



**CENTRE AGRO-ENTREPRISE**  
Mali Sustainable Economic Growth

## **Livestock Commodity Analysis**

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## Acronyms and Abbreviations

AID	See USAID
ABH	Aliment bétail HUICOMA
APEX	Animal Productivity and Export Project
APROFA	Agence pour la Promotion des Filières Agricoles
BDM	Banque de Développement du Mali
BNDA	Banque Nationale de Développement Agricole
CAE	Centre d'Agro-Entreprises (project MALI SEG/CAE- Chemonics)
CILSS	Comite Permanent Inter-Etats de Lutte contre la Secheresse dans le Sahel
CIRAD	Centre de Coopération Internationale en Recherche Agronomique pour le Développement
CMDT	Compagnie Malienne pour le Developpement des Textiles
CVL	See LCV
DNE	Direction Nationale d'Elevage
DNSI	Direction Nationale de la Statistique et de l'Informatique
DRACOOOP	Direction Régionale d'Appui aux Coopératives
DRE	Direction Régionale d'Elevage
FCFA	Francs de la Communauté Financière de l'Afrique
FED	Fonds Européen de Développement
GMM	Grand Moulins du Mali
HUICOMA	Huilerie Cotonniere du Mali
IER	Institut d'Economie Rurale
LCV	Laboratoire Central Vétérinaire
MDRE	Ministère du Développement Rural et de l'Environnement
ODEM	Office de Développement de Mopti
OMBEVI	Office Malien du Bétail et de la Viande
PIB	Produit Intérieur Brut (Gross Domestic Product)
REDSO/WCA/	Regional Economic Development Services Office, AID, West Africa (Abidjan)
RCI	République de la Côte d'Ivoire
SEG	Sustainable Economic Growth (USAID-Mali)
SME	Small and medium scale enterprise
SPARC	Strengthening Research Planning and Research on Commodities Project
TAMALI	Tannerie du Mali
TAO	Tannerie de l'Afrique de l'Ouest
TCI	Tonne equivalent carcasse (equivalent carcass weight in metric tons)
UMEOA	Union Monétaire des Etats Ouest Africains
UNDP	United Nations Development Programme
USAID	United States Agency for International Development
WSU	Washington State University

## EXECUTIVE SUMMARY

The objective of this document is to provide a basis for prioritizing areas of potential MALI SEG/CAE<sup>1</sup> intervention in the livestock sub-sector during the next twelve months, and possibly beyond. This document presents a broad perspective of sector needs and opportunities. Recommendations have been made based on the focus of MALI SEG/CAE's program (strengthening the private sector) and on achieving program objectives for the period as noted in the First Annual Workplan<sup>2</sup>.

The activities proposed in this document are intended to enhance the capacity of private sector operators to identify new and/or expand existing markets for primary and processed livestock commodities and inputs. The prioritization of interventions has been based on an assessment of the constraints and opportunities offered by each of the commodity sub-sectors, and *what MALI SEG/CAE can realistically do to resolve constraints and/or capitalize on opportunities within the next twelve months to meet their workplan objectives*. This has not been done in an attempt to identify "quick fixes", but rather to identify manageable interest.

Inclusion of the livestock sector in the MALI SEG/CAE program planning is due to its importance to Mali's economy and to the opportunities it offers for increasing value-added and revenues for entrepreneurs engaged in the agro-business sector. As a whole, livestock and livestock products contribute 10% to 12% of the nation's GDP, and this proportion is falling because non-livestock sectors are growing more rapidly, not an unusual situation for a developing country. The three most important commodity systems within the sector are, by far, cattle, small ruminants and milk. Together they account for 88% of total production, with the remaining 12% being shared among poultry, eggs, donkeys, equine, camels and hides/skins.

Livestock is even more important to Mali's exports than it is to GDP. The two significant categories are live animals, which made up more than 20% of exports, except for 1996 when the proportion was 16%, and hides and skins, which have contributed between 1% and 2%.

The sector is not composed of well-integrated commodity production-marketing systems. Organizationally the sector is basically informal, with limited commercial infrastructure, particularly for the processing of either production inputs or animal products. Analysis of the different commodity production-marketing systems within the sector has shown that there is limited capacity to respond to the demands of regional and international market opportunities. The post-devaluation period clearly demonstrated this fact, as well as the need to develop a professional and infrastructure base capable of efficiently linking production, processing, marketing and distribution functions for specific commodities.

Taking into account the operational and organizational constraints and opportunities offered by the different commodity production-marketing systems and the program orientations and objectives of the MALI SEG/CAE project, the following activities are recommended for further analysis and possible inclusion in the 1998-1999 project workplan.

Although the description and analysis presented in this document has highlighted a vast range of constraints, needs and potential opportunities for many livestock sector commodity production marketing systems, the MALI SEG/CAE project cannot, and should not address all of these. Most, in fact, are not within the manageable interest of the project. Therefore, recommended interventions have been prioritized based on the following factors:

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<sup>1</sup> Mali SEG/Centre Agro-Entreprise (Mali SEG/MALI SEG/CAE) is the technical assistance arm of USAID's Sustainable Economic Growth Strategic Objective Team

<sup>2</sup> Annex A of the First Annual Workplan Document lists expected results for the period. Livestock sector activities are expected to contribute to "New product opportunities test-marketed", "Improved production/processing techniques" and "business development"

- capitalizing on the comparative advantage of MALI SEG/CAE’s technical assistance and program resources in the area of agro-business development (marketing, processing, management)
- focusing on existing enterprises and existing products that have increased market potential
- addressing those *results areas* outlined in the First Annual Workplan
- “fitting” within The Project’s mandate and manageable interest, and
- generating multiple impacts, across commodity systems and sub-sectors

In terms of MALI/SEG CAE’s comparative advantage in assisting Malian agro-industries, it is recommended that The Project focus on:

- creating partnership linkages, “match making” among (producers, processors, buyers, sellers, banks and the private sector entrepreneurial community),
- providing a large diffusion of useful production and market information,
- strengthening management/business development capacity,
- strengthening professional businesses and associations, focusing **initially** on the marketing of existing products for which there is a well-defined domestic and/or sub-regional demand

*Promoting market responsive commodity production systems is the common strategic objective of the following recommendations.*

### **1) Developing Market-Responsive Animal Feed Enterprises**

Functional weaknesses in the live animal/red meat commodity production marketing system are the result of major structural and organizational deficiencies. Improving these deficiencies will be, at best, a medium-term process requiring substantial participation and investment by the formal private sector. In this regard, efforts need to be undertaken to create partnerships between the entrepreneur/investment community and “traditional” sector operators. Such partnerships, whether solely among Malians or among regional partners, can create a “new breed” of livestock sector professional, better capable of capitalizing on both domestic and regional market opportunities.

One segment in this commodity system already possess a basic structural and organizational base, capable in the short term of having a positive impact on improving productivity and value-added. This is Mali’s fledging *commercial feed industry*. This segment is strategically important because it:

- is in *strong demand*.
- addresses what is generally considered to be one of the major constraints limiting productivity.
- cuts across virtually all livestock sub-sector commodity systems, including poultry.
- is composed of feed production enterprises that provide a client base for implementing practical, concrete business development and marketing activities.
- is based on providing a value-added use of cereals and of cereal, crop and animal by-products, for which a considerable resource base already exists.

It is recommended that the initial focus of activities includes, but not necessarily be limited to:

- encouraging the use of manufactured feeds other than HUICOMA by working with semi-industrial operations producing animal feeds to strengthen their business efficiency, in both production and marketing (new product and new market development)

- promoting quality alternative commercial feeds directly through generic advertising on television and radio and producing and distributing technical brochures (market development)
- providing training in business/management and in marketing (business development) for commercial feed producers

*Developing commercial animal/poultry feed enterprises presently represents the most promising opportunity (highest priority) for Mali SEG/CAE to have a short-term impact in the livestock sector.*

## **2) Providing Red Meat Market Information**

Although MALI SEG/CAE intends to develop a market information service that is addressed later in this section, establishing a red meat market information base has been singled out for particular attention. This is due to the high priority that The GRM, and for that matter, USAID accord to the export of red meat. The information generated and made available by MALI SEG/CAE should provide detailed information on product quality, quantity, price, seasonality, tariff and non-tariff barriers and specific regulations regarding sanitary and animal health issues. Information should initially focus on major red meat markets within the UMEOA region and North Africa. *The objective of this market information should be to define the conditions that need to be met if Mali is to export red meat.*<sup>3</sup>

APROFA proposed a program in 1996-97 for a test shipment of red meat to Abidjan. To the author's knowledge this has not yet happened. If it does take place, MALI SEG/CAE should monitor results with a view towards clarifying future opportunities.

*This activity should be a high priority for MALI SEG/CAE's information services program.*

## **3) Providing Hides & Skins Market Information**

Improving value-added in this commodity area will be primarily determined by the success of efforts to improve quality. USAID and MDRE are using the media, television and radio, to make producers and butchers aware of quality concerns and improved treatment techniques for hides and skins. APROFA developed a program in 1996-97 with the Mutuelle des Professionnels des Cuirs et Peaux (MPCP) to provide members with information on price and market opportunities and to improve their organization. In order to encourage quality, a system allowing hides to be stamped with a seal showing they have met certain quality standards is to be established. *MALI SEG/CAE may want to collaborate with APROFA to provide market information concerning the international and regional (Africa) hides and skin market to the MPCP.* A major problem for local processing, in addition to the quality problem, concerns environmental issues the author considers to be outside the programmatic mandate of MALI SEG/CAE, but not of USAID.

*This activity, though not of highest priority, should be included in MALI SEG/CAE's information services program.*

## **4) Business Development/Marketing Training for Processors of Milk Products**

Improvements in production and processing continue to strengthen the milk-marketing network in the greater Bamako area. However, given the structural constraints of this commodity system, its exclusive orientation to domestic, principally urban markets and the presence of numerous donor and private sector investment groups, it recommended that *MALI SEG/CAE presently limit its interventions to management/marketing training to commercial processing units, either dairies or milk product specialists. Direct interventions in the milk sub-sector is not a high priority at this time, though it should*

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<sup>3</sup> To the author's knowledge, no detailed economic study has been done on the transport of red meat within the UMEOA region. This information is vital to assess the potential profitability of red meat exports.

*be noted that improvements in the animal feed sub-sector will directly address a major production constraint in this commodity system.*

### **5) Developing Commercial Poultry Feed Enterprises**

*Developing and strengthening the commercial poultry feed industry is a high priority, as noted above. As part of its business development strategy MALI SEG/CAE should work with commercial poultry feed enterprises to strengthen their marketing and business development strategies. The Project's business development efforts should compliment programs being implemented by MDRE's national poultry development project and CMDT which are planning to provide considerable development support. The GRM's overall development priority for the poultry production system is to diversify income for rural producers and to better satisfy domestic demand.*

It should be noted that this national poultry project plans to invest in the development of commercial poultry feed businesses. This offers a potential opportunity for MALI SEG/CAE to leverage outside resources to meet one of its business development objectives, "increasing access to working capital". By strengthening the business development capacity of local feed producers, MALI SEG/CAE could improve their access to investment capital through, as in this case, a development project.

### **6) Providing a Market Information Service**

MALI SEG/CAE does have a role to play in providing useful market information, particularly in the international hides and skin market, regional livestock and red meat markets and for the development of agro-businesses in general within the UMEOA region. In this regard, efforts are needed to identify regional business opportunities in the agro-business/livestock sub-sector. MALI SEG/CAE needs, over time to tap into regional networks, which can provide business information useful to Malian entrepreneurs. Information generated by MALI SEG/CAE also needs to be *actively marketed through the media to reach the maximum number of potential clients.*

In conclusion, MALI SEG/CAE must create a dynamic among groups of commercial operators in Mali's ago-business sector that will mobilize local resources, human, technical and financial with an objective to secure and/or increase existing market share and to penetrate new markets for specific agricultural commodities. Strategically, MALI SEG/CAE must maintain flexibility in program focus and content in order to capitalize on new opportunities as they arise and be highly creative in its partnering approach. The Project should attempt to balance its activity portfolio with well-tested business development approaches as well as with new approaches that appear appropriate to the specific needs of Mali's agro-business community. For the livestock sector this translates into promoting a new type of partnership between the business/investment community and professional livestock sector actors. This is about the only way to generate success in the short term and develop a sound business base for the commercial development of the sector in the medium and long term.

### Summary of Recommended Activities & Priority Assessment

Prioritization Criteria /Activity		Cattle, Sheep & Goats/Red Meat		Hides & Skins	Poultry	Milk
		Commercial Feed	Mkt. Info./Red Meat Exp'ts	Int'l Market Information	Commercial Feed	Business Training
1	Clear, quantifiable demand exists	high	high	moderate	high	provided on "a demand" basis
2	Exploits MALI SEG/CAE TA & Program Resources	high	high	high	high	high
3	Focuses on Existing Enterprises & Products with improved market potential	high	low	moderate	high	high
4	"Fits" within Project's mandate & manageable interest	moderate	high	high	moderate	high
5	Will have multiple impacts across commodity systems & sub-sectors	high	moderate	moderate	high	low
6	Addresses expected results as defined in 1st Workplan	high	moderate	moderate	high	moderate

## Livestock Commodity Analysis

### A) Introduction

The objective of this document is to prioritize areas of potential MALI SEG/CAE<sup>4</sup> intervention in the livestock sub-sector during the next twelve months, and possibly beyond. This document presents a broad perspective of sector needs and opportunities. Recommendations have been made based on the focus of MALI SEG/CAE's program (strengthening the private sector) and on achieving MALI SEG/CAE's program objectives for the period as noted in the First Annual Workplan<sup>5</sup>.

