Event: Livestock research and its impact on smallholder farmers

Date: 29 June 2016

Speakers:

- Jimmy Smith (Director General, ILRI)
- Peter Jeffries (CEO, GALVmed)
- Rodrigo Ortiz (Programme Manager, AgResults)

Parliamentarians present

- Baroness Miller of Chilthorne Domer
- Countess of Mar
- Duke of Montrose
- Lord Trees
- Lord Cameron of Dillington (chair)

Background

On 16 June, AgResults announced a Brucellosis Vaccine Prize**,** a $30m prize challenge to incentivise animal health companies to develop a vaccine against Brucellosis to be used in developing countries.

The launch of the Brucellosis Vaccine Prize was an opportunity for the APPG to discuss the importance of livestock to livelihoods and food/nutrition security in developing countries, and the challenges of ensuring that advances in livestock research can filter down to smallholders.

Key points

Rodrigo Ortiz, AgResults

- Brucellosis causes decreased milk production, weight loss, infertility, and lameness in livestock, depriving farmers of a crucial source of income and food.
- Vaccines exist, but they have only been effective in the developed world because they require complex management systems and/or pose a threat to vaccinators as they contain the live disease. Current vaccines also need constant refrigeration.
- The AgResults challenge will encourage animal health, biotech, and pharmaceutical companies to develop and register an effective vaccine for *Brucellosis melitensis*.
- Development of an improved Brucellosis vaccine rests heavily on the high-risk and high-cost basic research stage of vaccine development, and companies face a 90-95% failure rate.
- The AgResults Brucellosis Vaccine Prize focuses on this research stage, providing incentives to companies to develop a safe, effective vaccine registered in an EU country.
- Entrants are being offered prize money in three stages, from $100,000 to $1m and finally $20m for the first solver to successfully register a product. An additional $5m prize is possible if a company meets “best in class” criteria within one year of the $20M prize.
- If a vaccine is not developed, donor money can be reprogrammed for other projects.

Jimmy Smith, ILRI

- Livestock are important to small-scale farmers, providing nutritious foods, income, assets against which to borrow, and a primary source of organic fertilizer.
- Small-scale systems are also strategic from an environmental perspective. Improving efficiency in smallholder livestock systems can reduce greenhouse gas emissions by 30%.
- There is continued neglect of smallholder livestock keepers by official development assistance (ODA) and national government policies. Livestock provides developing countries with 40% of agricultural GDP but receives less than 4% of agricultural ODA.
- "Policy bias against pastoralism is backwards. Policies have never taken into account how efficient pastoralism is, so routes are not preserved as land planning takes place. Accept that pastoralism exists, recognise routes, and honour them."

Examples of existing UK-supported livestock research:

- *Livestock drought insurance:* ILRI has worked with partners to use satellite images of rangelands to determine when drought is likely to cause livestock deaths. Livestock keepers can now buy insurance for any number of animals. Those insured receive payouts not when their animals die but when predictions of feed availability fall below a certain level.
- *Improved livestock feeds:* DFID has supported ILRI research into better feeds, and better use of locally available resources for smarter animal feeding. This can double milk production for smallholder farmers while reducing greenhouse gas emissions. Farmers become able to keep fewer higher-producing milking animals, and better-fed cows emit less methane gas.
- *Improved food safety and disease control:* Research by ILRI and UK partners is working to ensure that meat, milk and eggs sold in informal markets is safe to consume and that diseases are not transmitted from animals to people. One example is the Urban Zoo project which is working to understand the emergence of pathogens in urban settings, conducted by ILRI with the universities of Edinburgh and Liverpool and the Royal Veterinary College (RVC).

Peter Jeffries, GALVmed

- GALVmed was set up because there was no supply chain for vaccines to help the poorest smallholders; those with three chickens, for example.
- Launched in 2008 with DFID & BMGF funding. Around £80m funding received to date.
- Newcastle Disease (ND) is a poultry disease that kills 80-90% of infected birds in India.
- 25 million doses of ND vaccine have been sold throughout GALVmed-initiated projects since 2012. A dose costs £0.03; the value of the healthy bird averages £3.50.
- GALVmed has supported development of small-dose products, easy to administer, and not reliant on a cold chain.
- In the Mayurbhanj district of India, average net annual poultry income has risen from £21 to £93 with ND vaccination.
- GALVmed's goal is for smallholder livestock diseases to be controlled with vaccines purchased by smallholders at market prices. To achieve this, GALVmed first uses donor funding for product development and market development.
- "The demand for vaccines is there but models to fulfil the demand are not yet there. It has to be driven by supply & demand and demonstrating value along the line."