



Veterinary Education: A tool for revitalizing the economy of Northeast Nigeria.

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Abstract

The crisis in northeastern Nigeria has significantly affected the livelihoods of people in terms of livestock production and market due to limited veterinary service delivery. Northeastern Nigeria has been known to be a home to large population of livestock mainly comprising of cattle and small ruminants. With just one accredited veterinary school in the entire region, the Faculty of Veterinary Medicine,

University of Maiduguri has not relented in its duty of training qualified veterinarians throughout the period of the insurgency. This review

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highlights the impact of the insurgency on the economy of northeast Nigeria and the role that veterinary education has played in reviving the sector.

Introduction

Since 2009, Northeastern Nigeria has been hit by violent conflicts which have led to continued large-scale displacements, disruption of basic services, food insecurity, malnutrition, and protection issues (FAO, 2018a). The impact of the conflict in North-East Nigeria over the last few years has resulted in a protracted massive humanitarian crisis which has led to numerous deaths (FAO, 2018a). The conflict also resulted in mass

displacement of an estimated 2,241,484 individuals (334,608 households) in Adamawa, Bauchi, Benue, Borno, Gombe, Taraba, Yobe, Nasarawa, Plateau, Kaduna, Kano, Zamfara, states and Abuja (FAO, 2018b). Boko Haram-related violence in northeastern Nigeria subsequently spilled over to areas of neighbouring Sahelian countries in the Lake Chad Basin specifically Cameroon, Chad and the Niger Republics with attendant devastating effects on food security and livelihoods (FAO, 2017). Following the emergence of these armed conflicts in this region since 2009, agricultural livelihoods have been devastated through the destruction of irrigation and farming facilities. There has been also loss of livestock, reduced access to fishing grounds and the collapse of veterinary and agricultural extension services. The ongoing conflict, including military strategies against armed groups, continues to have disastrous impacts on livelihoods across the region whereas 3.7 million people are projected to become food insecure (FAO, 2018b).

Livestock produce meat, milk and eggs, and generate fibre, hides and traction power, and act as a store of wealth and provide a form of social security (Rushton et al., 2016). Livestock are particularly important in Africa, where the rate of growth of poverty is estimated at 3% per year, higher than any other region of the world (World Bank, 2001). The livestock sector was reported to make important contributions to food security and poverty reduction in most developing countries, African countries in particular. Most conflict-affected communities lack any means of sustainable livelihoods. Livestock contribute not only to supporting the livelihoods of poor farmers, but also those of traders in livestock products and labourers in livestock enterprises throughout the developing world (Perry et al., 2003). Livestock keepers in Borno state, Nigeria depend on their animals as sources of food and income. The crisis has disrupted livestock production with little or no veterinary service support in the crisis affected areas. Livestock production (and the livelihood of the pastoralists) is at stake because of the absence of veterinary services and hence increased occurrence and spread of livestock

disease resulting in huge economic losses. The protection of animal health and the control of animal diseases is an essential component of livestock husbandry (Kouba, 1992).

Methodology

This article is based on review of literature from online sources (Google scholar; Journals; internet pages and published reports (FOA and WHO)) relating to the region.

Who is a Veterinarian?

A veterinarian or vet is generally regarded as a person, who commonly specializes in treating sick animals. Most people, out of ignorance, misperceived the role of a vet only as a clinician for sick animals, not knowing that vets are not only restricted to treating sick animals but also in the control of zoonoses in humans for protection of public health. The availability of appropriately trained and skilled manpower in the field of veterinary medicine is one of the most critical requirements in developing a livestock sector in any given community or country. Veterinary education at its highest quality provides training of specialists in the field of veterinary medicine that meets the needs of a particular society to adapt to changing national, regional and international conditions (Swan and Kreik, 2009). Several factors may influence the needs for veterinary education. According to Attrey (2017), veterinary education is shaped by demographic, environmental, disease, technological, political, and economical influences and is required to serve the needs of a community in relation to its environment, animal population, and society in which it operates.

Veterinary Education and Food Security

According to Bousfield and Brown (2011), veterinary education endows veterinarians with the knowledge and expertise to understand and audit the standards of animal health, animal welfare, and public health from

“farm to fork,” the areas in which veterinarians are involved in agriculture have gradually been extended from animal production to all levels of the food production chain. All these facets of expertise are included in veterinary training and education. Veterinarians are also endowed with the knowledge of rural sociology which deals with social relations that exist within their immediate environment (Ejiofor et al., 2012). This knowledge equips the veterinarians with the much needed skill to render efficient livestock health extension services to their clientele who are mostly rural dwellers and nomadic pastoralists.

