

**Final Report on  
Designing a Livestock Market  
Information System (LPIS)**

**Under**

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**Task Order #801**

**Famine Early Warning System Network**

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## **INTRODUCTION**

As part of its program to broaden activities into the southern tier of the country, USAID/Ethiopia contracted a consultant team through Chemonics International to collaborate with the Livestock Marketing Authority (LMA) in designing a Livestock Market Price Information System (LMPIS) to collect livestock prices from selected markets in the Borana zone of the Oromia Region and the Liben zone of the Somali Region. It focuses on providing livestock market price information to pastoralists and small traders in the southern region through a weekly livestock price report. The weekly price report aired through public radio programs will also be accessible to a wide audience of livestock traders and others with livestock marketing interests throughout the country. Southern tier livestock market information will also be stored in electronic databases at the LMA and made available for research and policy formulation. The activity is designed to be a two-year pilot activity that can be expanded to a national system based upon experience gained in implementing the pilot.

The design was undertaken in September and October 2000 by consultants John W Smith, Team Leader and agricultural economist, and Alemayehu Rada, livestock production specialist. The consultant team was assisted by Mr. Jemberu Eshetu, Market Research and Follow-Up Team Leader, who was appointed by the LMA as counterpart to the design team.

In designing the activity, the consultants and the LMA counterpart met with Ethiopian and international NGOs and government organizations that are active in southern livestock development and marketing. From September 12 to 22, the consultants and the LMA counterpart conducted a field trip to the pastoralist rangelands and market towns. They made first-hand observations of primary, secondary and tertiary markets, and interviewed pastoralists, livestock traders, NGO field workers and zonal and district agricultural and livestock officials in these areas.

## **BACKGROUND**

### **Southern Tier Initiative**

USAID/Ethiopia is broadening its programming to include the southern tier of the country. The target area is along the borders of Ethiopia, Kenya and Somalia where pastoralism or agro-pastoralism is the predominate lifestyle and livestock production is the predominate source of household income. In this region, most family incomes are linked directly to the sale of livestock or livestock products.

Key secondary markets in the region are poorly developed with large variations of supply and demand on any particular market day, resulting in wide price swings. When prices lower than acceptable prevail, pastoralists and small traders often take the offered animals off the market. In seasons when large numbers of animals are brought to market, it is not uncommon for half of them to remain unsold. This results in reduced herd off-take and quality and health problems of animals that have been trekked to the market and then returned to grazing areas. Generally, livestock markets in the Southern Tier are poorly integrated with limited access to price and other types of market information.

Improved market information is one of the key elements in addressing this market inefficiency. The goal of the Southern Tier Initiative is to improve pastoralists' livelihood and the LMPIS is one of the activities aimed at improving livestock marketing.

## **USAID Framework**

**Objective:** Increase real disposable income (cash and kind) of pastoralist and agro-pastoralist families in the Somali and Oromia regions of Ethiopia.

**Rationale:** The objective is seen as a first step in addressing livestock related problems and other problems associated with poverty.

**Intermediate Result 1:** Marketing channels for livestock products and foodstuffs improved.

### **Indicators:**

- Stabilize prices for livestock sales.
- Regional governments adopt policies that facilitate regional and international cross-border trade.
- A greater flow of pastoral livestock north to the Ethiopian highlands and south to Nairobi.
- Use of economic and ecological forecasts improved to better manage risk.

**Relevant Illustrative Activities:** Improved market information systems.

## **LMPIS CLIENTS**

The LMPIS directs its livestock information activities to a wide range of people involved in livestock marketing. The primary clients defined in the USAID Southern Tier initiative are the pastoralists and small “bush” traders who depend on up-to-date price information to assist in determining the amount of herd off-take, the sex and age off-take, and the specific geographic target market to which to trek their herds. Secondary clients fall into two categories. One category is the larger livestock traders at the cross-border markets and the terminal markets in the urban areas in Ethiopia. The other category of clients includes researchers, policy makers and others who will use the databases developed by the LMPIS.

## **GEOGRAPHICAL FOCUS**

The geographic coverage of LMPIS is most parts of the southern rangelands of Ethiopia extending from the Genale River (east) to the Sagen River (west) encompassing the Borana Zone (Oromia region) and Liben Zone (Somali Region).

## **ACTIVITY OUTPUTS**

As noted in the discussion of the Southern Tier Program, the long-term objective is to increase household income of the pastoralist and agro-pastoralists through improving

livestock marketing efficiency. The design team has identified three short-term and medium-term outputs which will contribute to the long-term goal.

The first output is a ***Weekly Livestock Price Report***. As price *news* report, the information will be reliable, complete and timely. The report will provide price information which is not normally available to pastoralists and small traders, but which is important to them in negotiating sales to traders or in determining to which markets to take their animals. Information will be collected from key secondary and cross-border markets. The report will include prices of most categories of animals most heavily traded.

The second, and more traditional output will be a ***Livestock Price Database*** using the information that is collected for the weekly price report. This will provide comprehensive price and volume information that will be available for use in research, policy formulation and famine early warning systems.

The third output is ***Institutional Capacity Building***. In developing the information system, capacity building activities will be directed to the LMA and the zonal Agricultural Development Departments in the activity areas. Capacity building will include training and procurement of equipment and vehicles.

## **GUIDING PRINCIPLES**

The structure and operational modalities of this marketing information system are based on a number of principles that the design team felt were important to guarantee success. They are based on the “lessons learned” from the numerous livestock market data collection activities that have existed in Ethiopia and in other developing countries. The experience of NGOs and government entities provides a basis for the team’s guidelines in designing this activity.

