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RESEARCH PAPER

Social Network Analysis (SNA) and Biosecurity Assessment Index (BAI): Prospective tools for veterinary epidemiological studies

G. Narayanan*, C.S. Sathish Gowda, G. Govindaraj **and** M. Nagalingam
ICAR-National Institute of Veterinary Epidemiology and Disease Informatics, Yelahanka, Bengaluru (Karnataka) India (Email: narayanan.nivedi@gmail.com)

Abstract : Many animal health care givers, livestock farmers and value chain actors live in societies where frequently interacting socially with each other on the aspects of animal disease prevention and control in addition to productivity improvement possibilities. The social structures of these systems can be studied in depth by new tools such as Social Network Analysis (SNA) and Biosecurity Assessment Index (BAI), which can be of much useful in veterinary epidemiological research for disease prevention and control. A large number of studies on social networks in many foreign countries have in recent years been carried out in the veterinary epidemiological research and resulted in providing new insights into disease prevention behaviours of farmers and other stakeholder, existing biosecurity practices, risk factors and behavioural constraints in animal disease management. This line of research is currently not conducted in India, since the existence of complex systems as could be expected. The purpose of this paper is to introducethe concepts and tools of SNA and BAI for complex animal health systems and highlight the areas of synergy like combining biosecurity and social network analysis in animal disease prevention and control. We believe that an increased integration of social networks analysis and biosecurity with the interdisciplinary field of complex systems and networks would be beneficial for various reasons. In this paper, we describe concepts of Social Networks Analysis (SNA), Biosecurity Assessment Index (BAI), given an overview of the methods and tools commonly used to study. Developing expertise may be of particularly valuable for Indian veterinary epidemiological studies as animal health sector's social networks possess complex systems and we consider aspects like these will help to facilitate further interdisciplinary and departmental collaborations for better animal health management.

Key Words : Social Networks Analysis (SNA), Biosecurity Assessment Index (BAI), Veterinary, Epidemiology, Concepts, Tools, Livestock farmers

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***Author for correspondence :**