The protracted conflict in the Lake Chad Basin has cut off millions of women and men from their livelihoods, making them entirely dependent on humanitarian assistance to survive. The livestock sector makes important contributions to food security and source of livelihood for the poor in most developing countries (NRC, 2013). It is today of critical importance to some African countries like Nigeria that are now dealing with increasingly complex and atypical security challenges. Livelihoods for majority of the households in the Adamawa, Borno and Yobe are traditionally based on agriculture (crops, livestock (especially pastoral) and artisanal fisheries from rivers) (FAO, 2015). The ongoing conflict and its consequential military strategies against armed groups have precipitated both social and economic problems. These can be recognized in rural and urban areas where rampant poverty and hunger run amok, food security and incomes can also serve as a bulwark against extremism, radicalism and terrorism (Cáceres, 2010). The disruption of basic services due to Boko Haram insurgency has greatly affected veterinary medical delivery to livestock and other animal owners.

The role played by veterinarians in food security is very pertinent through the prevention, control and treatment of animals' diseases, which enhances the boost in production of livestock resources (Attery, 2017) In addition, private veterinary practice establishments have created several thousand job opportunities and also boosted incomes of small entrepreneurs as well

as reducing human diseases, poverty and hunger on the livelihood of the people (FAO, 2018a). The economic importance of the livestock subsector of the agricultural sector of the economy cannot be overemphasized as one of the major means of livelihood for poor peasant farmers and the nomadic pastoralists. Livestock keeping is an important coping strategy in most households, to step up food and protein source and or to meet family emergencies which are now widely recognized as a route out of poverty (WHO, 2015). In the North east Nigeria, the number of households owning livestock was reported to have been reduced by more than 65% for all categories, with livestock losses averaging 62% due to insurgency related displacement (FAO, 2015).

The Establishment and Evolution of Formal Veterinary Education in Nigeria

The veterinary profession was introduced in Nigeria by the British colonial rule in 1927 with only eleven veterinary officers deployed mainly in the Northern Province (Maddo, 2009). By 1928, the first training in the field of veterinary practice was done by colonial veterinary officers in charge of immunization camps for the training of “Native Administration Veterinary Malams” in the inoculation of cattle and diagnosis of animal diseases (Garba et al. 20011). According to Sonibare et al., (2019) the first Veterinary Department in Nigeria was established in VOM, near Jos, Plateau State in 1923. The Department has transformed overtime and now called National Veterinary Research Institute (NVRI). The Institute has a school for training Veterinary support staff including inoculators, veterinary assistants (OND/ND) and Veterinary Superintendents (HND). In 1947, the VOM Veterinary School turned out the first batch of 3 veterinary graduates with VOM license to practice Veterinary Medicine in Nigeria. It was in 1967 that the first batch of Veterinary graduates emerged from the joint effort of Ahmadu Bello University (ABU) Zaria and University of Ibadan which were the first schools for full Veterinary Medicine in Nigeria. There are over 5,000 Veterinarians currently on the Veterinary Council of Nigeria (VCN) register

(Sonibare et al., 2019). There are now ten fully VCN accredited veterinary schools in Nigeria, the chronology of which is shown in Table 1 below.

Table 1: Chronology of Veterinary Education in Nigeria

S/N	UNIVERSITY	YEAR
1.	University of Ibadan, Ibadan, Nigeria	1963
2.	Ahmadu Bello University, Zaria, Nigeria	1964
3.	University of Nigeria, Nsukka, Nigeria	1970
4.	University of Maiduguri, Nigeria	1980
5.	Usman Dan Fodio University, Sokoto, Nigeria	1984
6.	University of Agriculture, Markurdi, Nigeria	2001
7.	University of Agriculture, Abeokuta, Nigeria	2002
8.	University of Agriculture, Umudike, Nigeria	2004
9.	University of Abuja, Nigeria	2005
10.	University of Ilorin, Ilorin, Nigeria	2010

Market for Veterinary Medical Services and Veterinarians in the Conflict Zone:

Following the emergence of the ongoing insecurity in North East Nigeria, which started in 2009, continuous urgent humanitarian situation and loss of livelihood was created in the region. Livestock industries are believed to make a significant contribution to household food production and source of livelihood in most developing countries, and programs to improve animal health are required for the expansion and modernisation of these industries. Resuscitation of the livestock sector is a key factor in revitalization of the economy of the region. This can be achieved through efforts geared towards restocking and the generation of livestock products, reproduction and the subsequent growth of the animal population overall. To achieve the aforementioned, the availability of the much needed correctly trained and skilled veterinary personnel is one of the most critical requirements in developing a livestock sector (NRC, 2013). Thus only

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through veterinary education, in the Northeast region and the country at large, that the needed correctly trained and skilled veterinary personnel will be obtained. Measures such as control of livestock diseases should be looked upon as investments in maintaining or improving livestock capital or quality. It is pertinent to note that the overall the economic value and importance of livestock have multiplied with economic development (Tisdell, 1996). As such the much needed need for veterinary services to revitalize the economy will likewise be multiplied.

