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PARTICIPATORY APPRAISAL OF PESTE DES PETITE RUMINANTS (PPR) OUTBREAKS IN ISEYIN LOCAL GOVERNMENT AREA OF OYO STATE, NIGERIA

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SUMMARY

Following informal reports to the Oyo State Coordinator Veterinary Epidemiology unit, of ongoing suspected outbreak of Peste des Petit Ruminants (PPR) by community members from Iseyin, a major sub-urban town, northwest Oyo State, Southwest Nigeria, (where about 80% of rural families especially women and children keep Sheep and goats); a Participatory Appraisal approach (that enable local people to identify their own (animal health) problems and make decisions on possible solutions), was applied to ascertain the livestock farmer's awareness and perspective of the importance of PPR.

Respondents symptomatically identified PPR *(aayo/lukuluku ewure/Ayohere)*, Diarrhoea (*igbegburu*), Mange *(aami/foofo/ ekuru)*and Tetanus (*agan*), as the major diseases and health problems in the community, with PPR identified as the major disease by almost all the respondents, using different symptomatic names for the disease. There was a considerable awareness of the disease amongst the farmers and goat sellers who had experienced outbreaks of the disease. Most of them were unaware of the disease until they experienced outbreaks in their flocks. There was little awareness of preventive measure (including vaccination), just as there were practically non-existent public health care delivery to the farmers, with only one private veterinarian and a lot of unregulated quacks operating freely in the community. Thus outbreaks of PPR in the study area go virtually unreported.

The present surveillance system does not have the sufficient capacity to detect the disease early enough and most times, little or no efforts are made to control the disease. A proper understanding and application of the Participatory Appraisal and other Participatory Epizootiology (Veterinary Epidemiology) approaches will significantly improve Nigeria's animal healthcare service delivery and surveillance systems for the largely rural based livestock holders and ultimately lead to improved animal population health in Nigeria.

INTRODUCTION

Livestock production remains very important to the people of Africa. In almost all countries, it's a major source of government revenue and export earnings. It is the source of livelihood to many as it sustains the employment and income of millions of people in Africa, particularly people in the rural areas who derive their entire livelihoods from Livestock farming. (Brumby, 1990) In many African countries, small ruminants (sheep and goats) constitute a substantial proportion of the nation's meat supply. For women and children in particular, small ruminants are the major livestock that they keep and it provides an additional source of income to them or in some cases, the only source of income.Small ruminants' production is faced with a lot of constraints including poor nutrition, scarce or unavailable food products and poor management practices. However, the most important constraint to small ruminant production is PPR.

Peste des Petits Ruminants (PPR) is considered the most important single cause of morbidity and mortality for sheep and goats, in Africa. Peste des Petits ruminants (PPR) is a highly contagious and infectious viral disease of domestic and wild small ruminants. Peste des Petits ruminants is a disease of major economic importance. It is regarded as the biggest constraint to large- scale intensive production of sheep and goats in the West African sub-region. It is acknowledged as the most destructive disease and the number one killer disease of small ruminants in West Africa. In susceptible flocks, morbidity may be 100% and mortality greater than 90 %, especially amongst animals under six months of age. Even though there is an effective vaccine for the cure of this disease. However, outbreaks of the disease keep occurring yearly

Participatory epizootiology (PE) (Mariner et al, 2000) is based on conventional epizootiological concepts but uses participatory methods (Chambers, 1983; McCracken et al, 1988) to solve epizootiological problems. It is a practical approach to epizootiological studies that gives stakeholders a greater role in shaping programmes for public health (Loewenson, 2004), animal health, disease surveillance, research. The techniques of participatory rural appraisal (PRA) are used to formulate the programme objectives, gather epizootiological data and intelligence, and analyse information. Participatory epizootiology recognizes that local people have very rich and detailed knowledge about the animals they keep and the infectious and zoonotic diseases that can gravely affect their livelihoods and endanger human health. Local farmers and livestock owners are often able to describe clinical presentations, epizootiological patterns and principal pathological lesions using a vocabulary of specific

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disease terms in local languages that correspond to Western clinical case definitions. This body of knowledge has been termed 'existing veterinary knowledge' (EVK) (Mariner et al, 2000). Participatory epizootiological learns from local knowledge, leading to disease control programmes that are both acceptable to their stakeholders and effective. The PE approach was developed to overcome the constraints in applying conventional epizootiology and formal research in developing countries.
Participatory approaches were made use of in this study to ascertain the farmer's awareness of PPR and their perspective of the importance of the disease in their farming operations. It was also used to determine if there was any form animal healthcare delivery and to what extent it was

MATERIALS AND METHODS

The study was conducted in Iseyin which is located about 100km Northwest of Ibadan, the state capital of Oyo State. Iseyin is bounded by Latitude 7°57'N & 8°17'N and longitude 2°45'E & 3°37'E.Iseyin covers an estimated landmass of 1,341.766 square kilometres and an estimated population of 291,310 (2010 estimate). Iseyin was selected as the study site because of informal reports to the state coordinator of the epidemiology unit of the State ministry of Agriculture and Natural Resources, from some community members about an ongoing outbreak of PPR in the town. A team was formulated which comprised of three veterinarians. A pilot study was carried out to have an overview of the community. This includes identification of the key informants and entry points.

