

**COMMODITY CHAIN ANALYSIS OF CATTLE  
MARKETING IN NIGERIA; A CASE STUDY OF K.R.I.P  
AREA KANO STATE.**

**BY**

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## LIST OF ACRONYMS

|        |   |
|--------|---|
| A.B.U  | Ahmadu Bello University Zaria                                 |
| ADENI  | Agricultural Development in Nigeria                           |
| FDLPC  | Federal Department of Livestock and Pests Control             |
| GM     | Gross Margin  |
| GP     | Group Pastoralists  |
| IP     | Individual Pastoralist  |
| KRIP   | Kano River Irrigation Project                                 |
| LSP    | Large Scale Pastoralist                                       |
| MSP    | Medium Scale Pastoralist                                      |
| NAERLS | National Agricultural Extension and Research Liaison Services |
| NAPRI  | National Animal Production Research Institute                 |
| NVRI   | National Veterinary Research Institute                        |
| SSP    | Small Scale Pastoralists                                      |
| TC     | Total Cost  |
| TFC    | Total Fixed Cost  |
| TVC    | Total Variable Cost   |
| VC     | Variable Cost   |

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**COMMODITY CHAIN ANALYSIS OF CATTLE**  
**MARKETING**  
**IN NIGERIA: A CASE STUDY OF K.R.I.P. AREA**  
**KANO STATE**

**1.0 INTRODUCTION**

The Agricultural Development in Nigeria (ADENI) project is a 3 year development project, sponsored by the French Government. The project implementation started in 2003 and is coordinated by a French – Nigerian team located at the National Agricultural Extension and Research Liaison Services (NAERLS) A.B.U., Zaria, Kaduna State. The ADENI project intends to contribute to poverty alleviation and food security in the rural areas of Northern Nigeria. It falls within the scope of the Federal Government strategy for rural development aimed at boosting the agricultural sector and contributing to significant reduction of poverty. The projects dual purpose is to increase the productivity of small-scale farmers and improve their access to market. To this end, the project commissioned four teams to conduct commodity chain analysis and one of them is on cattle.

Livestock production is a source of employment and livelihood to many Nigerians. Cattle are the most predominant and highly valued livestock in Nigeria (Tewe, 1997). They are kept for beef, hide, milk and for traction (Tukur and Maigandi, 1999), and to many as status symbol. The livestock system employed by the farmers is characterized by traditional system of production. Under this system, there is involvement of traditional methods in all aspects of cattle production including health (Abubakar and Garba, 2004)

## **1.1 OBJECTIVES**

The broad objective of the study is to carry out a comprehensive cattle marketing chain analysis in the Kano River Irrigation Project Area of Nigeria.

The specific objectives are to:

- i. Examine the cattle production trend & prices in Nigeria.
- ii. Examine the common cattle production systems in the study area
- iii. Identify the cattle marketing channels and their behavioral pattern
- iv. Assess the costs and return (marketing margin) of the cattle producers (pastoralists) and marketers in the study area.
- v. Identify the standard technical coefficients for cattle production in Nigeria.
- vi. Find out the major constraints faced by both the cattle producers and marketers in the study area

## **1.2 Justification**

From time immemorial and for a long time to come the traditional system of cattle production of which the Fulanis are the key actors remains the main source of livestock and livestock products. The purpose of any rational producer is to make profit but the Fulanis purpose goes beyond economic reasons. To them cattle raising is part of their lives. Nevertheless profit constitute a common yardstick against which any business enterprise is measured.

Marketing is an aspect which stimulates further production *ceteris-paribus*. If the marketing is efficient both the producer and consumer get satisfied in the sense that the former gets a better price for his product while the latter gets it at a cheaper price.

An indepth study of the production and marketing is necessary in order to gain an insight into the production and marketing systems, the key actors involved, costs and returns, and constraints attached to various stages in the system.



## **2.0 BACKGROUND**

### **2.1 Distribution of Cattle**

Cattle command a prominent position in our meat supply and livestock industry. Beef is estimated to supply about 45 percent of total meat consumed in Nigeria, while the next in rank is sheep and goat meat with 35 percent. Our National herd contains an estimated 9.2 million herds of cattle in 1981. Over 90 percent of these are in the hands of traditional producers and in the Northern parts of the country (Ken, 1982). The growth rate in the National herd is estimated at 1.5 percent annually.

It is interesting to note that although developing countries contain about two-thirds of the World Cattle Population, about two-third of total beef production is accounted for by developed countries (Rimi, 1982). Whatever their level of production, livestock in developing countries provide millions of families with better nutrition, family income and employment opportunities, draft power and a more balanced agriculture.

### **2.2 Demand for and supply of Beef**

At present, the Fulanis provide over 85 percent of Nigerian meat supplies. However, their nomadic system of production is increasingly coming under pressure from rapidly changing social, economic and political situations as Nigeria develops. For example, the proliferation of states, opening of huge areas of land by River Basin Development Authorities for irrigated agriculture, the development of new cities like Abuja the new Federal Capital and the land use Act which failed to recognized the rights of the Fulani herdsmen to transient usage of land for grazing, all serve to make nomadism increasingly untenable as a method of cattle production.

Unfortunately, we do not have at present a viable alternative in place, as most government and private beef production projects, making use of modern methods, are yet to make an appreciable impact.

### **2.3 Estimated Cattle Population, Off-take Rate and Beef Equivalent 1990 – 2010**

The production estimates of cattle was collected in the course of this study. The year 1990 was used as a base for the estimate with 13,947,000 heads of cattle in the country. As at 2004 the figure was 14,659,092 while it is projected to reach 14,747,267 by the year 2010. The growth rate was estimated at 1% per annum.

Along with the cattle population the off-take rate was also estimated at 12% per annum starting from the base year. This was found to be 1,673,640 heads of cattle as at 1990, 1,759,091 for 2004 and is projected to be 1,769,672 by 2010.

Furthermore, the beef equivalent per annum was also estimated. This was found to be 209,205,000 as at 1990, 219,886,378kg by 2004 and is expected to reach 221,208,999kg by the year 2010.

The low figures may be attributed to the slow growth rate, poor conception rate, delayed age at first calving, long calving interval and low carcass yield of our traditional breeds coupled with extensive traditional management.

Table 1 shows the estimated figures of cattle off-take rate and beef equivalent.

**Table 1: ESTIMATED CATTLE POPULATION AND BEEF EQUIVALENT IN NIGERIA 1990 TO 2010**

| <b>YEAR</b> | <b>CATTLE POPULATION</b> | <b>OFF-TAKE RATE @ 12%</b> | <b>QUANTITY OF BEEF IN Kg</b> |
|-------------|--------------------------|----------------------------|-------------------------------|
| 1990        | 13,947,000               | 1,673,640                  | 209,205,000                   |
| 1991        | 14,086,470               | 1,690,376                  | 211,297,000                   |
| 1992        | 14,227,335               | 1,707,280                  | 213,410,000                   |
| 1993        | 14,369,608               | 1,724,353                  | 215,544,125                   |
| 1994        | 14,513,30                | 1,741,596                  | 217,699,560                   |
| 1995        | 14,527,817               | 1,743,338                  | 217,917,260                   |
| 1996        | 14,542,345               | 1,745,081                  | 218,135,177                   |
| 1997        | 14,556,887               | 1,746,826                  | 218,353,312                   |
| 1998        | 14,571,444               | 1,748,573                  | 218,571,665                   |
| 1999        | 14,586,016               | 1,750,322                  | 218,790,237                   |
| 2000        | 14,600,602               | 1,752,072                  | 219,099,027                   |
| 2001        | 14,615,202               | 1,753,824                  | 219,228,036                   |
| 2002        | 14,629,818               | 1,755,578                  | 219,447,264                   |
| 2003        | 14,644,447               | 1,757,334                  | 219,666,712                   |
| 2004        | 14,659,092               | 1,759,091                  | 219,886,378                   |
| 2005        | 14,673,751               | 1,760,850                  | 220,106,265                   |
| 2006        | 14,688,425               | 1,762,611                  | 220,326,371                   |
| 2007        | 14,703,113               | 1,764,374                  | 220,546,697                   |
| 2008        | 14,717,816               | 1,766,138                  | 220,767,244                   |
| 2009        | 14,732,534               | 1,767,904                  | 220,988,011                   |
| 2010        | 14,747,267               | 1,769,672                  | 221,208,999                   |

Source: Federal Department of Livestock and Pest Control, 2005

#### **2.4 Average Retail Price of Cattle in Nigeria**

Attempt was also made to get price trend of cattle in the country. The record available stopped at the year 1996. As at then average price of a steer was N20,272, in January and has reached N22,342 by December whereas that of a cow averages N16,206 in January and has reached N19,773 by December, 1996. See figure I for further details.

As at the time of this study the average price of a steer was N35,000 while that of a cow was N30,000. This shows an increase of 313% for steers and 152% for the cows which indicated that the former fetches more money than the latter.

## 2.5 Importation of Cattle

Nigeria with a population of over 120 million people requires several heads of cattle to satisfy its demand for cattle and cattle products. With more than 80% of the cattle population in the hands of traditional pastoralists, the supply cannot match the demand. In an effort to bridge the gap, cattle importation was used. The imported figures as at January 1996 was 5,142 heads. Table 2 shows the imported figures of cattle in the country as at 1996.