The persistently growing human populations and rising levels of per capita income in many low income countries have resulted in increase in demand for livestock products such as meat and milk (Kouba, 1992). There are large populations of indigenous livestock of low productivity and with animal health problems as major constraints to productivity in many parts of Africa (Kisauzi et al., 1993). According to Mc Inerney et al.(1992) the economic impacts of animal diseases have two sources of economic cost, namely losses and expenditures. These animal disease and health issues may cause serious impacts, such as animal deaths and rapid reductions in weight or production of milk or eggs. To revitalize the livestock sector of the economy any given community, the services of veterinarians are needed to tackle these problems head-on. These losses will generate an increased demand for services from animal health professionals and there will be costs in terms of expenditure in medicines and vaccines in order to manage the problem. This underscores the need for training of individuals through veterinary education to provide those kinds of services required. As normalcy returns to the Northeastern Nigeria, there is need for rapid livelihood restoration through enhancement of animal/livestock related industries. A lot of opportunities abound in the animal related industries that can create job opportunities and ready source of economic benefit to many. According to LaFayette and Buser (2017) these broader animal-related industries include animal food manufacturing, farm and pet supplies wholesalers and retailers, animal production (farming) and related industries, biotechnology research,

equine racetracks, zoos, and non-veterinary pet care. Swan and Kreik (2009) have described that the services of veterinarians are indispensable to the sustained health and wellbeing of both animals and humans, and agricultural sector of the economies of countries worldwide. Veterinary education, postgraduate training, and research, and adequate numbers of veterinarians, are highly essential to satisfy the millennium development goals, MDGs and other goals and the objectives of international organizations such as United Nations and the African Union, and the agreements regulating international trade. The increased awareness and interest generated in the fields of bioterrorism, agro-terrorism, and bio defense as well as a profound interest to protect public and animal health from these threats highlights the pressing need for qualified veterinarians to fill these positions (Murray et al., 2006).

The increases in gross domestic product (GDP) in the developing countries strongly correlate with an increase in consumption animal products (Delgado et al., 1999). Those involved in the animal/livestock-related industries cop with the increased demand by scaling-up production. This, according to Jost and Memon (2002), results in production systems that are becoming more intensive or industrial-type, with a shift from nomadic or grazing systems to industrial livestock production. Meat and milk production are growing and will continue to grow on a global scale. The economic benefit derivable from animals particularly food animal is a function of the safety of the food of animal origin. Food-animal veterinarians are the ones entrusted with the safety and the security of the foods of animal origin of any nation (NRC, 2013). According to National Research Council (NRC, 2013) that food-animal veterinarians' responsibility is the first step in the continuum of supply-chain surveillance that safeguard the nation's foods of animal origin "from farm to fork". There is need for increased investment in veterinary education to support livestock production, given the rapidly expanding demand for agricultural products of animal origin and the important contribution of livestock to the economic gains and welfare of the rural poor. The current trend of globalization in the ever-widening global economy, with the ease of cross-border and intercontinental travels that promote international access to markets and

borders coincided with the emergence of pandemic disease that has veterinary implications (Murray et al., 2006). The shortage of qualified veterinarians in the fields of public practice is exemplified by the recent outbreaks of bovine spongiform encephalopathy (BSE) severe acute respiratory syndrome (SARS), West Nile virus, highly pathogenic avian influenza (HPAI), and exotic Newcastle disease and the re-emergence of cases of Foot and mouth disease (FMD) in some parts of the world. The recent trend towards privatization of veterinary practices in developing countries is a paradigm shift with the aim of enlarging the veterinary medical services available to smallholder farmers (Ruppner, 1994).

Conclusion

The relevance of veterinary education in the revitalization of the economy of Northeastern Nigeria cannot be overemphasized. However, there are still challenges in veterinary service delivery in the rural areas due to security challenges. The state and federal governments can both play crucial roles in ensuring that security of lives and properties (livestock) are guaranteed for effective veterinary service delivery in the region. Taking into cognisance the population of livestock in the region, there is also the need for additional veterinary training schools in the region.

Recommendation

There is need for the establishment of more veterinary schools in the region. This will ensure enough trained professionals which are required for revitalizing food security in the region.

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