

The impact of national policies on animal disease reporting within selected Pacific Island countries and territories (PICTs)

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Abstract

A semi-systematic literature review on national policies in relation to animal disease surveillance and reporting was carried out for Pacific Island Countries and Territories (PICT's). The animal health reporting structures in Fiji, Papua New Guinea (PNG), Vanuatu and the Solomon Islands were then examined in relation to how they could potentially impact the detection and management of animal diseases in PICTs. Each of the countries examined differed in their reporting structure and these are outlined in the paper, together with the resulting constraints. Findings from the study indicated that there is very little policy support for animal disease surveillance and disease reporting within national government policies. The reasons for this could be due to resource constraints and lack of awareness of political will. By addressing the constraints within the reporting structures better disease reporting in the region could be attained. This could potentially be achieved through restructure and improving capacity within the disease surveillance network.

Keywords: *national policies, animal health, reporting, challenges, pacific island countries*

Introduction

A Food Animal Biosecurity Network (FABN) was successfully set up between Fiji, Papua New Guinea (PNG), Vanuatu and the Solomon Islands (SI) in 2013 (Gummow, 2014). The network implemented disease surveillance training to enhance capacities for animal health workers in the countries enabling them to identify animal diseases, collect samples (survey), process samples appropriately and send samples to reference laboratories in the Pacific island community, i.e. Fiji and PNG and to reference laboratories overseas. The surveillance training also provided the opportunity to analyse the animal disease structures in relation to challenges and bottle necks for reporting of animal diseases in PICTs.

In the Pacific island community there is a shortage of veterinarians as well as a tendency for high staff turnover within the various animal health organizations (Tukana *et al.* 2016). This lack of capacity often leads to poor reporting of diseases, which limits early detection and management of animal diseases. Poor reporting structures lead on to weak field services for disease investigation thus limiting the capacity to collect, process and pack samples for shipment to reference laboratories. Laboratory capacities and services

in PICTs are generally limited as there are no clear policies to strengthen them (FAO 2015). Part of this limitation could be due to the perception that animal diseases are not seen as a priority as awareness on the impacts of zoonosis is low. So laboratories in PICTs do not have the capacity to carry out basic testing, i.e. staff capacities and basic facilities for both the field and laboratory diagnosis are limited, and expandable items such as vaccontainers, needles, centrifuge; reagents, etc. are normally out of stock (Moses 2014).

Policy support for animal disease surveillance reporting seems to be poor in PICTs thus limiting the capacity to detect and control emerging and re-emerging zoonotic diseases (FAO 2015). This study sought to prove or disprove this by carrying out a semi-systematic review of literature on agricultural policies in relation to animal disease reporting and presents some of the challenges in the reporting structures. The study also carried out interviews with in-country animal health workers and documented animal disease reporting structures for Fiji, Papua New Guinea (PNG), Vanuatu and the Solomon Islands and presents some of the challenges and bottle necks for reporting within those structures.

Materials and methods

Literature review

A semi-systematic literature review was conducted to gather data on national policies that supported animal disease reporting systems and structures. A search of peer reviewed studies was conducted on 286 databases hosted by James Cook University, where the databases were screened for relevance, i.e. those that were associated with "agriculture", "social sciences" and were "multidisciplinary" in nature. Eleven databases were selected based on the above criteria, these were; Agricola, CSIRO, Green file, Google scholar, PubMed, Sage journals, Science Direct, Science Direct Reference Works, Scopus, Spring Link and Web of Science. The selected databases were then searched using the following key words were used; "Agriculture" AND, OR "National Policy" AND, OR "Animal Disease Surveillance" AND, OR "Animal Disease Reporting" AND, OR "Pacific Island Countries"

The Pacific Community (SPC)

The Secretariat of the Pacific Community (SPC), has the mandate to work in 22 island countries in the Pacific region and is an important source of information on policies. It keeps the policy inventories for Pacific Island Countries and

Territories (PICTs) within the Pacific Agricultural Policy Project (PAPP) under the Land Resources Division (Pacific Community 2016). These inventories were accessed and the agricultural policies for Fiji, PNG, Vanuatu and the Solomon Islands were screened to determine if there were provisions for livestock production, health and disease surveillance and disease reporting. Other grey literature was also reviewed for relevance to animal disease surveillance and disease reporting policies.

