Agriculture in the Information Age

Market Information Intelligence Systems for Agrarian Development

Presentation at Public-Private Dialogue Meeting
Botswana’s Beef Value Chain
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Market Information Intelligence (MII) Systems for Agrarian Development

The request was that this presentation focus on:

- The importance of MII and MII systems
- The need for MII in the beef sector
- A short presentation / demo of our systems as examples of information and decision support systems for the agricultural sector
INTRODUCTION

Who and What is Manstrat Agricultural Information Systems (MAIS)

• MAIS is a South African firm with 25 years experience in rendering consultancy and support services to the agricultural and other economic sectors within SA and the larger SADC region.

• We have a permanent staff complement of more than 30 people and an extended expert and consultant network of a further 50 experts.

• Over the past 25 years the firm has undertaken more than 350 projects and assignments for various governments, development agencies and the private sector within the region. Specialisation fields are agricultural development and agricultural training, SMME development and vocational training.

• We also have a good working knowledge of the agricultural sector in Botswana – numerous projects (most notably contracted by the Botswana MOA to undertake a Productivity Audit and Strategy for Agricultural Sector)
INTRODUCTION (continue)

Our specific interest in Agricultural Information, Intelligence and Decision Support Systems

- Having realised that a lack of agricultural information and intelligence is one of the most important constraints to agricultural development in Africa (especially amongst smallholder farmers), Manstrat became involved in seeking solutions to address this need.

- We now have more than 10 years experience in the development, implementation and maintenance of internet based Agricultural Information and Decision Support Systems. We are the preferred service provider (and partner) of the SA Department of Agriculture in implementing such systems for its staff and constituency (farmers).

- MAIS currently has two Agricultural Information Systems namely:
  - Extension Suite Online (ESO) – to address information needs of Agricultural Advisors and Extension Officers
  - AgriSuite – to address the information needs of farmers directly
What is Market Intelligence and Information (MII)

Market intelligence and information (MII) is important and is used to develop a knowledge and understanding of the market and how to access the market (including challenges in the operating environment influencing market access and cost of sales influencing price).

What is a MII System

A MII System usually consists of three components – namely:

- **Data** (to be sourced, collected and collated)
- **Intelligence** (software to process, analyse and interpret data into information)
- **Information** (useful information to be presented and disseminated to users to facilitate decisionmaking)
MARKET INTELLIGENCE AND INFORMATION (MII)

If we want to facilitate Access to the Agricultural Economic Main Stream

SMALLHOLDER FARMERS WILL HAVE TO BE ASSISTED TO MANAGE THE TOTAL AGRICULTURAL ENTERPRISE VALUE CHAIN
We can substantially advance Agrarian Reform if we can provide knowledge and information across the spectrum of the Agricultural Enterprise Value Chain.
BENEFITS OF A MII SYSTEM

• Improved **market and customer orientation** – assist especially smallholder farmers to become business and market orientated – to focus externally.

• Sharing information on all **market opportunities** – with guidelines how to access such markets.

• Better **market selection** & positioning - understanding market requirements will help farmers to select best suited markets.

• Improved decisionmaking on actions needed to **overcome constraints** in accessing such markets

• Improved decisionmaking re means to **increase profits** (increasing production and productivity and/or by reducing cost of sales)

• Improved decisionmaking re linkages with upstream & downstream roleplayers to **reduce cost of sales**
COST OF SALES COMPONENTS IN THE BEEF VALUE CHAIN

Primary & Secondary production inputs
- Feed and nutrition
- Veterinary services and product
- Finance
- Feedlots

Aggregation and Transport costs
- Cattle trucks, trains
- Kraals, auction pens, loading facilities
- Buyers, auctions, speculators, agents.

Slaughtering costs
- BMC
- Other abattoirs
- Slab slaughter facilities

Processing and cold storage costs
- BMC
- Processing plants
- Chilling and cold storage facilities

Markets - Distribution and Sales costs
- Export
- Wholesale
- Retail
Examples of MII in the Beef Sector that will increase farmer’s viability, feasibility and profitability:

• Information on potential markets – both local and export markets (location, access requirements re volumes, quality, packaging, consistency, traceability, health and safety, etc.)
• Information on market and trade trends – supply and demand figures, prices, price fluctuations and price trends, etc.
• Information on roleplayers and stakeholders rendering services down the value chain (e.g. feed providers, veterinarians, cooperatives, auctioneers, feedlots, agricultural centres, transport businesses, abattoirs, processing facilities, cold storage facilities, etc.)
• For each of the above industry stakeholders provide the following geo-referenced information (contact details; location and geographical area of service rendering; capacity and price structure; etc.)
• Link information datasets in MIIS to project production potential / expectations, financial feasibility, etc. (e.g. climatic data, grazing potential, distance from markets, availability of support services, etc.)
Manstrat Agricultural Information Systems (MAIS)

1) EXTENSION SUITE ONLINE (for Extensionists and Agricultural Advisors)

2) AGRISUITE (for Farmers)
What is ESO

ESO is an internet based agricultural information and intelligence system aimed at assisting Agricultural Advisors (e.g. Extension Officers and Veterinary Assistants) in rendering an improved service to farmers. To this end it builds their capacity and provides them with a wide range of agricultural information and intelligence spanning both the technical (production) and economic (market) fields.

