

*Paper presented at the All Africa Conference on Animal Agriculture  
Addis Ababa, Ethiopia, 25-28th October 2010*

# Making livestock services accessible to the poor:

*Moving towards a new vision for livestock service delivery*

By: Christie P

---

**Making livestock services accessible to the poor:  
Moving towards a new vision for livestock service delivery  
By**

Christie Peacock, CEO, FARM-Africa,  
Clifford's Inn, Fetter Lane, London EC4A 1BZ, UK

**Abstract**

The broad range of services required by 21<sup>st</sup> century livestock keepers in Africa are considered, including an emerging range of financial, marketing, information and environmental services. Access to quality and affordable livestock services is constrained by many factors including limited service providers, physical distance, price, information and socio-cultural barriers., The changing role of the state opens up new business opportunities for the private sector, including farmers groups. However there are many constraints to private sector development which governments and financial institutions need to address. A new vision for livestock service provision is needed so that the roles and responsibilities of state and non-state actors can be supported by progressive legislation and regulation. Fundamental to this is a clear definition of what constitutes a public and private good, so that state and non-state actors co-operate and do not compete. The issue of quality of products and services is discussed and solutions proposed. Some innovative business models are described including contract farming and micro-franchising, which could be applied to unlock the value and income generating potential of livestock kept by poorer livestock producers. Examples are given from livestock programmes in East and Southern Africa.

## **Opportunities for livestock keepers in 21<sup>st</sup> century Africa**

Livestock represent a valuable asset to their owners in Africa and yet much of their potential remains locked up and under-exploited. While a limited range of commercial pig and poultry systems expand and smallholder dairy systems have grown slowly in some places, the traditional, mostly ruminant systems which constitute the vast majority livestock production in sub-saharan Africa remain relatively under-developed.

The growth in consumer demand for animal products within and outside Africa presents a significant opportunity for livestock keepers to turn otherwise unusable vegetation into high-value products.

However for this potential to be exploited there needs to be a fundamental shift in the way farmers and pastoralists view and manage their livestock. It is essential that livestock are de-linked from supporting household security as a primary asset, and freed to become a much more productive asset. The pressures on natural resources from chronic overstocking combined with changes in climates means that keeping large numbers of relatively unproductive livestock as asset to be liquidated in times of need is simply not sustainable. If this continues then the resource base will decline towards a point of terminal degradation. Livestock in Africa experience high levels of pre- and post-weaning mortality, low feed conversion efficiencies and poor reproductive rates making overall efficiency of production quite low. While there are many extensive systems of production where low rainfall and the cycle of droughts make it hard to apply many of the conventional approaches to improvement, it remains the case that livestock are kept

on the land too long and not sold at optimum ages or optimum times in the drought cycle, sometimes due to market access but often because livestock provide the security families need in marginal livelihoods. The current pressure to reduce GHG emissions per TLU per unit time emphasises the need to increase the overall efficiency of the livestock production and marketing value chain. Put simply, the *status quo* is not sustainable.

The only way to break out of this vicious cycle is a two-pronged approach of providing effective services (knowledge, inputs and marketing) to farmers and pastoralists to give them the means to improve their livestock combined with easy access to reliable financial services (savings accounts, life, health and livestock insurance) and alternative investment opportunities.

Unfortunately the majority of livestock keepers in sub-saharan Africa have limited access to either livestock or financial services. The main reasons for this limited access is the limited number of service providers and their capacity to deliver services in remote locations. Physical distance, lack of information and socio-cultural barriers all play a part in limiting access. The objective of this paper is to consider options for improving access to livestock services.

### **A current threat to Africa's livestock keepers**

While there may be concerns over the contribution of livestock to Green House Gas (GHG) Emissions and climate change at a global level, this should not reduce support to the livestock sector and prejudice the life chances of millions of Africans whose main

route out of poverty (including out of livestock production itself) may be through increased incomes from improving the production and marketing of their livestock.

