

Working Papers series

2. Goats: Unlocking their potential for Africa's farmers

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FARM-AFRICA WORKING PAPERS SERIES

No. 2

**Goats: Unlocking their potential for Africa's
farmers**

Paper presented at the Seventh Conference of Ministers Responsible for Animal
Resources
Kigali, Rwanda, 31st October - 4th November 2005

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October 2005



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Contents

1. Abstract.....	1
2. Introduction.....	2
3. The systems of goat production and current trends.....	3
4.The social and economic role of goats	4
5. How to unlock the potential of goats.....	6
6. Access to services	7
7. Dairy goats: a current opportunity.....	9
8. Credit, insurance and livestock banks.....	13
9. Marketing and processing goats and goat products	15
10. Farmer participation, representation and organisation	17
11. Other issues	19
12. What should ministers responsible for animal health resources do?	20
13. Conclusion.....	22
14. References	23

I. Abstract

The paper focuses on the potential for goats to reduce poverty in Africa. The current systems of production are described and some of the trends leading to the goat's greater importance considered. The social and economic roles played by goats in food security and income generation are highlighted. Ways of unlocking the potential of goats are suggested including issues of breed improvement, farmer participation, development of farmer organisations, service provision, credit, insurance and improving domestic and international marketing.

2. Introduction

Farmers and pastoralists all over Africa are increasingly turning to goats as a means of survival and a way of boosting their incomes. This presents ministers responsible for animal resources with new opportunities for reaching the poorest farmers in their countries. Goats are deeply embedded in almost every African culture and are true friends to the rural poor and yet have received very little attention by African governments and investment in their development. This paper will focus on the unique role and potential of goats in sub-Saharan Africa to lift poor people out of poverty and onto a path of improved welfare and prosperity. For various reasons, goats are coming to the fore in both smallholder and pastoral systems. The paper makes some specific suggestions how goats could be developed in different situations. However, while the widespread cultural acceptance of goats and goat products forms a sound basis for development, there are many physical, economic, social and political constraints to developing goats in Africa in addition to biases against them, and the people who keep them that need to be rectified before goats are able to show their true potential.

3. The systems of goat production and current trends

Goats are kept in a wide range of agro-ecological zones and management systems in Africa (Peacock, 1996). These systems are never static but are constantly evolving with changing internal and external circumstances. Currently there are many trends in Africa which appear to be giving increasing prominence to goats.

Pastoral systems and agro-pastoral systems

The increasing frequency of droughts, together with long-term environmental degradation, is causing many pastoralists to move away from keeping cattle to keeping camels and goats, e.g. the Samburu in Kenya. There is a marked trend towards keeping more small ruminants as a proportion of livestock holdings than large ruminants, for example the Maasai in Kenya and Afar in Ethiopia. There are many reasons for this. Goats are relatively cheap to acquire and reproduce quickly, enabling pastoralists to use them as a means to acquire cattle or camels. With more regular droughts, pastoral families are in a constant state of 'recovery' from the last drought and seldom get a chance to re-establish the previous status quo based on larger stock. Overgrazing causing the loss of grass cover and invasion by bushy species also make rangelands increasingly suitable for browsing species. Pastoralists are increasingly realising that that they need to rely on goats more and more.

Mixed farming (humid, sub-humid and highland)

Goats are kept in small herds on mixed farms all over Africa, from the humid coastal zones in West Africa to the highlands of Ethiopia. They may be allowed to graze freely during the day on communal pastures, or seasonally on fallow cropland. However the increasing population pressure is limiting free grazing and goats are being tethered, or housed, more and more. As a result feeding and fodder production is becoming more important.

The widespread decline in support services previously supplied by government extension systems, such as veterinary services and Artificial Insemination, is encouraging farmers to move away from keeping a small number of valuable cattle to a larger number of less risky goats. This switch from large to small ruminants is also driven by the decreasing farm size with each generation inheriting land. Small plots can increasingly be cultivated by hand rather than by draught animal power.

Commercial systems

There are very few large-scale commercial goat farms in Africa with the majority of them found in South Africa. Several countries, for example Kenya, have a small number of commercial dairy goat farms supplying urban markets, or goat ranches, for example Uganda, supplying the meat market.

4. The social and economic roles of goats in Africa

Goats provide their owners with a broad range of products and socio-economic services and have played an important role in the social life of many African people, being used as gifts, dowry, in religious rituals and rites of passage (Peacock, 1996).