Participatory appraisal methods were applied to generate information on PPR in Iseyin. The participatory appraisal methods used were interviewing methods which employed the use of Semi-structured interviews (SSI). The tools made use of include Key Informant interviews, Focus group discussions and individual interviews.

Focus group discussions were conducted with three categories of respondents viz: goat sellers (20), peri-urban goat farmers (6) and rural goat farmers (Fulani) (6). In addition, individual interviews were conducted with four people viz: a private veterinarian, the head of the Goat sellers, a peri-urban and a rural goat farmer. Other materials that were used includes, 10.1 megapixels digital camera, voice recorder, customary gifts for community members and honoraria, stationery and writing materials

RESULTS

SOURCE OF LIVELIHOOD

Key informant interviews, focus group discussions and even individual interviews revealed that all respondents were involved with goats directly or indirectly. However, not all of them derive their livelihood entirely from goat production.
The goat sellers are dependent on the sale of goats for their survival. Most of the peri-urban goat farmers are not dependent on goat production for their survival. A lot of them have other sources of livelihood and goat production is just an adjunct. However, the rural goat farmers are dependent on goat production for their survival. The importance of Goat production to the livelihoods of the respondent is described as the degree to which they depend on Goat production for their survival. The relative importance of goat production to their livelihoods is described in the table below.
Also, the study revealed that more women are involved with goat production than men. Amongst the Fulani pastoralists, the women and the children are the ones involved with goat production while the men are involved with farming and cattle rearing. However, both men and women are equally involved with the sales of goats.

Table 1: Relative importance of goat production to the livelihoods of respondents

Category	Relative importance of goat production to livelihoods
Goat sellers	Very important
Peri-urban goat farmers	Quite important
Rural goat farmers	Very important

HEALTH PROBLEMS

The respondents were able to identify a number of diseases and health issues that poses a constraint to goat production among which are *igbegburu* (Diarrhea), *aami, foofo, ekuru* (Mange), *aayo* (PPR), *agan* (Tetanus), etc. However, the most important disease that kept recurring from almost all the respondents was PPR. It is called by different names amongst the respondents such as *lukuluku ewure, aayo, ayohere,* etc.

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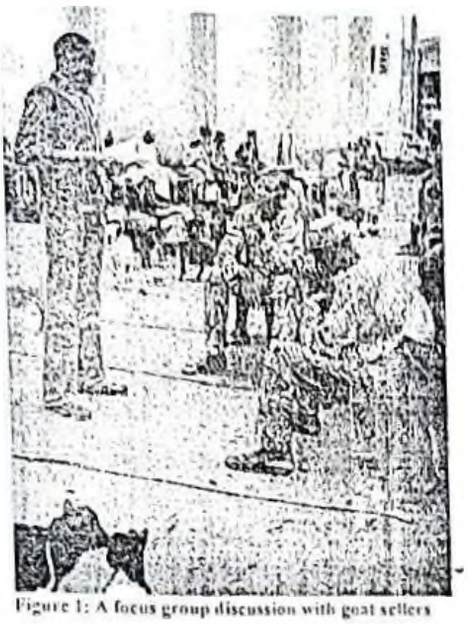

Figure 1: A focus group discussion with goat sellers

PPR AWARENESS

There is a considerable awareness of the disease amongst the farmers and goat sellers. This is mainly associated with their past experiences with the outbreak of the disease. Most of them were unaware of the disease until they experienced outbreaks in their flocks. It was only the Fulani rural farmers who claimed they were unaware of the disease. This may be due to the language barrier that hindered effective communication.

PPR IMPORTANCE

It is generally agreed amongst all those who have experienced outbreaks of PPR that the disease is the most important disease affecting their goats. Even though they mentioned a number of different diseases, they all agree that PPR is the most important of them all.

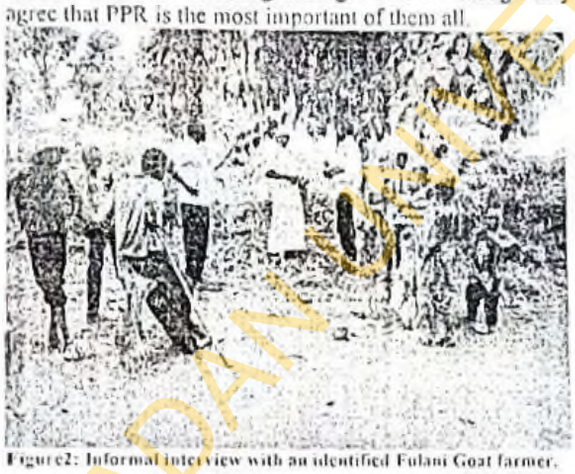

Figure2: Informal interview with an identified Fulani Goat farmer.