**Table 2: MONTHLY RETURNS ON IMPORTED CATTLE FOR THE YEAR 1996**

| MONTH        | NO. IMPORTED  |
|--------------|---------------|
| January      | 5,142         |
| February     | 4,793         |
| March        | 4,113         |
| April        | 4,080         |
| May          | 2,134         |
| June         | 2,058         |
| July         | 4,821         |
| August       | 4,460         |
| September    | 4,257         |
| October      | 1,204         |
| November     | 670           |
| December     | 69            |
| <b>Total</b> | <b>37,801</b> |

Source: Federal Department of Livestock and Pest Control, 2005

| Nigeria<br>Bovine Meat      | Year   |        |        |        |        |        |        |        |        |        |        |
|-----------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|                             | 1990   | 1991   | 1992   | 1993   | 1994   | 1995   | 1996   | 1997   | 1998   | 1999   | 2000   |
| Production (Mt)             | 204273 | 205000 | 210000 | 244378 | 264319 | 266861 | 280000 | 294000 | 297000 | 298000 | 279000 |
| Imports (Mt)                | 86     | 753    | 477    | 118    | 765    | 158    | 1008   | 1158   | 1404   | 892    | 188    |
| Exports (Mt)                | 29     | 0      | 76     | 31     | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Domestic Supply (Mt)        | 204330 | 205753 | 210401 | 244465 | 265084 | 267019 | 281008 | 295158 | 298404 | 298892 | 279188 |
| Food (Mt)                   | 204330 | 205753 | 210401 | 244465 | 265084 | 267019 | 281008 | 295158 | 298404 | 298892 | 279188 |
| import % of domestic supply | 0.04%  | 0.37%  | 0.23%  | 0.05%  | 0.29%  | 0.06%  | 0.36%  | 0.39%  | 0.47%  | 0.30%  | 0.07%  |

## 2.7 Demand & Supply of Beef in Nigeria

The national meat supply position is very critical. The situation appears to be deteriorating with time. But for the needed support given in the form of massive importation of meat and meat products, in recent years, but now, the national meat shortage situation would have attained crises dimension (Oyenuga, 1982).

Beef accounts for more than 50 percent of Nigerians total meat supply. Although it has always been difficult to specify by number or by its proportion of the national herd, it is, nevertheless, known that a significant portion of the locally produced beef derived from trade cattle from Nigeria's neighbours like Chad, Niger and Cameroon. This has significantly reduced the acute beef shortage that would have been experienced if Nigeria had relied entirely on her own resources for meat supply.

The estimated demand for, supply of and demand/supply gap of beef is presented in Table 4.

**Table 4: Estimated demand for and supply of beef and their gap in Nigeria between 1980 and 2000 A.D. (000mt)**

| <b>Year</b> | <b>Demand</b> | <b>Supply</b> | <b>D/S Gap</b> |
|-------------|---------------|---------------|----------------|
| 1980        | 252.52        | 180.56        | 91.94          |
| 1981        | 272.65        | 165.24        | 107.41         |
| 1982        | 294.41        | 171.60        | 122.81         |
| 1983        | 317.90        | 176.88        | 141.02         |
| 1984        | 343.28        | 182.16        | 160.66         |
| 1985        | 370.67        | 187.44        | 183.23         |
| 1986        | 400.25        | 190.77        | 204.48         |
| 1987        | 432.19        | 196.33        | 235.86         |
| 1988        | 466.67        | 202.05        | 264.62         |
| 1989        | 503.92        | 207.94        | 295.98         |
| 1990        | 544.13        | 214.00        | 330.13         |
| 1991        | 587.55        | 220.24        | 361.31         |
| 1992        | 634.44        | 226.66        | 407.78         |
| 1993        | 685.07        | 233.26        | 451.81         |
| 1994        | 739.74        | 240.06        | 499.69         |
| 1995        | 798.72        | 247.06        | 551.71         |
| 1996        | 862.52        | 254.26        | 608.26         |
| 1997        | 931.30        | 261.67        | 669.68         |
| 1998        | 1005.67       | 269.30        | 736.37         |
| 1999        | 1058.92       | 277.15        | 807.85         |
| 2000        | 1172.58       | 285.23        | 887.55         |

Source: Federal Department of Livestock and Pest Control, 2005

## **2.8 Raising Cattle Productivity**

In relation to human population, there is now the tendency for a shortage of cattle population *per se*, since within recent years human population have grown faster than cattle

population. However, the major constraint to sufficient supply of beef is the low carcass quality of Nigerian cattle.

Breeds of Nigerian cattle, in common with others indigenous to Africa, grow slowly, taking three to four years to reach sexual maturity and attain slaughter weight, with a dressing percentage of between 50 and 55. The calving intervals take from eighteen to twenty four months; calving rate is put at 53% (Oyenuga, 1982). They are slow converters of vegetable feeds into animal products. High calf mortality of up to 20%, cow culling rates of 10% with a replacement rate of 15%. Cow to bull ratio is usually high, making only a small proportion of younger bulls available for slaughter. Cow slaughter weight of the larger breeds average 250kg.

The cattle industry now and in the near future calls for modern profit oriented business enterprising with the injection of large capital outlay to minimize, by 2000AD, the huge amount of money which would have been spent on foreign exchange for massive beef importation. The objective must be in each herd, to select more productive breeds with lower calving age, higher calving frequencies, increased number of mature females with a maximum calf-crop per annum. Reduction of mortality in all age groups in the herd particularly in the young animals thus rapidly building up the number in the herd and thereby improving the annual off-take rates and carcass weights.

Such farms must develop the strategy for improving the proportion of fodder and feed, used for maintenance and production in order to improve the overall feed efficiency. Improved range management, water supplies and disease control are essential ingredients for modern cattle production.

## **3.0 METHODOLOGY**

### **3.1 The Study Area**

The study was conducted in Kano State mainly Kano River Irrigation Project (KRIP) area and the major cattle markets in the state which include Wudil, Kwanar Dangora, Tudun Wada and Falgore

### **3.2 Sampling Procedure**

A sample of 50 pastoralists were randomly selected from the KRIP area for the individual interview while additional 30 pastoralists were captured for the group interview.

Furthermore, about 30 cattle traders including wholesalers and brokers were purposively selected for interview to cater for the various trader categories.

### **3.3 Data Collection**

Data for this study emanated mainly from two sources ie. Primary and secondary. The primary data were collected from both the Fulani pastoralists and the cattle traders. In gathering the data, two different sets of questionnaires were used, one for the pastoralists which was administered by enumerators detailed one while a short questionnaire (check list) was used for Rapid Appraisal of the traders activities.

Secondary data were collected from National Animal Production Research Institute NAPRI Shika, Zaria, Federal Department of Livestock and Pest Control, Abuja and the National Veterinary Research Institute (NVRI) Vom Plateau State.

### **3.4 Data Analysis**

Data for the study were analysed using descriptive statistics such as means, frequency distribution, rank percentages and graph. While budgeting technique was applied to capture costs and returns on both production and marketing of cattle in the study area. The data were classified into small scale, medium and large scale for ease of reference.

## **4.0 RESULTS AND DISCUSSION**

### **4.1 Organization of the Commodity Chain**

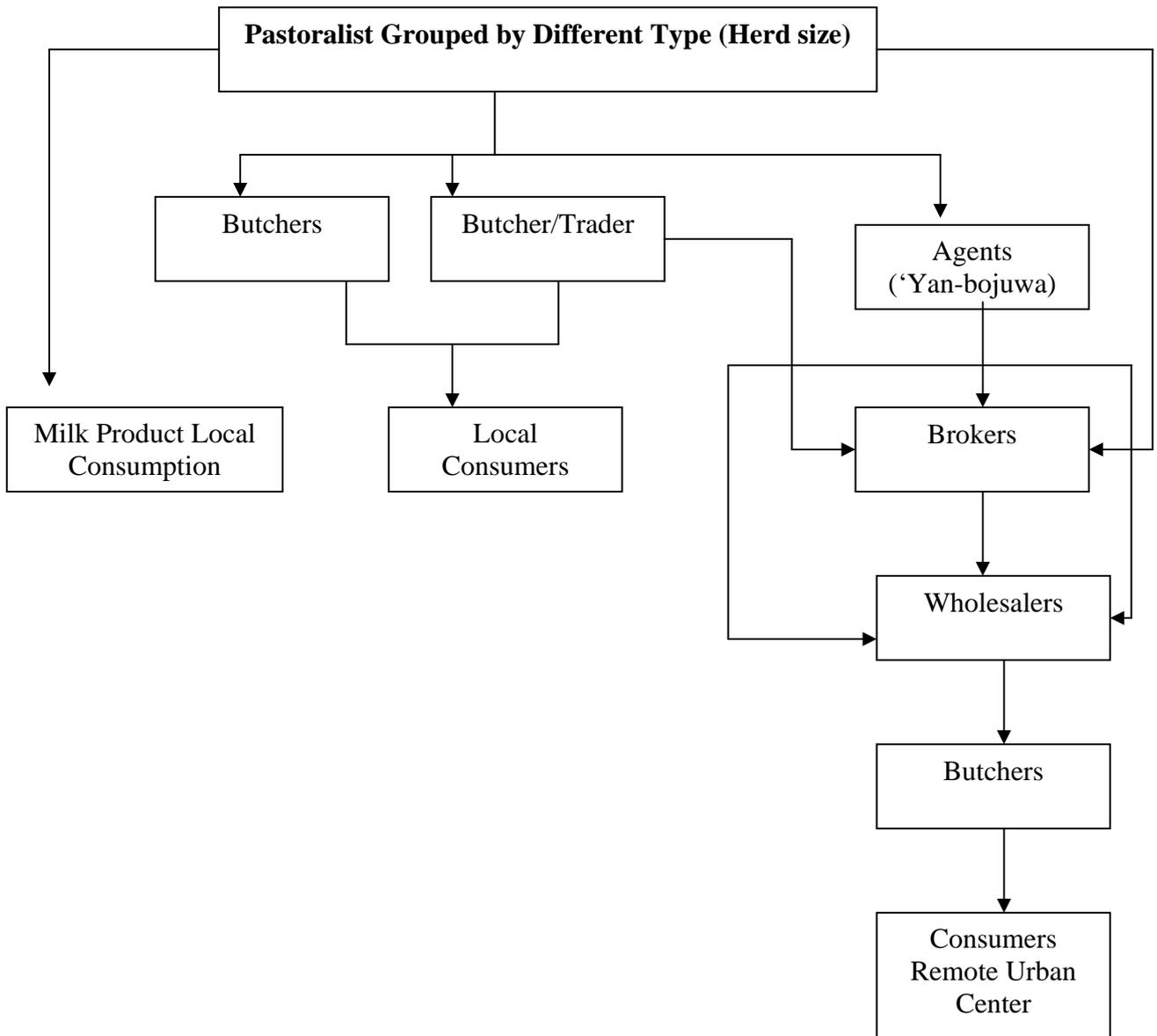
The study investigated the channels through which cattle and cattle products pass right from the producers, up to the ultimate consumer. Two commodities were identified viz: life cattle and dairy products (milk, cheese and butter).