Role in food security and income generation

Goats can play a vital role in ensuring the food security of a household, often being the only asset possessed by a poor family. In time of trouble, such as crop failure or family illness, goats can be sold and food or medicine purchased. This is critical to safeguarding the security of family members (see Case Study I).

Case study I The role of goats in food security in Ethiopia

After years of war and regular droughts and resulting famine, there were many impoverished, women-headed households on the edge of survival. These households typically had a small plot of land but no assets, not even a chicken, or realistic way of improving their lives. The British NGO FARM-Africa started a Dairy Goat Development Project to assist women and their families in this difficult situation. Two local female goats were provided on credit to each selected woman. Women were organised into small groups of 25-30 which were responsible for managing the repayment of the credit, which was re-paid in-kind by returning a kid to the group who would then select another woman to benefit. Women were trained in fodder production, improved management and basic healthcare, and were given the opportunity to up-grade their goats through cross-breeding with Anglo-Nubian bucks. Two women per group were trained as Community Animal Health Workers, providing basic veterinary care for a small fee to members of the group and their neighbours.

Women built up their herd of goats quickly and, in some cases, were able to sell some goats to buy oxen for ploughing or a milking cow. During the severe drought of 1999-2000, households who sold livestock were able to buy grain and survive the drought without resorting to food aid handouts. Selling one goat could buy enough grain to feed a family of five for two to three months (Zewdu Ayele, personal communication 1999).

It is now well known the essential role small quantities of animal products can play in healthy child development as well as in adult health (Whaley, et al 2002). Vitamin A deficiency is widespread in the developing world and can cause night blindness. Goat development programmes can have a very positive impact on certain key micronutrient deficiencies (Ayele and Peacock, 2003).

Potential for specialisation

As crop yields plateau and the price of many cash crops stagnate or fall, the intensification of livestock production is a viable option to increase household incomes. New, more specialised systems of goat production are developing in response to increased market opportunities. The growing demand for goat meat from city residents presents an opportunity for goat fattening systems, as well as improved marketing from pastoral flocks. Niche markets for goat milk and milk products also exist in many African countries. The potential for goat meat export, particularly to Middle Eastern markets, remains under-exploited.

Goats in times of crises

Crises can take many forms in Africa. Droughts are common and even floods can devastate lives as can civil war. Frequently families have to face their own crises due to accident or illness, increasingly from HIV/AIDS, without the benefit of a formal welfare system. Goats can play a vital role in supporting families through all these situations. Being relatively tolerant to drought, goats can survive on woody browse and infrequent watering. Their fast reproduction rate enables their owners to recover quickly, following a drought. Goats, being small, can be carried or moved easily if a family is forced to flee their home. For example, many goats were trekked to safety during the fighting in Rwanda and goats were saved on makeshift floats during the floods in Mozambique.

5. How to unlock the potential of goats?

There are several goat development strategies that can be adopted.

- Increasing ownership of goats through credit programmes
- Increasing productivity through management and breeding improvements
- Adding-value to goat products
- Improving links to domestic and international markets

There have been many successes in goat development in East Africa and out of these successes certain key principles emerge as being essential.

- Availability of appropriate services (breeding, feeding, forage seeds, veterinary services, milk processing etc.)
- Very often the provision of credit to acquire goats or new breeds of goats, resulting in a 'step change' of some kind
- An increasingly developed market orientation including adding value through processing
- Farmer participation, representation and organisation
- Government playing an effective facilitating role with supportive legislation and investment in rural infrastructure
- Increasing involvement of the private sector

What can be done to enable goat-keepers to improve the production and returns from their goats?

6. Access to services

In order to improve production, it is important that goat producers have access to reliable and affordable support services offering them access to knowledge and inputs, including credit and other financial services.

Historically, in many developing countries, government extension and veterinary departments have provided services to livestock keepers. These services were frequently subsidised to some extent and were often concentrated in the higher potential districts, leaving marginalised livestock keepers, such as pastoralists or the landless, under-served. The public sector reforms of the 1990s have led many of these public services to be cut back and, in some cases, withdrawn altogether. While in some countries the private sector has emerged to fill the gap, they typically provide services to wealthier livestock farmers such as dairy farmers, commercial poultry and pig keepers, leaving the poor even more marginalised from these vital services.