Documentation of reporting structures

During recent animal disease surveillance training, existing animal disease reporting structures for Fiji, Papua New Guinea, Vanuatu and the Solomon islands were discussed in detail and documented with the officials for each country (Tukana *et al.* 2016). The officials involved were the directors and field workers within the respective countries. Officials were asked to discuss their disease reporting structures and then document them on butchers' paper. The draft reporting structures were then displayed up front and the channels of reporting, challenges and bottle necks for reporting were discussed for the different countries. The reporting structures were then documented and circulated via email to the country officials for constructive comments before being finalized. The finalised reporting structures were then presented to the countries during a final project reporting mission (Gummow 2014).

Results

Review of literature

The nineteen references reviewed were from different parts of the world and there was nothing on national policies in the Pacific islands that related to disease surveillance or animal disease reporting. References reviewed indicated that policies for surveillance and reporting diseases are important to support decisions on interventions such as the removal or vaccination of diseased animals to protect human and animal health and to promote animal welfare; however these were limited in national government policies (Haßler and Howe 2012).

Literature indicated that resource and capacity constraints in most national governments in PICTs, limits policy support for disease reporting and surveillance, and normally both the human and animal health sectors work in their own silos.

The Pacific Community data

According to the inventory that was carried out by the Pacific Agriculture Policy Project (PAPP), 16 countries out of the 22 countries that the Pacific Community does work in had national agricultural policies. From the 16 countries that had national agricultural policies, only three had livestock policies, these were Fiji, Solomon Islands and Vanuatu. The livestock policies however were focused more on livestock production and had nothing on animal health and disease surveillance.

Animal disease reporting structures

The animal disease reporting structure in Fiji falls within the Ministry of Agriculture (MoA) with the Minister of Agriculture being the head of the Ministry. Animal disease reporting

channels in Papua New Guinea come under two ministries, i.e. the Ministry of Agriculture and the Ministry of Provincial Affairs. Animal disease reporting channels in Vanuatu come under two streams under the Minister for Agriculture. Animal disease reporting channels for the Solomon Islands fall under the Ministry of Agriculture and Livestock. These are presented in more detail in the presentation.

Discussion

Literature revealed that there is very little national policy support for animal disease surveillance and disease reporting in PICTs. This increases the risk of the spread transboundary emerging and re-emerging zoonotic animal diseases (King 2004). The lack of national policies to support animal disease surveillance and disease reporting could be due to several reasons, such as the lack of awareness of the public health impacts of zoonosis. Thus there is limited priority placed on animal diseases by national governments which has led to lack of resource allocation from national government budgets (Rich *et al.* 2013).

Literature also revealed that the use of the World Animal Health Information System (WAHIS) for reporting is a good platform for countries to use to report notifiable animal diseases and their country disease status, however only those countries that are OIE members are obligated to submit animal disease reports as they are supported through training on how to use the database and have nominated OIE reporting delegates. Apart from New Zealand and Australia, only Fiji, Papua New Guinea, Vanuatu, New Caledonia and the Federated States of Micronesia are members of OIE in the South West Pacific region (Tukana *et al.* 2016).

Animal disease reporting in Fiji is structured in a way where officers have to report via channels directly above them. This creates a challenge in reporting animal diseases as the process is time consuming and if supervising officers are away from the office, the report may not reach its destination. The number of government veterinarians in Fiji has been limited to non-existent in the past; this has also created a gap in the detection of animal diseases as subordinate officers do not have the capacity to recognise animal diseases and thus do not make reports, e.g. in the outbreak of bovine Brucellosis in Fiji, there were no definite signs of the disease until there was a re-emergence of the disease in 2009 (Tukana *et al.* 2015). Opportunities under the Fiji animal disease reporting structure could eventuate when there is interaction between the animal health clinics, the animal production officers and the crop extension services. This close interaction is possible as most of the officers are based in the same localities and districts, thus promoting animal disease reporting through frequent information sharing.