***Long-term Sustainability:*** One of the most important lessons learned from the experience in Ethiopia and other countries is that long-term sustainability is achieved only when the operational costs of a marketing information system are compatible with the normal budget allocations of the public sector entity that has the responsibility for operating the system. In its visit to the south, the design team came across a number of marketing information collection initiatives that foundered when donor funding ended. The implementing agencies were not able to continue because budgets did not cover operating costs. As a public good, the operation of a marketing information system must be financed through government budgets. To sustain this activity, staffing, vehicle and equipment maintenance and other operational costs must be covered by existing budgets or by budget commitments to expand budgets to cover additional costs.

***Institutional Capacity Building:*** A marketing information system with a news component requires a relatively sophisticated level of management and technical expertise that must usually be developed when the system is established. The discipline of meeting deadlines, the emphasis on data quality control and the demands of disseminating information through mass media and to bulletin boards in isolated areas

requires a balance of training and equipment. Although this capacity building focuses on the information system, the professionalism brought to this activity invariably spills over to the entire organization.

***Anticipate Operational and Institutional Constraints:*** During its visit to the field, the design team saw evidence of activity planning that put staff in place, but without budget, logistical support or adequate training. This is a waste of resources and is demoralizing to individual staff members and to the organization. Thus, as a corollary of the two guidelines above, the design team attempted to factor in constraints in terms of budgets, staff qualifications and availability, and political bureaucratic realities. A careful inventory must be made of anticipated constraints and limitations in order to avoid bottlenecks in the implementation of the system.

***Build on Existing Skills, Experience and Traditions:*** In designing this system, the team tried to keep in mind the experience in market data collection and the traditions of information dissemination among pastoralists. This is especially important in the southern zones where resource and infrastructure constraints have led to ways of doing things that are best suited to local conditions. An example of this is the use of handwritten report forms when computers are unavailable. The illiteracy of the pastoralists and their mistrust of public media for market prices create a need to ensure that information can be passed orally.

## **VISION**

Within two years, the design team envisions southern tier livestock price information disseminated to producers and a wide range of marketers in the livestock industry. The design team sees the weekly market reports, the databases and increased institutional capacity at the LMA and the zonal levels as an engine of change in livestock marketing efficiency among the southern pastoralists. It is estimated that the recent drought has claimed nearly half the herd numbers in the area. This, combined with the pastoralists' recognition of the economic and social hardships resulting from a population pressing against land resources, may signal a willingness to rationalize livestock marketing.

Through this activity, the LMA has an opportunity to contribute the highest quality livestock market data to the central agricultural information system and other linked information systems. Because of the LMA's market information and the accessibility of the data, it is expected that NGOs that are now collecting market information will use the LMA data to reallocate their resources to non-duplicating activities.

This is also an opportunity that the LMA may seize to introduce a wide range of marketing reforms through the mechanism of a market price information system. The design team believes that a pervasive "culture" of rational marketing to ensure food security and reduce risk will be the hallmark of this activity.

## **PRIMARY IMPLEMENTING AGENCY**

The LMA will be the implementing agency of LMPIS. The LMA was established in 1998 as an autonomous Federal Government body. It is directed by a Management Board

whose members are drawn from different ministries and organizations. It is accountable to the prime minister. The objective of the LMA is to promote domestic and export marketing of animal, animal products and by-products through increasing supply and improved quality. The Authority works to achieve its objectives through initiating policy, laws and regulations that promote livestock product marketing. It also establishes livestock staging points, quarantine stations and promotes the organizations of abattoirs and by-product value added services such as processing plants.

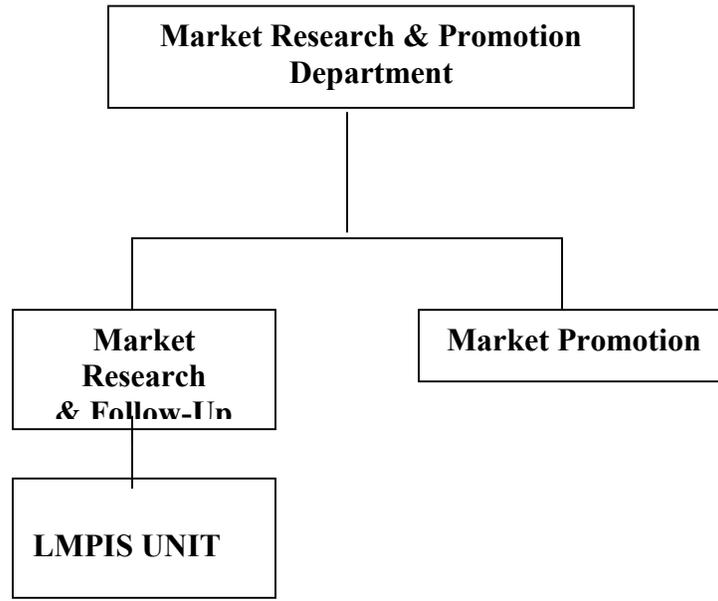
The Managing Board has the responsibility of identifying policy issues, directing and supervising the activities of the LMA. The chief executive of the LMA is the Manager who is accountable to the Management Board. Two technical departments are in charge of quality control and promotion of domestic and export marketing of animals, animal products and by-products. The support services include Planning and Programming, Administration and Finance, Audit and Legal services. In its efforts to generate foreign currency through the country's livestock assets, the LMA has working relationships with the appropriate GOE organizations, the private sector and various foreign commercial interests. The LMPIS will become a part of the Market Promotion Department and direct responsibilities will fall under the Market Research and Follow-up team. (*See Appendix X for Table of Organization*)

## **SYSTEM STRUCTURE**

In this section the design team outlines a system structure that is designed to collect information and send the raw data for processing (quality review, analysis, formatting for dissemination and input into system databases) and disseminate the information to users as a weekly price report. It is based on the team's understanding of the organizational, staffing and operational budget resources that are likely to be available for the information system.