Knowledge and information

In a recent study in Kenya it was found that farmers 'outside' a successful livestock project had acquired most of their information about the technology from churches and schools, rather than government extension staff (Davis, 2004). There are many novel approaches to disseminating information that could be used in order to reach livestock keepers, for example radio, at local markets, through religious leaders, schools, social groups etc.

Institutes of higher education offer few specialist courses in goat physiology, nutrition, reproductive management and general husbandry. Likewise veterinarians receive very limited training in the specific health problems of goats.

A practical and sustainable breed improvement method

Breed improvement should only be considered if the standard of management can be improved sufficiently to take advantage of the greater genetic potential. It is pointless to waste resources improving the breed potential of goats unless the 'improved' goat is fed well and kept healthy. However in practice, it is often found that owning an improved goat will stimulate owners to improve their feeding and management. Owners will quickly learn that the improved genetic potential, expressed as milk yields or growth rates, brings greater rewards to better management.

As indicated earlier, there have been very few successful goat-breeding programmes in the developing world. This does not reflect any lack of potential, but rather the history of neglect by government agriculture departments and researchers. Often when governments have promoted new breeds, they have not put sufficient effort into management improvements, leading people to perceive the new breed to have failed.

All breeding improvement requires a long-term commitment, over 10-20 years, and this is often hard to achieve. New practice concerning the provision of agricultural services presents opportunities for 'community-based' or 'farmer-managed' breed improvement.

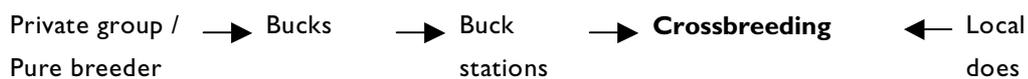
Very little selection within tropical goat breeds has ever been undertaken. There is clearly potential to improve traits of economic value with high heritability, mainly growth rates, through selection but this would require the long-term commitment of resources in a systematic manner.

7. Dairy goats: a current opportunity

There are many situations where it is possible to successfully crossbreed African goats with European dairy breeds or the South African Boer meat breed to produce a productive and hardy crossbred. This has been successfully achieved in Kenya, Tanzania, Uganda, Ethiopia, Rwanda and Burundi through community-managed breed improvement programmes (See Case Study 2).

There are no recorded cases of government-managed goat breed improvement programmes having any lasting impact, particularly when they rely on government breeding stations to multiply the improver breed or for the production of crossbreds for distribution to farmers. Generally they have been found to be an expensive and inefficient method of breed improvement in goats and should be avoided.

The most appropriate and cost-effective method of breed improvement has been found to involve farmer groups managing the multiplication of the improver breed, supplying males for crossbreeding in community-managed 'buck stations' to which females in heat are brought for mating. Bucks in buck stations can easily sire 100-200 kids per year. Buck keepers receive payment for each successful mating providing the incentive necessary for them to keep the buck healthy. Coordination is required through, for example, a farmers' organisation to manage the rotation of the bucks and thereby avoid inbreeding. This same farmer organisation is also able to register new births and provide quality assurance of the breeding quality to future buyers. The Meru Goat Breeders Association plays this role successfully in Kenya where they register all Toggenburg and crossbred goat births with the Kenya Stud Book.



In smallholder situations crossbred goats can produce 2-4 litres milk/day for 6-8 months under good nutrition; when up-graded to 75% Toggenburg, milk yields can be even higher.

Problems of breeding stock supply

Of all the specialised dairy breeds, the Toggenburg breed has been found to be particularly suitable for crossbreeding in the highlands of Africa (Ahuya, & Okeyo 2004). There is currently a rapidly rising and seemingly insatiable demand for dairy breeds of goats in Africa. FARM-Africa and the Meru Goat Breeders Association currently have a waiting list for over 4,000 goats requested by farmers and organisations all over East Africa, which they cannot supply. There are very small numbers of pure dairy breeds in Africa and the demand far outstrips the supply available. There is an urgent need for action to boost supply.

The current ban by some African countries on the importation of dairy breeds from Europe and the UK, in particular, is a major and unnecessary constraint to goat development in Africa. There have been no naturally-occurring cases of BSE in goats in the UK which is also, unusually in Europe, officially free of both caprine and ovine brucellosis. The highly sophisticated systems of disease surveillance in goat herds in the UK underpins a reliable system of accreditation unique to British goats, offering buyers some of the healthiest goats in the world. (DEFRA, personal communication, 2005).

