

# Research Evidence for Policy



A livestock farmer devastated after losing nineteen (19) out of fifty-seven (57) animals. Photo by J. Silva



Case-studies featured here were conducted in Ghana

## Policy message

Good farming practices are essential to ensuring safe and adequate livestock production and livelihoods of farmers. Following structural adjustment policies in Ghana, the veterinary services are failing to meet the increasing services demands of farmers. Due to disease epidemics and this veterinary services supply shortfall, farmers are self-treating animal diseases with drugs without veterinary advice and are increasingly reporting mortality and losses of their livestock. These losses reduce farmers' productivity and incomes, and lead to increased stress, depression and anxiety in affected farmers. Interventions that address the high performance of veterinary services can improve the mental health of farmers, and the quantity and safety of animal products.

## With poor access to veterinary services, farmers lose their animals and develop poor mental health in Ghana

Provision of adequate veterinary services to farmers is critical to reduce the negative effects from endemic and emerging diseases in livestock. However, veterinary support to farmers has been insufficient in Ghana especially in rural zones. As a result, disease and deaths of livestock due to pneumonia and foot and mouth disease have become more prevalent. For example, more than 90% of farmers in our study lost animals to diseases; 95% of the farmers losing animals to foot and mouth disease and 92% to pneumonia, with devastating effects on productivity (decline of about 9% of herd size annually) and mental illness in about 60% of farmers. The farmers have adapted to the veterinary shortfalls by treating animals with drugs obtained without veterinary advice in the informal sector. Persons selling veterinary drugs especially in rural areas are not licensed, and efficacy of the drugs sold cannot be authenticated. The failure to treat animals adequately causes livestock losses (e.g. low milk production, deaths in the farms or seizure of meat in abattoirs) for many farmers. Thus, farmers resort to selling diseased animals in markets in anticipation of recovering their losses, threatening the health of meat consumers. The slaughtering of diseased animals by the livestock farmers mostly also may not adhere to the withdrawal period following drug administration, increasing the potential for persistence of drug residues in livestock products. Assessing and addressing the performance gaps of veterinary services is essential to mitigating economic losses, food safety problems, food insecurity, and mental health of farmers in Ghana.

## Livestock production system in Ghana's economy

Although the livestock sector in Ghana provides a livelihood source to about 50% of all households, it only contributes about 6% of Ghana's economy each year since 2014. Cattle, sheep, goats and poultry are the main livestock kept by farmers. Thus, Ghana is not self-sufficient in meat and livestock products.

Our findings revealed that more than 90% of livestock farmers grow crops to cope with adverse events associated with livestock farming. The livestock are kept mostly in remote areas to minimize conflicts over water and pasture resources with other land users. Most livestock owners employ herdsmen to feed and water their animals using a free-range system.

## Case-studies

### Poor animal health and its implication on human health

A mixed-method study of livestock farmers in Ghana showed that increased prevalence of animal diseases was leading to a reduction in the productivity and mental health of the affected farmers (Nuvey et al. 2020).

### Evidence of drug residues contamination of the food chain

Two separate cross-sectional surveys conducted in different regions in Ghana have detected drug residues in raw meat and milk sold in the local markets. However, the sources of these contaminations are yet to be ascertained (Addo et al., 2015; Mensah et al., 2018)

### Benefits of comprehensiveness in veterinary interventions

An intervention study that combined free distribution of vaccines and drugs with personalized training for livestock farmers in India, showed the highest impact on vaccination coverage, increasing it to approximately 97% compared to the other approaches adopted (Muthiah et al., 2013).



Cattle died from CBPP, which is a vaccine preventable disease in Akuse in the Eastern Region of Ghana, with farmers losing about 100 cattle in March 2019. Photo by Y. Twum.



A Veterinary Officer administering a vaccine against Contagious Bovine Pleuropneumonia (CBPP) disease to cattle in the Eastern Region of Ghana. However, these vaccination services are rarely available to farmers especially in rural areas in Ghana, who need it due to supply shortage of vaccines. Thus, the majority of farmers do not get to vaccinate their animals. Photo by GNA.

