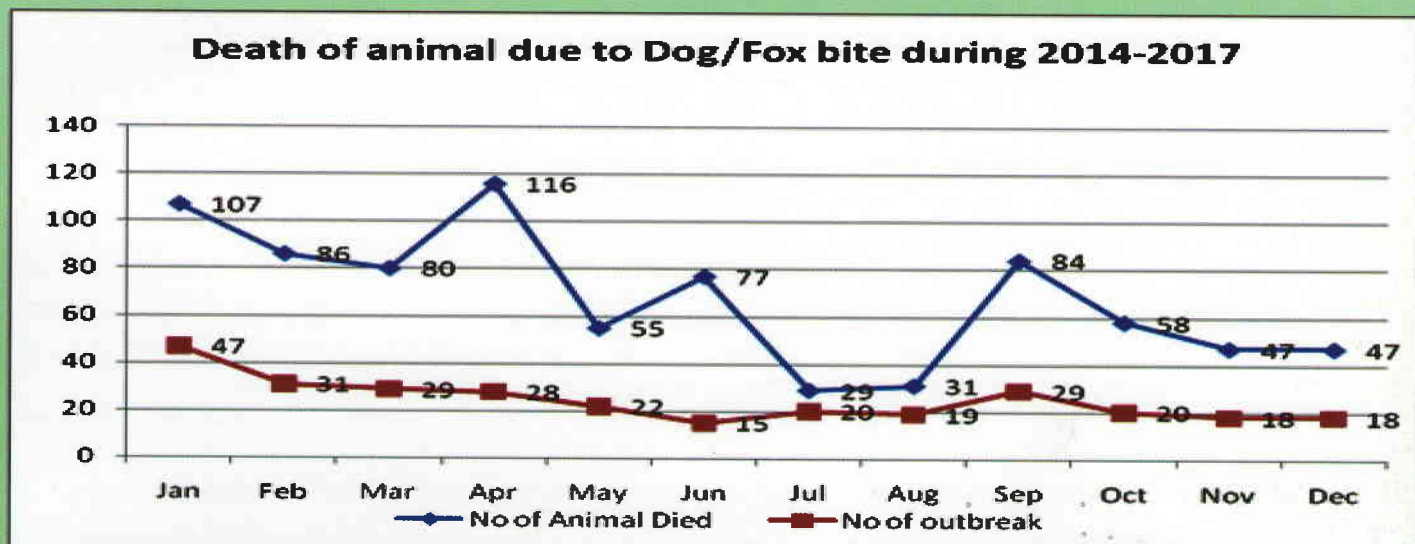
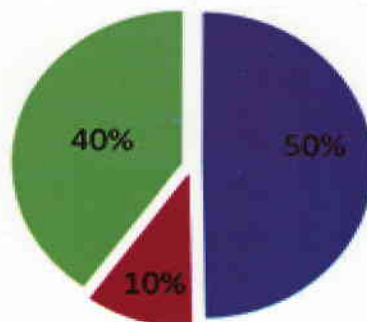


Fig 2: Month-wise trend of Rabies outbreak during 2014-17

This data clearly showed the highest number of animal rabies cases was observed in hills (50%) followed by terai (40%) and mountain (10%). The higher cases in hills and terai might be attributed to higher density of livestock and dog population as compared to mountain. (Figure, 3)

Ecozonewise distribution of Rabies during 2014-2017

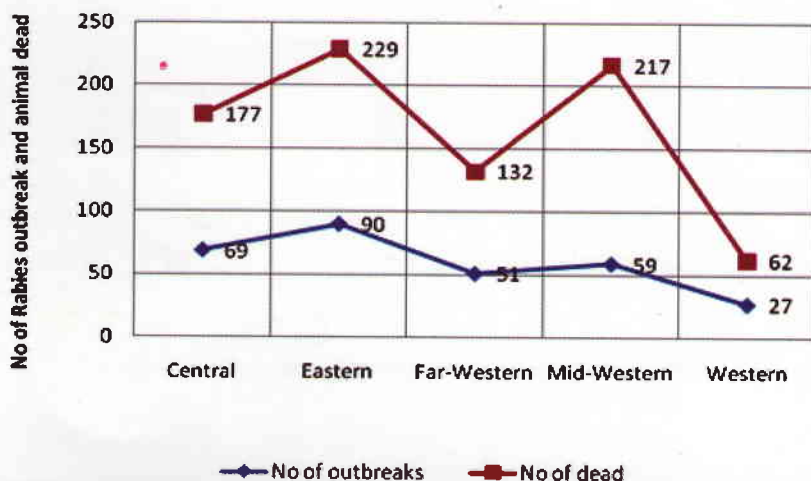


■ Hill ■ Mountain ■ Tarai

Fig 3: Ecozonewise distribution of Rabies during 2014-2017

Regionally Eastern, Central, Midwestern and Far- western region showed more than 50 outbreaks during four year duration which indicates more than twelve outbreaks per year or one outbreak per month. This indicates critical situation to implement National Rabies control program in Nepal. (Figure, 4)

Regionwise Rabies outbreak during 2014-2017



Specieswise rabies outbreak between 2014 – 2017

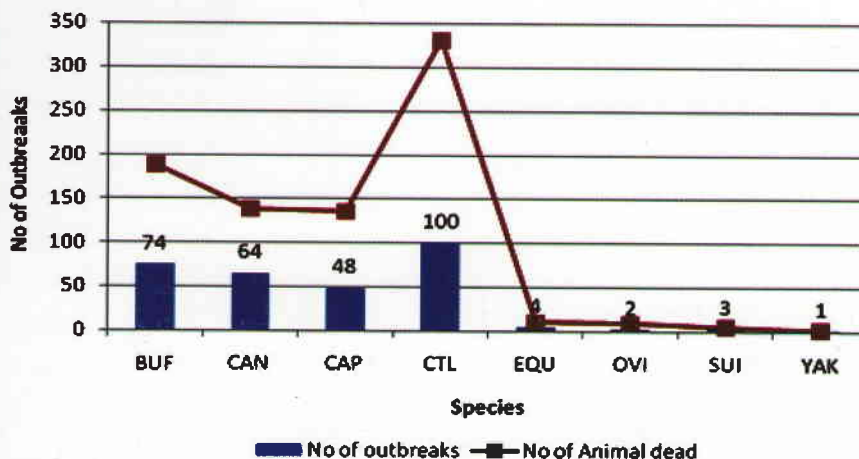


Fig 4: Region and specieswise Rabies outbreak during 2014-2017

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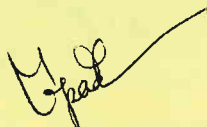
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Animal Health E-News letter-Nepal

Dear readers, this news letter is the first of its kind purely dedicated to an animal disease published electronically in Nepal. We also urge the recipients of this newsletter to participate in sharing any related information with Veterinary Epidemiology Center (VEC) for further improving the content.

Your kind cooperation is highly appreciated.

Many thanks and best regards,



Dr. Mukul Upadhyaya
Chief, VEC

Please Provide your valueable comment and suggestion to

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