Case study 2 Example of poverty-focused dairy goat development in Meru, Kenya

Smallholder farmers in Meru district, Kenya have few options to increase their incomes and improve their lives. Landholdings are small, 0.5-2 ha², on which maize, beans and coffee are grown. Livestock is an important asset and source of income, with wealthier families owning one to three cattle, while poorer farmers, if they have ruminant livestock, may own a few goats. Goats are traditionally milked by people in Meru and improving their production offered one option to improve the lives of people in the district. The British NGO, FARM-Africa, worked in partnership with the Kenyan Ministry of Agriculture to enable farmers to up-grade local goats by crossbreeding. Farmers had access to the British Toggenburg breed through community-managed buck stations supplied with breeding stock from small private breeders who were part of farmer groups. The poorest families, without any livestock, were supplied with local goats on credit. One such family was the Kinoti family, who were casual labourers and owned a small plot of land. Mr. Angelo Kinoti received two local goats on credit and became a buck keeper. He managed the buck so well it became champion at the Nairobi International Show. The crossbred goats he bred were in demand and commanded a high price. Through good management and hard work, Kinoti was able to buy oxen for ploughing, which he rented out for contract ploughing. He acquired land and is now able to build a stone house and pay the fees to send his eldest daughter to secondary school.

Veterinary services

Keeping goats healthy is obviously important for all livestock keepers and particularly poor ones. Goats may make up a large part of the family's total assets and so steps need to be taken to ensure they do not die or get sick needlessly. Keeping goats healthy does not involve the use of expensive drugs and highly trained veterinary staff. In most situations, the majority of the important diseases can be controlled through simple preventative measures such as good feeding, clean water, clean housing, vaccination, drenching and spraying/dipping and foot trimming. If these basic measures are done, when appropriate, 80-90 per cent of the important diseases affecting goats can be controlled. Efforts should be directed at establishing what the common and important diseases are in any area, and efforts should be focused on controlling them.

Veterinary services remain generally weak and have been hard hit, in many countries, by fiscal reforms and staff retrenchment, leaving livestock keepers bereft of veterinary support. The privatisation of veterinary services inevitably means that services will concentrate in the higher potential areas, serving commercial livestock farmers, leaving marginalised goat keepers without any veterinary services. Community-based veterinary

services, incorporating trained farmers as community animal health workers, have shown to be a viable option for delivering basic veterinary health care to livestock keepers in remote areas (Catley *et al*, 2002).

8. Credit, insurance and livestock banks

Much 'successful' livestock development has relied on the provision of credit to enable poor people to acquire livestock or new breeding stock. This acquisition of livestock, either for the first time or to help re-stock those who have lost their animals, may be a first step out of poverty to a more secure and prosperous life.

Goat credit can take many forms ranging from formal credit systems from a government institution or private bank with repayment in cash, to more informal credit schemes with perhaps 'in-kind' payments. The less formal schemes are often promoted by NGOs and can be very effective at reaching the poor who would not be eligible for formal credit. These types of credit programmes generally rely on group management and peer pressure to ensure timely repayments. They can be self-administered by even illiterate people and the 'revolving fund' managed in this way is 'inflation-proof' and can increase and multiply benefits very widely with repaid stock lent to new members. Very few of these group credit systems, with repayments 'in-kind', have been successfully adopted by the more formal institutions. There is scope for farmer organisations to manage revolving funds in this way for the benefit of their members.

Goats for many people represent their main, or only, asset and as such, deserve protection both through good husbandry and veterinary care and, wherever possible, insurance. Livestock insurance has only been offered sporadically in livestock programmes, but offers a realistic opportunity to underpin the livelihoods of the poor, giving them the confidence to invest more in developing their valuable livestock assets.

Case study 3 Livestock banks in Northern Cape Province, South Africa

In the Northern Cape Province of South Africa, many communities have benefited from the country's land reform programme enabling them to have access to land for the first time. FARM-Africa has initiated a 'livestock bank' whereby groups of five farmers are given 40 female goats or sheep, managed communally with the goats of other groups, and are expected to repay their loan 'in-kind' with interest. After three years most individuals have accumulated over 20 goats to keep and manage or sell as they wish.