## Schematic Representation

### LMA MARKET PROMOTION DEPARTMENT & LOCATION OF LMPIS



The design team recognizes the potential operational challenges in attempting to establish an information system with a federal government entity, the LMA, as the primary implementing organization, and the field work undertaken by zonal and district offices of two regional administration which have no formal administrative linkages with the LMA. Nevertheless, the team is optimistic that this administrative disconnect can be overcome through recognition of the benefits that will accrue to information users and the capacity building benefits of training, placement of transportation and communication assets.

**The LMA:** The team has identified four areas of responsibility that appear to be a good “fit” for the LMA’s management and administrative capabilities. These include:

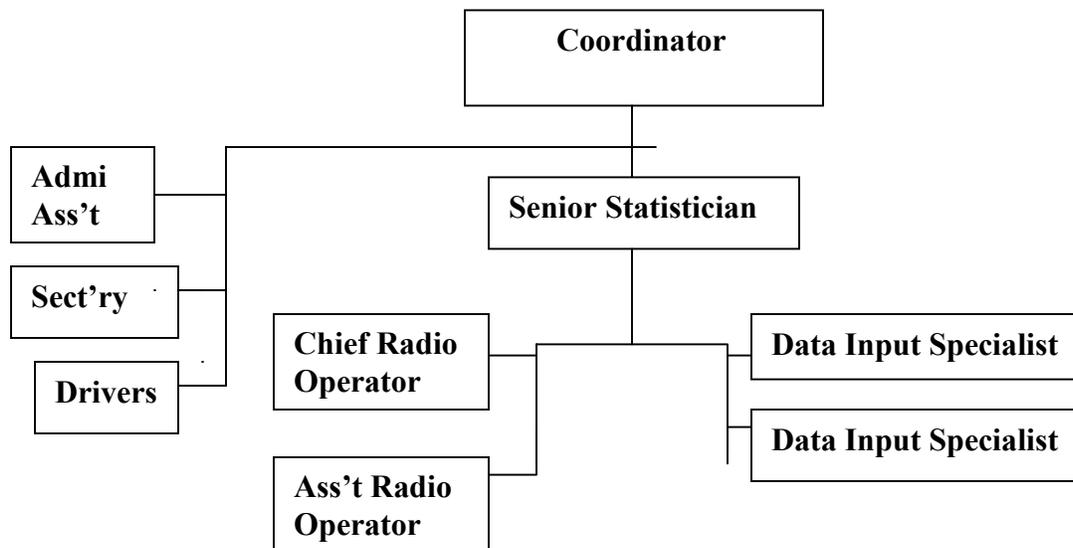
1. Financial Administration of the activity.
2. Disseminating the weekly price report through public media and to the livestock markets in the Addis environs.
3. Technical oversight of the system and data quality control.
4. Primary responsibility for compiling databases and making them available to users.

***LMPIS in the LMA***

The design team feels strongly that to operate successfully the LMA will need to establish a LMPIS unit. This will be a unit with a full time staff dedicated to implementing the information system. The design team feels that the most feasible location for the unit will be within the Market Promotion Department and under the direction of the Market Research and Follow-up Team.

By establishing LMPIS as a unit, all technical outputs can be monitored with specific staff members held responsible and accountable for the activities. The Team of the Market Research and Follow-Up section would be responsible for the overall operation of the system.

### Organization of the LMPIS Unit



### LMPIS UNIT STRUCTURE

The LMPIS unit shown above has six professional and semi-professional staff. Although each staff member has a primary responsibility, the key to a successful unit is cross-training all members of the unit so that they can fill in for someone who is missing. One of the unique characteristics of a marketing information system with regular flows of data transmitted through communication radio and a “news” component is the need to monitor the data on schedule and to process it promptly. Given the inevitability of staff absences and turnover of staff, it is essential that all system functions can be covered.

Within the LMPIS Unit, a Coordinator will be appointed with day-to-day responsibility for data collection, processing and dissemination. The Coordinator would have three levels of responsibility: Administrative (financial and personnel); technical oversight; and, as liaison between the unit and the zonal areas.

The Senior Statistician has a key technical role to play. He is responsible for all data coming into the LMA and being disseminated to users. This includes the weekly price

report and the database information. He will be responsible for training a staff of data input specialists and radio monitors who post data coming in on the communication radio. He will develop formats and procedures for the data. The technical people will report to the Senior Statistician and he will report to the Coordinator.

The primary responsibility of the Data Input Specialist is to computerize the statistical data that flows to the LMA from the market areas. They will input data into the news report and the databases. Because of their familiarity with the market data that is received each week, they will have a role in data quality control in that they will be able to draw the attention of the Senior Statistician to price anomalies.

Communication Radio Monitors will coordinate with the Senior Statistician in establishing receiving and transmitting schedules from the market areas. They will post prices that are sent by the zonal offices. The information will be given to the Senior Statistician for review and processing.

At some point the unit will require the services of an Administrative Assistant and perhaps a secretary. Operation of the unit will entail a myriad of accounting activities which can be shared by the LMA accounting Department, but which will require direct input from the unit. The Administrative Assistant will also have responsibility for organizing transportation, facilitating special activities such as training sessions, etc.

## **Scopes of Work**

***Coordinator:*** The LMPIS Manager will be a senior professional with technical and management experience. He will have a technical background in agriculture with a focus on pastoralist livestock systems. Experience in livestock marketing will be useful. In addition to his technical skills, he will have management experience.