Consistent with MALI SEG/CAE's strategy, the interventions proposed in this document are intended to enhance the capacity of private sector operators to identify new and/or expand existing markets for primary and processed livestock commodities. This includes the identification and promotion of livestock products that have a comparative advantage in domestic, regional, and/or international markets. The basic assumption in this analysis is that to be sustainable, improvement in the finishing, processing and marketing of livestock and livestock commodities must be **market driven**.

The prioritization of potential interventions has been pragmatic. Based on an assessment of the constraints and opportunities offered by each of the commodity sub-sectors, the question has been asked, *what can MALI SEG/CAE realistically do to resolve constraints and/or capitalize on opportunities within the next twelve months to meet their workplan objectives?* MALI SEG/CAE project is obliged, under the terms of their contract with USAID to present concrete results in twelve months. Consequently, some constraints and opportunities, judged to require medium and long-term efforts were not given high priority. This did not mean that these constraints or opportunities were necessarily considered unimportant, but rather they did not provide the project with a reasonable chance of success within the time frame of their first workplan.

This document has not attempted to identify "quick fixes", but rather manageable interest. Consider for example. If it appeared technically and financially feasible to develop a new product for export, but its competitiveness required specific changes in the application of existing sanitary regulations, it would be recommended that the application of health inspection regulations be improved before embarking on a product development/investment program.

The methodology used for this analysis is taken from a well-used approach to analyzing industrial organizations. In this case commodity production- marketing systems are broken down and analyzed by structure, conduct and performance.<sup>6</sup>

- **Structure** refers to both the demand and supply side and concerns the number, size and location of the actors important to the industry, i.e. consumers, producers, traders and input suppliers. Demand is considered first to emphasize the fact that **sector development must be market driven**. On the

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<sup>5</sup> Annex A of the First Annual Workplan Document lists expected results for the period. Livestock sector activities are expected to contribute to "New product opportunities test-marketed", "Improved production/processing techniques" and "business development"

<sup>6</sup> Dr. Peter Wyeth refined this methodology in collaboration with the Washington State University-APEX Project technical team. For more details reader is referred to Dr. Wyeth's analysis, "Mali Livestock/Meat Subsector Assessment, July 1997, APEX Project - Washington State University.

supply side, structure includes consideration of any barriers that impede entry into the commodity system, since these can affect both conduct and performance by reducing competition.

- **Conduct** refers most importantly to how buyers and sellers decide on prices and determine output, e.g. the number of animals to produce, buy or trade. Discussions of structure and conduct are, in principle, descriptive.
- **Performance** concerns the efficiency of the commodity production-marketing system. Implicitly or explicitly, the prices and the quality and quantity of output that would prevail under competitive conditions provide the benchmark against which efficiency is judged.

## **B) An Overview of the livestock sub-sector: Structure and Trends**

The livestock sector as a whole contributes 10% to 12% of the nation's GDP, and this proportion is falling. In terms of CFA francs, total value added in the sector is actually growing slightly in absolute terms (refer to Table 1), and the sector's importance to national GDP is shrinking only because non-livestock sectors are growing more rapidly, not an unusual situation for a developing country. The three most important commodity systems within the sector are, by far, cattle, small ruminants and milk. Together they account for 88% of livestock production, and the remaining 12% is shared among four others: poultry, eggs, donkeys/camels/horses, and hides/skins (Wyeth, 1997). These proportions have changed very little over recent years.

Livestock is even more important to Mali's exports (refer to Table 2) than it is to GDP. The two significant categories are live animals, which have made up more than 20% of exports except for 1996 when the proportion was 16%, and hides and skins, which have contributed between 1% and 2%. These shares have been at least as dependent on the growth of cotton and gold exports as they have on what has happened to livestock exports themselves.

Mali's livestock sector is not composed of well-integrated commodity production-marketing systems. Although the sector is dominated by a traditional, informal system of transactions, it represents one of the three major revenue generating sectors of the economy. Organizationally the sector can be characterized as basically informal, with limited commercial infrastructure, particularly for the processing of either production inputs or animal products. This is in large part due to an historic focus on the export of live animals to coastal markets by trekking and to the lack of a structured domestic market for livestock products.

The major constraint limiting the development of the sector and preventing Mali from capitalizing on domestic and regional market opportunities is a lack of organized professional groups. Within commodity production-marketing systems there is limited capacity in knowing how to respond to the demands of regional and international markets. In fact, the notion of a regional marketplace (not to mention a global marketplace) has only recently become a reality for a minority of actors in the sector. As will be discussed later in this document, the post-devaluation period has clearly demonstrated this fact and the need for a professional and infrastructure base capable of efficiently linking production, processing, marketing and distribution functions for specific commodity systems.

## **C) Cattle, Sheep & Goats/Red Meat Commodity System<sup>7</sup>**

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<sup>7</sup> Most of the information summarized here has been presented by Dr. Peter Wyeth, Washington State University, Livestock/Meat Sub-sector Assessment, July 1997.

## 1) Overview/Structure

The economic environment of this commodity system is different now than it was two years or even one year ago, a fact that has a significant bearing on appropriate strategies for future sector development. When devaluation of the CFA franc occurred on January 12, 1994, the hope was that it would take livestock exports to a permanently higher level. Officially recorded exports did increase in 1994 and sheep and goat exports continued to rise in 1995. Then officially recorded cattle exports fell in both 1995 and 1996. Why this should have happened, and what implications this has for future development support for this commodity production-marketing system?

In brief, the explanation is that the price advantage that devaluation gave Mali in 1994 has been largely or completely expended. No doubt, as before devaluation, there is money to be made from exports, but it is no longer as easily made as it was immediately after devaluation, and the domestic market has recovered its relative attractiveness to livestock traders. Actions, not only by exporters but also by producers (livestock fattening operations) must therefore be more carefully managed than before.

Although most obstacles to sales within export markets have not changed greatly during the past several years, they offer more disincentives now than they did before because the margins covering them are much more modest. While the balance between costs and benefits has always mattered, the room for error is now less than it was. Under present conditions more attention needs to be devoted to the profitability of each segment in the production-marketing chain.

In essence, traditional production and marketing strategies are no longer as effective as they were because of diminishing margins. Mali has reached the point where general solutions, such as improvements in animal feeding, animal health, and market infrastructure and efficiency, or reductions in illicit taxes and the administrative costs of exporting, are no longer enough to achieve sustainable results. What is needed are specific solutions, tailored to the technical and economic needs of individual entrepreneurs and enterprises. In order for Mali's livestock sector to secure its present export market share and to penetrate new export markets much more attention will have to be paid to economic detail within each segment of the commodity production-marketing system.

Various data show the importance of livestock to the Malian economy. In 1997 there were an estimated 6.0 million cattle, 5.9 million sheep and 8.5 million goats in Mali. These estimates are based on projections from the last livestock census, taken in 1991/2, assuming annual growth rates of 3% for cattle and 5% for sheep and goats (Source, DNE). In the mid-1980s livestock herds were severely affected by drought, and only now are numbers, assuming they are accurate, back to pre-drought levels.

Livestock population growth rates could be more than twice as great were it not for exports and slaughter, as official exports and slaughter figures combined are also about 3% and 5% respectively of the cattle and sheep and goat populations. Illicit exports and slaughter add to these to a degree that is uncertain, because, virtually by definition, the volume of illicit activity is not recorded.

In the case of exports, the government of Mali commonly estimates illicit figures to be two to three times the official figures. However, the proportion varies considerably, as estimates of illicit exports are made in such a way that total exports vary less than official exports. Slaughter trends are shown in Table 3. The table shows that livestock slaughter went down in 1995, but recovered somewhat in 1996. The table makes it clear that by far the largest market in the country is Bamako. Numbers of animals slaughtered illicitly, i.e. outside the inspected slaughterhouses and officially recognized slaughter areas, are not shown here, but are assumed to be about twice the official numbers.

For the purposes of this analysis, the basic elements of the cattle/meat commodity system comprise: live cattle and red meat; suppliers of inputs and ancillary services, in particular animal feed, veterinary services; financial services and transport; and slaughterhouses and butchers.

## 2) Demand

The demand for red meat depends on its price, consumer income, and the strength of preferences for and availability of substitutes. The chief substitutes for red meat are fish and poultry. Figures from the consumption expenditure survey carried out in Mali in 1988/89 show that for Mali as a whole beef, mutton and goat are the most important sources of meat (7.68 kg per head per year). This is also true of every individual region of the country, except Mopti and Timbuktu, where fish is more important. Overall, fish is a close second (6.00 kg). Poultry, even when "other poultry" (such as guinea fowl and ducks) are included (0.42 kg), is very much less important in the average Malian diet than either fish or red meat.

Other interesting points also emerge from the consumption expenditure survey. As is the case in most countries, meat consumption per person is considerably higher in urban than in rural areas (12.63 versus 5.81 kg). In spite of this, a much larger rural population means that rural people as a group consume more red meat than the urban population (32,977 as against 27,140 tons). Bamako has both a large population and a high consumption of meat per person, making it by far the biggest urban market within Mali (9,697 tons), though total consumption in the regions of Kayes and Ségou is comfortably greater (13,074 and 10,976 tons).

If the consumer expenditure survey is correct, the demand for meat is expressed through the market and is not a matter of subsistence. Considerably more meat is bought than is produced from animals raised by households themselves (5.085 against 1.085 kg). This is true not only of urban but also of rural people who, in spite of their widespread tradition as herders, bought 3.6 kg and themselves produced just 1.2 kg of their meat consumption.

Turning to the influence of income, the consumption expenditure survey estimated income elasticities of demand for the main food items. Among meat sources, red meat has clearly the highest income elasticity of demand (1.36 in urban areas), with poultry second (0.98) and fish far behind (0.25). Thus, for every 10% increase in income, the demand for red meat will, other things being equal, grow 13.6%, poultry demand will grow 9.8% and the demand for fish 2.5%.

The further implication is that, as income grows, red meat will become an even more dominant item in Malian diets than it is now. What might not remain equal, and could at least reduce the rate at which the dominance of red meat grows, is *the price and production of poultry*. If the same pattern follows here as in other countries, and there is no reason to suppose it will not, poultry production will grow, and poultry prices will become more attractive relative to red meat simply because production efficiency is much more favorable for poultry. This would dampen, though probably not eliminate the increase in red meat demand.

Income trends in Mali have recently been positive. Table 1 shows the figures. Economic performance in this country is heavily dependent on food crop production (especially rice), cotton, and livestock and on commerce. (Gold is also an important item in the GDP, but the welfare of the general Malian public is more dependent on the other sectors mentioned). 1995 and 1996 were particularly good economic growth years (7.0% and 4.3% respectively, in real terms). Combined with the high-income elasticity of demand for meat in Mali, this suggests that total demand for red meat in the domestic market has been strong.

At present, the kind of red meat demanded is almost entirely that which is unprocessed, un-chilled, and fresh. There are one or two very small firms producing dried meat, but that is the extent of the processing industry and likely to be so for some time. Malian taste for processed meat is very limited, and the same holds for Ivoirians and Senegalese. Exports to Europe (Switzerland), where consumers buy processed meats in large amounts, have been attempted on a test basis but experienced problems in meeting import sanitary standards.

The two significant export markets for Mali are Ivory Coast and Senegal. Among Mali's other neighbors, Burkina Faso is also a livestock exporter and not so much a market as Mali's most serious competitor.

Mauritania takes some small ruminants from Mali, helping livestock raisers in Kayes region. Ghana in years past was a significant market for Mali, and hopes were, when the CFA franc was devalued in January 1994, that it would again become so. It did not. One reason is the Ghanaians' insistence that their nationals take over the animals as soon as they cross the border, which does not remove but does reduce any potential profits to be made from selling in Accra. The other, more fundamental reason is that since the CFA franc was devalued, the Ghanaian cedi has itself declined in value even more. Furthermore, Ghana, like Ivory Coast, is able to import directly and cheaply from Europe, where meat production is subsidized. From time to time, Malians have exported red meat to Arab countries, but no consistent market has developed there, or in Gabon, where possibilities have also been investigated.

In point of fact, Mali's best markets right now are Ivory Coast and Senegal. Somewhat surprisingly, export figures broken down by country of destination are not easy to find. Such data as are available show that in 1990 nearly all the cattle and almost 90% of the sheep and goats exported from Mali went to Ivory Coast. In 1992, over 60% of the cattle were sent to Ivory Coast and 27% to Senegal.

Unless the relative destinations have changed greatly, Ivory Coast is presently the key export market, and its characteristics are worth some attention. Meat consumption data from the Ivory Coast (SODESI 1997) show that red meat is the preferred choice among the alternatives that include pork as well as chicken (see Table 4). However, consumption per person of red meat has been falling quite markedly, from 9.1 kg per person in 1980 to 7.2 kg in 1990 and 4.9 kg in 1995. Malian consumption per person may have fallen since the 1988/89 survey was taken, but even so it is clear that meat consumption per person in Ivory Coast is at least no greater than that in Mali, and could be significantly less, in spite of higher Ivoirian personal incomes.

The income elasticities for meat in Ivory Coast are between 0.3 and 0.7 (Wyeth 1997), considerably below the figure quoted above for Mali<sup>8</sup>. If accurate, the interpretation of these figures is that for every 10% growth in personal income, demand for meat will grow 3 to 7%. As in the case of Mali, increases in the supply of poultry, and declines in poultry prices, would reduce the rate of increase in red meat demand.