With respect to life cattle, depending on the type it may pass through three channels. The first one was where the pastoralist sell directly to the local butchers who slaughter and sell beef and its products (*tsire, suya, balangu, kilishi* and so on) to the local consumers. This was more prevalent with respect to old cows and sick ones.

The second channel was where the pastoralist sell to the butcher/trader who may either slaughter or take to the make where they can sell to either the agents or brokers. This may be the case with both sick and healthy cattle.

The third channel which was the longest occurred where the pastoralist sels to an agent who in turn sells to a broker who further sells to a wholesaler. It is normally these wholesalers who assembled the cattle and transport them down to he distant markets (eg. Onitsha, Benin, Port Harcourt, Lagos and so on) where. At the distant markets, the cattle were purchased by butchers who either slaughter at the urban markets or take them into the remote areas for further processing.

The other important commodity is the milk and its products. This formed a crucial channel because it is on daily basis and it is purely women affairs. They processed the milk into fresh within local markets. From the findings it is the proceed from the milk sales that is used in running the day to day requirement of the family. See figure 1 for the illustration of the cattle flow chart.



## 4.2 Size of the Herd

The pastoralists operational sizes were examined in the study area and the composition of the herds in terms of steers, lactating cows, non-lactating cows and the calves. The pastoralists were grouped into three categories namely small scale pastoralists (SSP), medium scale pastoralists (MSP) and large scale pastoralists (LSP). This will enable us to see the disparity existing within the pastoralists groups.

According to the results presented in Table 4, the average herd size of the small scale pastoralists (SSP) was about 17 cattle, that of MSP and LSP were 32 and 73 cattle respectively. Also, the composition of their herd indicated that LSP had more lactating & Non-lactating cows as well as calves than the other groups of pastoralists, while the MSP excelled in the average number of steer in the herd.

**Table 4: Size of the Herd**

| Herd size/Composition                   | Pastoralist Category |       |         |       |         |      |
|---|----------------------|-------|---------|-------|---------|------|
|   | S/scale              | %     | M/scale | %     | L/scale | %    |
| Average herd size                       | 16.57                | 100   | 32.48   | 100   | 72.68   | 100  |
| Average No. of steer                    | 2.57                 | 15.51 | 7.57    | 23.31 | 5.41    | 7.44 |
| Average No. of lactating<br>Cows(LC)    | 5.00                 | 30.18 | 12.14   | 37.38 | 16.36   |      |
|   | 22.51                |       |         |       |         |      |
| Ave. No. of Non-lactating<br>Cows (NLC) | 3.77                 | 22.75 | 9.00    | 27.71 | 26.23   |      |
|   | 36.09                |       |         |       |         |      |
| Average No. of Calves                   | 5.29                 | 31.93 | 2.38    | 7.33  | 25.00   |      |
|   | 34.42                |       |         |       |         |      |

### 4.3 Proportion of Steers Marketed by the Pastoralists

In terms of market share of the steers, the butchers are having an upper hand especially from the SSP and the LSP with 67% and 74% of the steer respectively marketed through this channel. However, the MSP preferred to take 50% of their steer direct to the market for sale. However, marketing through agents is of less priority by all the categories of the pastoralists

**Table 5: Proportion of Steers Marketed by Pastoralists in 2004**

| Item                              | Pastoralist Category |         |         |
|-----------------------------------|----------------------|---------|---------|
|                                   | S/scale              | M/scale | L/scale |
| Average No. of steers marketed    | 1.29                 | 1.43    | 1.95    |
| Steers taken direct to the market | 33%                  | 50%     | 23%     |
| Marketed through agents           | 0%                   | 7%      | 3%      |
| Sold to butchers                  | 67%                  | 43%     | 74%     |

### 4.4 Standard Technical Coefficients of a White Fulani Breed of Cattle

The white Fulani cattle is the most predominant breed of cattle in Nigeria (Mbap, 1996). It is, also the most popular breed in the study area. In view of this, standard technical coefficients were obtained to serve as basis for comparison between what is obtainable in the research institution like NAPRI and NVRI and that prevailing under the traditional system in the study area.

The information collected were on calving rate, calving cycle, age at first calving, length of lactation, productive life and milk to butter ratio. These were found to be 3 – 4 years, 13 months (Pregnancy 9 months with 3 months resting period), 38 months, 280 – 300 days, about 10 years of age (ie. 5 – 6 lactation plus 4 years before lactation) and lastly the milk to butter ratio of 1 litre to 100gms. See Table 15 for further details.

In comparison with the above, the calving cycle in the study area ranges from 29 to about 43 months. The age at first calving ranges between 30 to 42 months while the productive life ranges between 9 to 14 years. In almost all the cases, the period under the research farms is shorter which may not be unconnected with the high level of management. See Table 16 and 17.

**Table 6: STANDARD TECHNICAL COEFFICIENTS OF A WHITE FULANI BREED OF CATTLE**

|    |                                 |   |
|----|---------------------------------|---|
| 1. | Calving Rate:                   | 3 – 4 years   |
| 2. | Calving Cycle:                  | 13 months<br>(ie. Pregnancy 9 months + 3 months resting period)                         |
| *  | Pregnancy period:               | 9 months  |
| 3. | Age at 1 <sup>st</sup> calving: | 38 months   |
| 4. | Length of Lactation:            | 280 – 300 days  |
| 5. | Productive Life:                | About 10 years of age (ie. 5 – 6 lactation or years + 4 years before lactation/calving) |
| 6. | Milk: Butter Ratio:             | 1 Litre of milk yield 0.010kg of butter or 100gms.                                      |

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Source: NAPRI, Zaria – 2004

**Table 7: CALVING & LACTATION INFORMATION OF CATTLE BREEDS**

| Breed         | Age at 1 <sup>st</sup> Calving | Calving interval | Lactation week yield |
|---------------|--------------------------------|------------------|----------------------|
| Jersey        | 25 months                      | 385 – 387        |                      |
| Friesian      | 25 months                      | 360 – 367        | 3381.65 + 474.20     |
| ½ Friesian    | 27.5 months                    | 349              | 2808.61 + 259.50     |
| ¼ Friesian    | 27.5 months                    | 335              | 2515.41 + 402.02     |
| 7/8 Friesian  | 30 months                      | 356              | 2403.48 + 111.71     |
| ½ Brown Swiss | 30.2 months                    | 388              |                      |
| White Fulani  | 38 months                      | 375              | 1294.10 + 1132.04    |
| Wadara        | 48 months                      | 343 - 413        |                      |

Average lactation length of 207 – 305 days and milk yield of 1 – 5 litres per cow per day has been recorded.

