

# Technical Note: Issues and Options for the Southern Sudan Market Information System

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This Technical Notes raises some of the issues and options that need to be settled early in the design of the Market Information System (MIS). This Note is written without prejudice to the first draft *Concept Paper: South Sudan Agricultural Trade Information Network* by Cesar Guvele (May 3) that is under revision.

## 1. Purpose of the MIS

The standard purposes apply to Southern Sudan. Provision of timely, accurate and reliable market information through the Southern Sudan Market Information System will serve multiple, overlapping purposes:

- help market participants make better informed decisions for their production, marketing, storage, transportation and processing strategies;
- reduce structural information asymmetry, where one party to the transaction is consistently better informed than the other and uses that information (or withholds information) opportunistically to negotiate a better *private* deal at the cost of reducing net *social* welfare;
- reduce transaction costs (the costs of doing business) by eliminating part of the uncertainty (the cost of price discovery) associated with doing business.
- improve coordination and promote market integration;
- help prices find their equilibrium between locations and seasons; and
- increase competition and reward productivity at all levels of the value chain.

Price signals in a well-performing market will stimulate demand in surplus-producing areas (benefiting producers) and increase supplies in deficit-producing areas (benefiting consumers). Price signals coordinate markets and the markets coordinate the economy.

The choice of MIS purposes must be done in conjunction with the choice of MIS beneficiaries (point 2, below).

## 2. Choice of Target Beneficiaries

This Note agrees fully with the *Concept Paper* (section 7.2., first draft) that market information concerns much more than prices alone. A well-developed MIS will offer insights, commodity supply and demand analysis, projections and trends for various domestic and overseas markets, updated information on grades and standards, phyto-sanitary certification requirements, and trade news and policies, among others. In short, the MIS can cover a broad range of topics, serving a broad range of clients.

The pilot MIS will need to be clear whose interests it serves. This Note recommends that the MIS aim to serve *everyone* – producers, traders, transporters, processors, consumers and decision-makers. The MIS must be unscrupulously neutral and objective in carrying out its operations. If it is perceived that the MIS favors one group of clients over the others, the other groups will regard the MIS with suspicion and stop cooperating with and paying attention to it.

Making market information accessible to all will require a conscious effort by the MIS to tailor market information products, messages and means of dissemination to the needs of different clients. For example, weekly radio broadcasts may be the most effective way to reach rural farmers. In contrast, e-mail messages may be the best way to reach urban wholesalers.

For those market participants that are truly at a disadvantage for socio-economic or other reasons, such as subsistence-oriented producers, AMED (or others) can develop adjunct outreach programs to improve the effectiveness of these groups in the market. For example, a special training program can help farmers interpret and use market information better for their production and marketing decisions, or help livestock traders negotiate better terms of sale.

### **3. Locus of Accountability and Ownership of the MIS in its Pilot Phase**

At the *management level*, establishing and operating the Southern Sudan MIS is a contractual obligation between a group of private firms (those implementing the Agricultural Markets and Enterprise development project) and a donor (USAID/Sudan).

At the *public policy level*, the MIS concerns the collection, analysis and dissemination of market information for which it is estimated that the social benefits exceed the social costs (point 1, above). Moreover, in most countries provision of accurate, reliable and timely market information is a public sector function. Thus, the Government of Southern Sudan has a direct interest in the implementation and effectiveness of MIS.

The MIS will cover different food commodities and animal products that fall across at least two GOSS ministries, and that concern one or two more. To acknowledge and accommodate the interest of these ministries – as well as the interest of private sector and civil society groups – the MIS will need some sort of ‘outside’ governance structure.

How much ‘outside ownership’ should be given to the MIS in this pilot phase? There are at least two options:

- An Advisory Board to help *advise* AMED’s implementation of the MIS. Presumably, AMED would be free to accept or reject advice from the Advisory Board after due consideration.
- A Steering Committee to *direct* AMED’s implementation of the MIS. In this governance model, members of the Steering Committee would have a direct voice in the strategic direction and daily operations of the MIS, with budgetary and personnel implications for AMED.

This Note recommends the Advisory Board approach during the pilot phase because a) AMED is contractually accountable to USAID, not others; and b) AMED will need to work within its resource limits. That said, the MIS must be designed and implemented *with the interests of Southern Sudan and the eventual hand-over to the GOSS in mind*.

Should the GOSS make a major material contribution to the MIS (funds, facilities and/or people), it will have a stronger claim on decisions affecting the MIS scope, direction, and management. The MIS will then need to take another look at the ownership question.

#### 4. Dealing with Multiple Currencies

Different markets use different currencies in Southern Sudan – for example, the Ugandan Shilling (Yei), Kenyan Shilling (Rumbek) and Sudanese Dinar (Juba). Until Sudan has a single currency through the GoNU, there are several ways to handle the issue of multiple currencies:

- For reporting purposes, report and disseminate each price in the original currency in which it is traded. This is the price that participants in that market will recognize – and expect. Market participants can use their own information to convert prices from one currency to another.
- For analytical purposes, convert prices into a common currency, such as the Dinar as it is used in the three largest markets (Juba, Malakal and Wau). Use the daily (weekly) exchange rate (Shillings per Dinar) as the appropriate conversion factor. Recall that the daily (weekly) exchange rate is actually just the price of a Dinar (or the smallest note of 100 Dinars) in terms of some other currency.