Indications<sup>9</sup> are that fish represents a more common substitute for red meat in Ivory Coast than in Mali and recent the data suggest that the consumption of fish is, in general, increasing in Ivory Coast among urban groups. The implication for Mali is that, if domestic incomes and those in Ivory Coast grow at about the same rate and if, again, the elasticity estimates are roughly accurate, domestic demand for red meat will grow faster than demand in Mali's most important export market.

In terms of future domestic demand, Wyeth (1997) concluded that with real income per person growing at from 0.5% to 1.0% after correcting for inflation, growth in the demand for red meat can be expected to be from 0.7% to 1.4% per person. However, with population growing at around 3.0%, total demand will grow in the region of 2.1% to 4.2% a year. Metzger et al (1998) concluded that if production and consumption trends continue, in ten years Mali would outstrip its capacity to export red meat or live

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<sup>8</sup> Bernard Kouassi, "*Analyse multidimensionnelle de la consommation urbaine de boeuf en Côte d'Ivoire*", publication unknown. This study, which produced estimates of 0.27 and 0.71, cites another (on p. 79) which arrives at an elasticity of 0.55; Kenneth H. Shapiro, "The Livestock Economies of Central West Africa: An Overview", in *Livestock Production and Marketing in the Entente States of West Africa*. Summary Report, CRED, Ann Arbor 1979, p. 56. As Kouassi points out, he had to omit from the independent variables the prices of substitute meats. This could have resulted in biased estimates of the variables he did include, income among them. Fidele Sarassoro, USAID/WCA Redso economist, found an income elasticity of 0.68 ("Report on Mali Cattle Export to Côte d'Ivoire", memo to Vic Duarte, USAID, June 25, 1990) though there were difficulties with the econometrics here too.

<sup>9</sup> Source: Direction de la Production Animale, RCI. Cited in de Troyes, et al. Evaluation des possibilites de mise en place d'une filiere de la viande malienne en Cote d'Ivoire, SODESI, March 1997.

animals, only being able to satisfy domestic demand<sup>10</sup> The increased local slaughter of animals to meet this demand would also enable an increase in the production and export of hides and skins.

### 3) Supply

The “problem of the commons” is well known. The way a livestock raiser derives maximum benefit from communally grazed land is to maximize the number of animals he or she has. The producer cannot improve the herd’s value by raising the quality of the individual animals on communal grazing alone. This is because voluntarily and unilaterally keeping his herd numbers down will have no impact on the amount of pasture available to his animals, and therefore on their quality. Hence the number of animals will always tend to increase up to the carrying capacity of the land. Poor quality of the animals inevitably follows, no matter how interested their owners may be in good quality.

Livestock are produced in a wide range of systems as noted in Table 5. The value of a classification of this kind is that it allows a distinction between production systems. Those in which livestock owners focus on numbers of animals and their survival (predominately pastoral), and those where producers provide feed supplementary to communal grazing or crop residues with a view to increasing their weight prior to slaughter (predominately agro-pastoral). The former systems are an essential element to the livestock/meat sub-sector because it is the source of supply of virtually all the animals fattened by the latter. These latter systems provide an opportunity to achieve an increase in value-added.

Mali has experienced periodic droughts, the last occurring during 1984-85. One of the consequences of these droughts was to shift the distribution of cattle southwards to the higher rainfall zones with the result that the region of Sikasso has the second largest number of animals per region, after Mopti. Small ruminants, being able to survive drought conditions better are still found more in the drier regions to the north, including Timbuktu. This movement of livestock south encouraged the expansion of agro-pastoral systems, particularly rain-fed systems based on cotton and cereal production<sup>11</sup>. These systems offer an opportunity to improve productivity due to their greater feed resource base and functional veterinary field services. Presently these systems provide upwards of 15,000 cattle per year for domestic and export markets as a result of their work-oxen rotation program financed by a credit program from CMDT (personal communication, Dr. M. Traore, CMDT).

Since most animals subsist on natural, communal pasture, plus whatever crop residues livestock raisers

**TABLE 5: Distribution of National Herds & Flocks by Production System, 1994**

Système	Localisation	Bovins	Ovins	Caprins
Pastoral pur	Nord-Est, Gourma, Tilmési	610,000	1,603,000	2,509,000
Pastoral associé aux cultures pluviales	Sahel occidental, Centre-Nord, Séno-Mango	720,000	672,000	1,255,000
Pastoral associé aux pâturage et cultures de décrue	Delta, zone lacustre, Nord-Ouest	776,000	724,000	738,000
Agro-pastoral associé aux cultures pluviales de subsistance	Centre, plateau Dogon, Sud-Ouest	1,552,000	1,397,000	1,992,000
Agro-pastoral associé à l'irrigation	Office du Niger	166,000	104,000	148,000
Agro-pastoral associé aux cultures pluviales de rente et de subsistance	Sud, Sud-Ouest	1,718,000	672,000	738,000
<b>Total</b>		<b>5,542,000</b>	<b>5,172,000</b>	<b>7,380,000</b>

Source: Souleymane Diallo, Abou Doumbia, *Etude sur le développement du partenariat entre les états de la sous-région en vue de la promotion des échanges portant sur les prix d'élevage*, SERNES/SSI, September 1995.

<sup>10</sup> This scenario points out the importance of improving production. Current herd production parameters are far below the normal range characteristic of production systems in North America and Europe. Opportunities do exist to improve local production based on the availability and application of improved, cost effective feeding regimes and prophylactic animal health services.

<sup>11</sup> It should be noted that many producers used proceeds from cotton to purchase livestock as an investment. In addition, CMDT provides a credit program for purchasing work-oxen.

give them or they can graze in harvested fields, they are unable to maintain a sufficient plane of nutrition to ensure good productivity, except during the wet season. It is generally agreed that the lack of year-round sources of nutritionally adequate livestock feed and forage is the primary technical constraint limiting livestock productivity, making the development of commercial sources of animal feed a key and strategic factor to achieve value-added in this commodity system.

The commercial animal feed market in Mali is dominated by HUICOMA (refer to Table 6), the parastatal company that processes cottonseed into oil and cake at plants in Koulikoro, Koutiala and recently in Kita. A by-product of this process, known as *aliment bétail HUICOMA* (ABH), is overwhelmingly the commercial animal feed of choice in Mali. It is essentially cottonseed shell fortified with some salt. (HUICOMA also produces cottonseed cake as such, some of which is used in Mali by a few of the more developed semi-urban dairy operations, but most of which is exported, because as a stand alone ration it is too high in protein and too expensive to be economically justified for use in feedlots or dairy).

ABH is relatively cheap and is available in far greater quantities than any other commercial animal feed in the country. HUICOMA has a monopoly on the production of this feed, being the only cottonseed processor in Mali. The system of distribution therefore gives rise to difficulties. The company produces and sells around 80,000 tones of ABH per year. In addition to ABH (78.000 metric tons produced in 1993-94), HUICOMA produced cotton seed cake (14.000 metric tons in 1993-94 and a composite feed for milk production (F3-Koulikoro, 3,530 metric tons in 1993-1994)<sup>12</sup>.

However, the dominance of HUICOMA in Mali's animal feed market is both unnecessary and unfortunate. It is unnecessary in that cattle feeders rely more on it than its nutritional value warrants. Over-reliance is indicated by the fact that other animal feed suppliers can produce nutritionally superior feeds for the same price that ABH is sold on the market. The unfortunate aspect of HUICOMA's dominance is due to its monopoly position and the distribution system devised to prevent the company from earning monopoly profits. HUICOMA is required to sell at a price per bag that is below market level.<sup>13</sup> The consequent need for rationing is achieved through means of coupons ("*bons*"). As a consequence there is a vigorous parallel market ("*marché noir*") in both the coupons and the feed.

In practice, this secondary market probably takes the price for ABH quite close to what a regular free market price would be. Normally the price in a parallel (black) market is higher than the price would be under a free and competitive market situation, but this is less likely to be the case here, chiefly because the supply of ABH is fixed without regard to the price of the product itself. Rather it depends on demand and supply conditions in the cotton fiber market. Thus freeing the market would not stimulate an increase in the supply of ABH the way it normally would for other products, and price would not fall.

Overall the existing situation may not be seriously wrong, given that the ultimate source of the difficulty is that the supply of cottonseed is determined chiefly by conditions in the cotton market, rather than the livestock feed market. However, two measures could significantly improve the efficient use of the limited quantities of ABH available on the market. (Wyeth 1997):

- Reduce the quantity used by those livestock fattening operators who currently use more than is economically warranted.
- Increase the use of high value animal feeds other than ABH. These are already available, but their potential as substitutes for ABH is not widely accepted by livestock producers. Many or most of these alternative feeds use ABH or cottonseed cake as a constituent in their formulations. But as the cotton by-products account for only a percentage, e.g. generally less than 30% by weight of the total ration, the available quantities of ABH and cottonseed cake would be spread much further. Quality

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<sup>12</sup> Maiga, A.M. 1995. Utilisation des Cereales dan l'Alimentation du Betail au Mali. Agence Canadienne de Developpement International, Bamako, Mali.

<sup>13</sup> Wyeth, P. Washington State University op.cit

would not suffer because the alternative feeds are generally better nutritionally than straight ABH, while their cost is no greater than the ABH black market price.

Another large company that is a much smaller source of industrial by-products useful for animal feed is Grands Moulins du Mali ((GMM). Located in Koulikoro, GMM annually produces around 7,000 metric tons of wheat bran, commonly referred to as *aliment bétail Achkar*. A third to two fifths of it is exported, not so much because domestic demand is now limited as because the company acquired commitments in other countries in earlier years when Malian livestock producers were skeptical of the benefits of the product and did not want it.

A third company, SUKALA, produces sugar at Markala, near Ségou, and, as a by-product, molasses. The latter is a source of energy that can be incorporated into rations by producers.

A number of small and medium-sized companies have arisen which process by-products into animal feed. Their businesses are growing, but a major constraint is that most feedlot owners' consider that the best feed by far is ABH. One successful company in Segou has acquired customers by supplying them when ABH is unavailable or very high priced and who only then learn that alternatives to ABH may actually be better. Even so, this company must maintain the price of its product below the local market price of ABH.

The average production of commercial livestock and poultry feeds and ingredients (HUICOMA, GMM, ALIMIX, Units at Niono, Segou, and Djikoroni) is estimated at approximately 100,150 metric tons annually.<sup>14 15</sup> (refer to Table 6) Estimating real demand is difficult. A theoretical demand for livestock feed can be calculated from livestock numbers and their type of production, meat, milk and reproduction. Using this methodology Maiga (1995) calculated a theoretical demand of 925,000 metric tons/year for both ruminants and poultry. However, this calculation is not very useful in estimating the real demand which is determined by the quantity of feed producers are prepared to purchase at current market prices. In this case both Diakite (1994) and Maiga (1995) estimated a real annual demand of approximately 500,000 metric tons per year.

Maiga (1995) found, based on a limited survey of producers near Bamako, that 80% of cattle producers (the majority also producing milk) were willing to purchase feed at a price higher than the current market price of ABH providing it contained at least 25% cereal. Half of the producers were willing to pay 50% more for a feed containing at least 15% cereal.

In a feasibility study for the creation of an industrial animal feed production enterprise in the Office du Niger region, Diakite (1994) concluded that given the current factors determining the supply of animal feeds, this subsector would not develop according to needs and demands of livestock producers. This due to the fact that the production objectives of the two major industrial suppliers, HUICOMA and GMM, are determined not by sector needs but rather by the cotton fiber market, in the case of HUICOMA, and the wheat flour market, in the case of GMM.

In addition to providing supplementary energy/protein sources to their animals, producers also provide blocks containing salt and other trace minerals, many of which are produced locally by small and medium scale enterprises.

Finally, some forage/roughage is supplied from on-farm sources as alternatives to commercial supplies. In addition to grazing harvested fields, producers give them crop residues from chickpea (*niébé*) and groundnut fields, and urea-treated rice straw in areas where farmers grow that crop. These kinds of feed that are supplementary to the natural pasture are enough to feed only a few animals.

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<sup>14</sup> Maiga, A.M. 1995 - Utilisation des Cereales dans l'Alimentation du Betail au Mali, ACDI/PRMC.

<sup>15</sup> Diakite, B. et al. 1994-Etude de Faisabilite d'un Entreprise de Production et de Commercialisation d'Aliment du Betail, SERNES, Bamako

A major value-added activity undertaken on a periodic basis by a large number of producers and merchants is livestock fattening. This activity can take place at any point along the production-marketing chain, from the livestock raiser to the butcher. It is also possible, and common, for an animal to pass through the whole chain without being fattened at all. It is interesting to note that, in the domestic market, the best animals may be sent to the main abattoir in Bamako. At least that is what is suggested by the carcass weights of 1994 and 1995.

Some animals are also fed before export, though it appears from conversations with exporters (Wyeth 1997) that the proportion is smaller than that fed before sale for domestic slaughter. However, those not fed before leaving Mali would generally be fed within the importing country. The fattening of cattle using purchased feed, which is nearly all in the hands of men, goes on for all but the rainy season, running from May or June to September or October. A few weeks after the wet season begins it becomes much less profitable to pay cash for animal feed, since animals can then graze well on natural pasture. Traditionally, the fattening of sheep and goats is scheduled around the Moslem festival of Tabaski.