Source: NVRI Vom – 2005

**Table 8: Some Important Technical Coefficients in the Study Area**

| Coefficients   | Pastoralist Category |         |
|--|----------------------|---------|
|  | S/scale              | M/scale |
| L/scale  |                      |         |
| No. of years before 1 <sup>st</sup> lactation of a cow | 2.5                  | 3.48    |
|  | 3.07                 |         |
| Frequency of calving per cow                           | 3.57                 | 2.45    |
|  | 2.81                 |         |
| Average year for the cow to be disposed                | 9.07                 | 13.98   |
|  | 13.86                |         |
| Average No. of animal loss                             |                      |         |
| a. Cow   | 1.00                 | 0.48    |
|  | 2.14                 |         |

|    |        |             |             |
|----|--------|-------------|-------------|
| b. | Steer  | 0.43        | 0.52        |
|    |        | 0.64        |             |
| c. | Calves | <u>1.00</u> | <u>0.38</u> |
|    |        | <u>2.32</u> |             |
|    | Total  | 2.43        | 1.38        |
|    |        | 5.10        |             |

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#### 4.5 The Pastoralist Budgets

To assess the profitability or otherwise of the pastoralists in the study area, their operational costs and returns in the preceding year (2004) were examined using the budgeting technique. The results per categories of the respondents (pastoralist) were discussed below:

##### a) Small-scale Producers

The small-scale producers possessed a herd size below heads of cattle. Their budget is presented in Table 9. according to the table, their total fixed cost (TFC) was found to be ₦1545.69 and total variable cost (TVC) was ₦37,372.15. the TVC was higher because it included the expenses incurred on supplementary feeding especially during the dry season. Also, the value of the animal loss was ₦36,610.00. These gave a total cost (TC) of ₦75,527.84. It could be seen therefore, that the TVC constituted the major cost of production with about 49% of the TC, followed by the animal loss, comprising of 48% of the TC. The small-scale pastoralists spent less income on special care for the steer with only 13% of the variable cost (VC). They, however, do not give any attention to the care of the cows.

In terms of returns, the small-scale pastoralists obtained much income from milk/yoghurt sales with ₦89,278.30. This is followed by the sale of live animals (steers and cows) and then butter sales. The total returns of ₦151,776.19 was fund and a positive net revenue of ₦76,248.35 was estimated.

**Table 9: PASTORALIST BUDGET**

Agent: Small-scale producers  
 Location: KRIP  
 Date of Information: 20<sup>th</sup> November, 2004  
 Modalities of collection: Individual interviews  
 Herd size 17  
 Categories of costs (Average values)

**Fixed costs**

|                         | Value   | Life | Depreciation   | Percentage |
|-------------------------|---------|------|----------------|------------|
| - Milking equipment     | 285.72  | 1    | 285.72         |            |
| - Yoghurt equipment     | 1159.97 | 1    | 1159.97        |            |
| - Butter equipment      | 100.00  | 1    | <u>100.00</u>  |            |
| <b>Total Fixed Cost</b> |         |      | <b>1545.69</b> |            |

**Variable costs****1. Inputs Applicable to the entire herd**

|                     | Quantity | Unit  | Unit price | Total value |
|---------------------|----------|-------|------------|-------------|
| a) Feeds            |          |       |            |             |
| - Rice straw        | 4.676    | truck | 1500       | 7014.29     |
| - Corn stalk        | 7.900    | truck | 1000       | 7900.00     |
| - Cotton seeds cake | 3.052    | bags  | 1100       | 3357.14     |
| - Bran              | 8.218    | bags  | 1050       | 8628.57     |
| - Haulms            | 5.000    | bags  | 200        | 1000.00     |
| - Potash            | 2.143    | kg    | 60         | 128.57      |
| - Concentrates      |          |       |            | 0.00        |

**b) Vet. Medication**

|                 |        |        |      |         |
|-----------------|--------|--------|------|---------|
| - Dewormers     | 4.007  | litres | 1000 | 4007.14 |
| - Antibiotics   | 15.179 | bolus  | 20   | 303.57  |
| - Multivitamins | -      |        | 15   | 0.00    |

**Sub total****37,372.15****2. Inputs Applicable to the Cows****3. Inputs Applicable to the Steers**

|                    |      |       |      |         |
|--------------------|------|-------|------|---------|
| - Cotton seed cake | 0.91 | bags  | 1100 | 1000.00 |
| - Bran             | 3.06 | bags  | 1050 | 3214.29 |
| - Haulms           | 3.57 | bags  | 200  | 714.29  |
| - Dewormers        | 4.14 | nolus | 20   | 82.86   |
| - Antibiotics      | 1.43 | mls   | 15   | 21.43   |

**Sub total****5,032.87****Total variable cost****42,405.02****ANIMAL LOSS/DEATH**

|             |      |      |           |                 |
|-------------|------|------|-----------|-----------------|
| i. Cow      | 1.00 | head | 18750.00  | 18,750.00       |
| ii. Steer   | 0.43 | head | 27,000.00 | 11,610.00       |
| iii. Calves | 1.00 | head | 6,250.00  | <u>6,250.00</u> |

**Total loss****36,610.00****TOTAL COSTS****97,015.02****RETURNS**

|                         |        |       |           |           |
|-------------------------|--------|-------|-----------|-----------|
| i. Sale of cows         | 1.00   | head  | 18,750.00 | 18,750.00 |
| ii. Sale of steers      | 1.29   | head  | 27,000.00 | 34,830.00 |
| iii. Milk/yoghurt sales | 498.64 | litre | 179.04    | 89,278.30 |
| iv. Butter sales        | 22.73  | kg    | 392.78    | 8,927.89  |

**TOTAL RETURNS****151,786.19****NET RETURNS****72,771.17**

## b) Medium Scale Producers

The result of the budget for medium-scale producers is presented in Table 10. This category of producers manages a herd-size ranging from 21 – 50 heads of cattle. Thus, they spent much income in managing the entire herd with ₦22,345.02 while they spent less income on special care for their cows and steers. Animal loss also very high with 54% of the TC. The estimated total cost (TC) was found to be ₦58,581.54. Also, the principal source of income was from milk/yoghurt sales with ₦203,477.93. The total revenue was ₦294,635.44 with a net returns of ₦236,053.90.

**Table 11: PASTORALIST BUDGET**

|                           |                                 |
|---------------------------|---------------------------------|
| Agent:                    | Medium-scale producers          |
| Location:                 | KRIP                            |
| Date of Information:      | 20 <sup>th</sup> November, 2004 |
| Modalities of collection: | Individual interviews           |
| No. of animals            | 31                              |
| Categories of costs       |                                 |

### Fixed costs

|                         | Value  | Life | Depreciation   |
|-------------------------|--------|------|----------------|
| - Milking equipment     | 180.96 | 1    | 180.96         |
| - Yoghurt equipment     | 2550   | 1    | 2550           |
| - Butter equipment      | 87.14  | 1    | <u>87.14</u>   |
| <b>Total Fixed Cost</b> |        |      | <b>2818.10</b> |

### Variable costs

#### 1. Inputs Applicable to the entire herd

|                      | Quantity | Unit   | Unit price | Total value |
|----------------------|----------|--------|------------|-------------|
| a) Feeds             |          |        |            |             |
| - Rice straw         | 1.801    | truck  | 1500       | 2701.19     |
| - Corn stalk         | 5.648    | truck  | 1000       | 5647.62     |
| - Cotton seeds cake  | 2.656    | bags   | 1100       | 2919.05     |
| - Groundnut cake     | 0.286    | bags   | 1100       | 314.29      |
| - Bran /wheat offals | 1.984    | bags   | 1050       | 2083.33     |
| - Chaff              | 3.393    | bags   | 400        | 1357.14     |
| - Haulms             | 0.526    | bags   | 200        | 105.26      |
| - Concentrates       |          | kg     | -          | 323.81      |
| - Other feeds        | 1.687    | acre   | 1400       | 2361.90     |
| - Table salt         | 2.222    | kg     | 60         | 133.33      |
| - Potash             | 4.643    | kg     | 60         | 278.57      |
| b) Vet. Medication   |          |        |            |             |
| - Dewormers          | 3.453    | litres | 1000       | 3452.86     |
| - Antibiotics        | 31.429   | bolus  | 20         | 628.57      |
| - Multivitamins      | 2.540    | mls    | 15         | 38.10       |

|           |  |         |           |                   |                 |
|-----------|--|---------|-----------|-------------------|-----------------|
|           | <b>Sub total</b>                       |         |           | <b>22,345.02</b>  |                 |
| <b>2.</b> | <b>Inputs Applicable to the Cows</b>   |         | <b>No</b> |                   |                 |
| -         | Cotton seed cake                       | 0.152   | bags      | 1100              | 166.67          |
| -         | Wheat offals                           | 1.147   | bags      | 1050              | 1204.76         |
| -         | Other feeds                            | 0       | acre      | 1400              | 0.00            |
| -         | Antibiotics                            | 2.222   | mls       | 15                | 33.33           |
|           | <b>Sub total</b>                       |         |           | <b>1,404.76</b>   |                 |
| <b>3.</b> | <b>Inputs Applicable to the Steers</b> |         | <b>No</b> |                   |                 |
| -         | Cotton seed cake                       | 0.048   | bags      | 1100              | 50.00           |
| -         | Wheat offals                           | 0.349   | bags      | 1050              | 366.67          |
| -         | Other feeds                            | 0.306   | acre      | 1400              | 42.86           |
| -         | Antibiotics                            | 4.762   | mls       | 15                | 71.43           |
|           | <b>Sub total</b>                       |         |           | <b>530.96</b>     |                 |
|           | <b>Total variable cost</b>             |         |           | <b>24,280.74</b>  |                 |
|           | <b>ANIMAL LOSS/DEATH</b>               |         |           |                   |                 |
| i.        | Cow                                    | 0.48    | head      | 24,404.77         | 11,714.29       |
| ii.       | Steer                                  | 0.52    | head      | 32,071.43         | 16,677.14       |
| iii.      | Calves                                 | 0.38    | head      | 8,134.92          | <u>3,091.27</u> |
|           | <b>Total loss</b>                      |         |           | <b>31,482.70</b>  |                 |
|           | <b>TOTAL COSTS</b>                     |         |           | <b>58,581.54</b>  |                 |
|           | <b>RETURNS</b>                         |         |           |                   |                 |
| i.        | Sale of cows                           | 1.00    | head      | 24,404.77         | 24,404.77       |
| ii.       | Sale of steers                         | 1.45    | head      | 32,071.43         | 46,404.57       |
| iii.      | Milk/yoghurt sales                     | 1470.11 | litre     | 138.41            | 203,477.93      |
| iv.       | Butter sales                           | 32.40   | kg        | 628.03            | 20,348.17       |
|           | <b>TOTAL REVENUE</b>                   |         |           | <b>294,635.44</b> |                 |
|           | <b>NET REVENUE</b>                     |         |           | <b>236,053.90</b> |                 |

### c) The Large-scale Pastoralists

The large-scale producers manages a herd-size of cattle heads above 50. Their budget was presented in Table 12.