Targeting and wealth ranking

There is an increasing amount of information on where poor livestock keepers live globally and nationally, and their systems of production (Thornton *et al*, 2002). This information can help direct investment into the most appropriate geographical locations. Once there, it is important to identify the poorest farmers. This can be done through a wealth-ranking exercise involving all members of the community, government and religious leaders as well as men and women, old and young. Agreement should be reached among community members regarding their criteria defining a poor family - often livestock ownership itself is a key criteria, landholding, quality of housing, off-farm income, state of health etc. – and families ranked and targeted accordingly. Particular care needs to be taken in the process to ensure that local elites do not bias decisions and the needs and concerns of the poorest families are incorporated. The needs of women-headed households, or HIV/AIDS affected households, for example, are often of particular concern.

9. Marketing and processing goats and goat products

The incomes of resource-poor goat-keepers can be boosted significantly through the better marketing of goats as well as through adding value to goat products, for example, processing milk into cheese or yoghurt. However resource-poor farmers are often in a weak bargaining position in relation to traders and may need to group together to strengthen their position to ensure that the producer retains the bulk of the 'value-added'. There are many marketing opportunities, including in international markets, that could be exploited by goat farmers, such as processing of hides into quality leather and leather products, sale and processing of cashmere, export of carcasses into Middle Eastern markets etc. (See Case Study 4). However the collection, handling, processing and marketing of goats and their products is poorly developed in many developing countries, severely constraining the more 'market-orientated' goat farmer.

Case study 4 A market-oriented example of goat commercialisation in South Africa
(Merida Roets, personal communication, 2004)



National and international trade opportunities and globalisation have created a niche for the commercialisation of indigenous South African goats. Product innovation, the opening of global markets, the shift in South African population demographics and the increase in accessibility of non-commercialised farmers to information, have created opportunities for this under utilised resource. Certain institutional arrangements, comfortable and culturally acceptable to non-commercialised farmers, had to be created, while at the same time, addressing the global challenges of quality, consistency and high standards. This has required attention to formal (contracts, organisations, markets) and informal (traditions, customs) institutions, both at macro (legal) and micro (organisational form) level. The businesses (some in the process of development) link farmers with processors and markets, through vertical integration, and ultimately, to export markets with their high demands for safety, quality and consistency.

The Kalahari Kid Corporation (KKC) 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. KKC'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 KKC 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.

10. Farmer participation, representation and organisation

Participatory planning and management

In order to ensure the long-term sustainability of any goat intervention it must be clear over time what roles will be played by goat keepers, farmer organisations, the government and the private sector. Goat keepers need to be enabled to supply their own services through individual service providers or their own farmer organisations or group.

Role and potential of farmer organisations and groups

There is no doubt that farmers acting as a group are stronger than when they act alone. Groups and organisations can serve a variety of purposes including:

- Mutual support and encouragement;
- Provision of non-formal micro-finance, through savings and credit schemes;
- Breeding services (e.g. sire services, breed registration etc);
- Veterinary services (e.g. clinical, diagnostic etc);
- Feed/fodder;
- Cost-effective input supply (e.g. feed, drugs, fodder planting material etc);
- Technical support and training;
- Product collection, bulking and processing (e.g. milk); and,
- Improved access to markets.

An example of a new farmer organisation, the Meru Goat Breeders Association, set up by very poor goat keepers in Kenya is given in Case Study 5.

Case study 5 The Meru Goat Breeders Association, Kenya

The Meru Goat Breeders Association (MGBA) was formed to manage the breeding of dairy goats in two districts in Kenya. Its members were selected to benefit from acquiring goats through a credit scheme and were the poorest members of society, frequently poorly educated, casual labourers. After four years the MGBA has become a hugely successful farmers' organisation able to manage the breeding programme (benefiting over 30,000 people), register and market breeding stock throughout Kenya and East Africa, and has recently started to provide members with technical advice as well as access to new breeding stock. The MGBA is a membership organisation run by a committee elected by members. Fees are charged for all services provided. The MGBA is now looking at ways in which value can be added to fresh goat milk through processing and marketing in Nairobi. Technical advice and inputs were provided by the NGO FARM-Africa and by staff of the Ministry of Rural Development, who will give the MGBA support in the future.

The interests of livestock keepers, particularly goat keepers, are often poorly represented in government and so their voices and concerns are not heard. As a result, livestock policies are often out-dated and unhelpful, and limited investment is directed towards the sector. Farmer organisations can serve to represent their members and lobby government for better support.