***Senior Statistician:*** The Senior Statistician will be a senior professional with experience in agricultural data management and analysis. He will have an understanding of agricultural prices movement. He will have a strong background in computers with specific expertise in spreadsheet and data base programs.

***Data Input Specialists:*** Data Input Specialist will have a background in agriculture with some quantitative experience. They will have basic to intermediate computer skills.

***Market Surveyors:*** Market Surveyors are intermediate level professionals, residing and working in the towns wherein they have survey responsibility. They will have knowledge of pastoralist livestock systems and will be able to establish rapport with the pastoralists.

## **LEVELS**

***Regional Level:*** Although the regional level will not have technical responsibilities in data collection and dissemination, the LMA will collaborate with the regional livestock authorities in improving the management and technical capacity of their marketing

sections. The regional level is important because it determines budget and personnel allocations. The Regional Agricultural Development Bureau should have a clear understanding of the LMPIS activity, its purpose and the intended responsibilities of the zonal and district levels. All market information coming from the region will be fully accessible to regional officials.

**Zonal Level:** There are two zonal elements: 1) the Borana zone, located in Negele under the administration of the Oromia Region and, 2) the Liben zone in Filtu under the administration of Somali Region . In the Borana zone, the relevant administrative entity is the Zonal Agricultural Development Department. In the Liben zone, it is the Zonal Agricultural Development Department.

In the LMPIS concept, the zones are crucial as the field-level management entities. Zonal Agricultural Development Departments have direct responsibility and authority over the District Agricultural Development Offices which is the level at which market data will be collected and disseminated.

**District Level:** Of the six lowland pastoral districts in the Borana Zone, the LMPIS activity will be active in collecting livestock prices in four of these and in one mid-altitude district, Agere Maryam. In each of these districts there is an important livestock market that is a valid candidate for data collection by LMPIS. However, given the wider geographical range of pastoralists, Arero and Teltele districts will be included in disseminating market prices.

The district offices and markets are:

-----**Borana Zone**-----

<b><i>District Office</i></b>	<b><i>District Capital</i></b>	<b><i>Market Location</i></b>
1. Liben	Negele	Negele
2. Moyale	Moyale	Moyale
3. Dire	Mega	Dubluk
4. Yabelo	Yabelo	Ilweya
5. Agere Maryam	Agere Maryam	Finchewa

The Liben zone has three districts that are relevant to the LMPIS activity.

-----**Liben Zone**-----

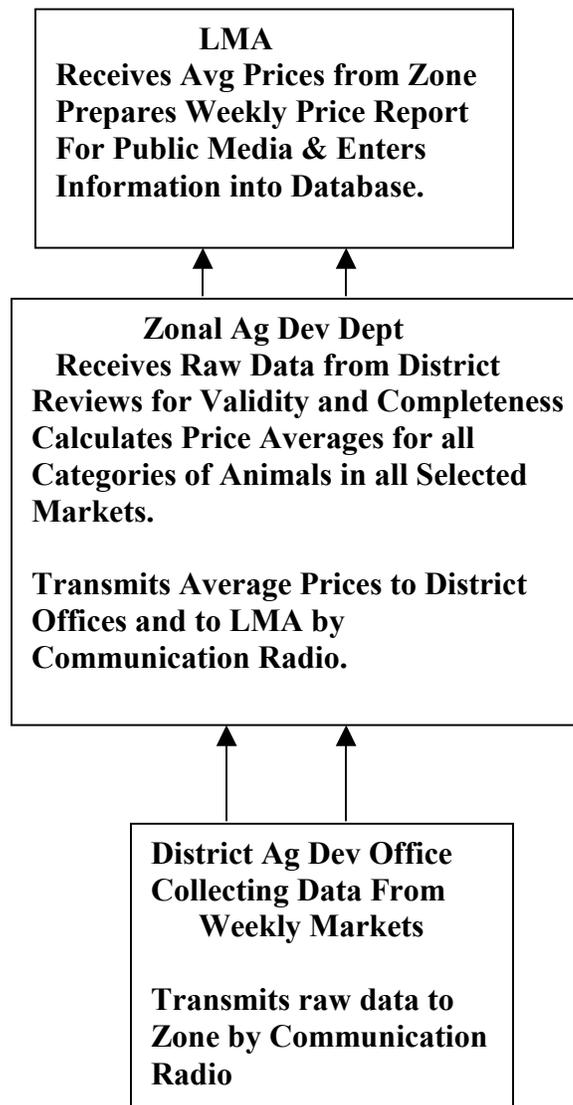
<b><i>District Office</i></b>	<b><i>District Capital</i></b>	<b><i>Market Location</i></b>
1. Dolo Odo	Dolo Odo	Dolo Odo
2. Liben	Filtu	Filtu
3. Moyale	Moyale	Moyale

The DADO has direct responsibility for data collection at the weekly livestock market and transmission of the information to the zonal office. The DADO also has direct responsibility for the DAs that are the primary price disseminating agents at the PA level.

The DAs are essentially extension agents operating at the development stations level. The DA is usually male with a high school diploma. Although he is Oromifa speaking, he probably does not come from a pastoralist or agro-pastoralist background. The DA has received basic crop and livestock production training, but is not a specialist in either. His focus is to encourage the pastoralists or agro-pastoralists to plant crops. His extension responsibilities usually cover two-four PAs.

## **DATA COLLECTION**

### **DATA COLLECTION FLOW CHART**



Data collection and onward transmission to the processing and dissemination level is the heart of the LMPIS. This is where two of the three pillars of the system are found: accuracy and completeness of data. The third pillar, timeliness, is important here, but is also an integral part of data dissemination to users. If there is a bottleneck or problem at the collection level, the entire system is affected.