In Papua New Guinea, disease reporting is challenging as the reporting channels fall under two separate ministries making it more complex for information sharing. Regional Veterinary Officers (RVO) are supposed to be present in each of the four regions (Lae, Rabaul, Goroka and Port Moresby) in Papua

New Guinea, but because the posts are often vacant, the chances of animal disease reports coming from the different provinces are limited, e.g. in 2013, only 1 RVO existed, i.e. in Lae (AusAid Report 2010). Farmer capacities to recognise signs of disease are limited in Papua New Guinea and only when high mortality in animals are observed, then reports of animal disease would be made. Opportunities in reporting eventuate when interaction and information sharing occurs between the local NAQIA office and council wards under the Ministry of Provincial Affairs, as this shortens the time for reports to reach the decision makers at NAQIA.

In Vanuatu, disease reporting is challenging as numbers of veterinarians are limited and often non-existent, so subordinate officers do not have the authority to confirm animal diseases (Mosese 2014). The available veterinarian spends more time doing border control work than work on livestock farms, so disease reporting is normally handled by the livestock department workers. Capacities of the livestock department workers and farmers in recognising animal diseases are also limited so this affects the frequency of animal disease reports submitted. Opportunities eventuate as the reporting channel is shorter compared to the other countries studied, so information reaches the Minister for Agriculture in a shorter time. Initial investigation by qualified veterinarian for disease outbreaks is quick as there is interaction between the Senior Livestock Officer and the Senior Veterinary Officer at their level. Interaction between the Principal Livestock Officer and the Principal Veterinary Officer ensures shortfalls in reporting are strengthened before reports go up the reporting channel.

In the Solomon Islands, reporting challenges faced are limited to non-existent veterinarians, i.e. the Chief Veterinary Officer post has been vacant for many years and when the post is filled, normally it is not for long, so the subordinate livestock officers do not have that authority to confirm signs of diseases and take appropriate action. The numbers of livestock workers in the provinces are lower compared to field assistants and extension assistants under the extension division so the probability is high that the extension officers may not be able to recognize animal disease symptoms as they have had no training and therefore do not make reports. Capacity for farmers to recognize disease symptoms are low, so reports may only be made if high mortality occurs. Opportunities eventuate in the interaction between the Assistant Livestock Officer, Field Assistant and Extension Assistant ensuring information sharing and more efficient reporting of animal diseases.

References

1. **AusAid Report.** *PNG Australia Quarantine Twinning Scheme.* Australian Agency for International Development: Papua New Guinea, p32, 2010
2. **FAO.** *A national policy for efficient Veterinary Laboratory services - Kenya as a pilot country.* FAO Regional Office for Asia and the Pacific: Bangkok, 2015
3. **Gummow B.** *Food Animal Biosecurity Network Project Final Report.* Discipline of Veterinary Science, James Cook University: Townsville, p31, 2014
4. **Ha'sler B, Howe K.** Evaluating the Role of Surveillance in National Policies for Animal Health. *Euro Choices Journal* 11(2), 6, 2012
5. **King LJ.** Emerging and Re-emerging Zoonotic Diseases: Challenges and Opportunities. College of Veterinary Medicine, Michigan State University, East Lansing, Michigan; USA, p11, 2004
6. **Mosese N.** Personal communication, Senior Livestock Officer, Livestock Department, P.M.B 9095, Airport Road, Port Vila, Vanuatu, 2014
7. **Rich KM, Denwood MJ, Stott AW, Mellor DJ, Reid SWJ, Gunn GJ.** Systems Approaches to Animal Disease Surveillance and Resource Allocation: Methodological Frameworks for Behavioural Analysis. *PLOS ONE Journal*, 2013 www.plosone.org.
8. **Tukana A, Hedlefs R, Gummow B.** Brucella abortus surveillance of cattle in Fiji, Papua New Guinea, Vanuatu, the Solomon Islands and a case for active disease surveillance as a training tool. *Tropical Animal Health and Production Journal* 13, 2006 DOI: 10.1007/s11250-016-1120-8
9. **Tukana A, Warner J, Hedlef R, Gummow B.** The history of brucellosis in the Pacific Island Countries and Territories and its re-emergence. *Preventative Veterinary Medicine Journal*, 2015 <http://dx.doi.org/10.1016/j.prevetmed.2015.10.005> p.7.