More informal groups, often based on traditional mutual-support structures, such as work groups, funeral associations, savings and credit associations etc., can also form the basis for supporting new goat interventions. Informal groups, particularly women's groups, have been very successful at managing credit, breeding services, community-based veterinary services, tree planting etc. Groups can evolve into more formally recognised associations or co-operatives, providing a range of services to their members such as those outlined above.

II. Other issues

Impact of HIV/AIDS

The impact of HIV/AIDS is now widely felt all over Africa and has reduced the active workforce in all sectors, including goat farming. It has also been reported that the remaining population's ability to work has been curtailed by attendance at funerals and necessary mourning rituals; in some case by as much as 25% of their time (Engh, *et al*, 2000). Goats have an important role in supporting families through the crisis of HIV/AIDS and have been used to pay hospital bills, funerals and other related costs. Goats milk has been found to be highly beneficial to HIV/AIDS affected patients (The Aids Support Organisation, personal communication).

Women's and children's issues - rights

In many countries women's lack of rights over property, including livestock, can, prevent them gaining access to formal credit and may even mean that their livestock, including goats, are taken away from them on the death of their husband.

Children often play a vital role in tending grazing livestock during the day, which may prevent them from going to school. The enforcement of compulsory school attendance may cause a change in the way livestock are kept because of lack of labour to look after them during the day. In some societies, boys may be allowed to go to school, leaving girls to look after the livestock.

12. What should ministers responsible for animal resources do?

Frustratingly, there still remains a great deal of prejudice and ignorance of the importance of goats to farmers in rural areas in Africa. The contribution of goats to the national economy is universally underestimated because of the largely informal, mostly untaxed, nature of most goat and goat product marketing. Furthermore, many cultures in Africa still associate goats with poverty and cattle with wealth. Many people will not admit that their goats are milked, believing it to be a sign of poverty and something of which to be ashamed. Yet when women are questioned, it is hard to find a woman that does not milk a goat in lactation, when she has young children to feed.

These cultural associations permeate political life and the policies made by politicians. How many African governments have an explicit policy relating to goats? Very few and even fewer have allocated resources to developing goat production and have dedicated staff for that purpose.

The chronic under-investment in, and recent decline in funding to, agricultural development in general in Africa has affected all agricultural and livestock sectors (FARM-Africa, 2004).

Ministers with responsibility for animal resources might like to consider the following questions

- Do you have reliable information about the current role of goats in your country and their contribution to the economy?
- Who keeps goats in your country, where are they located?
- Do you understand the main production and marketing problems confronting goat keepers?
- Are there any opportunities to crossbreed in order to improve milk production or growth rate?
- Do you currently have a ban on the importation of breeding goats from other African countries? Or from Europe? If yes, when did you last review the ban and are you sure it is still necessary?
- What is the domestic demand for goats and goat products in your country?
- Are there any opportunities to market goats or goat products to neighbouring countries within your region or internationally?
- Are there any relevant farmer organisations, private farmers or NGOs with whom you could work to boost goat production?
- Do you have any legislation that affects goat keepers in a negative or positive way?
- Do you have any staff with specialist expertise in goat production?
- What measures are taken to control the major goat diseases in your country, e.g. Contagious Caprine Pleuro- Pneumonia and Peste des Petits Ruminants?
- What can you do to support goat farmers to improve goat production in your country in a way that will have an impact on the poor?

FARM-Africa and other specialist organisations would be available to help consider options for improving goat production in your country.

13. Conclusion

The goat is at last coming into its own as a species worthy of serious investment. The new poverty-focused agenda of national governments, supported by multi-/bi-lateral institutions, demands that the goat should be placed at the centre of any serious development effort that purports to address the needs of the rural poor. The goat has been a servant of mankind for generations and today offers huge potential for transforming the lives of some of the poorest people in the world.

The most successful livestock development programmes have enabled poor livestock farmers to generate greater income from their valuable livestock assets through a more intensive, market-focused, production. The rising demand for animal products from increasingly wealthy urban elites, offers a tremendous opportunity for poor goat keepers to share in the growing wealth of urban centres. The so-called 'Livestock Revolution' really could revolutionise the lives of poor goat farmers.

Reducing global poverty, particularly in sub-Saharan Africa, must be considered, mankind's biggest challenge in the 21st century. It is clear that goat keepers represent some of the 'poorest of poor' and that improving the production of their goats is one of the best methods of securing their livelihoods and transforming their lives from one of poverty to relative prosperity. What is required now is the political will, investment and personal commitment of all those involved.

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