Of course livestock need to be used rationally. The disproportionate contribution of a few livestock 'hotspots' – Amazonian ranches, north American feedlots etc – to Greenhouse Gas emissions must not lead the anti-livestock movement to block livestock development across the board. Any livestock development must not compete with man for food grains and should focus on using on biomass that can not be used for other purposes. I am fearful that concern over livestock GHG emissions may, inadvertently, prejudice the life chances of millions of poor livestock farmers, for whom livestock remain the fastest route out of poverty.

Livestock systems in Africa produce a relatively small proportion of Global GHG emissions. It is essential that livestock keepers in Africa who manage relatively low input systems with an aggregate low carbon footprint are not penalised by the rising anti-livestock movement in the north where most of the livestock GHG emissions take place.

Tennigkeit and Wilkes (2008) have looked at the theoretical potential for carbon finance of communal rangeland areas. However many constraints remain to be overcome before this potential could ever be realised.

### **A vision for livestock service delivery**

Livestock owners need to take responsibility for the health and welfare of their own animals. In order for farmers and pastoralists to keep their stock healthy, productive and

profitable livestock keepers require access to natural resources and a range of external inputs and support services. These include breed improvement, feed, veterinary services (both clinical and preventative), market information and markets, processors, financial services including credit to purchase livestock and to invest in livestock enterprises, as well as insurance services. Knowledge about new technology and management approaches is also essential. Support to receive payments for environmental services and learn how to reduce GHG emissions is an expanding topic with little expertise. The vast majority of these services will help to generate more livestock products for home consumption and for sale, creating significant value which is clearly a private good.

Table 1 summarises some of the key private and public goods in the livestock sector. Africa remains burdened by overinflated expectation of state provision of services which African governments can no longer afford. Governments struggle to provide even a basic level of services that support the achievement of public goods without attempting to extend into providing private goods. There is clearly a need for a new vision of livestock services where private goods are supported by a vibrant, dynamic, well-regulated, private sector. While the state focuses its limited resources on ensuring the delivery of priority public goods. This does not mean that the state always delivers these services itself but may contract and supervise the private sector to do so. The freeing of Africa from the plague of rinderpest was not achieved by state veterinary services alone, but by partnerships between the state and local service providers.

**Table 1 Summary of livestock services**

<b>‘Private goods’</b>	<b>‘Public goods’</b>
<ul style="list-style-type: none"> <li>▪ Improved nutrition of individual and herd</li> <li>▪ Individual/herd breed improvement (AI, selection, crossbreeding etc)</li> <li>▪ Prophylactic herd health care including vaccination</li> <li>▪ Clinical treatment</li> <li>▪ Improved reproductive performance</li> <li>▪ Stock security</li> <li>▪ Market information</li> <li>▪ Marketing terms of trade</li> <li>▪ Improved land cultivation performance</li> <li>▪ Knowledge of new technology</li> <li>▪ Improved housing</li> <li>▪ On-farm fodder crop development</li> <li>▪ Conservation of productive and adaptive traits of indigenous breeds</li> <li>▪ Payment for environmental services including conservation of natural vegetation for carbon sequestration etc</li> </ul>	<ul style="list-style-type: none"> <li>▪ National disease surveillance and eradication of trans-boundary diseases</li> <li>▪ Some vaccine procurement and production</li> <li>▪ Drug, vaccine, feed, semen quality control</li> <li>▪ Market infrastructure</li> <li>▪ Food hygiene</li> <li>▪ Public health</li> <li>▪ Regulation of service providers</li> <li>▪ Research on topics not researched by private sector</li> <li>▪ Conservation of traits of value in indigenous breeds</li> <li>▪ Reduction in GHG emissions of national herd</li> </ul>
<p style="text-align: center;"><b>Delivery</b></p> <p>Livestock owners and private service providers should be responsible for these private goods</p>	<p style="text-align: center;"><b>Delivery</b></p> <p>Does <u>not</u> mean state has to <u>deliver</u> itself, it has be responsible for its delivery in most cost-effective way which may include contracting private sector service providers</p>