The large-scale pastoralists enjoy relative economics of size than the other categories of the pastoralists thus they spent much income as expenses for managing their stock, as well as generate much revenue in the process. As revealed by the study this category of producers

spent substantial income of about ₦48,797.26 on supplementary feeding and medication for the entire herd, as well as took adequate care for their lactating cows and steers. They incurred a total cost of ₦187,530.02 with a high rate of animal loss reaching upto 54% of the total cost.

Interms of revenue the large-scale pastoralists generated a total returns of ₦500,537.94 with milk/yoghurt sales occupying 72% of the total returns followed by steer sales, 16%. A net revenue of ₦313,007.92 was estimated for this category of producers

**Table 12: PASTORALIST BUDGET**

Agent: Large-scale producers  
 Location: KRIP  
 Date of Information: 20<sup>th</sup> November, 2004  
 Modalities of collection: Individual interviews  
 No. of animals 73  
 Categories of costs

**Fixed costs**

|                         | Value   | Life | Depreciation    | Percentage  |
|-------------------------|---------|------|-----------------|-------------|
| - Milking equipment     | 280     | 1    | 280             |             |
| - Yoghurt equipment     | 2918.25 | 1    | 2918.25         |             |
| - Butter equipment      | 113.18  | 1    | <u>113.18</u>   |             |
| <b>Total Fixed Cost</b> |         |      | <b>3,311.43</b> | <b>1.77</b> |

**Variable costs**

**1. Inputs Applicable to the entire herd**

|                      | Quantity | Unit   | Unit price | Total value      |           |
|----------------------|----------|--------|------------|------------------|-----------|
| a) Feeds             |          |        |            |                  |           |
| - Rice straw         | 0.878    | truck  | 1500       | 1317.05          |           |
| - Corn stalk         | 4.445    | truck  | 1000       | 4445.45          |           |
| - Cotton seeds cake  | 11.304   | bags   | 1100       | 12434.09         |           |
| - Groundnut cake     | 1.190    | bags   | 1100       | 1309.09          |           |
| - Bran /wheat offals | 7.879    | bags   | 1050       | 8272.73          |           |
| - Chaff              | 3.489    | bags   | 400        | 1395.45          |           |
| - Concentrates       |          |        |            | 1704.55          |           |
| - Other feeds        | 0.289    | acre   | 1400       | 404.76           |           |
| - Table salt         | 9.129    | kg     | 60         | 547.73           |           |
| - Potash             | 8.485    | kg     | 60         | 509.09           | 32,339.99 |
| b) Vet. Medication   |          |        |            |                  |           |
| - Dewormers          | 9.423    | litres | 1000       | 9422.73          |           |
| - Antibiotics        | 339.909  | bolus  | 20         | 6798.18          |           |
| - Multivitamins      | 15.757   | mls    | 15         | 236.36           | 16,457.27 |
| <b>Sub total</b>     |          |        |            | <b>48,797.26</b> |           |

| <b>2. Inputs Applicable to the Cows</b> |        |        | <b>No</b> |                  |
|---|--------|--------|-----------|------------------|
| - Cotton seed cake                      | 11.665 | bags   | 1100      | 12831.82         |
| - Groundnut cake                        | 0.083  | bags   | 1100      | 90.91            |
| - Bran                                  | 10.091 | bags   | 1050      | 10595.45         |
| - Potash                                | 0.074  | kg     | 60        | 4.45             |
| - Salt lick                             | 5.682  | kg     | 60        | 340.91           |
| - Dewormers                             | 3.007  | litres | 1000      | 3006.82          |
| - Antibiotics                           | 2.273  | bolus  | 20        | 45.45            |
| - Multivitamins                         | 1.515  | mls    | 15        | 22.73            |
| <b>Sub total</b>                        |        |        |           | <b>26,938.64</b> |

| <b>3. Inputs Applicable to the Steers</b> |       |        | <b>No</b> |                 |
|---|-------|--------|-----------|-----------------|
| - Cotton seed cake                        | 0.645 | bags   | 1100      | 709.09          |
| - Groundnut cake                          | 0.186 | bags   | 1100      | 204.55          |
| - Bran                                    | 4.410 | bags   | 1050      | 4630.91         |
| - Chaff                                   | 0.091 | bags   | 400       | 36.36           |
| - Haulms                                  | 0.182 | bags   | 200       | 36.36           |
| - Table salt                              | 9.091 | kg     | 60        | 545.45          |
| - Dewormers                               | 0.523 | litres | 1000      | 522.73          |
| - Multivitamins                           | 3.333 | mls    | 15        | 50.00           |
| <b>Sub total</b>                          |       |        |           | <b>6,735.45</b> |

**Total variable cost** **84,470.71**

#### **ANIMAL LOSS/DEATH**

|             |      |      |           |                  |
|-------------|------|------|-----------|------------------|
| i. Cow      | 2.14 | head | 25,818.18 | 55,250.91        |
| ii. Steer   | 0.64 | head | 41,454.55 | 26,530.91        |
| iii. Calves | 2.32 | head | 8606.06   | <u>19,966.06</u> |

**Total loss** **101,747.88**

**TOTAL COSTS** **187,530.02**

#### **RETURNS**

|                         |         |       |           |            |
|-------------------------|---------|-------|-----------|------------|
| i. Sale of cows         | 1.00    | head  | 25,818.18 | 25,818.18  |
| ii. Sale of steers      | 1.95    | head  | 41,454.55 | 80,836.37  |
| iii. Milk/yoghurt sales | 3824.36 | litre | 93.63     | 358,074.83 |
| iv. Butter sales        | 43.16   | kg    | 829.67    | 35,808.56  |

**TOTAL RETURNS** **500,537.94**

**NET RETURNS** **313,007.92**

#### **4.6 Cattle Trader Budgets**

The major stakeholders in cattle marketing are the brokers and regional traders (or wholesalers). An attempt was made to estimate their operational costs and returns per activity (or trip) in the study area.

##### **a) Cattle Brokers**

The cattle brokers are those involved in sourcing the commodity mainly from the pastoralists and other agents for on-ward distribution to either the other local traders, regional traders or local meat consumers and so on. The costs and revenue estimates for the brokers are presented in Table 13. Accordingly, the table revealed that the average heads of cattle marketed by the brokers are two and estimates were based on this. The elements of fixed costs were not captured in the study as the brokers not normally possess a warehouse or truck for conveying the animals. They usually source for the commodity and temporarily keep them in the common cattle market or “kara” before a prospective buyer purchase them. The expenses incurred are mainly the variable costs in form of:

- i) Commodity in process: This is the number of cattle heads purchased by the brokers which is 2 in this case at the rate of N70,000/head giving a total sum of N140,000.
- ii) Labour input: A casual labour is normally hired at the rate of N500/trip
- iii) Intermediate inputs and services: These include supplementary feeding at the market place before final disposal, watering and transport fees paid. The total of these were estimated to be N2,300. Other costs incurred are the tax paid to local government authorities, and association fees totaling N60.

The total cost of the brokers was N142,860.00. The total revenue generated from the sale of 2 heads of cattle was N150,000 while the estimated gross margin (GM) of N7,140 was found for an activity of the brokers in the study area. Thus a reasonable profit margin was generated by the brokers.

**Table 13: CATTLE TRADER BUDGET**

Agent: Brokers  
 Location: KRIP  
 Date of Information: 5 – 6<sup>th</sup> November, 2004  
 Modalities of collection: Group interviews  
 Volume marketed: 2 heads

**Variable cost**

|   | Quantity | Unit  | Unit price | Total value               |
|---|----------|-------|------------|---------------------------|
| Commodity in process                      |          |       |            |                           |
| - Cattle head                             | 2        | head  | 70,000     | 140,000                   |
| Labour input                              |          |       |            |                           |
| - Casual labour                           | 1        | trip  | 500        | 500                       |
| <b>Intermediate inputs &amp; services</b> |          |       |            |                           |
| - Groundnut haulms                        | 2        | bag   | 400        | 800                       |
| - Cereal bran                             | 1        | bag   | 400        | 400                       |
| - Water                                   | 100      | litre | 01         | 100                       |
| - Transport                               | 2        | head  | 500        | 1000                      |
| Other costs                               |          |       |            |                           |
| - Tax to LGA                              | 2        | head  | 20         | 40                        |
| - Association fees                        | -        | -     | 20         | 20                        |
| <b>Total cost</b>                         |          |       |            | <b>142,860</b>            |
| <b>Total Revenue</b>                      | 2        | head  | 75,000     | 150,000                   |
| <b>Net Revenue (Gross margin)</b>         |          |       |            | <b>7,140 or 3570/head</b> |

**b) Cattle Regional Traders (Wholesalers)**

The regional traders are mainly concentrated in Wudil, Kwanar Dangora, Falgore and Tudun Wada cattle markets in Kano State. They purchased the livestock from pastoralists, agents and collectors usually in these major cattle markets. The selection of market is determined by the volume of cattle supply. Market intelligence is based on physical interaction of the traders. The mode of transaction is both on cash and credit basis. They do not own a means of transportation but hired vehicles for animal conveyance. They used to

purchase the animals and keep in “Kara” before transporting them to the distant markets usually in the southern parts of the country like Lagos, Port-Harcourt, Onitsha, Benin, etc. However, some of the southern cattle traders do also come to the northern markets to purchase the animals and send them down south for disposal.