### ***Principles***

Although there are no well-defined and widely recognized “Best Practices” in livestock market data collection (as there is in micro-finance), there are three principles that will help ensure a high level of performance. These include:

- ***Well-trained Market Surveyors.*** Market surveyors must fully understand the purpose behind their data collection and by whom (primary clients) the information will be used and the expected results. Livestock market reporting requires a good knowledge and ability to categorize the animals properly.
- ***Procedures and collection requirements compatible with field conditions.*** Procedures require the market surveyor’s physical presence at the market and guide the interactions with buyers, sellers and market officials. His duties include completing forms and transmitting the raw data to the next level. Different markets will require modifications of the general guidelines for the market reporter.
- ***Quality control monitoring.*** There must be continuous monitoring of market reporters: monitoring their presence at the market, the methodology and the statistical consistency of the data submitted. There must be special incentives. In the proposed MIS, market reporting will be undertaken by government employees without financial incentives such as topping up salary, special per diems, transportation allowances, etc. However, the implementing organization must find non-financial incentives that will encourage the best output from market reporters.

### ***Quality Monitoring***

Quality monitoring of raw data will be most effective at the zonal where the data are received from the district offices for processing. The data should be reviewed immediately upon receipt for quality standards, while the data collector stands by to respond to questions and explain reasons for price anomalies.

The design team observed that data collectors (market reporters) created their own, informal data collection formats that were never reviewed by the zonal office. It is essential that the raw data be recorded on a standard form with a standard format and that a copy of it is retained in the district files and the zonal files. This information can be used for quality monitoring.

### ***Supervision of Field Staff***

Again to ensure data quality, the designated zonal staff must make unannounced visits to the weekly markets to check on district level compliance with procedures, to up-date training and to ensure that information is being disseminated back to the field locations. He will also coordinate with the appropriate staff to monitor the status of office equipment and motorcycles.

In the six candidate markets, price data are currently being collected in all of them. The design team also found data being collected in other bush and primary and secondary markets. Price information was being collected at the district level or at market places. At this point in time, the zonal agricultural departments and sections of the zonal administration have a keen interest in livestock marketing data.

When the GTZ phased out its MIS, it trained a number of district level agricultural development officers and even DAs in data collection. This was a five-day training course and the results are impressive in terms of the enthusiasm and dedication of the market surveyors and the amount of work being done in this area. Although the design team's recommended methodology and report format differ from the GTZ, the groundwork for data collection has been laid for this activity.

The design team proposes that a livestock-marketing expert be assigned to data collection as part of their normal duties. In some instances there is a livestock specialist on the district staff. The exception to this is in the Liben zone markets of Filtu, Dolo Odo and Moyale where livestock marketing activities are not operational. In this instance, data collection can continue being done by PCAE, an Ethiopian NGO funded by USAID. It is possible that at some point the Agricultural Development Department section of the Liben zonal administration will become operational and can become involved. However, the structural problem at the district level is likely to persist beyond the life of the pilot activity.

### ***Data Collection Methodology***

Accurate, complete and timely data collection are pillars of the LMPIS. General procedures can be established to optimize the chances for achieving these objectives, but field conditions in each market will influence how the surveyor interacts with buyers, sellers and market officials to achieve the objectives.

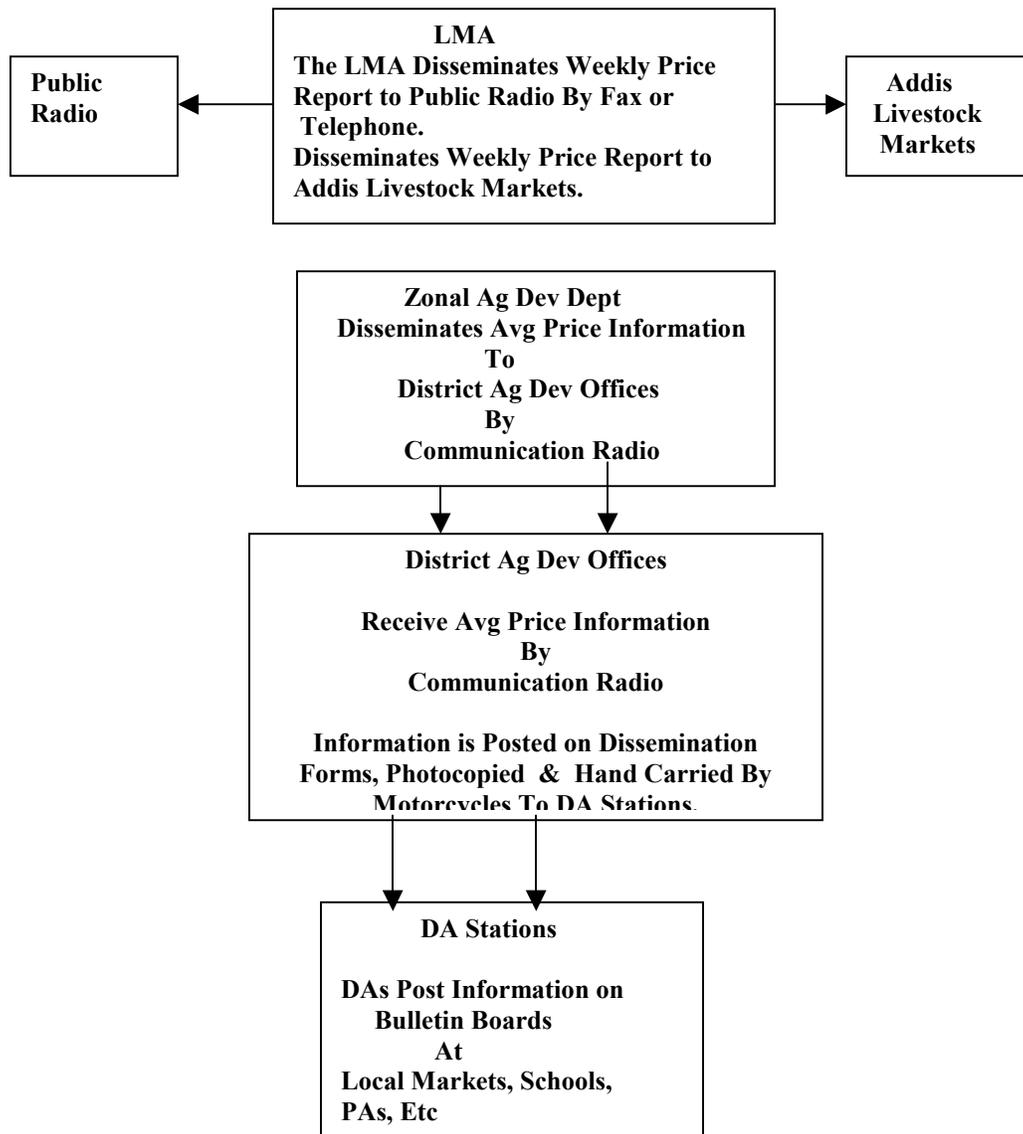
The following is an illustrative example of data collection methodology. The implementing staff will need to adjust and modify the model.