Livestock fattening is a sophisticated business involving quite complex calculations if maximum benefits are to be derived from it. It was clear from my conversations with people in the business that, while some, especially the *jeunes diplômés*, are aware of the issues involved, most, especially among traditional operators, are not. One issue is that, wittingly or not, livestock feeders are engaged in two businesses: fattening animals and playing the market, and it requires considerable ability to separate the two. Operators may be making profits overall, but they will commonly be losing money in one or the other. In fact, the losing activity will most likely be livestock fattening, because operators are more familiar with seasonal price fluctuations than they are with the concept of diminishing marginal returns.

The chief barrier to entry into fattening activities is the need for working capital to buy animals and feed them for one and a half to three months. Additional requirements for surviving in the business are an understanding of when to buy and sell the animals, given that market prices fluctuate seasonally, and a knowledge of what to feed them. Although these conditions are not difficult to fulfill in principle, they are apparently severe enough in practice to keep turnover high and the total number of surviving operators down.

*In summary, there appear to be significant opportunities for increasing the cost effectiveness of fattening operations.* In fact, it would be surprising if this were not the case because the economic management of such enterprises is not simple. The importance of cost effectiveness has always been understood in Mali by technically trained professionals, but the message has not found its way to anywhere near everyone interested in the livestock fattening business. With the initial advantages of devaluation over, attention to cost effectiveness is more critical than two or three years ago, especially if Mali is to do well in the highly competitive export market.

The effective control and monitoring of major livestock diseases is a key element in assuring and increase in the productivity of national herds and flocks. Mali has adequate health standards on the books, a functioning vaccine production facility, a national diagnostic capability and trained veterinarians. USAID has already invested for more than 25 years in the development of the Central Veterinary Laboratory (LCV), which currently is the only veterinary laboratory in West Africa capable of producing a wide range of quality livestock vaccines.

However, the organization of the veterinary services is another matter. With privatization in progress, public and private veterinarians are jockeying for advantage. There is no strong evidence that animal health is actually threatened by this situation. Nevertheless, with the roles of the two groups of veterinarians not clear, it can be presumed that veterinary services need to be functionally strengthened. Major efforts need to focus on better protecting the health of Mali's herds and flocks and ensuring internationally recognized veterinary health standards, permitting commercial operators within the sector to secure and/or penetrate new domestic and export markets for animal products.

With regards to the marketing of livestock, there are basically three categories of markets. *Collection markets*, where traders assemble animals bought one, two or a few at a time from livestock raisers. Assembly (*regroupement*) markets, located at key points along the transportation routes from the livestock producing areas to the final markets. *Terminal markets*, situated in or near major consuming centers, such as Bamako in Mali and Port Bouet in Abidjan, Ivory Coast.

Among the most important *regroupement* markets (those along the transport routes) are those at Mopti (Fatoma and Sofara), Ségou and Sikasso. All dispatch cattle to both the domestic and the Ivoirian export markets, though Ségou's closer proximity to Bamako means that it sends larger proportion of its animals to the capital than do the Mopti markets. The Senegalese market is served by Kayes and others in that region. The main terminal markets in Mali are for Bamako: at Kati for cattle, and in town, in Commune II, for small ruminants.

Livestock markets, especially the more important ones, have been overseen in the past by OMBEVI (Office Malien du Bétail et de la Viande). It is in the key markets where major donor efforts have been made. Projects such as ODEM (under World Bank funding), that worked in the Mopti area markets at Fatoma and Sofara with World Bank financing) and APEX, that worked in Ségou and Kati with USAID funding) have encouraged and trained trader cooperatives to take over operations from OMBEVI.

The markets themselves are complex organizations. Much of their complexity is due to the important role played by intermediaries. Herders do not approach buyers directly but rather approach a broker (*tefa* or *téfé*) who finds a buyer and negotiates the transaction. The broker charges a fee, said to be usually FCFA 1,000 per head for cattle. However, it is assumed that he typically finds a buyer willing to pay more than the seller is willing to accept, and hence is essentially a trader as well as an agent. Other actors who are an integral part of the market include transport agents, fee collectors, veterinary agents and buyers, who may be local butchers or traders.

Concerning barriers to entry, normally these would be very low. A trader would need enough capital to buy an animal or two, and a broker, who sells on consignment, would supposedly need no initial capital at all. In practice, however, it seems likely that social barriers might be quite high. From experience gained in working with market management committees, cooperatives, and groups managing the price information network, membership of not only ethnic groups but clans within these groups affects working relationships. This in turn affects the ability to make the contacts and gain access to the information needed to operate effectively in these markets.

It is difficult to know how well traditional livestock markets perform. The traders who operate in them are, like businessmen everywhere, reticent when it comes to providing details about how they run their businesses. It is clear from experiences that APEX and other projects have had in working with cooperatives and traders' associations that there can be fierce rivalries between personalities and clans, but this is not the same thing as economic competition.

But if the markets are inefficient, it is not clear in exactly what way. That there are a good many intermediaries who make their living on the market is agreed. Observers have often noted that animals may be bought and sold two or more times a day in a single market, with a margin made on every sale. One possible consequence of this is that it inflates the supply price to urban markets and improved efficiency would result in lower prices to consumers.

This explanation would be more applicable to domestic than to export markets. In the latter, prices are heavily influenced if not determined by imports from sources other than Mali, and producers are more likely than consumers to be the losers if there is an unnecessarily large number of transactions in the marketing system. This is because, if limits to retail prices are set by external factors (imports), the number of transactions can only be profitably increased if the sellers at each stage either do not know how high a price the market would bear, or because they are prepared to accept less than the maximum possible price in order to sell quickly. It is also possible that exports are discouraged unless exporters are

always able to purchase their stock early enough in the chain of transactions that the margins left to them in the export markets are still attractive. In any case, it is certain that improving the formal flow of price information can only improve market efficiency to the benefit of both livestock producers and consumers and the country's exports.

It has already been noted that export performance for Mali as a whole was disappointing in 1996 and 1997. It is notable that there are variations among regions. The most violent swings occurred in Sikasso, where exports rose in 1994 to five times their pre-devaluation level. It was highly improbable that this could be sustained, but even so, the subsequent decline to below pre-devaluation figures seems extraordinarily precipitous. Preliminary figures for 1997 suggest that this year will be worse. The story for Ségou is similar in that exports are back to pre-1994 levels, though the decline seems less shocking because the 1994 increase was much less massive. 1997 figures, on the other hand, are slightly higher at Ségou than in 1996. The other large exporting region is Mopti. There exports rose in 1994 in percentage terms even more than they did in Sikasso, and they actually rose again in 1995, and though they fell in 1996 they were still twice what they had been in 1992.

One possibility that always needs to be kept in mind is that only official figures were down, not real exports, for there are clear deficiencies in data gathering at the local level. Exporters cited primarily three reasons for the decline in their export trade. Better crops in 1996 made farmers less eager to sell animals to raise cash, a suggestion that is consistent the data. Exporters from Burkina Faso were cited as being better organized than Malian exporters and they have been able to build up market share at the Malian expense. However, data show that imports to Ivory Coast from Burkina Faso were also down in 1996 compared to a year earlier. They were not down as much as total exports from Mali fell, so the Burkina Faso's market share should have risen, but not by enough to explain the decline in Mali's figures.

A third explanation exporters gave was that numerous difficulties in the Ivory Coast market discouraged them from going there. Among these were the following:

- Illicite taxes are serious, amounting to around FCFA 125,000 per truckload of cattle to Abidjan.
- Authorities forbid animals to leave the designated market area at Port Bouet. Bringing feed to them is expensive and water is in short supply.
- Buyers in Ivory Coast often pay late, or sometimes default altogether. Exporters, as foreigners there, have virtually no recourse in the courts.

These conditions, however, are not new, but they may seem more significant than they were, because of the fourth explanation.

*The most convincing explanation for the fall in exports seems to be that they no longer hold the attraction relative to the domestic market that they did in the immediate post devaluation period.* Data suggest that overall demand is not declining along with exports.<sup>16</sup> (refer to Table 7, Figures 2 and 3) Beef prices in the two cities tracked one another quite closely until 1996. Each year, in each city, prices would rise in the early part of the year, with Abidjan's rising ahead of Bamako's, and then the prices would flatten out for the rest of the year. In 1996 this pattern was repeated in Bamako but not in Abidjan, where prices failed to take their annual hike, supporting exporters' complaint that prices in Abidjan were not as attractive as they were before. Consequently, exporters' incentive to take cattle to Abidjan has been reduced as prices in Bamako have risen higher in comparison to those in Abidjan.

Retail price data shows that demand for red meat has been picking up in Mali after its post-devaluation shock (refer to Table 7). According to data already presented, overall the Malian economy is performing quite well and the income elasticity of demand for meat is high. The observation that exports from Mopti have fallen less than those from the two major other regions is also consistent with this shift in the main

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<sup>16</sup> Wyeth, P. op. cit.

source of demand. Mopti is the region that is farthest from the main center of consumption in Bamako and thus likely to be the last to be discouraged from exporting.

From an economic point of view, an increase in domestic demand is a satisfying explanation for what has happened to cattle exports. Unfortunately, arguments such as this have a way of attracting exceptions where they do not hold up. In this case, there is at least one anomaly, provided by small ruminants, where prices remained consistently higher in Abidjan than in Bamako. Export figures for 1994-1996 show that although sheep exports fell in 1996, they remain above those just prior to devaluation (see Table 8).

**TABLE 8: Cattle and Small Ruminant Exports (official and estimated)**

	1980	1985	1990	1991	1992	1993	1994	1995	1996
<b>Bovins</b>					(têtes)				
Total Controlled	65,486	80,456	65,708	42,957	59,442	41,483	176,435	106,871	65,630
Total Estimated	254,000	224,000	185,000	190,000	195,000	188,000	235,000		
<b>Ovins/caprins</b>									
Total Controlled	156,606	148,090	158,838	163,572	213,325	128,099	340,137	426,900	214,650
Total Estimated	319,000	420,000	420,000	430,000	450,000	475,000	510,000	560,000	

Ref; OMBEVI, 1997

*In conclusion, the competitive advantage that devaluation gave to Malian exports is over.* The reason for this is that demand has picked up within Mali itself, leading to higher livestock prices and therefore less leeway for deriving a satisfactory profit margin from sales in neighboring countries. From the livestock sector's point of view, the immediate situation may not seem to be serious. After all, money is still being made, and in discussions with traders they did not say they were hurting economically, which they are not slow to do when they feel the pinch. However, a healthy performance in the export market increases income-earning potential, assuming that payment for goods and services accrue to Malians, and ultimately to the Malian economy. It would be a serious loss to forego any potential growth that exports offer, not only for the livestock sector itself, but also for the economy as a whole. The multiplier effect of increased exports would raise total GDP by at least twice the increase in exports, and probably more (Wyeth 1997). The question of how to improve export competitiveness is basically dependent on increasing cost effectiveness in production, particularly livestock fattening, and market efficiency.

#### 4) Red Meat Exports

It has often been suggested that Mali would benefit by exporting red meat rather than live animals. Exporters like the idea because they would avoid some of the difficulties they encounter at the livestock markets in the importing countries. Policy makers and donors like the possibility of the increased value added that Mali would gain from moving the slaughtering process here. However, given the costs (capital investments in infrastructure and in transport, maintenance costs, lack of "back haul" merchandise, payment of illicit road taxes, etc.); risks (product losses due to equipment breakdown); and tariff barriers associated with transport of chilled beef it is not obvious how the export of red meat can be profitable.

The only slaughterhouse that has cold storage facilities and comes close to meeting the required sanitary standards is the one in Bamako, and even this one needs renovation. Refrigerated trucks must be large to be economical for this kind of work. They are expensive and must find goods requiring refrigeration to bring back to Mali. Finally, the so-called fifth quarter (horn, hooves, and guts) and the skin have a higher value in Ivory Coast than they do in Mali. When animals are shipped live, their fifth quarters and their skins necessarily come along with them. If they were slaughtered in Bamako, their fifth quarters and skins would have to be shipped separately, incurring transport costs which might or might not be covered by the higher prices they would fetch in Abidjan. The pros and cons have been well analyzed in recent

studies<sup>1718</sup>, one (de Troyes, Edwouard et al. 1997) of which develops tentative schedules of costs and revenues, and finds them sufficiently promising to recommend that test export shipments should be made to Abidjan from Bamako. Unfortunately, to date a test export shipment has not been made.

There are five main slaughterhouses in Mali, in Bamako, Kayes, Ségou, Sevare and Sikasso. (a new slaughterhouse has recently been built in Koutiala) All older facilities are in need of refurbishing. By far the biggest and most important, and the only one with any cold storage at all, is the Abattoir Frigorifique de Bamako (AFB) In addition, there are a number of officially designated slaughter areas where animals can be slaughtered under supervision and inspected by veterinarians to ensure the meat is fit for human consumption.

Finally, there is a large amount of unauthorized slaughter (*abattages clandestins*). Nationwide, this is estimated to be twice the rate of official slaughter. The basis for this is that the consumption expenditure survey mentioned at the beginning of this report found levels of meat consumption that were, on average three times what could be accounted for by official slaughter.

The difference between official slaughter and consumption is clearly highly variable from region to region, which is to be expected. In Bamako official slaughter figures actually suggest that there is no unofficial slaughter at all, which most observers think unlikely. One of the figures may be in error, or perhaps more meat is sent out of the district of Bamako for consumption elsewhere than comes in from outside.

Metzel et al<sup>19</sup> concluded that live animal exports are presently, and will continue to be in the near future, more profitable than the export of either carcasses or box meat to coastal markets. The implications for exports as a result of domestic market expansion suggest that they will decrease in the face of increased slaughter nationally, which could provide a stimulus for the continued development of slaughter and slaughter by-product industries. However, they also suggest that the recent suppression of the export tax on non-treated hides and skins could make the export of carcasses to Accra and Dakar marginally profitable if Malian meat was not taxed as is presently the case with imported frozen meat from the EEC.