Table 2 The changing role of the public and private sector to deliver a new vision for livestock services

	<b>Now</b>	<b>Transition phase</b>	<b>Future</b>
<b>Vision</b>	Fragmentary and generally poor quality service provision by government, private sector and NGO providers. Often poor access to limited range of services at high prices in more remote areas. Private sector often undermined by inappropriate <i>ad hoc</i> subsidies and archaic legislation.	State adapts staffing to focus resources on ensuring the delivery of services of public good. Legislation updated after widespread public consultation. NGO/Donor programmes aligned to support the expansion of a professional private sector including services through co-operatives. Adaptation of educational curricula to support training of new kind of entrepreneurial professional.	Livestock services that generate <u>private</u> good provided by dynamic well-regulated private service providers supported by effective R&D. Government makes strategic investments in infrastructure and maintains a vigilant and progressive approach to regulation of inputs and service standards while focusing limited resources on delivery of <u>public</u> goods.
<b>Farmers</b>	Purchase limited range of often poor quality drugs, AI and feed inputs. Weak farmers organisations opens opportunity for exploitation by livestock traders. In a few countries have access to state subsidised vaccinations and clinical services.	Farmer training and support to establish effective farmer/pastoralist organisations/co-operatives to act in the market on behalf of members.	Purchase wider range quality products and services from private service providers at fair prices.
<b>Government</b>	Remnants of state vet services and ineffective livestock extension service. Weak regulation of input market. Outdated veterinary legislation in many cases dating back to – pre-independence.	Re-orientate government staff to play effective regulator role. Up-date legislation to provide (OIE-compliant) mixed service provision.	Regulate input market effectively to ensure quality products and services. Provide subsidises for public goods.
<b>Private sector service providers</b>	Concentration in high-potential areas. Poor structure, inefficiencies and poor quality and value.	Support to the growth of the private sector particularly SMEs through access to investment finance, support to develop business skills and business growth strategies	A well structured and efficient private sector meeting the need of livestock farmers and consumers.
<b>Universities and</b>	Conventional training	Update curriculum and	Closer links with private

<b>colleges</b>	mostly for government service.	teaching approach to produce graduates equipped to enter both public and private sector.	sector to provide training opportunities and research partnerships.
<b>NGOs</b>	Promote community-based animal health care systems in underserved areas. Livestock credit used as mechanism to support	Align programmes to support growth of SMEs and focus on supporting new businesses to serve the needs of underserved areas. Monitor government and private sector performance.	Identifying gaps in service provision that affect more marginalised groups, taking risks to develop approaches that meet the needs of the poor. Monitor government and private sector performance to ensure needs of more vulnerable groups met.
<b>Donors, Financial institutions and private investors</b>	Lack of co-ordination between humanitarian and development donors leads undermining of embryonic private sector and inappropriate subsidies. Limited private investment in livestock sector.	Align programmes to support growth of SMEs and focus on supporting new businesses to serve the needs of underserved areas. Monitor government and private sector performance and support growth, performance and diversity of private sector.	Increased investment in livestock sector. Wider range of business models that support

### **Business services and new business models**

Shiferaw and Berhanu (2010) have ably summarised the issues surrounding public and private participation in livestock service delivery. In order for livestock services to transition from the current *status quo* to a more dynamic mixed model of service provision with the public and private sector acting effectively separately and forming public-private partnerships when appropriate the private sector urgently needs to grow. It needs to grow in size but also in technical and business skills that support improved efficiencies and business growth. For this private sector growth to benefit poorer livestock keepers it must be as inclusive as possible. CK Prahalad coined the term 'The Bottom of the Pyramid' (BOP) and identified the business opportunities that exists

serving the needs of the world's poor (Prahalad, 2010). In recent years there has been an upsurge in interest in BOP business models (WEF, 2009). This author believes that there are innovative business opportunities in the livestock sector that could offer services to livestock keepers, creating more sustainable services than those provided by donor-subsidised aid projects.

