

Evidences

Study #2776

Projects:

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Part I: Public communications

Type: OICR: Outcome Impact Case Report

Status: New

Year: 2018

Tagged as: New Outcome/Impact Case

Title: Mobile phone-based surveillance system implemented in Turkana County, Kenya has improved the delivery of animal health and food safety interventions in the county

Short outcome/impact statement:

In partnership with the Department of Veterinary Services (DVS), Turkana County, Kenya, we developed and deployed a mobile phone-based surveillance system for livestock diseases and syndromes. It has been used to collect and analyse livestock disease data and abattoir records. The DVS has budgeted for its costs of implementation and appointed technical personnel to run the system. Towards the end of 2018, the DVS used the maps generated by the system to inform the distribution of veterinary vaccines and drugs.

Outcome story for communications use:

Livestock diseases constrain socioeconomic development of the pastoralists communities in northern Kenya through their negative impacts on livestock production and trade. Some of the diseases are zoonotic and are therefore associated with life-threatening infections in people. The capacity of the traditional animal health care systems to manage these challenges is low, but new technologies such as mobile phone network have the potential to improve some of the services.

In partnership with the Department of Veterinary Services (DVS), Turkana County, Kenya, we developed and implemented a mobile phone-based syndromic surveillance system for livestock diseases. The system has an additional module for managing meat inspection records in abattoirs. The intervention commenced with the training of community disease reporters and county veterinarians on common disease syndromes. They were also introduced to smart phone applications that contain various types of reporting forms. The county veterinarians collect animal health data during their routine active surveillance missions, or via telephone contacts with community disease reporters (CDR) who live with livestock owners in the villages. They then upload completed forms to an on-line server where data are aggregated and mapped. Similarly, meat inspectors complete abattoir forms as they conduct meat inspection and post them to the same server. A few shops that sell veterinary drugs have also been involved in the system -- they fill out drug sales forms. Data collected can be used to determine drug use patterns.

The DVS has taken over the management of the system by budgeting for its costs of implementation and appointing key staff, including ICT technicians, who run the system. Data collected are mapped and used to guide vaccine and drug distribution within the county. This has enabled communities in remote areas to benefit from targeted veterinary interventions. At the DVS level, epidemiologists can now store their surveillance data in electronic databases and not paper files. This facilitates faster analysis and sharing of the data. We have also offered some trainings to these epidemiologists on data management and analysis. The system was officially launched by the Governor of Turkana county in November 2018 and it was presented during 2019 devolution conference attended by senior county and national government officials that was held in March 2019 in Kirinyaga County, Kenya.

Links to any communications materials relating to this outcome:

- <https://www.cgiar.org/news-events/event/79814/>

Part II: CGIAR system level reporting

Link to Common Results Reporting Indicator of Policies : No

Level of maturity of change reported: Level 1

Links to the Strategic Results Framework:

Sub-IDs:

- Appropriate regulatory environment for food safety
- Reduced livestock and fish disease risks associated with intensification and climate change

Is this OICR linked to some SRF 2022/2030 target?: Too early to say

Comment: <Not Defined>

Geographic scope:

- Sub-national

Country(ies):

- Kenya

Comments: Turkana County

Key Contributors:

Contributing CRPs/Platforms: <Not Defined>

Contributing Flagships:

- F3: Food Safety
- F5: Improving Human Health

Contributing Regional programs: <Not Defined>

Contributing external partners:

- MALF - Ministry of Agriculture, Livestock and Fisheries (Kenya)

CGIAR innovation(s) or findings that have resulted in this outcome or impact:

This work was part of the animal health activities conducted under the Accelerated Livestock Value Chains Development (Livestock Component) project that was implemented in northern Kenya between 2015 and 2018. Being a development project, activities implemented focussed mainly on capacity building on disease/syndromes identification, and re-establishment of disease reporting networks linking veterinarians to livestock communities.

Innovations:

- 720 - Mobile phone-based surveillance system for county veterinarians and community disease reports to report and monitor livestock diseases and syndromes

Elaboration of Outcome/Impact Statement:

In partnership with the Department of Veterinary Services (DVS), Turkana County, Kenya, we developed and implemented a mobile phone-based syndromic surveillance system for livestock diseases [1]. The system has an additional module for managing meat inspection records in abattoirs. The intervention commenced with the training of community disease reporters and county veterinarians on common disease syndromes. They were also introduced to smart phone applications that contain various types of reporting forms. The county veterinarians collect animal health data during their routine active surveillance missions, or via telephone contacts with community disease reporters (CDR) who live with livestock owners in the villages. They then upload completed forms to an on-line server where data are aggregated and mapped. Similarly, meat inspectors complete abattoir forms as they conduct meat inspection and post them to the same server. A few shops that sell veterinary drugs have also been involved in the system -- they fill out drug sales forms. Data collected can be used to determine drug use patterns [2].

The DVS has taken over the management of the system by budgeting for its costs of implementation and appointing key staff, including ICT technicians, who run the system. The system was officially launched by the Governor of Turkana county in November 2018 and it was presented during 2019 devolution conference attended by senior county and national government officials that was held in March 2019 in Kirinyaga County, Kenya. The introduction of the mobile phone-based syndromic surveillance system transformed procedures that veterinarians used to collect, manage and utilize disease surveillance data. Previously, paper-based data collection systems were used, and veterinarians had to travel to the villages to get new data. There were major challenges associated with that practice given that (i) data stored in paper files were seldom analysed completely, and (ii) veterinarians had limited interactions with the local communities. Following this intervention, the county can now analyse the data more efficiently and generate disease maps. The servers used to manage the data are loaded with automated scripts that run descriptive analyses including mapping, therefore enabling the county to generate simple but informative results in a short time. Data collected are mapped and used to guide vaccine and drug distribution within the county. This has enabled communities in remote areas to benefit from targeted veterinary interventions.

References cited:

1. Long'or et al. (2018). Mobile phone-based syndromic surveillance system for early detection and control of livestock diseases. Poster presentation at the CGIAR Platform for Big Data in Agriculture Convention, Nairobi, 3-5 October 2018. Available here: <https://tinyurl.com/y5es28lby>
2. Bett, B. et al. (2018). Mobile phone-based syndromic surveillance system for early detection and control of livestock diseases. Presented by Bernard Bett, Benson Long'or and Absolomon Kihara at the CGIAR Platform for Big Data in Agriculture Convention, Nairobi, 3-5 October 2018. Available here: <https://www.slideshare.net/ILRI/animal-data6-bett>

Quantification: <Not Defined>

Gender, Youth, Capacity Development and Climate Change:

Gender relevance: 0 - Not Targeted

Youth relevance: 0 - Not Targeted

CapDev relevance: 0 - Not Targeted

Climate Change relevance: 0 - Not Targeted

Other cross-cutting dimensions: NA

Other cross-cutting dimensions description: <Not Defined>

Outcome Impact Case Report link: [Study #2776](#)

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