- Collect information once a week—on the market days.
- The surveyor arrives at the market in time to count the animals arriving at the market.
- During the selling/buying period the surveyor monitors the “auction” and asks prices of animals already sold.
- Ten prices for each category of animal are collected.

- At the end of the market period, the municipal and finance department representatives at the market provide the surveyor with the count of the animals sold.

## DATA DISSEMINATION

**Data Dissemination Chart**



Although there is ample experience in the collection of livestock marketing information and its use for time series analyses, the concept for reporting weekly prices to a wide range of potential users is new to Ethiopia. Coffee prices are announced daily over public

radio, but this will be the first time a weekly market price reporting service will have been established for the livestock industry.

***System Coordination:*** Experience in other countries shows that successful dissemination agricultural price reports requires professional discipline and coordination throughout the information system. Unlike research projects, weekly news reporting is a continuous operation, week after week, month after month, and year after year. Unlike time-series data, usefulness of the information depends on timely reporting and accuracy. Information received too late to be factored into marketing decisions will be ignored. Perceived accuracy of prices by the user will determine whether the reported prices will continue to be used.

***Dissemination Channels:*** The second issue in disseminating information is the channels to be used. The target audience must be well defined and the opportunities and constraints inventoried. Complicating the LMPIS activity is that a major part of the target audience is pastoralists and small traders in the Borana and Liben zones in the southern lowlands. In these areas, telephone communication is non-existent or unreliable which eliminates fax or the Internet as a means of transmitting market information. Electricity is non-existent or is available only during a part of the working day. The District Agricultural Development Office staff in Moyale and Liben told the design team that electricity was routinely available for only three hours of the working day.

One potential public dissemination source servicing the area in the Oromifa language is the Goba-Robe Educational Radio Station. However, it is disheartening to note that GTZ's attempt to utilize its services to broadcast monthly livestock prices was unsuccessful. There is a possibility of putting livestock prices on the Ethiopian National Radio as a "public service" announcement in Amharic, Oromifa and Somali languages.

***Traditions of Oral Communication:*** Finally, the vast majority of the targeted pastoralists and small traders are illiterate both in reading text and numbers. However, there is a strong tradition of oral communication that is used for disseminating market information. The design team was told by the pastoralists that they had no experience in using the radio for market information and that they would feel more confident in hearing the information from another person. Although this is a cumbersome method of disseminating relatively large volumes of price information, it appears the most effective one at the moment.

## **Public Media**

The design team believes public radio is an important dissemination channel for the activity. Even though pastorlists are not accustomed to using radio broadcasts for market information, they do carry small, battery-operated, AM radios for entertainment and general news programs. The team feels that if reliable market information is broadcast, pastorlists will learn to use it. Also even in the most remote villages and settlements, there are usually persons who will be able to explain the value of prices broadcast through the radio.

Access to airtime on one or both public radio stations can probably best be negotiated through the LMA. One effective way of ensuring that there is a mutual understanding

and binding agreement between the two organizations is through a formal Memorandum of Understanding. In this memorandum, the responsibilities of both parties is outlined.

From the LMA side, the memorandum would include:

- The amount of information (estimated air time) to be broadcast.
- The format in which the information will be given to the radio station.
- The day of the week and the time the information will be delivered to the radio station.
- Kind of languages used for dissemination: Amharic, Oromifa, Somali

From the radio station side, the memorandum would include:

- Date(s) and time(s) of broadcast.
- Cost (if any) of broadcast.

Issues in disseminating market data through public radio:

- Inappropriate broadcast times.
- Temporary cancellation of price broadcasts
- The LMPIS implementing organization misses agreed-upon date or time in giving the material to the radio station (leading to dead air space or need to fill the space with other material.
- Radio station cancels the price broadcast because it feels there is not enough interest

## **Bulletin Boards**

In many developing countries with similar infrastructure constraints, bulletin boards (and chalk boards) have proven to be effective in reporting market information. There were notice boards tin boards throughout the area visited by the design team: at markets, at government offices and at schools. The design team observed notice at all of the primary and secondary markets visited. Notice boards, or at least outside walls dedicated to pinning up information, were at the DA stations. These do not appear to be used very much, but the concept of posting information in a public place is existent.

