

The role of community animal health workers in disease surveillance in African pastoralist communities: a review

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Abstract

Pastoralists are people who depend primarily on livestock or livestock products for income and food. Pastoralism is a way of life and socio-economic entity based primarily on livestock production. With regards to animal health care in pastoralist areas, several challenges are present and these challenges in turn contribute to the delay or absence of surveillance, diagnostic, treatment, prevention and control services. Disease surveillance is an epidemiological practice by which the spread of disease is monitored in order to establish patterns of progression. A major constraint for surveillance in pastoralist communities is the presence of a significant communication gap between these communities and conventional veterinary service providers. These constraints have reinforced the trend towards the development of alternative systems of delivery such as Community Animal Health Workers (CAHWs). And in several cases CHAWs have been proven themselves as a reliable and sensitive surveillance network in several pastoralist communities in Africa. Good experiences have been demonstrated in Ethiopia, Tanzania, Senegal, Uganda, Kenya and Somalia. Although good lessons have been learned with regards to their role on surveillance, some studies have also shown that a lot needs to be done to boost their services. Further training and follow ups must be provided to CAHWs to enhance their services. Overall, all of the stakeholders should also participate in the work to enhance the services rendered by CAHWs, especially in the area of animal health surveillance.

Keywords: *pastoralism, Africa, community animal health workers, animal health surveillance.*

Pastoralism

Pastoralists are people who depend primarily on livestock or livestock products for income and food. Pastoralism is a way of life and socio-economic entity based primarily on livestock production. There are at least 20 million pastoralists in Africa. However, adding in agro-pastoralists – who derive 50 percent of their income from non-livestock sources - the numbers reach 200 million. In Ethiopia, pastoralism is a way of life and livelihood system for more than 10 million pastoralists (1-6).

Pastoralism is often viewed as an archaic practice without a future. This is not the case. Pastoralism is a highly specialised activity, requiring considerable knowledge and skills (1). However, in many countries, pastoralists lag behind settled people in education and access to public

services. With regards to animal health care in pastoralist areas, several challenges are present. Poor infrastructure, the mobile lifestyle of pastoralists over vast areas, high delivery costs, and reluctance among qualified veterinarians to live and work in remote areas has hampered veterinary service provision for African pastoralists and this in turn contributes to the delay or absence of surveillance, diagnostic, treatment, prevention and control services (7-12).

Disease surveillance

There is a large number of reasons why veterinary authorities undertake surveillance activities, but the main points include demonstrating freedom from disease, early detection of disease, measuring the level of disease and finding cases of disease (13). The establishment of an effective and efficient surveillance system is a prerequisite for developing and maintaining appropriate system of quarantine and border security, which is the first line of defense for keeping out exotic and emerging diseases. Surveillance is also imperative for devising emergency preparedness and response plan, which constitute the second line of defense in the control and eradication of veterinary and zoonotic diseases (14).

Community animal health workers and disease surveillance

Throughout the world, the livestock owner and primary service providers are recognised as the principal source of disease reports and intelligence. A major constraint of this type of system in pastoralist communities is the presence of a significant communication gap between these communities and conventional veterinary service providers. These constraints have reinforced the trend towards the development of alternative systems of delivery such as CAHWs. In the conventional system, as an example in Ethiopia, there are several actors in animal health surveillance which includes veterinarians, veterinary laboratories and diagnostic centers at the Federal and Regional level. Although these actors play a significant role in the surveillance of animal diseases in several areas of the country, there is a great gap in addressing the issues in the pastoralist areas of the country. And to address this issue, there are more than 2,600 community-based animal health workers in the pastoralist areas of the country who deliver basic animal health care and surveillance services. Currently networks of community animal health workers exist in most of the pastoralist communities of Africa and are acting as a complimentary system to the conventional surveillance system (14)(15).

Community-based Animal Health Workers (CAHWs) are distinguished from the older government auxiliaries more by independence from formal veterinary supervision and lack of salary than by level of training and competence (16). Within Africa, many years of experience now shows the importance of establishing CAHW systems as partnerships between communities, government and the private sector (17). Many different types of CAHWs exist and so do the functions of these workers vary, but in most cases the CAHWs are responsible for some curative treatments and vaccinations. In addition CAHWs have also been involved in the disease surveillance in various pastoralist communities of Africa (9). The CAHW networks consist of a number of trained CAHWs and professional monitors and these networks are an extremely sensitive surveillance resource. It is a well-known fact that livestock owners are experienced clinical diagnosticians in relation to traditional definitions of disease, and by adding some training CAHWs can boost their already existing knowledge (10,18).