### Adverse events affecting livestock farming

Livestock farmers in Ghana face multiple adverse events like pasture and water shortages, livestock disease outbreaks, and conflicts. Livestock diseases are the severest cause of livestock losses to farmers, costing them on average GHC 10,000 (USD 1,800) in losses per farmer each year. The main diseases reported on farms are among others, Contagious Bovine Pleuropneumonia (CBPP), Foot and Mouth Diseases (FMD) and Brucellosis. This is due to the poor availability and use of preventive veterinary services like vaccinations in Ghana leading to increased incidence of infectious diseases. Pasture shortages, related mainly to the duration of dry seasons, is another cause for the loss in animal productivity (example milk production). In times of adversity, about 90% of farmers on average, lose their livestock and enter into a traumatic situation, which affects their mental health.

### Optimal health and productivity in livestock production

Although our findings revealed that infectious diseases, like CBPP and FMD are highly prevalent on more than 90% of farms, the farmers also face physical and

mental health problems that affect productivity through reduced throughput. The reduction in productivity also reduces farmers' incomes and negatively affects investments into critical farm inputs. The livestock farmers (31%) also reported physical health issues including cardiovascular illnesses, with 60% reporting mental health problems of depression, stress and anxiety related to the loss of their animals. The vicious cycle of losses of animals, incomes and investments, worsen the capacity of farmers to maintain healthy animals. Good physical and mental wellbeing are an essential requirement for the workforce. Addressing these health issues faced by livestock farmers and education of farmers on importance of sustainable investments in animals' health, would improve the productivity in the sector.

### Farmers' resilience to veterinary support shortfalls

Good quality veterinary services delivery is key to detecting and controlling animal diseases through treatment and vaccinations. However, after structural adjustment programs in Africa, veterinary services have become inadequate to meet the increasing demand by farmers. The last PVS analysis conducted



in 2008 reported only 72 field veterinary posts (both private and public) comprising one veterinarian and two veterinary para-professionals taking care of about 37,000 Veterinary Livestock Units and 57 villages. Our findings show that veterinary services have inadequate human resources to cover designated geographical areas, as veterinary training over the years have not adequately adapted to the country's livestock development needs. Shortages of inputs like drugs and vaccines at veterinary posts also negatively affect the delivery of services to farmers by the limited number of veterinary personnel. These resource constraints lead to the neglect of especially rural farmers, and the proliferation of informal sale of fake veterinary drugs. In addition, wherever possible, veterinary personnel are required to buy drugs and logistics themselves to deliver the services and recover costs after service delivery. As a result, without revolving fund in this semi-private system, preventive services like vaccination against

animal diseases are hardly provided. In the absence of services or advice, the majority of farmers in our study therefore resort to self-medication of their livestock against diseases. The implementation of comprehensive veterinary interventions that address all aspects of the problem including resource provision and awareness creation is urgently needed to mitigate the food insecurity, promote food safety and the wellbeing of farmers.

**Mitigating food insecurity through comprehensive strategies**

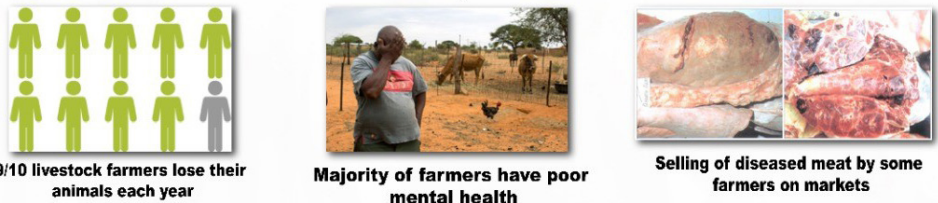
Several interventions have been proposed to address food insecurity and food safety in the livestock sector in Ghana. The Ministry of Food and Agriculture has introduced a "rearing for food and jobs" programme to improve productivity in the sector. However, to maximize the benefits of this intervention, increasing farmers' access to veterinary services in order to reduce livestock losses to diseases, improving prudent veterinary drug use and in turn

the health of livestock farmers are highly recommended. As our study shows, the main support interventions identified by livestock farmers as critical to reduce their losses was access to good veterinary services and drugs. Based on these findings, farmers believe that livestock farming could become more profitable with cost-effective investments by the government in human resources and nationwide access to veterinary inputs. If quality services are assured, it will enable farmers to pay for veterinary services and drugs in the future.