The cattle traders’ budget is presented in Table 14. Also the aspect of fixed cost was not captured as the traders do not own either a warehouse or a truck. Most of their expenses are on the operational costs of maintaining the animals in terms of supplementary feeding before final conveyance to the distant markets as well as taxes/levies paid on the way. The budget was made based on a single trip of a truck with a full load of 30 heads of cattle. The aspects of a variable costs include:

- i) Commodity in process: The capacity of a truck is 30 heads of cattle and each was purchased at N70,000.00 giving a total of N2,100,000.
- ii) Labour input: The costs of hiring 3 casual labour is N1500 for taking care of the animals in the market before conveyance while a permanent labour is being paid N5,000 to take care of the animals in transit.
- iii) Intermediate inputs & services: These are the supplementary feedings and medication as well as the transport fees paid per truck load of cattle.
- iv) Other costs: These include tax paid to LGA (N200), tax paid to state government (N3,000), association fees (N2,000) and numerous police check points on the road from major cattle markets in the north to the southern markets. About N2,000 was also paid as police check point levy. The total cost (TC) was estimated to be N2,207,200.

The revenue generated per truck load of 30 heads of cattle was N2,400,000 at the disposal rate of N80,000/head. Therefore the gross margin of N192,800 was realized (or N642/head).

**Table 14: CATTLE TRADER BUDGET**

Agent: Regional traders (wholesalers)  
 Location: Major cattle markets in Kano State  
 Date of Information: 22 – 27<sup>th</sup> November, 2004  
 Modalities of collection: Group interview  
 Volume marketed: 1 truck load (30 heads)

**Variable cost**

|                      | Quantity | Unit   | Unit price | Total value |
|----------------------|----------|--------|------------|-------------|
| Commodity in process |          |        |            |             |
| - Cattle head        | 30       | head   | 70,000     | 2100,000    |
| Labour input         |          |        |            |             |
| - Casual labour      | 3        | person | 500        | 1500        |
| - Permanent labour   | 1        | trip   | 5000       | 5000        |

**Intermediate inputs & services**

|                    |      |       |        |        |
|--------------------|------|-------|--------|--------|
| - Groundnut haulms | 20   | bags  | 400    | 8000   |
| - Cereal bran      | 10   | bags  | 400    | 4000   |
| - Water            | 1500 | litre | 01     | 1,500  |
| - Procaine Inj.    | 300  | Mls   | 50     | 15,000 |
| - Transport        | 1    | truck | 65,000 | 65,000 |

**Other costs**

|                           |    |        |      |      |
|---------------------------|----|--------|------|------|
| - Tax to LGA              | 1  | truck  | 200  | 200  |
| - Tax to State Government | 1  | truck  | 3000 | 3000 |
| - Association fees        | -  | -      | 2000 | 2000 |
| - Police check point fees | 20 | Chkpts | 100  | 2000 |

**Total cost** **2,207,200**

**Total Revenue** **2,400,000**

**Net Revenue** **192,800**

**Specific attributes considered by the cattle marketers to determine quality of the steer in the study area:-**

The specific attributes usually considered by the marketers as a yardstick to measure the quality of the steers include sturdy neck, big humps, wide chest, large waist, big hind legs, big horns, and a good tan/skin. These attributes facilitate favourable price determination of the steer.

However, when the steer has been purchased, and temporarily kept at the market place 'kara' for further disposal, there are certain operations undertaken to further improve the quality of the animals before final sales. These include feeding the animals with supplementary feeds like cereal bran, and leguminous haulms as well as veterinary medication to boost the animals like injecting them with B-complex and procaine penicillin vials and deworming them with dewormers.

#### 4.8 Constraints Faced by the Pastoralists

The production constraints faced by the cattle producer (pastoralist) in the study area are numerous but the notable ones are presented in Table 17. It shows that there are three major constraints faced by all the categories of the pastoralists. These are the inadequate cattle routes faced by 71%, 90% and 77% of the small scale, medium scale and large scale pastoralists respectively; inadequate grazing reserves faced by all the small scale producers (100%), a problem to 67% of the medium scale producers and 68% of the large scale pastoralists. Problems of cattle pests and diseases also lowers their productivity. These were faced by 86% of small scale producers, 81% of medium scale producers and 77% of the large scale producers. Other problems observed by the pastoralists are the inadequate water points especially during the dry season, insecurity of both the pastoralists and their livestock, among others.

**Table 17: Constraints Faced by Pastoralists**

| Constraints                 | Pastoralist Category |      |              |      |             |      |
|-----------------------------|----------------------|------|--------------|------|-------------|------|
|                             | Small scale          |      | Medium scale |      | Large scale |      |
|                             | Freq.                | Perc | Freq.        | Perc | Freq.       | Perc |
| Pests & Diseases            | 6                    | 86   | 17           | 81   | 17          | 77   |
| Inadequate cattle routes    | 5                    | 71   | 19           | 90   | 17          | 77   |
| Inadequate grazing reserves | 7                    | 100  | 14           | 67   | 15          | 68   |
| Insecurity                  | 3                    | 43   | 5            | 24   | 6           | 27   |
| Inadequate water points     | 6                    | 86   | 12           | 57   | 4           | 18   |
| Others                      | 4                    | 57   | 14           | 67   | 9           | 41   |

#### **4.9 Constraints Faced by the Cattle Brokers**

The cattle brokers in the study area faced various constraints. The major purchase constraints identified include problems of insincerity of some agents ie. buying and selling a stolen cattle. The ‘Yan-Nakama’ middlemen also tend to exploit them by beating them handsdown when it comes to bargaining/pricing the animals. Also lack of adequate income for expanding the marketing activities was another limiting factor of the brokers in the study area.

Other marketing constraints faced by the brokers in the study area include the delays in payment for credit purchases, the so called “Yan-Nakama” problem, theft problems in the local markets, and lack of functional and efficient marketing associations.

#### **4.10 Constraints Faced by the Cattle Wholesalers**

The cattle wholesalers usually faced numerous constraints in their business transaction ranging from purchasing the animals up to the final disposal.

The purchase constraints are numerous but some of the major ones include the exploitative tendencies of some middlemen popularly known as the ‘Yan-Nakama’. Supply from unreliable sources, price variations/fluctuations, delayed credit transaction, and insufficient income for transaction (financial constraints). These generally limits the scope of sourcing the animals by the marketers.

The disposal constraints faced on the other hand, are in form of insecurity especially on transit from the northern supply markets to the southern disposal markets, problems of credit transaction, lack of cooperation in the southern markets, Issue of payment of “turn-fees” in the southern market, numerous police check points multiple taxation on the way for which a check point level (or gate fees) had to be paid, breakdown of vehicles on transit and price fluctuations.

## **CHAPTER FIVE: CONCLUSION AND RECOMMENDATIONS**

### **5.1 Conclusion**

Commodity chain analysis for cattle marketing in Nigeria exposed the intricacies involved in various production processes, marketers procurement and disposal, and above all appreciating the effort and prestige of the fulanis who formed the bulk of cattle producers in the country. Both the title and non-title holders were identified in the commodity distribution chain and numerous constraints faced by the stakeholders clarified. It is believed that with little modification of the system and positive support all the stakeholders involved in the cattle business will improve their efficiency and reap substantial net income towards facilitating their welfare.

### **5.2 Lessons and scope for improvement**

### **5.3 Lessons and scope for improvement**

Among the lessons learned as a result of this study was the important position occupied by milk in income generation and day to day livelihood of the pastoralists. It was learned that the milk provides them with source of thriving such as the purchase of food stuffs and feed for the animals. The cows/bulls are only disposed when large sum of money is needed.

The area that needed further research is that of milk chain analysis. Since it is the major contributor in the economic activities of the pastoralists, there is the need to study in detail the marketing chain of milk and areas for improving the system.

To improve cattle production and marketing in Nigeria, particularly in the study area, the following recommendations were offered:

#### **5.2.1 Recommendations for the pastoralists**

1. The traditional cattle routes of the Fulani's should be revived to facilitate easy movement of the livestock from one place to another in search of pasture

2. Grazing reserves should also be established in strategic locations to enable the animals graze without interference with farmers crops.
3. Most farmers recorded high mortality rate. This could be reversed or minized if the modern veterinary services and medications were fully patronized rather than to rely totally on the traditional medication.
4. It is also important to establish water points particularly close to the grazing reserves to enable the livestock have access to drinking water.
5. The security network in the country should also be revitalized to ensure peaceful coexistence of all citizens in the country in a safe environment. This will facilitate the influx of foreign investment and encourage efficient business enterprising in the country.