Vermeulen and Cotula (2010) surveyed business models that provide opportunities for smallholders and classified them into:

- **Contract farming**/outgrower systems (pre-agreed supply contracts between farmers and buyers)
- **Leases and management contracts** (leasing land for a farming enterprise)
- **Tenant farming and sharecropping**
- **Joint ventures** (example might be a joint venture between a farmer organisation and a private company investing capital in land owned by farmers)
- **Farmer-owned businesses** (farmers may pool assets to specialise in production or marketing of a product which may facilitate access to finance etc)
- **Upstream and downstream business linkages** (input and service supply businesses and marketing/processing businesses)

This paper will focus on the opportunities in contract farming and livestock services with some examples given in Table 3.

<b>Business services</b>	<b>Functions</b>	<b>Examples</b>
Input supply	Drugs, AI, breeding stock, feed, mineral supplements, animal identification, forage crops	Meru Animal Health Workers Group
Clinical services	Diagnostics, treatment etc	MAHWG
Breeding and reproductive management	Access to improved sires Data recording for certification and selection Artificial Insemination (AI)	Meru Goat Breeders Association Kenya Stud Book
Information	Livestock prices Drought early warning Disease outbreaks	KACE LIMS FEWS CAHNET
Contract farming/outgrower	Supply stock, feed and all inputs to farmers, purchase stock	Kenchic Kalahari Kid Company
Collection and processing	Milk collection	Brookside, Kenya
Increasing access to financial services	Credit to purchase breeding fattening stock	Equity Bank
Livestock insurance	Livestock, human health and life insurance	Micro-ensure UAP/ILRI
Advisory	Herd health Feed improvement Environmental impact assessment and development of mitigation measures Payment for environmental services, carbon financing	

## **Some new business models and opportunities**

### **Contract rearing**

#### **An example: A market-oriented example of goat commercialisation in South Africa**

The Kalahari Kid Corporation (KCC) was registered in 2002. This company has as its core functions the branding, brand management, quality control and marketing of goats and goat products. It is a joint initiative between private-sector commercial partners, several government stakeholders, and emerging and commercial farmers in several provinces of South Africa. Kalahari Kid's initial emphasis is placed on the development of (especially) the non-commercialised goat sector to supply animals of the correct quality. This entails the organisation

of small-scale farmers into 'Goat Interest Groups', undertaking a contractual relationship with KKC to deliver a chosen number of goats of a pre-determined quality per year, the transfer of knowledge and skills regarding the animals and their management, and finally delivery. The process of contracting, and the limiting of the purchase of stock to only goats grown by 'contract growers', serves to establish the traceability system that is required by international standards.

Having secured its supply base, the KCC has placed further emphasis on the design of market-oriented products. This has been achieved through product development and consumer testing. Marketing has emphasised goat meat as a healthy, interesting, and 'naturally reared' meat alternative. Entrance into both the local retail market and foreign (especially Middle-Eastern) markets has been achieved. The development of these institutions has created the possibility of entrance of small-scale goat farmers into the formal international and national market (Peacock, et al, 2005)

### **Micro-franchising input supplies**

Livestock service providers are typically small owner-operator businesses with very limited capital and employing a small number of staff. In a recent survey of 350 veterinarians and livestock technicians carried out by FARM-Africa in Kenya the vast majority reported they only reach a radius of 15km from their shops, limiting their catchment area significantly. They identified as their main problems a lack of capital, high/rising drug prices and access to transport. Their main interests to develop their business were 1) Access to high quality drugs, 2) Access capital & marketing support, 3) Technical and business training and 4) Access to new products and services.