In the event that there is no direct exchange rate (where currencies are not directly traded one for the other), use the second-best approach, an indirect exchange rate via the Dollar.

- For example, if \$1.00 = KSh 70 and \$1.00 = SD 250, therefore 1 KSh = 250/70 SD, or 1 KSh = 3.57 SD. Thus, a commodity that costs KSh 100 costs the equivalent of SD 357.14.

Announcing the daily (weekly) exchange rates also allows readers and listeners to make their own conversions.

The MIS may decide to report prices in the original currency *and their equivalent in a common currency*. This will get users to start thinking in terms of the common currency for comparison purposes.

#### 5. Dealing with Local Units of Measure

A “local unit of measure” is any measure that doesn’t use the metric system. Local units of measure are more prevalent in rural markets but may be found as well in major urban markets, especially at the retail level.

To convert the contents of a local unit of measure into metric weights,

- Take several representative samples of the same commodity and weigh the contents with a metric scale. (If possible, use a battery-powered scientific scale accurate to the nearest gram.)
- Average these weights to establish a standard conversion factor *for that season*.
- As the moisture content of grain decreases after the harvest period, repeat the process again, no less than every three months, to establish a standard conversion factor *for each season*. (If these local measures do not change over time, they could be used again for the respective season in following years.)
- Be sure to establish standard conversion factors *commodity by commodity* and *market by market*. Do not use a standard conversion factor from one market in another.

For example, the moisture content of maize, around 15 percent at harvest, may decrease to about 5 percent six months after harvest. In this case, a full bucket of maize will weigh 10 percent more at harvest than it does six months later – so seasonal conversions do matter.

Report prices in both local units of measure and metric measure-equivalents. Ultimately, it is in the interest of all market participants to buy and sell in standard units for greater transparency and comparability. Reporting prices in metric units will help lead the market to adjust to standard units.

To sum up about multiple currencies and local measures, report prices as follows:

- Local measures in their original currency,
- Local measures in the common currency, and
- Metric measures in the common currency.

## 6. Reporting Livestock Prices

Livestock are important, high-value marketable goods that are central to the livelihoods of many in Southern Sudan. A Market Information System would not be complete with reporting livestock prices and market conditions. The MIS will need to decide whether to collect, analyze and report livestock prices at the outset or in a later [phase](#).

Typically, livestock market information systems collect information on healthy 2-year old male sheep and goats, 4-year old male cattle and 6-year old male camels. At some future date, the MIS may want to collect “local quality” and “export quality” prices. For now, all livestock prices should be “local quality” prices or “first quality, second quality” and so on.

- The MIS *Concept Paper* (first draft, May 3) suggests collecting market information on chickens. A chicken is a useful unit of consumption at the household level.
- Postpone collecting fish data for a later phase.

The methodology for collecting livestock prices differs from the methodology for food staples.

- The market for trading livestock may be located apart from the market for trading food staples.
- The time of day for active livestock trading may also differ for the time of day for active food staples trading.
- The skills and experience to ascertain livestock age and quality differ from those for evaluating grain and horticulture.

Thus, the MIS may require a different set of skills and data collectors for livestock market information. With training, however, the same enumerator could handle all prices, provided there is no conflict between active trading times in both markets.

## 7. Wholesale vs Retail Market Information

The MIS will need to decide whether to collect market prices at the wholesale or retail level. There are distinct tradeoffs between the two. The methodology for price collection also differs.

**7.1. Wholesale prices** are considered better prices for monitoring and analyzing *an integrated network* of national (southern Sudan) markets.

Wholesale markets have several distinct advantages:

- Wholesale markets provide the best prices. Unlike farm-gate and retail prices, wholesale market prices are based on repetitive, large-volume transactions. The problem of thin markets rarely arises. Wholesale prices are usually directly comparable between markets, making conversion to standard units unnecessary. Wholesale prices are considered a more accurate barometer of current and expected market conditions. Market analysts generally prefer to monitor wholesale prices rather than farm-gate or retail prices.
- Wholesale market prices attract the greatest interest. Given the advantages of wholesale markets, including the role of some wholesale markets as reference markets (point 9, below), wholesale prices (holding constant for time, place, form, quality and quantity) usually become the key

variable of interest to producers and production associations, processors, institutional buyers and even exporters – as well as other public agencies (such as the BOSS and SSCCSE) that monitor wholesale prices among other economic and financial indicators.

- There is less information asymmetry between wholesalers who usually have their own agents and private sources of market information. Wholesalers often buy and sell from other wholesalers. As a result, negotiations between equals produce better prices.
- Wholesalers usually provide information on volumes, another variable that can be tracked over time.
- Wholesalers usually have a “commanding view” and can become useful key informants of market developments and conditions around the country.