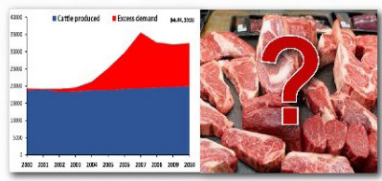
**ADDRESSING VETERINARY SUPPORT SHORTFALLS COULD BE KEY TO MITIGATING FOOD INSECURITY IN GHANA**



These problems affect farmers productivity through losses of animals mainly to diseases



these problems affect farmers mental health through loss of assets and threaten public health through high-risk meat entering the food chain



The decrease in productivity and negative health consequences lead to food insecurity

**Further reading**

Alicic, B., Ennali, Y., & Toric, A. (2014). Animal health services in rural Ghana. Amsterdam: University of Amsterdam.

Peck DF, Grant S, Mcarthur W, Godden D. (2002). Psychological impact of foot-and-mouth disease on farmers farmers. J Ment Heal. 11(5):523-31.

Nuvey FS, Kreppel, K, Nortey, PA, Addo-lartey, A, Sarfo, B, Fokou, G, Ameme, DK, Kenu, E, Sackey, S, Addo, KK, Afari, E, Chibanda, D & Bonfoh, B. (2020). Poor mental health of livestock farmers in Africa: a mixed methods case study from Ghana. BMC Public Health. 20:825 <https://doi.org/10.1186/s12889-020-08949-2>

University of Minnesota Rural Health Research Center, & NORC Walsh Center for Rural Health Analysis. (2019). Mental Health in Rural Communities Toolkit. Rural Health Information Hub. <https://www.ruralhealthinfo.org/toolkits/mental-health>



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## Policy recommendations

### Investing in human resources and the veterinary drug value chain

Our research revealed that livestock diseases are a major problem for livestock producers in Ghana and that its effective control would depend on training of a good number of qualified veterinarians to cover the country's needs and filling the gap between the demand and supply of veterinary services and inputs. In addition, the training of community veterinary workers (CVWs) will support the professional veterinary personnel to achieve adequate geographic coverage of veterinary services.

### Improving the safety of meat entering the food chain

Informal sales and use of veterinary drugs are the result of inadequate service and surveillance system. In this era of privatization of livestock services, the registration and licensing of drug dealers in order to control successfully, the sale of veterinary drugs is crucial. Additionally, training qualified personnel in meat inspection should be promoted to ensure that meat entering the food chain is safe for consumption.

### Collaboration between human and animal health services

As our findings show, the poor health of livestock and subsequent losses of animals, negatively affects the physical and mental health of farmers. Thus, to manage farmers' health problems, physicians should always consider the social and ecological environment of the patient to better identify the root causes of psychological problems that will inform the treatment plans. These collaborative actions would maximize the benefits to human, animal and environmental health.

## This issue

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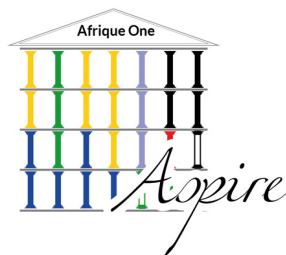
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## Afrique One-ASPIRE

Afrique One-African Science Partnership for Intervention Research Excellence is a pan-African consortium engaged in building research competence in One Health since 2009. Its logo is built out of pillars representing different levels of knowledge in ecosystem health across partner institutions in East, Central and West Africa. The building represents the present state of knowledge. Some pillars are empty, symbolising the knowledge gap that needs to be addressed by research.

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## Evidence for policy

The policy brief series of Afrique One-ASPIRE provides scientific evidence for policy from a range of zoonotic, neglected tropical and non-communicable diseases from a One Health perspective. Further information is available at [www.afriqueoneaspire.org](http://www.afriqueoneaspire.org)