Other problems peculiar to the pastoralists should also be looked into and proffer suggestions towards improving them.

### **5.2.2 Recommendations for cattle brokers**

- i. Revival of marketers associations.
- ii. Credit or financial support to improve marketing activities
- iii. Establishment of local cattle markets for easy disposal.
- iv. Delayed payments should be discouraged to facilitate marketing activities
- v. Sanctioning of “Yan-Nakama” usually through heavy levy imposition to discourage their activities
- vi. Laws to be enacted against theft of cattle.
- vii. Maintain records/documentation of the agents based on their location, channels of cattle procurements & distribution etc. to facilitate marketing/disease surveillance.

### **5.2.3 Recommendations for cattle wholesalers**

- i. Credit support to facilitate cattle marketing in the study area.
- ii. Improve banking services in terms of efficient money transfer.

- iii. Reduce the rate of taxes/levy in transit
- iv. Provide good means of transporting the animals like the possibility of using trains.
- v. Encourage the formation of a viable associations among the wholesalers in the area.
- vi. Eliminate 'turn fees' in the southern markets to facilitate marketing efficiency
- vii. Minimize the problems of credit transaction.
- viii. Beef up and improve the security network nationwide.

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## Appendix I

### Stakeholder Meeting Attendance Cattle Commodity Chain Analysis 05/04/05

| <b>S/No.</b> | <b>Name</b>           | <b>Organization</b>         |
|--------------|-----------------------|-----------------------------|
| 1.           | Nasiru Murtala        | A.T.B.U., Bauchi            |
| 2.           | Ibrahim Abubakar      | Asst. Chairman Wudil        |
| 3.           | Kabiru Kyauta         | Secretary Wudil Market      |
| 4.           | Alh. Isiyaku          | Fatuma-----                 |
| 5.           | Alh. Sule Agata Gaya  | Chairman Middlemen Wudil    |
| 6.           | Alh. Abdu Karfi       | Sarkin Fawan Karfi          |
| 7.           | Boyi Salihu           | K/Maiyaki (K/Dangora)       |
| 8.           | M. Garba Dan Sokoto   | S/Turke K/Maiyaki           |
| 9.           | Magaji Moh'd          | T/Wada                      |
| 10.          | Ibrahim Na-Sarki      | Chairman T/Wada             |
| 11.          | Garba                 | P.R.O. T/Wada               |
| 12.          | Hari Baba             | PARE Kura                   |
| 13.          | Fredric Lancon        | CIRAD, MEM Consultant       |
| 14.          | T. M. Kudi            | I. A.R./A.B.U, Zaria        |
| 15.          | Rabi'u Jafaru (Kwaki) | Wainabe Nurul Duniya        |
| 16.          | Bello Muhammed        | Wainabe Nurul Duniya        |
| 17.          | Baffale               | P.R.O. Wainabe Nurul Duniya |
| 18.          | Alh. Baba Soja        | Bunkure                     |
| 19.          | Yusuf Musa            | Danmaura Yada Kwari         |
| 20.          | Dr. Shehu Musa        | Bayero University Kano      |
| 21.          | Alh. Sadauki Lawan    | Dukau Dan Hassan            |
| 22.          | Idrisu Iliyasu        | Kosawa                      |
| 23.          | Alh. Sule             | Garin Babba                 |
| 24.          | M. Guda Mu'azu        | Rakauna Kura L.G.A.         |
| 25.          | Aminu Sharif          | KRIP Kura                   |
| 26.          | Adamu K. Kuyello      | NAERLS ABU, Zaria           |
| 27.          | Alh. A. M. Yammawa    | HJRBDA Kura                 |
| 28.          | Abdullahi Umar        | Garun Babba                 |
| 29.          | Ubale Kosawa          |                             |
| 30.          | Usaini Yakasai Fada   | KRIP Kura                   |

- |     |                         |                        |
|-----|-------------------------|------------------------|
| 31. | Mohammed Aminu Dau      | PARE, Kura             |
| 32. | Saidu Musa              | Danmaura               |
| 33. | Usman Alhassan Yerima   | Karfi                  |
| 34. | Dr. Abba Aminu          | Bayero University Kano |
| 35. | Bafrand Dayot           | ADENI, Zaria           |
| 36. | Nelson Barde            | ADENI, Zaria           |
| 37. | Dr. Usman Haruna        | ATBU, Bauchi           |
| 38. | Fulani Majana           | Garun Babba            |
| 39. | Abdullahi Magaji        | Yadakwari Marmara      |
| 40. | Fulani Alhaji Isiyaku   | Kura                   |
| 41. | Yakubu Usman Shinkafi   |                        |
| 42. | Shehu Kadiri Shinkafi   |                        |
| 43. | Musa Abdu               | Kura                   |
| 44. | Alhaji Abubakar         | Kura                   |
| 45. | Alhaji Mohammed Maude   | Kura                   |
| 46. | Fulani Alhaji           | Chigau                 |
| 47. | Alhaji Sabo Hassan      |                        |
| 48. | Malam Abubakar Mohammed |                        |
| 49. | Garba Mohammed          |                        |
| 50. | Auwalu Musa             |                        |
| 51. | Alhaji Dani             |                        |
| 52. | Alhaji Auwalu Mohammed  |                        |
| 53. | Idris Yusuf             |                        |

**MINUTES OF THE STAKEHOLDERS MEETING FOR CATTLE COMMODITY  
CHAIN ANALYSIS HELD AT KRIP KURA ON 5<sup>TH</sup> APRIL, 2005**

**Commencement**

The meeting started at 11.00am with an opening prayer by Alhaji Sule Agata Gaya. This was immediately followed by personal introduction.

**Welcome Address**

This was delivered by the Project Manager Kano River Irrigation Project Western Command Kura. He emphasized the need for close collaboration among all the stakeholders which he noted include herders, farmers, consumers, marketers and other supporting institutions. He prayed and wish the participants a successful deliberations and urged them to contribute fully and freely.

**ADENI's Remark**

The National Coordinator of the ADENI Project represented by the Facilitator gave a brief history and its mission and objectives. He also dwelled on specific issues related to the cattle marketing survey.

**Presentation of Results**

The result was presented by the team members represented by Nasiru Murtala. He started with brief remarks on the objectives, methodology and subsequently results of the study. The presentation o the results commenced with the description of the cattle flow chart as outlined then explained the composition and size of the herd with three categories identified small (average 17 heads), medium (average 31) and large (average 73 heads). This was followed by presentation of cost and return of cattle production. The return per naira invested were ₦0.90, ₦4.00 and ₦3.80 for small, medium and large scale pastoralist respectively. Next presented was contribution to income in terms of milk, butter, steer and cow sales. Milk was identified to contribute more to the family income than the other

products amongst all categories of the pastoralists. The marketing costs and returns were then presented, with a broker's net selling profit of ₦3,580, and wholesale's net selling profits of ₦1,427. the presentation finally ended up with pastoralist and traders constraints. Specifically, the pastoralists complained more of production constraints than marketing obstacles. For traders, inadequate capital was the most paramount constraint. The presenter finally concluded with a call participants to contribute towards attempting solution with a view to improve the status quo.

### **Discussion Among the Stakeholders**

#### a) Pastoralist Comments

- i) Sadauki Lawan: Emphasized on the importance of milk production and suggested for it's collection points to facilitate marketing
- ii) Rabi'u Ja'afaru: Advocated for an improved and efficient milking techniques.
- iii) Alhaji Bala Soja (a) emphasized on milk processing facilitates (b) solution to farmer-pastoralist conflict, and (c) urged the establishment of new cattle market around the KRIP area.
- iv) Alhaji Isiye Kura – emphasized provision of grazing reserves.
- v) Guda Mu'azu Rakauna: (a) provision of special market which is exclusively for dairy product by cooperation with all stakeholders (b) Improve dairy production status.
- vi) Abdullahi Magaji Yadakwari: Exphasized on the provision of supplementary feds of affordable prices.
- vii) Alhaji Ardo Falgoren Daji: Emphasized on the negative of bush burning
- viii) Alhaji Aardo Chibau: Pointed out the issues of pests and diseases like liverfluke hence they need genuine drugs

#### **B. Traders' Comments**

- i) Alhaji Boyi Salihu Kwanar Dangora: (a) Stressd the need for credit support (b) complained of multiple taxation along the roads
- ii) Alhaji Sale Magaji Mohammed Tudun Wada: Requested for general support with respect to cattle marketing.
- iii) Mallam Ibrahim Na-Sarki Tudun Wada: Advocated for credit support for butchers.
- iv) Alhaji Sule Agata Gaya: (a) The problem of 'Yan na-kama can be eliminated if the merchant so wish (b) Emphasized the need for collective action by all the stakeholders (c) Urged ADENI to provide the lead for improvement.

- v) Alhaji Ibrahim Abubakar Wudil: (a) Pointed out the level of insecurity both on the roads (b) Solicited for credit support for merchants (c) Stressed the need for records keeping at Kara.
- vi) Kabiru Kyauta: Stressed the level of insecurity where cattle, owners were attacked and sometimes murdered just to do away with their animals.
- vii) Alhaji Sule Magaji Mohammed Tudun Wada: Encourages the formation of pastoralist, marketers forum to discuss issues on ways of improving their socio-economic relation.