## 5) Transport

Livestock in West Africa have traditionally been trekked from place to place, and many still are, especially those sold on domestic markets. Kulibaba and Holtzman (1990) provide considerable detail on this, along with budgets. On foot it takes 2 or three weeks to cross the border into Ivory Coast from Mali's major livestock producing areas. There the animals are fed, sometimes for considerable periods, before embarking on trucks for the rest of the trip. At the present time the majority of cattle exported to Ivory Coast from Mali are transported by truck, though many animals originating from Mali pass through the hands of Malian traders working in Burkina Faso. The majority of these animals are shipped by rail to Ivory Coast, and frequently are classified as originating from Burkina Faso in statistical records.

The advantages of trucks over trekking are clear. In addition to the saving of time and animals' energy and weight, working capital is tied up for less time, animal mortality is lower, and chances of losses from thieves reduced. The major cost in trucking, of course, is the hiring of the vehicle itself. The price varies greatly according to the season. During and immediately after the cotton harvest, it can be three and four times what it is over the rest of the year. Tariffs range from 200,000 FCFA to 600,000 FCFA per voyage of on average 35 head of cattle. To put them in perspective, a single good steer can be worth FCFA 200,000, so at the lower ends of these ranges transport amounts to some 3% of the value of the entire

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<sup>17</sup> Edouard de Troyes, Modibo Keita, Ibrahima Diane, Amadou Thera, *Evaluation des possibilités de mise en place d'une filière de commercialisation de la viande malienne de Côte d'Ivoire*, SODESI for APROFA, March 1997.

<sup>18</sup> Metzel et al 1998. Refer to footnote 19.

<sup>19</sup> Metzel, J., Doumbia, A., Diakite, L. and Diarra, N.A. 1997,1998(final version). Perspectives de Croissance des Exportations de Betail Malien, AIRD, Cambridge, Massachusetts, page 33.

shipment, and the upper end around 10%. Most of the year the rates are much closer to the lower than the higher end of these ranges.

Rarely are trucks especially designed for transporting livestock. Consequently animals suffer more shrinkage than they would otherwise and arrive being worth less. For this reason, exporters frequently express a desire for proper cattle trucks. However, it is unlikely, at least at this stage of development of the livestock sector, that such trucks would be economical. To begin with, special purpose cattle trucks are considerably more expensive than general cargo trucks. More importantly, general cargo trucks can travel back to Mali loaded with imports. Indeed, the transporters regard livestock exports as a means of defraying their costs of bringing imports from the coastal countries into Mali, rather than the other way around. This is why transport costs for livestock are reasonable most of the year.

This is not to say that Malian exporters do not have a disadvantage compared to their Burkina competitors where exports to Ivory Coast are concerned. In particular, exporters in Burkina Faso are able to use a railway, which operates now at a greater level of efficiency than it did. The Malian railway system is available only for shipments to Senegal.

*In conclusion, it would seem that the truck transport system is performing reasonably well. Seasonal variations reflect the demands of the market.* General transporters are probably reluctant to increase the number of trucks to reduce peak period prices for fear of encountering over capacity for the rest of the year. In principle, there may be scope for livestock exporters' associations to invest in trucks themselves. However, at present they are far too loosely organized for such an undertaking and, from the economic point of view, whatever they charged themselves for using the trucks during peak periods, the opportunity cost of using them would still rise at those times.

## **6) Finance**

Along with the difficulty and expense of buying *aliment bétail* HUICOMA, lack of finance is a ubiquitous complaint in Mali's livestock/meat subsector. Financial services are looked for in the provision of working capital and the repatriation of funds from export markets. Some operations may need funds for capital investments. Firms producing animal feed and needing milling equipment are an example. If livestock associations ever entered the transport business they would need funds to purchase trucks, but in livestock fattening, trading and exporting, only very modest amounts of capital are needed for fixed investments. Working capital requirements, on the other hand, can be substantial. For example, the cost of feeding 20 head of cattle for 90 days, including the purchase of the animals, comes to about FCFA 2.5 million, most of it needed at the beginning, when the cattle are bought. Exporting one load of 35 cattle by truck would involve FCFA 5 to 7 million, with immediate payment by buyers in the importing country by no means certain.

Financial institutions that are potential sources of funds include the 6 commercial banks in Mali and the credit unions (*caisses d'épargne*). The latter can be appropriate for small loans, especially for start-up businesses, but for even medium scale enterprises the amounts of credit required are large relative to *caisse d'épargne* resources. Among the banks, the most promising possibility is the BNDA (Banque Nationale de Développement Agricole). In addition, certain donors, including the FED (Fonds Européen de Développement), the UNDP and USAID have furnished financial aid to SMEs.

The need for finance in the livestock/meat subsector is considerable, largely because the individual value of cattle is high and the numbers involved substantial. For this reason, the involvement of the commercial banks is essential. A study carried out in 1995 (Wyeth 1997, op. cit.) found that most banks reported amounts lent for exports at the time to be in the range of FCFA 2 to 6 million. This means that most banks lent out less than the value of a single truckload of animals. The BNDA reported rather more: FCFA 78 million lent for exports in the first 8 months of 1995, enough for 11 to 13 truck loads, but still only the turnover for two or three individual exporters in a year.

In the case of livestock fattening most banks reported lending nothing. Those that did loan for fattening lent much more than they did for exports. The BDM (Banque de Développement du Mali) reported FCFA 53.8 million for roughly two years (February 1992 to March 1994), while the BNDA reported FCFA 336.3 million in the first 8 months of 1995, enough to purchase and fatten some 2,500 to 3,000 cattle. How many operators the loans were spread among is not reported. Rates of interest charged were from 11½% to 15% per year.<sup>20</sup>

These figures need to be up-dated to find out whether the situation has changed, though there is no particular reason to suppose that they have, because the economic characteristics of the borrowers are no different. From a banker's point of view the problem is simply that most livestock operators are poor risks. I have already pointed out that fixed capital requirements are low. For a banker this means that few operators have collateral to offer. Worse, most do not keep adequate records of their costs and revenues.

The situation is especially bad for exporters, who add to the uncertainty because they commonly travel with their animals and also commonly have difficulty obtaining payment in full from their buyers. This difficulty is exacerbated because of poor protection offered to foreign nationals in the courts of the importing countries. In the case of feedlot operators in Mali, banks can track them down more reliably and, though Malian butchers are not known for always paying promptly and in full, they too can more easily be found and the means to pressure them to pay are local. Finally, livestock operators themselves have added to rather than reduced their reputation for unreliability by showing a readiness to default when it suits them.

*In conclusion, the evidence seems to be that the first steps to solving the problem of financing livestock/meat subsector activities may be the responsibility of the livestock operators themselves.* Loan guarantee funds could be established, but they are unlikely to have any lasting effect. Banks have highly formalized procedures, because they need them to survive. Banks loan money based on results, documented successful track records. Livestock operators must reciprocate with a degree of formality of their own in order to talk to bankers and convince them that they are worth lending to. In practice, this often means strengthening the management capacity livestock operators and establishing a sense of professionalism.

## 7) Conclusions

Although the exchange rate stimulus conferred on the livestock exports by devaluation has virtually disappeared, there appears to be no immediate hardship for the sector because domestic demand for meat is apparently strong. However, to the extent that export potential is lost, so is the possibility for income growth for producers and traders in the livestock sector, and therefore also for the economy. Presently, the profitability of exports, both for live animals and red meat, appear less attractive than slaughter for the domestic market, coupled with the export of hides and skins. Recent analyses by the Ministry of Rural Development and Water<sup>21</sup> indicate that red meat exports could be profitable, but the conditions necessary to ensure profitability were not provided.

A great deal of the economic activity in the livestock sector is firmly rooted in tradition, and changes that will improve competitive strength could well be slow to come. However, opportunities do exist to improve productivity and competitiveness within this commodity system. The following needs fall out of the foregoing analysis:

- a) Improving animal productivity must come about through feeding that is supplementary to the grazing available on common pastureland. This means that livestock producers must have

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<sup>20</sup> Amadou Sidibe, *Les modalités de financement et l'implication des institutions financières et monétaires dans le financement des échanges du bétail et de la viande*. SERNES/SSI, September 1995.

<sup>21</sup> Haidara, L.N. et al 1998. *Mémoire de politique sur la filière Bétail/Viande*. Cellule de Planification et de Statistique, Ministère du Développement Rural et de l'Eau, Bamako, Mali.

access to affordable animal feeds of good quality. Unfortunately the best source of supply, cottonseed by-products, is unresponsive to demand from the livestock sector. Up to now, efforts have concentrated on alternative sources of animal feed, and there is no reason why these should slacken. On-farm produced feed alternatives should continue to be encouraged, though their impact on a national scale will be a long term endeavor. However, existing supplies of industrial cereal by-products as exist could be spread further by:

- Training producers to avoid using purchased feeds in amounts that go way beyond the economic optimum.
  - Encouraging use of manufactured feeds other than *aliment bétail* HUICOMA by working with semi-industrial operations producing animal feeds to strengthen their business efficiency, not only in production but especially in marketing;
  - promoting quality alternative feeds directly, for example by financing advertising on television and radio, and producing and distributing technical leaflets
  - identifying opportunities to increase the availability of cereals, cereal by-products and other industrial by-products, which can be, processed into quality, cost-effective ruminant and poultry rations.
  - providing business/management and marketing training and support for existing feed enterprises.
- b)** Livestock feeding is a complex business because it involves two different sets of transactions: buying and selling the animals on the market, and feeding them to improve their quality. In practice, the profits or losses from playing the market are generally lumped together with those made from the fattening business. Better numbers concerning optimum feed regimes are needed, but the evidence is that the fattening side of the business is often carried out uneconomically, by feeding the animals too much for too long. This not only reduces producers' net incomes; it makes Malian fed animals less competitive in export markets. To increase the profitability of cattle fattening/finishing businesses the following activities are proposed:
- Make sure that the costs and returns to livestock feeding are well understood by operators. Establish training programs for livestock fattening operations, both at and away from market centers. A good way to approach this might be to install model-feeding operations in the chosen locations. To be of any use, these operations must be based on appropriate technology. Careful records should be kept showing the returns to fattening and keeping these separate from the returns to playing the market.
  - An exception to the local equipment rule should be the installation of a livestock scale. The reasons for this exception are (a) that livestock feeders, and even exporters, expressed interest in having access to a scale, and (b) a scale is necessary to demonstrate in practical terms that an animal can be fed too much. A secondary benefit would arise if interest in scales then spread to markets. The well-known opposition to scales in markets comes chiefly from the brokers who, in the absence of known weights, are better able to conceal the profits they make on buying and selling.
  - Training in livestock feeding which should distinguish between at least two different classes of clientele: the traditional and the innovative. Training for the latter could assume literacy, and therefore an ability to understand even French. Training for the traditional group could assume neither, but the number of clients would be potentially much greater, providing they were approached in an appropriate manner.

- c) It is not easy to gauge the efficiency of livestock markets as they have traditionally been run in Mali. It seems likely that there are too many intermediate transactions, resulting in lower prices to the initial sellers of livestock (the traditional herders), lower incentives to export, and higher prices to Malian consumers. Formal training of market management committees and of the trader cooperatives, while it may improve efficiency directly, also makes the markets themselves more formal. Their performance then becomes easier to gauge and interventions to assist them more readily designed. It also allows the markets to be run by the livestock operators themselves, rather than by OMBEVI. DRACOOOP (Direction Régionale d'Appui aux Coopératives) has been effective in carrying out the management committee training and subsequent monitoring, where they have been paid to do so by a development project. Future interventions to improve the efficiency of livestock markets and exports might focus on:
- Training market management committees
  - Wherever market management committees are trained, training in cooperative principles should be absolutely required. If not, the markets may be well run, but to the benefit of a small group of people. Two key principles are openness in cooperative transactions, and openness to new members. Unless co-ops can commit firmly to these, or at least show measurable progress toward them, they should not be helped at all. Experience shows that this requirement will not necessarily be easily fulfilled, as groups that are not accustomed to working together find trust and cooperation difficult. An example of the difficulties is the extreme reluctance of the small ruminant traders, in those markets where they have always been separate from the cattle traders, to move with them into the facilities or collaborate with cattle traders in new market organizations.
  - Efforts to improve market information should be pursued with determination. One study of the livestock sector after another has called for a formal information system to be developed. A promising start has been made, with OMBEVI collaboration, in a network that includes Sofara, Fatoma, Ségou, and Sikasso. Working out the organization was not easy and its survival, let alone its further development, will require continued donor commitment over a substantial period, because the rate of development cannot be forced beyond a certain pace. So far the network involves weekly broadcasts of high and low prices for steers and bulls, and adult male sheep and goats. Further developments should include prices of other categories of animals, particularly cows, more frequent broadcasts, information on current prices in export markets, and more markets in Mali.
  - Follow closely any tests that are run on the export of red meat, adding whatever support is necessary to ensure such tests are carried out within the next few months. Guidelines are already well spelled out in the APROFA (Agence pour la Promotion des Filières Agricoles) report. If the tests should show that red meat exports are profitable then, while direct provision of capital to private exporters - e.g. refrigerated trucks - would not be justified, technical support in contract negotiation certainly would be. In addition, help is likely to be needed to ensure that sanitary standards are met at the slaughterhouse. Assistance in refurbishing the slaughterhouse and improving its management may also be warranted
- d) Although transport and finance are problems for operators in the livestock sector, it is not evident that the bottlenecks are to be found within the services themselves, with the following exceptions in finance:
- The repatriation of funds from export markets back to Mali is consistently cited by exporters as a constraint. If there are aspects of the policy environment that should be

changed, or if banks need assistance to work out technical problems, donors could assist the governments concerned and the banks to resolve whatever the issues are.