Experiences of CAHWs in disease surveillance in pastoralist communities

Within Africa, many years of experience now shows the importance of establishing CAHW systems as partnerships between communities, government and the private sector and the most common uses of CAHWs has also been documented extensively by several authors (17,19).

Regarding the impact of CAHWs on disease reporting, experiences from Ethiopia, Uganda and southern Sudan indicate that these para-veterinary workers do indeed act as frontline reporters of epizootic disease outbreaks in remote areas. In central Somalia, the German Agency for Technical Co-operation, a development agency owned by the German government, assessed the use of CAHWs in a surveillance system for contagious caprine pleuropneumonia and concluded that the disease reports of the workers were reliable (9).

And based from a report in 2009, livestock disease surveillance is mainly based on pastoral livestock keepers and CAHWs in the predominantly pastoralist communities found at the Ethiopia-Kenya border region (20).

From the preliminary reports, CAHWs in Senegal have demonstrated to be an important role players in the implementation of animal health services and surveillance programs in pastoralist communities of the country (21). And similar to the earlier experiences, good results have also been found by integrating disease surveillance systems with CAHWs in Southern Sudan (22).

In a CAHW surveillance trial conducted in the pastoralist areas of Tanzania, the role of CAHWs was examined to assess their role in an official disease surveillance system. Before involving CAHWs in disease surveillance in the three trial districts, disease case reports as a proportion of cattle population were 0.13%, 0.20% and 0.12%. During the

trial, disease case reports as a proportion of cattle population increased to 5.0%, 5.6% and 6.3%. The CAHWs also improved the spatial and temporal coverage of the disease surveillance system and provided timely reports. During the trial, national-level disease reporting in Tanzania increased by 17% owing to the sensitisation and support activities of the Pan African Programme for the Control of Epizootics in Tanzania (23). In a similar note, from a study into the use of participatory epidemiology to collect information on the basic epidemiology of CCPP in pastoralist communities in Northern Tanzania, it was concluded that PE complimented with local knowledge could generally be used to generate disease information at low cost and therefore assist the design of feasible disease surveillance systems and control programs at local and national level (24).

Results from a study into the application of Participatory Disease Searching in animal disease surveillance in agro pastoral and pastoral areas of Uganda have also generated interesting data as to the usefulness of the tool for investigation of livestock diseases especially in these areas (25). Likewise community based service improves livestock health in the pastoralist communities of Karamoja district in Uganda. And according to FAO, animal disease surveillance through the CAHW system has enhanced timely reporting and response to disease outbreaks in this area and as a result, outbreaks have been localised (26).

Even though there are good experiences with regards to disease surveillance and CAHWs in several pastoralist communities, some undesirable experiences have been seen in some cases. As an example, in Turkana CAHWs had not contributed much to disease surveillance because of a weak linkage between them and the district veterinarians (12).

Way forward

We have tried to shine light to the already existing experiences of CAHWs in animal health surveillances in the pastoral communities of Africa. A lot has been done and still further work needs to be done to help these vulnerable communities with regards to animal health care. And from these experiences, some measures must be taken to enhance the services of CAHWs with regards to animal health surveillance in the pastoral community. Regular training and follow ups must be conducted to enrich their knowledge and skills. NGOs also play a great role in improving the services rendered by CAHWs in these areas. Higher education institutions located in the pastoral communities should assist the effort by designing tailor-made training programs for CAHWs. A good experience in this regard is the case of Jigjiga University in Somali Region of Ethiopia, where to this day, have trained around 300 mid-level animal health professionals in several rounds which assist in the ongoing animal health care and surveillance activities in the pastoral communities in Ethiopia.

Ultimately Community-based and participatory surveillance methods do not replace conventional surveillance and analytical capacities. They extend the capabilities of the system by enhancing the penetration of data collection activities into the traditional communities, especially in remote and extensive systems.

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