### **Closing Remarks**

The facilitator informed the stakeholders that a committee will be set up to look into the issues with a view to proffer solutions to improve both cattle production and marketing in the area.

The ADENI Project Coordinator then thanked the stakeholders and informed them that ADENI will assist to improve their activities especially through the cooperation of the pastoralists and marketers themselves with less government interference.

### **Closing Prayer**

This was read by Alhaji Sule Agata Gaya. The meeting closed by 1.00pm.

|   | <b>S/scale</b> | <b>M/scale</b> | <b>L/scale</b> |
|---|----------------|----------------|----------------|
| <b>Average herd size</b>                | <b>17</b>      | <b>31</b>      | <b>73</b>      |
| Average No. of steer                    | 3              | 3              | 5              |
| Average No. of lactating cows (LC)      | 5              | 12             | 16             |
| Average No. of non-lactating cows (NLC) | 4              | 9              | 26             |
| Average No. of calves                   | 5              | 7              | 25             |
| <b>Average herd size</b>                | <b>100%</b>    | <b>100%</b>    | <b>100%</b>    |
| Average No. of steer                    | 15%            | 9.9%           | 7%             |
| Average No. of lactating cows (LC)      | 30%            | 39%            | 22%            |
| Average No. of non-lactating cows (NLC) | 23%            | 29%            | 36%            |
| Average No. of calves                   | 32%            | 24%            | 34%            |
| <b>Total cows</b>                       | <b>53%</b>     | <b>68%</b>     | <b>58%</b>     |
| Lactating cow                           | 57%            | 57%            | 38%            |
| <b>Milk</b>                             | <b>58.82</b>   | <b>69.06</b>   | <b>71.54</b>   |
| Butter                                  | 5.88           | 6.88           | 7.15           |
| Animals sales                           | 22.95          | 15.75          | 16.15          |
| Cows                                    | 12.35          | 8.32           | 5.16           |
| <b>Income</b>                           | <b>151,786</b> | <b>294,635</b> | <b>500,538</b> |
| Cost                                    | 80,560         | 58,582         | 187,531        |
| Net return                              | 71,225         | 236,000        | 313,007        |
| Return to cash                          | 0.9            | 4.0            | 3.8            |
| Income per head of adult                | 13385          | 10262          | 10428          |
| Cost per head of adult                  | 7104           | 2040           | 1718           |
| <b>Broker</b>                           |                |                |                |
| Animal at farmer level                  | 70000          |                |                |
| Marketing cost                          | 1420           |                |                |
| Selling at Kara market                  | 75000          |                |                |
| Net return                              | 3580           |                |                |
| <b>Wholesaler</b>                       |                |                |                |
| Animal purchase at Kara                 | 75000          |                |                |

|                        |       |      |     |
|------------------------|-------|------|-----|
| Marketing cost         | 3573  | trip | 60% |
| Selling at Kara market | 80000 |      |     |
| Net return             | 1427  |      |     |
| Farmer share           | 88%   |      |     |
| Marketing cost         | 6%    |      |     |
| Traders income         | 6%    |      |     |

## **Appendix II**

### **Cattle Marketing Chain Analysis: Result Presentation**

#### Background and Objective of the Study

- \* Reminding the process

#### Issue identification through meeting with stakeholders:

- Pastoralists
- Cattle brokers
- Wholesalers
- Research institutes (NAPRI & NVRI)
- Fed. Dept. of Livestock & Pest Control

#### 2. Information Collection and Analysis

- Secondary data
- Primary data collected by the team/enumerators

#### 3. Discussion of the results to identify possible action:

- \* Expected output of the meeting:

- Share views on the cattle situation between the stakeholders and possible consensus on the diagnostics.
- The study/consultant would not provide solutions but information to all stakeholders to think about possible solutions and to assist in identifying the most feasible and viable ones.
- Viable meaning that can be implemented by stakeholders themselves without outsider's/govt. special support.
- Those that are adapted to the commodity chain global environment.
- Find solutions & their design will not be finalized at this meeting which should be considered at the starting point of the process.

#### **Issues Identified with Stakeholders**

## Questions to be answered

- Constraints faced by the pastoralists focused more on production conditions than market linkages.
  - Cattle are a multi-purpose source of income for regular expenditure and special/targeted source of income.
1. Integrated cost/benefit analysis of incomes generated by cattle raising.
    - Analysis of constraint faced and possible negative impact on income: feeding system; milk and meat productivity.
  2. Current status of cattle sales:
    - Linked to specific expenditure
    - Constrained by cattle health
    - Used to covers regular expenditure
  3. Understanding of marketing channels for main sources of income.
    - Better understanding of quality criteria used by market agent
    - Cattle trade:
      - What are the most efficient market channel to ensure higher income for he pastoralists
  4. Overview of he cattle production:
    - Production estimates
    - Price time series
    - Information on standard technical coefficients

Figure: Cattle Flow Chart

## Appendix III

### Common Cattle Diseases and Pests in Nigeria

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Among the common diseases found in the country which were also prevalent in the study area were Black quarter (Harbin daji).

Brucellosis (Bakkali), Bovine Tuberculosis (Ciwon tari) contagious Bovine Pleuropneumosis CBPP (Ciwon huhu) Dermatophilosis (Kirci), Rinderpest (Ciwon bushiya), Foot and mouth disease (Bauru) and lumpy skin disease.

With respect to cattle pests, the major parasites include liverfluke, worms, tsetseflies, ticks and lice. These parasites transmit various forms of diseases like trypanosomiasis (sammore), fascioliasis, anaplasma and babesiosis to mention but a few.

The prevalence of the above diseases and parasites was confirmed by the two famous research institutes viz: National Animal Production Research Institute (NAPRI) and National Veterinary Research Institute (NVRI) found in Shika, Zaria and Vom Plateau State respectively. The diseases and pests are presented in Table 18.

In view of the economic importance of the diseases and parasites some of which can cause death of animal within hours of infection (eg ciwon saifa) moreover some are zoonotic ie. can be transmitted to man, the NVRI Vom has produced 9,963,680 vaccines and distributed 9,480,560 for both prevention and treatment of these diseases/parasites see Table 19 for detail breakdown.

## COMMON CATTLE DISEASES/PEST IN NIGERIA

---

### S/No. Item

#### **A. Diseases**

1. (Ciwon saifa)
2. Black quarter (Harbin daji)
3. Brucellosis (Bakkale)
4. Bovine tuberculosis (Ciwon tari)
5. Contagious Bovine Pleuro Pneumonia, CBPP (Ciwon huhu)
6. Dermatophilosis (Kirchi)
7. Rinderpest (Ciwon bushiya)
8. Foot & mouth disease (Bauru)
9. Lumpy skin disease (Harbin giwa)

#### **B. Parasites**

1. Fascioliasis (Liver flukes)
2. Tse-tse flies (Transmits trypanosomiasis)
3. Round worms (Tsutsar ciki/Goli)
4. Tick (Transmits Anaplasma & Babesiosis)
5. Lice

#### **C. Other diseases**

1. Salmonellosis
2. Pasteurolesis
3. Upper Respiratory track infection
4. Listeriosis
5. Botulism
6. Diarrhoea

## **APPENDIX IV**

### **Agricultural Policy for Nigeria**

#### **Pricing Policy**

The objectives of government pricing policy are:

- i) the farmers obtain remunerative prices for their products;
- ii) stabilized prices and income for farmers;
- iii) that the prices of Nigerian agricultural commodities are competitive in the world market and, to that extent, promote agricultural export,
- iv) that agricultural imports do not enjoy undue comparative price advantage compared to their locally produced substitutes; and
- v) parity in agricultural prices compared to non-agricultural prices in Nigeria.

The strategies include realistic exchange rates, periodic review and study of prices and production costs, and provision of adequate subsidy packages in all relevant aspects.

#### **Trade policy**

The objectives of government trade policy are:

- i) to promote agricultural exports both as a way of diversifying the country's export trade and as a means of boosting the growth and development of the agricultural sector; and
- ii) internalize the growth process in agriculture by discouraging importation and encouraging local production of all food and raw materials which the country has resources to produce.

The strategies include trade liberalization, export promotion, tariff regulations, backward integration and agricultural investment promotion.

## **Livestock production**

The general policy objective of the livestock sub-sector is to put all available livestock resources into best use. This will be achieved through increased promotion either by expanding the resources base, by increasing the productivity of the existing resources through a systematic improvement of the national production system or both.

The specific objectives of the subsector are:

- i) to make Nigeria self-sufficient in the production of livestock products;
- ii) to improve the nutritional status of Nigerians through the domestic provision of high quality, protein rich livestock products;
- iii) to provide locally all necessary raw material inputs for the livestock industry;
- iv) to allow for a meaningful and efficient use of livestock production and processing;
- v) to improve and stabilize rural income emanating from livestock production and processing;
- vi) to effectively protect the rural livestock farmer from unpredictable vagaries and risks incidental to livestock production.
- vii) to effect proper land use and maintenance of the ecosystem for expanded livestock production.

Government aims at attaining self-sufficiency in livestock production in the shortest possible time. The strategies to be employed include: ecological specialization, sedentarisation, improvement of livestock feeds, livestock breeding, better animal health, provision of incentives, better veterinary public health, animal by-products development, input supply, and input subsidy (FMAWRRD, 1989).

