SYMPOSIUM ON INTEGRATED APPLICATIONS (B5)
Integrated Applications End-to-End Solutions (1)

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PREDICT – PREVENTION AND RESPONSE TO EPIDEMICS WITH DEMONSTRATION OF INFORMATION AND COMMUNICATION TECHNOLOGIES

Abstract

In many African countries livestock farming is an important source of revenue that improves the quality of life for this particular community and ultimately strengthens the development of the economy. Therefore, the quality and health of livestock has important economic consequences. In addition its domestic importance, countries must be able to demonstrate that their livestock is free of certain diseases for the export market. Given this, the country of Senegal through its Directorate of Veterinarian Services, DSV, has established a National System of Epidemiological Surveillance known as SNSE. SNSE monitors the health of the live stock and the outbreak of epizootics and controlling and restraining the spread of animal diseases.

Real time surveillance and prompt actions are paramount in diminishing the impact of epizootics on livestock. For this reason shortening the time between detection, reporting and providing measures to contain an outbreak is crucial. It is also very important to provide the right measures. Several important elements are required to make the right decisions namely; quality and accuracy of the original information, as well as reliable and realistic forecast modelling of the impact of the outbreak. For monitoring to be effective, it is also necessary to establish performance indicators and to monitor user activity. The establishment of systematic feedback is an important factor in motivating users to see the value of their work.

PREDICT is a space-based support system focused to improve communication and semi automated data processing. Instead of sending data via the traditional postal service, a satellite-based system enables near real-time data to be transmitted from a remote area to a central coordination centre. The use of computer based analysis, graphical maps and earth observation data enable a more intuitive and simple way of handling and analysing disease information. Adding PREDICT to a system such as Senegal's SNSE allows for the visualisation of outbreaks and to coordinate efforts of different agencies involved more efficiently. It uses information on vegetation, humidity, geography, wild fires and other sources derived from earth observation data to quickly assess the impact of epizootic outbreaks.

The problem is not unique to one country, but the case of Senegal provides a first hand example of the impact that space can have in the daily lives of people, not only economically, but also socially, in

particular the impact of zoonosis on public health.