- Further development of non-bank financial institutions is needed to mobilize savings and thus increase alternative sources for small, start-up loans.
  - For the most part, however, the conditions that must be changed if livestock producers and traders are to have better access to both finance and truck transport lie with the sector participants themselves. They need to organize themselves in order to acquire trucks, negotiate with trucking companies and fulfill conditions that will increase their creditworthiness.
- e) In recent years the government of Mali has done a great deal to improve the policy environment for the economy in general, including the livestock sector. Export taxes have been suspended, a *guichet unique* (one stop window) established to simplify the obtaining of required export documentation, and *taxes sauvages* much reduced within Mali. In most of the other areas where assistance would be appropriate it would be best given directly to the private sector. One action the government should undertake from time to time, and where assistance might be appropriate, is a repetition of the campaign against the illicit taxes to encourage further reductions and also to prevent backsliding.

The second area concerns environmental health. The matter of animal health has been raised. The acceptance of meat from Mali depends not only on the absence not only of disease but also of environmental contaminants, including pesticides from farms and chemicals from industrial plants such as those located near the river in Bamako's industrial area. The Central Veterinary Laboratory was mandated in 1992 to address the issue of environmental toxicology. A Malian expert has been trained in this field and a basic environmental toxicology laboratory has been equipped.

- f) There are clearly matters that Mali and its trading partners could discuss: illicit taxes, access by all traders from any country to objective enforcement by the courts of valid contracts, and protection against subsidized imports from outside Africa. In principle, partners should not have any particular objection to discussing any of these issues, because lower costs for livestock exporters would also benefit consumers. This would not be the case for the last point, for these same consumers also enjoy lower prices when other countries subsidize meat exports. However, it is a matter that can legitimately be raised in international or West African forums, because subsidizing exports is regarded as an unfair practice in international trade.

## 8) Hides & Skins Commodity System

### a) Overview/Structure

Hides and skins<sup>22</sup> account for 1%-2% of total production within the livestock sub-sector (estimated at 96.5 billion FCFA or 12.3% of GDP in 1996 – refer to Table 1) and for 2%-3% of total exports (refer to Table 2). The vast majority of hides and skins are exported, mostly to Europe. The value of exports has varied, but the general tendency has been upward. In 1984 total exports were valued at less than \$ 2.6 million, increasing to approximately \$ 4 million in 1995. (refer to Figures 4 & 5).

The development of the hides and skins industry had its roots in a post-independence, state-controlled economy. During this time the export of hides and skins was the responsibility of the Malian Society of

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<sup>22</sup> "Hides" refer to cattle and "skins" to small ruminants, sheep and goats

Livestock, Hides and Skins (SO.M.BE.PE.C). This parastatal, managed by the GRM, had a monopoly on the purchase and sale of hides and skins. The hides and skin market was liberalized in 1978, and regulations were established governing transactions, which were later amended in 1995. Presently, this commodity system is dominated by a group of merchants comprising the Mutuelle des Professionnels des Cuirs et Peaux (MPCP) which was created in 1993. This organization includes representatives from merchant, craftsman and industrial (tanneries) groups.

According to present regulations, transactions in this commodity system are restricted to licensed collectors and merchants (exporters). Collectors are obliged to be registered with the Chamber of Commerce and have a valid export permit; be in possession of appropriate hides and skins storage facilities; and be licensed by OMBEVI. Likewise, exporters are to be licensed, specifically for the export hides and skins and purchase hides and skins based on quality and weight according to existing norms. The authorization to practice the profession of hides and skin exporter is provided by the National Director of Economic Affairs, in collaboration with The Consultative Committee of Hides and Skins and the Ministries of Commerce, Industry and Livestock.

The liberalization of the hides and skins market in 1978 was an effort to improve export revenues. During the 1980s and 90s Mali was fully engaged in economic reform – structural adjustment programs to improve its balance of payments, reduce government spending, privatize parastatal businesses and in general stimulate the national economy. In spite of a commitment to liberalizing markets in 1996 The GRM imposed an export tax, equal to approximately 75% of their value, on unprocessed skins. This measure was taken to ensure the supply of unprocessed skins to local tanneries.

The reasoning was basically flawed. By imposing an exorbitant tax, the authorities assumed that merchants, faced with a sole market, would increase sales to the tanneries. This in turn would increase national production and value-added. Tanneries operating at increased capacity would, as a consequence, increase employment.<sup>23</sup> The result was the opposite. Confronting what was in effect the imposition of a closed market for unprocessed skins at prices dictated by local tanneries, many merchants reduced their sales to the tanneries, stored skins, or exported them illegally. Many small merchants went out of business due to the impact of tax. Either they did not have the financial resources to store skins until the tax was rescinded, were unable to penetrate the illegal export network, or were unable to make a profit at the prices offered by local tanneries. Product quality also suffered. Under constant pressure from the Mutuelle des Professionnels des Cuirs et Peaux and USAID, the Minister of Finance suspended the tax in April, 1997.

The hides and skin commodity system includes several basic categories of product. The major category exported, in terms of tonnage, is unprocessed hides and skins. “Wet blues” (both hides and skins), which have undergone the first chemical (chromium) treatment stage in the tanning process, is the major category of tanned product exported. (Final tanning is completed by importers) “Pickle”, a wet skin treated with salt and bacteriostat is presently the choice form for the export of sheep skins. Finally limited quantities of hides and skins are tanned using a local process based on plant extracts. This latter process does not provide a tanned product suitable for export but is used locally in the fabrication of leather goods. Each of these products responds to a particular market niche.

On January 5, 1996 a ministerial decree imposed a heavy tax (FCFA 1,500 per kilo) on the exportation of raw skins, the aim being to encourage their sale to the local tanneries. While the tanneries benefited, the rest of the commodity system suffered, because the price of skins went down. In April 1997, the tax was lifted.

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<sup>23</sup> Horizon Consult Developpement, 1997. Bamako, Mali

## **b) Demand**

When compared to domestic sales, exports are by far the most economically important activity and, as noted above, unprocessed and semi-tanned hides and skins are the dominant export products. Local exporters supply their clients based on contracts, which specify the percentages of various qualities per container or lot, the price by quality and the delivery period.

Respecting the conditions of contracts with importers has been a major problem for Malian exporters. During the late 1970s and early 1980s exporters frequently failed to respect the quality criteria and delivery schedules as specified in their contracts, with the result that they continually lost market share.<sup>24</sup> Mali began to acquire a bad reputation within the international hides and skins market. However, since the late 1980s the trend has been towards an increase in exports, though much effort still remains to promote Mali's image as a reliable supplier of quality hides and skins. Figure 5 indicates that the value of exports increased by approximately 25% just prior to the devaluation in January 1994. Following the devaluation, there was an increase of roughly the same magnitude during a period of two years.

One of the reasons for this less than spectacular post-devaluation impact was due to the increasing role of Ghanaian importers, that has slowed attempts to improve hide quality, and thus, hindered efforts to maintain and/or increase upscale market share. Operating within Mali, these importers finance local butchers and collectors to supply them with hides for the Ghanaian market. This market is segmented into two major categories, for human consumption (primarily head and hocks) and for processing by Ghanaian tanneries. Due to the high demand, buyers have no strict quality guidelines, accepting all classifications at virtually the same prices. Moreover, many function under the cover of registered Malian exporters by-passing the need to register, pay for export permits or income tax. Generally, they transport the hides through an "informal network" (not recorded in official export statistics), frequently in complicity with local authorities. Once the hides are sold in Accra, they return to Mali with merchandise that they sell locally, using the proceeds to finance another load of hides. Although this market provides an important outlet for low quality hides, their dominance is viewed in many quarters as generally slowing down efforts to improve hide quality.

There is also a limited local market for lower quality hides and skins. Local craftsmen purchase tanned hides and skins from local tanners and TAMALI, one of the two privately owned industrial tanning companies in Mali. These hides and skins are generally those unsuitable for export because of their poor quality and are used in the local fabrication of belts, sacks, and tourist souvenirs.

One of the major constraints in improving product quality is the traditionally poor method of preserving hides and skins. During the past two years an American businessman has had remarkable success in improving the quality of sheepskins for the US glove market. His success has been the result of two factors: (1) introducing simple salting and anti-bacterial treatment techniques to an entire network of suppliers; and (2) paying a premium price for a premium skin and rejecting poor quality skins. Coordinated by a Malian hides and skin exporter with years of experience, exports to the US market have increased from practically zero to approximately 1 container of pickled skins every three weeks with an estimated value of \$150,000 to \$200,000 per month (approximately 1.3 billion FCFA/year). According to the US importer, the US glove market can easily absorb all the high quality sheepskins Mali can produce.

## **c) Supply**

Hides and skins are a direct slaughterhouse product, and as a consequence livestock slaughter figures provide a base for estimating the level of hide and skin production. (refer to Table 3). It should be noted that the figures in Table 3 under estimate actual slaughter since they do not include unofficial slaughter figures, particularly important for sheep and goats. It is interesting to note that the slaughter of cattle decreased from 1992-1995, increasing in 1996. One reason for this trend was the significant increase in

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<sup>24</sup> Diarra, D. 1997. Evaluation des interventions de l'APEX sur la filiere cuirs et peaux, APEX Project, Bamako.

the export of live animals during the post-devaluation period 1994-1995 due to the devaluation of the FCFA. As exports began to fall off in late 1995 and 1996, this decrease was compensated for by an increase in the slaughter of cattle, sheep and goats nationally.

Actually, animals are slaughtered under a wide variety of conditions, i.e. in formal slaughterhouses; in outside facilities consisting of concrete slabs with carcass racks; or “on the ground – in the back yard”, which is the predominant case for small ruminants, even in some urban areas. Consequently, it is not surprising that the methods for removing hides and skins varies dramatically among the different slaughtering systems, as does the quality of the final untreated product.

The hides and skins supply network includes merchants, who are directly involved in export and generally finance in advance butchers through their agents (collectors) who are responsible for collecting, transporting and storing hides and skins for the merchant. Butchers work under contract for merchants, but contracts generally only specify number of hides and skins and delivery dates, quality rarely figures as a contract element. The result is that collectors generally accept all hides and skins that are delivered and pay an *average price* according to the three officially established quality categories, 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>. It is evident that such a system does not encourage the production of a quality product. Once in the hands of merchants, hides and skins are then sold to the two local tanneries, TAMALI (Tannerie du Mali) and TAO (Tannerie de l’Afrique de l’Ouest) or exported directly.

The tanning of hides and skins is not an environmentally friendly process<sup>25</sup>, using, as it does, numerous heavy metal reagents, particularly those that are chromium-based. In fact, the potential negative environmental impacts of traditional tanning processes are a major reason for relocating tanneries in most western countries. The two tanneries located in Mali are in Bamako and discharge their effluent directly into the Niger River, along with other industrial enterprises. The threat of pollution of The Niger, and surrounding ground water sources is real. (an issue which needs to be addressed in the policy area). The seriousness of this problem is likely to increase. Europe is the major export market for Malian hides and skins. More and more this market is transferring the processing of hides and skins to other countries because of environmental considerations. In the future, securing market share will likely require that an increasing number of hides and skins be increasingly processed locally.

During the past several years TAMALI has been experimenting with a new tanning process (based on traditional techniques) which substantially reduces the use of heavy metal reagents with natural plant-based enzymes and colorants. Presently this process does not produce a tanned product suitable for the export market, but the product is used for the local manufacture of leather products.

The major problem that has plagued the development of the hides and skin commodity system during the past decade has been the failure to meet the quality standards demanded by export markets. The factors leading to poor quality of hides and skins can be found at basically all segments of this commodity system, i.e. mode of traditional production, slaughter and conservation techniques, lack of professionalism of key actors and the policy environment.

One of the principal reasons for poor quality of hides and skins is the traditional method of branding where large open areas of the flanks, back and hind quarters are seriously degraded by large, often elaborate brands. While useful in identifying animals under extensive range conditions, this practice renders the hide to an inferior quality whatever the efficiency of processing techniques that follow. Another, but generally less important factor causing physical damage to the hide is related to infestations of external parasites, cutaneous diseases and rough handling.

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<sup>25</sup> Mr. Robert Marshall of JBF Industries, Inc., Gloversville, New York operates a tannery specializing in the manufacture of quality sport and dress gloves have installed waste water treatment facilities which exceed present EPA guidelines.

Frequently slaughter and storage techniques do not favor the production of quality hides and skins. Perhaps more importantly, however, is the lack recognition by slaughterhouse staff that hides and skins are a valuable commodity. Under existing practices the hides are not necessarily the property of the butcher, and consequently removing hides is not done with due care. Frequently, there is also a lack of proper equipment, i.e. skinning knives and air compressors for removing skins. In general less than 35% of the hides and skins produced are of first quality<sup>26</sup>. Moreover, the majority of collectors do not understand or are not aware of the proper post-slaughter treatment and drying-storage techniques. Rarely do collectors possess or have continual access to simple installations for salting and drying hides and skins.

There is also a lack of appreciation of the value of hides and skins by producers and livestock merchants. Their quality is not a major factor determining livestock prices and as a consequence, hides and skins are considered as “unimportant” by-products, and any efforts expended on their part to improve their quality will likely be of a non-remunerative nature. Moreover, many commercial agents (merchants and collectors) purchase virtually all grades of hides and skins at the same price, a practice that does not promote the production of a quality product.