One of the challenges they face is accessing quality drugs. Van Gool (2008) reported an astonishing 67% of veterinary drugs in the market in West Africa did not conform to the product specification. When this is combined with poor diagnosis and administration the quality of the overall service provided is likely to be quite poor. The lack of proper regulation of veterinary drugs and vaccines is a very serious issue for Africa.

Franchising is a method of replicating a successful business. In the developed world about 50% of retail outlets are franchises. Franchising offers many advantages in achieving scale and business growth quite quickly. A key element of franchising is compliance to clear quality standards in order to deliver a consistent quality of service across the franchise network. In situations of a weak regulatory environment, poor quality products and administration of products, weak business skills and small business units, franchising can offer a means of growing a successful business by providing support to business owners to grow and develop their businesses to offer a consistent quality of services at a fair price.

FARM-Africa plans to set up a livestock services franchise business in Africa which will offer qualified veterinary personnel access to capital, business systems, quality-assured products and innovation as well as professional development.

### **The drought cycle – a cycle of disaster or business opportunities?**

Droughts occur regularly in many parts of Africa and have done so for thousands of years. In recent years there has been investment in early warning systems that predict the

occurrence of droughts. However despite the improving accuracy of the early warning systems governments and their development partners appear surprised and unprepared for the consequences of droughts which result in predictable consequences – a fall in livestock prices, rising grain prices, stock deaths and child malnutrition. Eventually rising malnutrition levels trigger a, frequently delayed, emergency response. The new Livestock Emergency Guidelines and Standards set out a number of livelihood response options that development agencies can carry out to ameliorate a growing emergency. Many of these approaches could be carried out by the private sector. Early warning systems should trigger movement and earlier livestock sales over a much longer period of time. Emergency slaughtering can be carried *in situ* accompanied by meat drying and processing into products with a longer shelf life. Core breeding stock could be insured and given preferential feeding, while surplus males are sold. During the recovering and growth phase, with the return of the rains, livestock credit can support herd recovery with incomes boosted by fattening and finishing stock for market, possibly through a stratified system. Stratified livestock systems are beginning to emerge in the fattening units around Nazareth, Ethiopia buying stock from lowland pastoral areas finishing them on crop by-products. Investment in infrastructure would support a more dynamic system of livestock production.

## **Breed improvement**

### **An example of public-private partnership in dairy goat development in Kenya**

The difficulties facing farmers with small plots and stagnating crop yields and low cash crop prices make switching to more intensive goat farming systems attractive (Peacock, 2005). One of FARM-Africa's most successful interventions has been the development of an intensive dairy

goat system for poor farmers in densely populated parts of East Africa. It is based on the delivery of all services through a unique mix of farmer-managed and private sector service delivery. It places the delivery of breeding services in the hands of farmers and the delivery of vital veterinary services in the hands of self-employed veterinarians running private practices who, work in partnership with animal health assistants, (who in turn support trained farmers) to deliver affordable basic veterinary care. This innovative system has been working in Kenya, Tanzania and Uganda for 14 years. It delivers affordable services that have opened up new opportunities to farmers who would otherwise have been ignored.

Table 4. Roles and responsibilities of the key participants for community based goat improvement programmes

	Responsibilities
Farmer groups	Manage goat credit, buck management, dispute resolution
Breed Association	Manage buck rotation, register goats with stud book, market goats outside district
Buck keeper	Care for buck, promote its use & collect breeding fees
Group breeder	Care for pure Toggenburgs and ensure supply of pure replacement bucks
Qualified veterinarian (private)	Oversee animal health care system, ensure drug supply, treat difficult cases, alert government vet. to disease outbreaks
Livestock technician (private)	Treat simple cases, sell basic drugs to farmers, provide advice, refer cases
Community Animal Health Worker	Treat simple cases and promote preventative health care, such as anthelmintics, refer cases
Government extension staff	Provide initial training, support breeder association
FARM-Africa	Provide start-up funding, train extension staff and farmer leaders, monitor and evaluate performance