Disadvantages:

- As a practical matter, it is more difficult to *observe* transactions at the wholesale level in southern Sudan. Wholesale trades are often transacted in private, not public. The MIS will have to rely on the prices and volumes *declared* by the wholesaler.
- In turn, this requires a) collecting market information from a representative sample of wholesalers to avoid possible biased and misleading information; and b) developing a relation of trust between the wholesaler(s) and enumerators, a process that takes time.
- Southern Sudan markets are not yet completely integrated, reducing the arguments in favor of wholesale prices.

**7.2. Retail prices** are the prices faced by poorer consumers that cannot afford to buy in larger wholesale quantities. In this manner, most people can readily relate to retail prices.

Advantages:

- Retail transactions are readily observable, repetitive and transparent. There is no need to worry about self-serving, biased declared prices.
- A sample of retailers is not necessary, only a minimum number of observed transactions (in the same market and at the same time of day).

Disadvantages:

- Retail prices are less informative because value-added services vary widely. Comparison is more difficult given the great variability among retail prices, depending on location, presentation, packaging (if any), time of day of transaction, and volume transacted. This will require observing prices of commodities with similar value-added so that only prices vary.
- Retail market transactions often use local measures, requiring conversion to standard measures for comparison between markets.
- Retailers do not see the “big picture” and their value as key informants is lower.

### **7.3. Other Options and Considerations**

Some combination of wholesale and retail markets may be desirable and ‘politically expedient’ for the MIS. Collecting wholesale and retail prices in the same market town can be useful for a) analyzing marketing margins and value-added chains and b) educating users of MIS information generally.

Lastly, do not collect farm-gate prices as part of the MIS. Farm-gate prices are less informative than rural retail or urban wholesale market prices because locations vary widely (making farm-gate prices most relevant only to other nearby farmers) and transactions are often small, infrequent and hard to observe.

## 8. Number of Markets

USAID/Sudan has proposed starting the MIS in the three largest cities, Juba, Malakal and Yei. These three markets are not enough markets for a market information *system*.

First, it is unlikely that these markets trade with each other, at least not for low-value commodities. This is because the great distances between the three markets increase delivery costs as a percent of total cost for each commodity. Any two markets (A and B) will trade with each other as long as the delivery cost (per unit of a given commodity) between A and B is less than the price difference (per unit of the same commodity) between A and B. However, if the delivery cost per unit exceeds the price difference per unit, trade will not occur (unless financial losses are offset by profitable trade in another commodity). These three markets alone do not constitute a system.

Second, the three proposed markets happen to be located in former ‘garrison’ towns serviced in part by deliveries by the GOS from northern Sudan. Trading patterns are not typical of those in other southern Sudan markets ‘liberated’ long ago.

Third, for reasons of political sensitivity with the GOSS, the MIS should also include some major markets in the south where there are no garrisons of GOS troops.

It is desirable, even at the outset, to report prices and other market information from markets that:

- trade with each other for most products *as part of a network*, and
- include non-garrison town markets that have had several years of experience developing their own trade flows.

This Note recommends at least six markets, perhaps one major market that can be paired with each of the three large city markets. Eventually, the MIS can include all southern state capitals as well as Khartoum, as recommended by the *Concept Paper*.

## 9. Reference Markets and Commodities

When markets are reasonably integrated – that is, when a price change for a particular commodity in one market causes a similar price change in other markets – one market usually functions as a “*reference market*” due to its importance as a supply center, demand center, or both. People – producers, traders, transporters, consumers and decision-makers – *refer to* prices in this market to estimate their own prices by adding or subtracting an appropriate price margin, depending on their geographic location or position on the value chain.

Likewise, the price of one commodity may serve as a “*reference crop*” for the price of a close substitute, with similar production techniques, costs and risks. For example, knowing a) the usual price relationship between millet and sorghum and b) the current price of millet allows someone to estimate the price of sorghum with a fair degree of accuracy.

As a practical implication, *it is not necessary to monitor prices in every market or the prices of every crop or animal*. Awareness of the concept of reference markets works in favor of a modestly funded Sudan MIS, allowing it to start with a smaller number of markets without necessarily sacrificing breadth of coverage. Similarly, the concept of reference crops allows the MIS to start with a smaller number of commodities. Users of market information will still have reasonably good knowledge of market prices and conditions for the ‘missing’ markets and commodities.

Based on interview information from Land o' Lakes, FEWS NET/Sudan, the Ministry of Agriculture and Forestry, and the Ministry of Animal Resources and Fisheries and in view of the arguments in favor of reference markets and crops, the pilot MIS should consider the following market configuration:

<b>Commodity/Animal</b>	<b>Location</b>	<b>Market Options</b>
Sorghum	Bahr el Jebel, Eastern Equatoria, Bahr el Ghazal	Renk, Malakal, Warawar, Yei
Millet	Bahr el Jebel, Eastern Equatoria, Bahr el Ghazal	--
Maize	Green Belt, Western Equatoria	Yambio
Cassava	Western Equatoria	Yei
Livestock	--	Rumbek, Warawar, Maryal Bai, Yirol, (?)Malakal
Fish(?)	Jonglei, Unity, Upper Nile	Bor, Leer or Adok, Malakal

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