ETHNOVETERINARY KNOWLEDGE

There is presently no existing veterinary knowledge for the management and control of the disease amongst the farmers. Usually, when an outbreak occurs, farmers just watch helplessly as their animals die in their numbers

PPR CONTROL

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There is no method of control of the disease being practiced amongst the farmers. The only effective means of control is by vaccination which most of the farmers are not aware of. Also, the farmers are ignorant of the pattern of the disease and so they don't know what specific precautionary measures to take for the control of the disease.

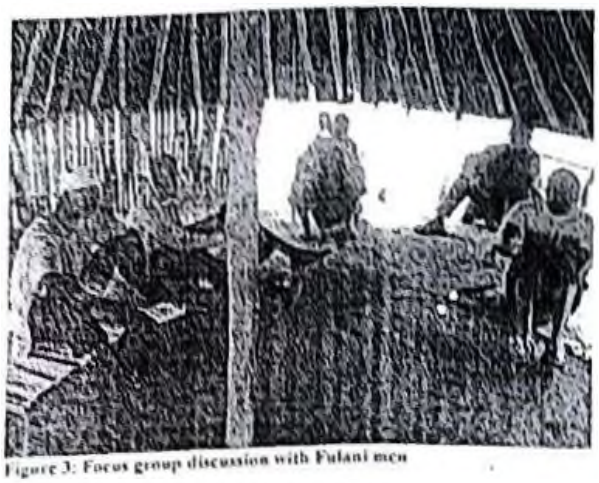

Figure 3: Focus group discussion with Fulani men

HEALTHCARE DELIVERY

There is a practically non-existent health care delivery to the farmers; the only form of health care delivery that they receive is from the private veterinarian in the community and then a lot of quacks who are operating freely in the community without any form of supervision or training.

CONCLUSION

The control of PPR therefore should be of utmost importance to Nigeria as a country seeing the enormous socio-economic significance of the disease, not only to individual farmers but to the country as a whole. An effective control of the disease in Nigeria is going to significantly improve the economy of the country and the livelihoods of this rural people. It will also improve our International trade in Goat and Goat products.

The control of PPR in Nigeria is the responsibility of Nigeria's Veterinary Service which falls under the Federal Department of Livestock and Pest Control Services (FDL&PCS) of the Ministry of Agriculture and Water Resources.

Inasmuch as there seems to be an efficient structure that allows for surveillance, reporting and control of these TADs including PPR, there are still a lot of constraints to its operation. A lot of times, outbreaks of PPR go unreported. The surveillance system does not have the actual capacity to detect the disease early enough and most times, little or no efforts are made to control the disease. From time to time, the government attempts to organize mass PPR vaccination campaigns but most times the efforts prove abortive as either the campaigns eventually do not hold or they happen at a time when the outbreak has already started thus, being counterproductive.

The effective control of PPR is going to demand an effective surveillance and disease control system. The most effective means for the control of the disease is by vaccination. There is a homologous PPR vaccine which can confer an immunity of up to 3 years.

RECOMMENDATIONS

Adoption of Participatory epizootiology by Nigeria's veterinary service is going to help increase the efficiency of veterinary service delivery in Nigeria. Participatory epizootiology is the application of participatory methods to epizootiological research and disease surveillance. It is a proven technique which overcomes many of the limitations of conventional epizootiological methods. One of the branches of PE, which is Participatory Disease Search, is an important tool that has been used as a form of active surveillance in other parts of Africa. It has proven very effective especially in the eradication of Rinderpest in the horn of Africa. PDS was used to identify current foci of Rinderpest outbreaks (Mariner, 1996).

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Secondly: Community Based Animal Health Systems will particularly help to improve veterinary service delivery especially in rural and remote areas. It is a form of primary animal health care delivery that makes use of Community Animal Health Workers (CAHWs). These are community members that are chosen from amongst the community and are trained in the basic principles of animal health care delivery and are then released to work in their various communities under an expert supervision of either a Veterinarian or an Animal Health Technologist. These CAHWs have been made use of in several African countries with tremendous success in such countries. An assessment of the impact of CAHWs revealed that they have significantly contributed to improving human livelihoods, epizootic disease control and also improving disease surveillance and reporting systems (Leyland and Catley, 2002). CAHW systems are the most economically efficient way to provide privatised veterinary services (Leyland and Catley, 2002). CAHWs have been used as Vaccinators in Somaliland where they achieved 95% vaccination efficiency, one of the highest that has ever been recorded in Africa (Mariner et al, 1994).

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