ESO has been implemented in SA for the past 5 years with a total of 4 200 registered users (3 500 Extension Officers).

It has been widely acclaimed as a huge success and the SA Government is now renewing our service contract for a further 5 year term. An evaluation of ESO (undertaken jointly with the SA Ministry of Agriculture) revealed the following as the impact, importance and benefits gained from an information and intelligence system such as ESO.

Please refer to the short demonstration of ESO to see the approach and range of information and support provided.
Extension Suite Online has made a profound impact on the lives of Extension Practitioners and those that they serve and it has greatly improved the relationship between extension practitioners and farmers in South Africa.

The SA Ministry of Agriculture has already commenced the process to renew the first 5 year contract with Manstrat (which ends early 2015) for a further term to implement, update and maintain the system for use by DAFF.
Before ESO Extension Practitioners were struggling to find information, now they have quick and easy access to such information.

They used to have access to books only (often outdated info) now have access to fresh, updated and practical and user friendly information.

It serves as a suitable conduit or “pipeline” for information flow from Researchers to Extensionists.

Provinces are relying on ESO as the main source of information to Extension Practitioners and the system has become deeply entrenched in the approach to extension in every province.

It improves Service Delivery and is a key component of farmer support – it provides information right there where Extensionists work and information is needed – at farm level. Thus enabling Extension Practitioners to respond quickly to farmers’ needs.

It provides Extensionists with high quality and a broad spectrum of information thus contributing to their knowledge base and enhanced problem solving and decisionmaking through the provision of appropriate advice and solutions to farmer problems.

It collates, consolidates and makes information available in a user friendly manner and on devices that are readily accessible anywhere and anytime (e.g. via mobile phones, tablets, laptops, personal computers, etc.)

It has created a relationship of trust between Extension Practitioners and Farmers.
Southern African Agriculture in the Information Age

AgriSuite Online – MIIS for Farmers
INTRODUCTION
A Responsible Approach – Info support to Farmers

Size of the Agricultural Sector and ICT in Southern Africa (SADC)
(Source - African Development Bank)

<table>
<thead>
<tr>
<th>AGRICULTURAL STATISTICS</th>
<th>SIZE OF SECTOR</th>
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<tbody>
<tr>
<td>Agricultural population (2014)</td>
<td>175,000,000</td>
</tr>
<tr>
<td>Economically active in agriculture (2014)</td>
<td>75,000,000</td>
</tr>
<tr>
<td>Number of mobile cellular subscribers (2012)</td>
<td>180,000,000</td>
</tr>
<tr>
<td>Number of internet users (2012)</td>
<td>40,000,000</td>
</tr>
<tr>
<td>Number of mobile phones in agriculture (Anglophone) 2012 Accenture study for Vodacom</td>
<td>30,000,000</td>
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</tbody>
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WHAT INFORMATION ARE WE PROVIDING TO THEM?
Specifically the Smallholders and other Small-scale Farmers
AgriSuite Online

Content

- Sunlight
- Temperature
- Cloud cover
- Pressure
- Humidity
- Precipitation
- Visibility
- Wind speed and direction

Information provided for 7 days in advance and linked to production early-warnings
Vegetables
Fruit
Grains
Oil Seeds
Roots & Tubers
Industrial Crops
Flowers

Beef cattle
Dairy cattle
Mutton sheep
Wool sheep
Meat goats
Milk goats
Fibre goats
Ostriches
Layer chickens
Broiler chickens
Pigs
AgriSuite Online

Content

- Silos
- Veterinarians
- Cooperatives
- Financial Institutions
- Tanneries
- Suppliers
- Support Services
- Other

- Vegetables
- Fruit
- Nuts
- Grains
- Red Meat
- Poultry
- Eggs

Buying and selling of agricultural items

Expert support and farmer linkages
AgriSuite Online

Content

Linkages to the agricultural industry

A virtual marketplace

Agricultural GIS
Demonstration re components of AgriSuite
THE DIFFERENCE

Getting information to all role players

**Over the internet**

- Available almost everywhere (40 million internet users and 180 million mobile phone users in SADC – **30 million in agriculture**)
- System can be maintained at a central point
- No need for individual computer or device upgrade
- Independent of operating system
- Most devices has a browser

**BUT**

You cannot provide a single system across the range of role players in Southern African agriculture
CONCLUSION

These products close the information gap

Bridging the information gap between Research and Extension

Bridging the information gap between Extension and Farmers
Thank you