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Study on behavioral changes of animals prior to the natural disaster

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Establishment of a pre-warning system using unusual behavior of domestic and wild animals, to predict natural disasters has been given a global attention. Therefore, a base line survey was conducted using a pre-tested questionnaire in order to collect observations from the people who observed unusual behavior of pets, domestic and wild animals prior to the Tsunami disaster in 2004. Information were collected from household chiefs and farmers from Tsunami effected 10 veterinary ranges in Matara, Galle, Hambantota district and from the field officers at the Yala National Park. Out of the total 180 respondents, included 167 farmers. Forty two percent farmers reported that they observed at least one instance of unusual behavior with farm animals prior to the disaster. The results revealed that neat cattle, buffaloes, and goats have shown more or less similar behavioral changes. There changes included shouting, frightening, restlessness, looking and listening and agitation. Pigs and poultry also showed similar signs as well. In addition poultry birds started pecking of feathers. Out of total respondents, 64% had pets at there households. Fifty four percent of them revealed that, they also witnessed at least, one instance of unusual behavior with there pets before the disaster. Twenty five percent respondents observed barking and howling of dogs without a proper reason. Dogs became restless, ran away and displaced before the disaster. Fifteen percent respondent revealed that cats became frightened and hiding in unusual places. Rabbits also became frightened, trying to hide in secret places and finally ran away and displaced. Wild animals such as elephants, monkeys, wild buffaloes etc. also showed similar behavioral changes as domestic animals or pets. Main signs included shouting, looking and listening, agitation, restlessness, and finally ran away from the coastal belt before the disaster. None of the dead animals' carcasses were found at Yala National Park after the disaster. The most frequent lead time of unusual behavior in animals was 0-4 hrs (68%) before the disaster. The results concluded that although not taken in to an account by there masters, animals have shown significant behavioral changes prior to the Tsunami disaster. Therefore it is possible to use animal sense as an indicator to develop pre warning system to detect disaster in the future. However, systemic approaches further investigations are necessary to develop such a system.

Keywords: disaster, behavior, pre warning system