

Billions depend on livestock

The *New Agriculturist's* Geneviève Renard recently interviewed ILRI Director General Jimmy Smith about the challenges facing livestock and livestock research.

Livestock play a vital role in the income and livelihoods of billions and they are also a safety net for the poor. To help smallholders escape their poverty, we need to act on productivity: by increasing productivity, we can also drastically reduce greenhouse gas emissions from livestock. But we also know that changing climate will have an impact on livestock themselves so we need to understand much better what will be the likely impact of climate on water and feed resources, spatially and temporally, and understand what could be the climatic impact on diseases and pest dynamics.

While improving agricultural production and activity is our first goal, we need to achieve this in environmentally sustainable ways with regards to the effects of climate and agriculture, or 'climate smart' agriculture. Here we find that the two targets—increasing productivity and reducing climate impact are linked: if an animal produces 20 liters instead of previously two, productivity is increased by a factor of ten while emissions per unit of milk are decreased by ten.

Increasing productivity and being better prepared

By 2050, there will be two billion more people to feed. To meet rising demands, we need to produce 70% more food than we produce now. In a situation where we cannot get this additional food by expanding hectares under crops, we have to increase productivity. So we have to get much more from our land and water and other natural resources in order to meet this challenge. Similarly with livestock: We are not going to be able to produce the amount of meat, milk, wool and all the products we need by expanding the population massively, we must do it by increasing the productivity of livestock per unit of land.

It is too easy to forget that billions of people depend directly or indirectly on livestock for their livelihoods until reminded by a crisis such as in the Horn of Africa, which has largely affected the livestock sector. How can we better prepare for future droughts? How do we note and respond to all the early warnings? One explanation for the slow response is perhaps that we have neglected the livestock sector for so long. Despite the many discussions on agriculture as a whole, there is very little about livestock and, when there, it is often negative. So the lack of attention to, and under-investment in livestock has been manifested in this particular drought.

Fortunately, there have been constructive discussions recently so we hope that researchers, donors and other development partners are looking more carefully at interventions to mitigate and ameliorate the effects of drought and hopefully find the resources to do more research on survival strategies. For instance, can we use index-based insurance for livestock? Can we take excess males to market to facilitate an earlier off-take and so protect our breeding stock?

Agriculture back on the political map

This is why communication at all levels is so important. We have to get policy makers, investors and all our partners better equipped to understand the livestock sector and what role it can play in ending hunger, poverty and promoting sustainable environment development. As a small research organization with a global mandate we in ILRI cannot alone make the impact that is required of us, so we must build strong partnerships with others, they must leverage us and us them.

We must form partnerships with the bigger players, the World Bank, the regional development banks, the governments of the developed and developing world, but I am also particularly interested in forming very strong partnerships with the other CGIAR centers. It is not well understood, but most of the meat and the milk in developing countries are produced in mixed farming systems so those other CGIAR centers that work on crops are very important partners for us.

Rangelands into carbon trading?

The challenges are numerous: I have mentioned improving productivity, both to enhance farmer incomes and to reduce emissions. Also we can look at how to better use rangelands, which cover one third of the terrestrial surface. Can we bring rangelands into carbon trading with payments for environmental services systems? Can we do what is being done with forestry, for instance, sequestering carbon: Can we apply that to rangelands, and what would be required to do that? And of course in those rangeland areas, where we have pastoralists, we must see if this can become a new opportunity for them.

These are new areas of research that ILRI is already looking at, plus of course animal health at farm and global levels. We are very concerned about zoonotic diseases. But we also know that our farmers are even more concerned about the endemic diseases that they face on a daily basis. As it happens, we are well equipped to meet these challenges because one of ILRI's predecessor organizations was ILRAD (the International Laboratory for Research on Animal Diseases), so we have a strong reputation to build on.

ILRI also had the foresight to create BecA (Biosciences eastern and central Africa) as a biotechnology platform that will help us with animal and crop agriculture where new sciences of genetics, genomics and biotechnology are being brought to bear on agriculture.

On 9 and 10 November 2011, the ILRI Board of Trustees hosted a 2-day 'liveSTOCK Exchange' to discuss and reflect on livestock research for development.

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