Rarely is the legislation regulating the operation of the commodity system respected by the commercial actors. According to present legislation licensed collectors are to have at their disposal treatment and drying sheds for storing hides and skins. Few do. They are to be aware of improved post-slaughter treatment methods. Few are and still fewer require it. This need not be the case.

As mentioned above, a US businessman, in collaboration with TAMALI and a Malian hides and skin merchant has begun a program (5 regions within Mali, Guinea and Mauritania) to introduce salting and bactericide post slaughter treatments and improved storage and transport techniques. Presently, this program assures the distribution of salt and anti-bacterial agent to suppliers. Most importantly, this program includes a pricing system which pays (or rejects) based on quality. The system works. During the past two years the quantity of quality skins has increased by more than 100%, as have revenues.

Presently, exports are estimated to be 10-20% higher than those of 1995. The price of hides and skins remained relatively stable at 300,000 – 400,000 FCFA per ton<sup>27</sup> for the seven years prior to the devaluation of the FCFA. Following the devaluation in January 1994, the price increased from 395,000 FCFA to over 620,000 FCFA per ton in 1997.

#### **d) Conclusions**

The export demand for quality hides and skins is strong, and here there is an incentive to produce a good quality product. However, structural problems within this commodity system need to be resolved before this can be achieved. Existing regulatory legislation must be strictly applied to favor the emergence and continual participation of professionals. Moreover, these professionals need to be effectively organized and strive to promote quality. To do so, transactions in hides and skins should strictly conform to existing classification norms, supported by a price structure that encourages quality at all segments in the system. Though public service organizations, supported by donors, have taken the lead in informing and training producers and butchers in the production of quality hides and skins, professionals within the commodity system should assume increasing responsibility for this effort.

However, traders and exporters have established an association, *Mutuelle des Négociantes des Cuirs et des Peaux* with the objective of improving the quality and reputation of Malian exports. This association needs support, and it's members have requested assistance to: (1) strengthen the organization their

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<sup>26</sup> OMBEVI 1996. Contraintes liées à la production de la valorisation et de la commercialisation des cuirs et peaux. Conférence Nationale des Professionnels de Cuirs et Peaux, Bamako, Février 1996.

<sup>27</sup> Diarra, D. 1997. Evaluation des Interventions de l'APEX sur la filière cuirs et peaux. APEX Project, Bamako, Mali.

association, (2) improve their access to information on new and expanding market opportunities and (3) develop a marketing strategy for their products.

## **D) Milk Commodity System**

### **1) Overview/Structure:**

Total annual milk production is estimated<sup>28</sup> to exceed 4.2 million metric tons. Of this quantity, only about 8% is estimated to be formally marketed due to poorly developed on-farm storage facilities, and inadequate collection, processing and marketing/distribution networks. Accurate details of the milk product commodity system (based on local production) are difficult to obtain. Several commercial dairies are operational in Bamako, Segou, Mopti, and Niono.<sup>29</sup> The largest are Mali Lait in Bamako and Segou Lait in Segou. (A large percentage of locally produced milk is marketed in an informal network composed of small “kitchen processors” and/or door-to-door distribution of both “processed” and raw milk. These operations produce several types of milk products including pasteurized milk, butter milk, fermented milk, yogurt, and ice cream. However, the majority of their total production is based on re-constituting imported powdered milk due to quality control problems, seasonal availability, and price. Most packaging is imported, frequently from processing equipment suppliers.

The reason why large, medium and small-scale Malian dairy producers (as opposed to the micro producers mentioned above) have used imported powdered milk rather than locally produced milk is that they have found it to be a much more cost-effective raw material. It is much cheaper to purchase, incurs very much lower costs of collection and storage, does not suffer storage losses, and is not subject to seasonal variations in availability. Micro-processors overcome these disadvantages by having very low labor costs and almost no fixed costs. A new plant presently under construction in Bamako may be effective by producing a superior quality product that commands a higher price.

Cost analyses in an APEX Project funded study of the milk commodity system showed small units to be actually or potentially profitable. Yogurt production in particular was profitable. The main concern mentioned was that standards of hygiene be maintained to protect public health. Moreover, these small, cost effective units render the market for dairy products very competitive, to the benefit of consumers.

This commodity system faces numerous major production constraints. Inadequate availability of balanced rations and feedstuffs on a year-round basis, inadequate feeding techniques are a major problem. It is rare that animals are fed according to their level of production. Though considerable improvements have been made in the past few years in genetic stock, outside of intensive, semi-urban farms, the level of production per lactation is generally very low. Disease is also a problem, and in semi-intensive operations the prevalence of *brucellosis* has reached levels of more than 15% of the animals tested. (compulsory, wide-spread vaccination programs are not in place).

The fragility of milk requires well-developed milking, on-farm storage, collection and transport infrastructures. Such infrastructures do not exist for pastoral systems and are rare in semi-intensive, semi-urban milk production systems. A survey of farms in the greater Bamako area, undertaken by Land O’Lakes for the APEX project in 1994, revealed that the major problems in product quality originated on the farm. Inadequate milking and on-farm storage techniques were the primary factors leading to poor quality. This, coupled with an inefficient transport system, results in the delivery of a marginal product to the central processing unit in Bamako. These were the major reasons that bulk processors of milk and producers of milk products opted for the use of imported powdered milk, in addition to its competitive price and year-round availability.

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<sup>28</sup> Traore, A. Evaluation des Interventions de l’APEX sur la Filiere Petits Ruminants

<sup>29</sup> The Chamber of Agriculture, in collaboration with local dairy cooperatives and a French cooperative partner are establishing a new milk processing plant in Bamako. This plant is intended to produce approximately 5,000 liters per day from locally produced milk.

During the past several years the organization of this commodity system has improved. Artificial insemination has led to increased production and collaboration with European milk cooperatives, particularly in France, has begun to improve the processing infrastructure. Moreover, the price of locally produced milk is becoming increasingly competitive with that of imported milk powder.

However, major efforts remain in improving the on-farm handling of milk. Though production has increased through genetic improvement, improved feeds and feeding techniques are still needed. The vast majority of producers do not know their costs of production. The low percentage of commercialized milk in relation to total production cited above is a reflection of the difficulties, both technical and logistic, in providing an adequate infrastructure to commercialize milk in traditional, transhumant production systems which are the predominant production system in Mali in terms of animal numbers.<sup>30</sup>

Organizing the development of a commercial milk production-marketing system based on the production from traditional herds is difficult. In 1996 the APEX Project funded a feasibility study to assess the potential of collecting milk for a processing unit to be established in the Mopti region. Estimated total milk production from pastoral herds within the zone intended to be serviced by this processing unit was sufficient to theoretically furnish enough raw milk to generate a favorable IRI. However, a survey of the area by APEX's consultants revealed that it would be possible, due to host of reasons, primarily logistical, to only provide on a year-round basis 30-40% of the raw milk needed to meet the units estimated production capacity. This is a major reason why semi-intensive milk production systems are concentrated in urban and semi-urban areas.

In summary, the opportunities to better meet the domestic demand for locally produced milk is centered in production systems located geographically close to urban consumers. Establishing the necessary infrastructure, both on the farm and in the processing/marketing areas is presently being undertaken by the producers themselves, in collaboration and with the support of European partners. For the moment, and for the foreseeable future, the milk products industry uses primarily re-constituted, imported powdered milk, for the reasons cited above. Currently, there appears to be limited opportunities for Mali SEG/CAE to make a significant impact on improving the value-added from this commodity sub-sector, other than to offer on a demand basis, management and marketing assistance to commercial enterprises producing milk products.

## **E) Poultry Commodity System**

### **1) Overview/Structure**

Poultry and egg production is estimated at 7.5% of total livestock sector production, fourth in importance for the sector following cattle, small ruminants, and milk. In 1997 the commodity system's contribution to GDP was estimated at 0.94%<sup>31</sup>. The national flock, roughly estimated at 22 million birds of all types<sup>32</sup>, produces between 10,000 and 15,000 tons of meat and 120 to 140 million eggs annually.<sup>33</sup>

Though the majority of production is destined for domestic consumption, the export of live poultry represents an important revenue generating activity, particularly for markets in Ivory Coast and Senegal. In 1992 exports were estimated at 160 tons with a value of \$ 232,000. Available data for the period of 1971-1993 show that the total estimated value of exports was highly variable from year to year, ranging

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<sup>30</sup> Refer to Table 5, page 6 – including agro-pastoral systems based on rain-fed cereals production where livestock are basically managed under transhumant conditions, more than 65% of the cattle and the vast majority of sheep and goats are found in traditional production systems.

<sup>31</sup> DNSI 1997. Comptes Economiques du Mali, Bamako.

<sup>32</sup> DNSI 1997. Comptes Economiques du Mali, Bamako.

<sup>33</sup> Traore, N., Diallo, A.A. and Tangara, M. 1996. Etude du Marche des Produits Avicoles dans le District de Bamako, SERNES, Bamako.

between 20 and 100 million FCFA annually with a trend towards a continual increase in exports during the last 10 years.

Producers face two primary constraints. In the case of village level production systems, the availability of veterinary inputs remains problematic, though improvements have been made during the past several years. Presently, all veterinary vaccines are imported, and for the GRM represents a production opportunity for the Central Veterinary Laboratory in Bamako.

The second constraint, impacting mostly on semi-industrial producers, concerns the supply of day-old chicks. Until 1996, virtually all day-old chicks were imported. During the past 18 months, day-old chicks have been available locally, but in numbers far below demand. Local production is dependent, and in fact limited, on the provision of imported fertilized eggs. In 1997, the CMDT, in collaboration with a US investor and a local group of poultry producers, announced plans to reopen the Sotuba Poultry Center that has been closed for many years. The major objective is to provide producers with locally produced day-old chicks, though economics dictates that this activity will likely be linked to broiler production. To date the center has not started producing.

## 2) Demand

Very few studies have been conducted concerning the demand for poultry products in Mali. The two major references used in this assessment include a consumer study undertaken in 1989<sup>34</sup> and an assessment of the Bamako poultry market undertaken in 1996<sup>35</sup>.

The different categories of poultry products consumed include poultry, guinea fowl, pigeons and turkeys and poultry and guinea fowl eggs. Price, consumer income and the strength of preferences and product availability determine the demand for poultry products.<sup>36</sup> The coefficient of elasticity for the consumption of poultry products has been estimated (DNSI 1989) at 0.98 and 1.23 in urban and rural settings, respectively. This indicates that an increase of 10% in personal income will increase the consumption by 9.8% for urban consumers and 12.3% for rural consumers. This compares to 1.4 and 0.25 for red meat and fish, respectively, in urban areas.

The consumption of poultry products is positively correlated with an increase in the population, improved standard of living and urbanization. In general, the Malian population is estimated to be growing by 2.6% (4.5% in urban areas). The consumption of poultry meat is estimated at 1.7 kg per person per year and 16 eggs per person per year (Diarra 1997). For the Bamako market this amounts to a potential annual consumption of over 2,000 metric tons of meat and 20 million eggs.

In urban areas there are two primary categories of consumers, familial and commercial (restaurants). In At the family consumer level, chickens or guinea fowl are purchased, slaughtered, cleaned and consumed the same day. Restaurants generally sell grilled chicken, either as whole birds or as parts.

With regards to exports, there are only two major markets, Ivory Coast and Senegal, and all exports consist of live birds. The Senegal market is almost exclusively for guinea fowl, while the Ivory Coast market includes chickens, guinea fowl and turkeys (mostly from the Sikasso Region). Data<sup>37</sup> indicate that the Ivory Coast offers considerable future opportunities for the sale of poultry products (2000 to 3000 tons of chicken and 4-5 million eggs annually) due to its high rate of population growth and urbanization.

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<sup>34</sup> DNSI 1989. Enquetes Bugdet-Consommation 1988-1989, volume 2, synthese, BAMAKO

<sup>35</sup> see footnote 3

<sup>36</sup> among some consumers there is a traditional belief that the continuous consumption of poultry products is will make one poorer, though this belief is not considered to be a constraint to limiting future demand.

<sup>37</sup> Royant, G. 1991. Etude de la mise en Oeuvre d'une Filiere Avicole dans le Cadre du Project Mali-Sud III, Ministere de l'Agriculture/CMDT/Ministere Francais de la Cooperation et du Developpement, Paris.

However, its own commercial poultry industry is increasingly meeting domestic demand.<sup>38</sup> Thus, long term growth for the importation of chickens may not be very optimistic, but niche markets will likely continue to grow, especially for guinea fowls. A similar scenario will likely be the case for Senegal.

### 3) Supply

The poultry production marketing system has its roots in the informal sector. There are three classes of producers, village level, traditional and improved, and modern (semi-industrial). In traditional systems, virtually everyone in the village is involved. This system can be characterized as low input-low output based on local breeds. In addition to chickens, guinea fowl, pigeons and ducks are also raised. (some producers specialize in specific breeds, as for example turkeys) Rarely are commercial rations used, generally relying on locally available feedstuffs. Veterinary treatment is limited or non-existent. The number of birds reared varies from several to 20 or 30. In improved village systems the level of investment considerably higher than for traditional producers. These take the form of improved housing, feeding and watering equipment and improved rations. Routine veterinary care is provided. In this system the number of birds reared per producer can be as high as several hundred.