Posting market data on bulletin boards in the zonal areas in time to be useful will require a great deal of coordination. Most of the secondary markets where information will be posted are in district capitals that facilitate posting the information. The District Agricultural Offices will have radio communication facilities and will be able to post information rapidly after it is received. It will be more difficult to quickly distribute the information to the DA stations, schools, PAs, etc. The district offices will have to make photocopies and send them with a staff member to the outlying areas. The DAs, schoolteachers and other will have to see that the copies are posted.

Issues in disseminating market data through bulletin boards:

- Identifying optimal locations and obtaining approval for installing one.
- Constructing bulletin boards that are rugged enough to withstand buffeting by weather and people and livestock.
- Regular posting of information.

## **INSTITUTIONAL CAPACITY BUILDING**

One of the lasting results expected from this activity is strengthening the capacity of the participating institutions to develop livestock marketing. This is important in the Ethiopian context where the livestock industry plays a vital role in economic development and food security. The LMPIS is a new concept in the livestock industry. Where there has been livestock market data collection it has been collected and analyzed as time series data. Just establishing a news service and moving data on a weekly basis from multiple markets at the district to the zone and on to the LMA is new. Then, in addition to this, the information is disseminated regularly through public radio and down to the district level to be disseminated through bulletin boards. When fully operational, the system will be a highly complex mix of management and technical skills.

Institutional capacity building becomes especially important in the pastoralist areas where electricity and telecommunication infrastructure are not fully developed. This includes management and technical training, provision of vehicles, communication radios and office equipment, including small generators and batteries.

As guiding principles, the design team recommends beginning with an inventory of needs: training and physical assets. After needs have been identified and prioritized, they should be addressed in a sequence of modules that, step by step builds the capacity of the institutions to operate the information system. Training and placement of physical assets should be coordinated.

Although it is not the purview of the design team to develop a capacity building program, the team sees the need for management training at all institutional levels. Technical training will be focused at the zonal and district levels. Much of the training will be on-the-job-training, but the team sees a benefit in overseas training in institutional management and livestock marketing for senior LMA staff. Technical training in data collection, statistical analysis and use of appropriate computer programs can be done in-country.

## **CANDIDATE MARKETS**

In the section sub-title, the design team has termed these “candidate” markets to indicate that LMPIS operational considerations, political realities, and economic conditions can affect the choice of markets. At the time of this design, the team feels that all of the recommended markets have valid reasons to be on the candidate list.

In the past, different government entities and NGOs have collected prices from a wide range of livestock markets in the southern lowlands. Except for the two major cross-border markets of Dolo Odo and Moyale, there are no must include markets. As earlier organizations have done, the design team has developed a set of guidelines for candidate markets.

- Markets must be represented in both the Borana and Liben (Somali) zones.
- Cross-border markets must be included.
- Markets must have a large enough volume in the weekly news report categories to provide the market surveyor with a valid sample of prices.
- Markets that have historically supplied urban markets to the north should be included.
- The candidates will be secondary markets with a preponderance of small traders (who have purchased animals from pastoralists) and larger traders who will trek animals on to forward markets.

The following are the recommended candidate markets to be surveyed:

1. ***Dolo Odo cross-border market*** in Dolo Odo district, Liben (Somali) Zone.
2. ***Moyale cross-border market*** in Moyale district, Borana Zone & Moyale district, Liben (Somali) Zone.
3. ***Negele market***, Liben district, Borana Zone.
4. ***Filtu market*** in Liben district and is the zonal capital of the Liben Zone.
5. ***Ilweya market*** in Yebelo district, Borana Zone.
6. ***Fitchewa market*** in Agere Maryam district, Borana Zone.
7. ***Dubluk market*** in the Dire district, Borana Zone.

All of the candidate markets listed above, with the exception of Filtu are considered relatively large markets. They will usually meet the criterion of large enough volume to provide a valid sample for the weekly news report categories. The Filtu market was included as a candidate because it is located in the Liben zonal capital.

The two major cross-border markets are included. Although Ethiopian animals have traditionally been trekked across the Kenyan border to Kenyan Moyale, Ethiopian border officials now require animals to be sold on the Ethiopian side of Moyale. The animals that have been purchased by Kenyans can then be trekked across the border (accompanied by Ethiopian herders) and loaded on trucks for Nairobi.

A complicating condition is that Oromia region (Borana zone) and the Somali region (Liben zone) now have separate livestock markets in Moyale. The Borana market is on the west side of the main street of Ethiopian Moyale (the town of Moyale extends across the border to the Kenyan side). Cattle predominate in the Borana market. There are a few camels and no small stock is sold at this market. Borana small stock is sold at informal mini-markets along the streets of Moyale. On the east side of town, the Somali's also have a market for cattle, small stock and camels. Cattle are sold in this market, but not in the volume found in the Borana Market. However, the Somali side is a major market for small stock and camels. The design team was not able to compare livestock prices in the two markets.

## CATEGORIES OF LVESTOCK

At issue is defining the categories of animals for which prices will be most relevant for the primary clients. Pastoralists and traders confirm that their main interest is in prices of animals that are most frequently trekked to onward markets. These are usually mature animals that are destined for slaughter or finishing and then slaughter. Although these categories are of particular importance to the weekly livestock price report, prices will be collected for a wider range of animal categories. When the surveyor is in the market, only a small, additional amount of effort is required to sample prices for wider range of animals.

In developing these categories, the design team has followed several guidelines:

- Because prices will be collected from a number of different markets and the information may be used by interested buyers with feeder facilities and urban terminal markets, ***the categories should be well defined and the terminology widely recognized throughout the livestock marketing industry.***
- The categories will be ***defined simply enough to enable the surveyor to accurately identify the category of animals under field conditions.***
- ***Categories should reflect popular sales animals*** in which the volume of animals will be great enough to provide an adequate price sample for the surveyor.