Breed improvement was through cross-breeding local goats owned by group members with a pure Toggenburg buck at a buck keeping station. The Toggenburg goat has been found to be ideal as an improver breed. The first cross-bred was crossed again with a pure

Toggenburg to produce a 75 % Toggenburg goat, named the Meru Goat. Replacement bucks are bred at a small number of Breeding Units consisting of four females and one Toggenburg buck, these are managed by a farmer nominated by their group. The introduction of Toggenburg goats to Kenya has been of great benefit to farmers. The improved performance on farmers' incomes is dramatic, increasing them from \$93 per annum to \$995 per annum. The value of the goat stock owned increased in value from \$156 to \$918. This tenfold increase in incomes and asset value represents a significant step out of poverty for the thousands of families benefiting from the project. Many farmers have been able to invest in their farms, for example by buying land, and some have invested in small businesses in rural centres (Laker and Omore, 2004).

Table 5. The milk production and survival rates of various breeds of goats in the FARM-Africa project 1996-2006*.					
Breed	Mean milk yield (ml/day)	Mean lactation length (days)	Mean total lactation (litres)	Mortality rate before weaning (%)	Adult mortality (%)
Local (n = 300)	0.2	70	14	15-20	10
Toggenburg (n = 150)	2.7	186	503	9	6
50% Toggenburg (n = 800)	2.6	200	520	7	5
75% Toggenburg (n = 350)	2.8	193	536	8	5

## **Conclusion**

There is growing interest in more enterprise-based, private sector driven, approaches to agricultural development. It is important that livestock professionals in both the public and private sector develop progressive approaches to improving the lives of livestock keepers through innovative public private partnerships that harness the skills and resources of all potential partners. We need to find new ways of doing business that

finally unlocks the potential of livestock in Africa for the benefit of African producers and consumers.

## **References**

Shiferaw and Berhanu (2009) Public-private partnerships in veterinary Services. Proceedings of the 23<sup>rd</sup> Annual Conference of the Ethiopia Veterinary Association, Addis Ababa, 22-23<sup>rd</sup> July 2009.

IFC/WRI (2007) The Next 4 Billion: Market size and business strategy at the base of the pyramid.

Livestock Emergency Guidelines and Standards (2009) Practical Action, London.

Leonard, D.K. (2004) Tools for the new institutional economics for reforming the delivery of veterinary services. *Rev. sci. tech. Off. int. Epiz* 23 (1) 47-57.

Peacock, C.P. (2005) Goats – a pathway out of poverty. *Small Ruminant Research* **60** (1-2), 179-186.

Peacock, C.P. (2008) Dairy Goat Development in East Africa. *Small Ruminant Research* 77:225-238

Peacock, C.P. Devendra, C, Ahuya, C., Roets, M, Hossain, M. and Osafa, E. (2005). Chapter on Goats in 'Livestock and Wealth Creation. Improving the husbandry of animal

kept by resources-poor people in developing countries'. Edited by Owen, E., Kitalyi A. Jayasuriya, N. and Smith, T. Nottingham University Press, Nottingham, UK.

Prahalad, C.K. (2010) *The Fortune at bottom of the pyramid*. (5<sup>th</sup> anniversary edition). Wharton School Publishing.

Tennigkeit, T and Wilkes, A. (2008) *Carbon finance in rangelands: An Assessment of Potential in Communal Rangelands*. ICRAF

Van Gool, F. (2008) *How to encourage industry to commercialise veterinary medicinal products in Africa*. OIE Conference on veterinary medicinal products in Africa, Dakar, 25-27 March 2008

Vermeulen, S. and Cotula, L (2010) *Making the most of agricultural investment: a survey of business models the provide opportunities for smallholders*. IIED/FAO/IFAD/SDC, London/Rome/Bern.

World Economic Forum (2009) *The Next Billions: Business Strategies to enhance food Value Chains and Empower the Power*