Semi-industrial production, generally located in semi-urban areas, is based on imported breeds for both egg and meat production. The system of production can be characterized as “semi-modern” in terms of infrastructure and rearing techniques (well-formulated rations and prophylactic veterinary care). A major constraint for these producers is the lack of an efficient system of product distribution, and as consequence, the major reason why the majority of these production units are located in or at the periphery of urban areas to facilitate the transport of their products to market.

There are essentially four categories of poultry markets. Farm-level, semi-urban markets, urban markets and export. Farm-level markets generally take place weekly at village fairs where collectors or consumers buy directly from producers. Wholesale collectors, who supply urban markets, are the major buyers in these markets. In addition, local sales take place among producers, local sellers and consumers.

Both wholesale collectors and semi-industrial producers who sell both eggs and broilers supply urban markets, the largest being in Bamako. Most retailers are supplied by wholesale collectors for local breeds and by semi-industrial producers for eggs.<sup>39</sup> Broilers generally are supplied directly by the latter to their commercial clients, supermarkets and restaurants.

Poultry are generally transported by public taxis attached to baggage racks on the roof or by large trucks, attached individually on the outside of the trailer bed or, if in large numbers, in locally constructed cages. In semi-urban areas most production is distributed by bicycle.<sup>40</sup>

Industrial processing for poultry is non-existent. Poultry are not slaughtered in slaughterhouses for religious reasons. Most birds are purchased live (except for the supermarket clientele) and “specialists” in the market, kill, clean and remove feathers for 50 to 100 FCFA per bird.

Exports are assured for the most part by wholesale collectors. As already noted, this commerce is generally informal and virtually no specific information is available concerning either the contractual nature of these exports or the characteristics of the markets being supplied. Secondhand information indicates that markets are in northern Ivory Coast, though Dakar appears to be the principal market being supplied in Senegal.

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<sup>38</sup> Ivory Coast is heavily investing in the development of its commercial poultry industry, which is rapidly expanding, as are supporting enterprises such as the production of day-old chicks and poultry feed.

<sup>39</sup> Since 1995 the number of eggs imported from Senegal have virtually ceased. These imports consisted for the most part of rejected fertile eggs and seriously undercut local production. However, during the past 3-4 years, the market for locally produced eggs has improved, encouraging many small semi-urban producers to increase their production.

<sup>40</sup> Diarra 1997. Analyse des contraintes, des forces et opportunités de la filière avicole, APEX Project, Bamako.

The production of poultry and eggs have been increasing at approximately 3.5% annually during the period from 1980 to 1997<sup>41</sup> in spite of the low level of productivity common for village-level production systems. Data show a relative stability in the price of poultry for the period 1984-1994. As was the case for livestock, the price of poultry increased by 58% following devaluation and continued to increase for the period 1995-1997 (DNSI 1997).

Until recently poultry production has always been a secondary concern of Mali's agriculture services, that have historically placed a priority on improving cattle and small ruminant production. However, the Ministry of Rural Development is implementing a new nation-wide project (3.492 billion FCFA) to improve poultry production in the regions of Kayes, Koulikoro, Segou, Mopti and the District of Bamako. The general focus of this program is to establish a line of credit for producers, feed producers and private veterinarians working in this commodity system. In addition, the project intends to create commercial slaughterhouses for poultry.

#### **4) Conclusions**

There is no reason to believe that the future development of the poultry industry in Mali will not follow that of other developing countries in the West African Region. Ivory Coast and Ghana, for example, have rapidly developing commercial poultry industries. Although the domestic consumption is considerably below that of red meat, efficiencies of production and economies of scale, that are unachievable for cattle and small ruminants, and consumption projections argue in favor of increased production and lower prices in the future.

Feed conversion rates are much better for poultry than cattle or small ruminants. That is, a kilogram of animal feed produces more poultry meat than red meat. It is true that poultry feed, which is primarily grain, costs more per kilo than feed for ruminants, and that there are veterinary and housing costs in addition to feed. Nevertheless, as livestock systems modernize, poultry meat generally tends to become significantly cheaper per kilo than meat from cattle, sheep or goats. Thus relative price movements are likely to stimulate demand for poultry so that consumption rises more rapidly than it does for beef and mutton.

The major constraints presently facing producers have been noted above, and with regards to basic inputs, efforts are underway by private businesses, overseas investors and CMDT to improve the supply of day-old chicks and vaccines to local producers. One area that appears strategic is the development of the poultry feed industry. The year round availability of cost-effective rations is a major requirement for the development of the industry. Moreover, since development of a commercial animal feed industry is frequently driven by the demand for poultry feeds, promoting the development and expansion of commercial poultry feed enterprises could also have an impact on the production of cattle and small ruminant feeds. Expansion of the commercial animal feed industry also offers expanded, value-added markets for use of cereals and cereal, crop by-products.

#### **F) Recommendations**

The brief analysis presented above has attempted to provide an overview of the performance, opportunities and constraints of major commodity production marketing systems in Mali's livestock sector. Historically, this commercial sector has remained illusive of government control that has not been the case for the cereals, fruit and vegetable sub-sectors. As a result, livestock production and marketing is still, to a large extent, traditionally managed.

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<sup>41</sup> DNSI 1997. Comptes Economiques. The annual production of poultry has increased from approximately 4500 metric tons in 1980 to 6000 metric tons in 1997.

Though each commodity system has its own specific constraints, several have been shown to be common to virtually all commodity systems. What is clear from the analysis above is that in most cases there is an absence of effective market linkages up and down the various segments of the different commodity systems, due, in large part, to the poor formal organization and limited development of the different commercial segments. This is characterized by the lack of adequate commercial infrastructures, limited availability of useful market information and capacity to use it, limited availability in time and in quantity of production inputs, limited use of formal trade and commercial contracts and procedures and ineffective professional organizations. Strengthening these elements will be essential in developing a production/processing/marketing base to enable the livestock sector to be market responsive. However, such efforts will be medium and long term in scope and duration.

*Promoting market responsive commodity production systems is necessary to increase sector productivity, valued-added and revenue. This is the common strategic objective of the following recommendations.*

Although the description and analysis presented in this document has highlighted a vast range of constraints, needs and potential opportunities for many livestock sector commodity production marketing systems, the MALI SEG/CAE project cannot, and should not address all of these. Most, in fact, are not within the manageable interest of the project. Therefore, recommended interventions have been prioritized based on the following criteria:

- exploit the comparative advantage of MALI SEG/CAE's technical assistance and program resources in the area of agro-business development (marketing, processing, management)
- focus on existing enterprises and existing products that have improved market potential
- address those *results areas* outlined in the First Annual Workplan
- focus on activities that "fit" within The Project's mandate and manageable interest, and
- prioritize activities that can have multiple impacts, across commodity systems and sub-sectors

In terms of MALI/SEG CAE comparative advantage in assisting Malian agro-industries, it is recommended that The Project focus on:

- creating partnership linkages, "match making" among (producers, processors, buyers, sellers, banks and the private sector entrepreneurial community),
- providing a large diffusion of useful production and market information,
- strengthening management/business development capacity,
- strengthening professional associations, focusing **initially** on the marketing of existing products for which there is a well-defined domestic and/or sub-regional demand

### **1) Developing Market-Responsive Animal Feed Businesses<sup>42</sup>**

As pointed out in this analysis, functional weaknesses in the live animal/red meat commodity production marketing system (as well as other commodity systems within the sector) are the result of major structural and organizational deficiencies. Improving these deficiencies will be, at best, a medium-term process requiring substantial participation and investment by the formal private sector. In this regard, efforts need to be undertaken to create partnerships between the entrepreneur/investment community and "traditional" sector operators. Such partnerships, whether solely among Malians or among regional partners, can create a "new breed" of livestock sector professional, better capable of capitalizing on both domestic and regional market opportunities. These partnerships must be based on technical, economic and financial realities and on professional responsibility.

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<sup>42</sup> A potential development partner: Projet pour le Développement de la Filière Avicole, MDRE Bamako, page 31.

One segment in this commodity system already possess a basic structural and organizational base, capable in the short term of having a positive impact on improving productivity and value-added. This is Mali's fledging *commercial feed industry*. This segment is strategically important for several reasons. It addresses what is generally considered to be one of the major constraints limiting productivity. It cuts across virtually all livestock sub-sector commodity systems, including poultry. It is composed of feed production enterprises that provide a functional base (client groups) for defining practical business development and marketing needs, and therefore specific, results-based activities. Fourthly, it is based on providing a value-added use of cereals and of cereal, crop and animal by-products, for which a considerable resource base already exists. Finally, and most importantly, *there is a strong demand*.

The major constraints that face these enterprises and should orient project actions are:

- limited year-round supply of raw materials in quantity, quality and price,
- overcoming the perception by producers that HUICOMA is the best there is! – developing an effective marketing strategy,
- inadequate packaging and distribution,
- limited capacity to develop market-driven, business development plans, and
- limited capacity to securing financing

These constraints are basically of an operational/business development nature and offer an opportunity for Mali SEG/CAE to have an impact on both value-added within the livestock and cereals sub-sectors. It is proposed that initially, the objectives of project activities:

- encourage the use of manufactured feeds other than HUICOMA by working with semi-industrial operations producing animal feeds to strengthen their business efficiency, not only in production but also in marketing (new product and new market development)
- promote quality alternative commercial feeds directly through advertising on television and radio and producing and distributing technical brochures (market development)
- provide training in business/management and marketing training (business development) for commercial feed producers

*In the opinion of the author developing commercial animal/poultry feed enterprises presently represents the highest priority for Mali SEG/CAE's interventions in the livestock sector.*

## **2) Providing Red Meat Market Information**

Although MALI SEG/CAE intends to develop a market information service that is addressed later in this section, establishing a red meat market information base has been singled out for particular attention. This is due to the high priority that The GRM, and for that matter, USAID accord to the export of red meat. This information should provide detailed information on product quality, quantity, price, seasonality, and tariff and non-tariff barriers and specific regulations regarding sanitary and animal health issues. Information should initially focus on major red meat markets within the UMEOA region and North Africa. *The objective of this market information should be to define the conditions that need to be met if Mali is to export red meat.*<sup>43</sup> In the short-term this information would provide the basis for developing a position paper which Mali SEG/CAE could then discuss with USAID and MDRE.

As already noted, APROFA outlined a program in 1996-97 for a test shipment of red meat to Abidjan. To the author's knowledge this has not yet happened. If it does take place, MALI SEG/CAE should monitor

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<sup>43</sup> To the author's knowledge, no detailed economic study has been done on the transport of red meat within the UMEOA region. This information is vital to assess the potential profitability of red meat exports.

results with a view towards clarifying future opportunities. It is not recommended that MALI SEG/CAE should finance a shipment, but rather facilitate it should project clients demand it based on supportive market information.

### **3) Providing Hides and Skins Market Information**

Increasing the value-added for this commodity will be determined by increasing quality. USAID and MDRE are using the media, television and radio, to make producers and butchers aware of quality concerns and improved treatment for hides and skins. APROFA developed a program in 1996-97 with the Mutuelle des Professionnels des Cuirs et Peaux (MPCP) to provide members with information on price and market opportunities and strengthen their business/marketing capacity. In order to encourage quality, a system allowing hides to be stamped with a seal showing they have met certain quality standards is to be established.

This commodity sector is already receiving support from projects, overseas investors, public sector services and donors. To further strengthen the marketing capacity of exporters *MALI SEG/CAE should assist MPCP strengthen its marketing strategy. In this regard The Project should ensure that the MPCP has up to date information on the international hides and skin market.* A major problem related to local processing industries, in addition to the quality problem, concerns environmental issues that the authors considers to be outside the technical mandate of MALI SEG/CAE but not necessarily its policy mandate.

### **4) Business Development/Marketing Training for Processors of Milk Products**

Improvements in production and processing continue to strengthen the milk-marketing network in the greater Bamako area. A new milk-processing unit is due to open shortly, providing local producers with a formal outlet for their milk. This unit has been established in cooperation with a French dairy cooperative, that has provided approximately half the financing and local dairy cooperatives the rest. *On a demand basis, MALI SEG/CAE could provide management/marketing assistance to commercial processing units, either dairies or milk product specialists.*

### **5) Developing Commercial Poultry Feed Enterprises**

*Developing and strengthening the commercial poultry feed industry is a high priority,* as noted above. As part of its business development strategy MALI SEG/CAE should work with commercial poultry feed enterprises to strengthen their marketing and business development strategies. The Project's business development efforts should compliment programs being implemented by MDRE's national poultry development project and CMDT. This nation-wide development project and CMDT are already or planning to provide considerable development support. Apart from certain niche markets opportunities within the sub-region, the GRM's overall development priority for the poultry production system is to diversify income for rural producers and to better satisfy domestic demand. It should be noted that original project plans envisaged investments in the development of commercial poultry feed businesses.

This offers a potential opportunity for MALI SEG/CAE to leverage outside resources to meet one of its business development objectives, "increasing access to working capital". MALI SEG/CAE needs to create such opportunities where local entrepreneurs have access to investment capital either through the commercial banking sector, private investment funds or, in this case, donor projects.

### **6) Providing a Market Information Service**

*The highest priority activity for MALI SEG/CAE is to ensure that useful agricultural market information is made available to livestock sector businesses.* In the case of livestock commodities, current information should be made available for regional international hides and skin markets and regional and North African livestock and red meat markets. Moreover, MALI SEG/CAE needs to actively market its

information system by the local and national media. In addition, MALI SEG/CAE must begin to “tap into” regional business/enterprise networks in an effort to identify regional business opportunities and information useful to Malian entrepreneurs and then extend this information to the maximum number possible.

## **ANNEX**