Oromifa language terminology is shown below. It is widely understood in the southern livestock markets and in the Addis livestock markets that are in the Oromifa speaking region. Of the three Somali clans in the activity area, the Gabra and Gerri understand Oromifa.

### Cattle

There appears to be some confusion in the in the English terminology used for male cattle. In this activity, steer, bullock or ox all refer to castrated male cattle. Bull refers to intact male animals.

#### **Slaughter cattle that are frequently trekked to forward markets:**

1. ***Castrated males about four years or older*** which may be termed steers, bullocks or oxen. Also in this category are mature bulls that are being sold for slaughter, not for breeding. The Oromifa term ***Sangaa*** is customarily used to denote mature male cattle for slaughter.
2. ***Younger bulls, approximately 1-3 years of age*** that will probably be grazed a year or two before being sold for slaughter. Depending on the degree of maturity, these bulls may be held in feedlots several months. The Oromifa term for this category is ***Jibicha***.

3. ***Younger steers, approximately 1-3 years of age*** that will probably be grazed a year or two before being sold for slaughter. Depending on the degree of maturity, these bulls may be held in feedlots several months. The Oromifa term is ***Mirigoo***.
4. ***Barren, infertile cows*** that have never conceived or with low reproductive rates. The Oromifa term for this category is ***Massina***. Barren cows are not to be confused with dry (non-lactating) cows (***Haawicha***) that are used for breeding purposes.

**Breeding cattle which are usually not trekked long distances:**

The following categories of animals are seldom seen on the market in large enough numbers for survey purposes except during periods of herd stress, as during extreme drought conditions.

1. ***Highly productive breeding females***. They may be between lactation periods (temporarily “dry”). The Oromifa term for this category is ***Haawicha***.
2. ***Heifers up to 3 years of age to be used for breeding***. The Oromifa term is ***Raada***.
3. ***Young calves up to one year of age***. These probably will be used as herd replacement animals. The Oromifa term for these is ***Yaabiyee***.

Breeding bulls are seldom seen in secondary markets as pastoralists prefer to raise their own or they are traded in bush and primary markets Lactating cows are not sold in secondary markets. The same is true for old cows (***Dulecha***) past reproducing age.

**Small Stock (Sheep & Goats)**

The recommended categories of small stock reflect only the sex of the animal. Although there are some castrated males, most males are intact. It is expected that all of the small stock offered on the market are destined for slaughter.

1. ***Male sheep***
2. ***Female sheep***
3. ***Male goat***
4. ***Female goat***.

**Camels**

Camels are also sold by sex, but the volume of animals delineated by sex is usually too small to constitute a valid sample. Therefore the design team recommends “camels” as a category.

## **MONITORING & EVALUATION**

In addition to quarterly reports that track the short-term system inputs and outputs, the LMA will wish to review the effectiveness of its activities on target clients. As this is a two-year pilot activity with the possibility of being expanded if it is deemed successful, it is in the interest of the LMA to ensure that its client objectives are being met. Because two years is a relatively short time-frame within which to observe change in pastoralists' attitudes toward marketing or measure improvements in marketing efficiency directly attributable to the information system, the LMA and the donor organization will want to collaborate on identifying indicators that are acceptable to both parties.

The design team suggests that at the end of 12 months the LMA conduct an internal evaluation to determine that all operational objectives are being carried out at the required level. At the end of 18 months, an external evaluation would be conducted to review the correction of deficiencies from the internal review and to determine the usefulness of the LMPIS in meeting its broader objectives.

## **SUSTAINABILITY**

As noted at the beginning of the Guiding Principles section, designing an activity that would be sustainable was one of the principles. The key to sustainability was to design the activity in a way in which the implementing entity's recurrent budget would cover operating costs. In the zonal areas, the agricultural development staff are already collecting livestock market data as part of their routine duties. The design team sees no need to top-up salaries, pay bonuses, increase transportation allowances or provide other financial incentives to the zone and district staffs. Instead, the motivation to continue this work at the highest professional standards possible can come from non-financial incentives such as training, observation tours, participation in workshops and seminars.

Other the other hand, the design team is aware that the present recurrent budgets are inadequate for operational activities in a start-up period that is expected to take six months or more. Unfortunately, the current budgets may not be enough to sustain any but the most basic system of data collection and processing and public media dissemination. Market data dissemination to the pastoralists and small traders in the bush is difficult and costly. It is probable that the resources required for this will not be met by present budgets.

The solution to this may lie at the regional level where budget and staffing allocations are made. With an understanding of the benefits of the LMPIS to the Region's southern inhabitants, it is hoped that the regional administration will provide the resources necessary to maintain an on-going activity.

## **ISSUES AND CHALLENGES**

Although the design team is optimistic about the chances for implementing an effective and useful LMPIS, there are a number of issues and challenges that it feels should be brought to the attention of the LMA as the implementing agency. Some of these issues and challenges, such as the distances between Addis and the zonal markets are completely external to the LMA and must be “lived with”. Others have elements that can be addressed through technology, training and development of professional linkages.

The Issues and Challenges include:

1. A very weak agricultural development entity in the Liben Zone (Somali Region) that would be used in data collection, processing and dissemination.
2. Lack of linkages between the LMA as a federal entity and the Zonal Agricultural Development entities.
3. Lack of LMA familiarity with donor (USAID) requirements in accounting practices and activity reporting.
4. Lack of LMA capacity in developing and implementing training program at the level required for success of the activity.
5. Travel time required for on-site monitoring of zonal practices in data collection and other procedures.
6. Rationalizing Regional budget and staff allocations to meet LMPIS needs at the zone and district levels.