Technical Report:

Regulatory Environment for Animal Feeds in Zambia, Malawi, Mozambique, Zimbabwe, Namibia and Botswana

Whitehouse & Associates

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AECOM International Development

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USAID/Southern Africa

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<td>BNVL</td>
<td>Botswana National Veterinary Laboratory</td>
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<tr>
<td>DAHLD</td>
<td>Department of Animal Health and Livestock Development</td>
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<td>GMP</td>
<td>Good Manufacturing Practice</td>
</tr>
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<td>HACCP</td>
<td>Hazard analysis and critical control points</td>
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<tr>
<td>MBM</td>
<td>Meat and Bone Meal</td>
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<tr>
<td>MBS</td>
<td>Malawi Bureau of Standards</td>
</tr>
<tr>
<td>SAZ</td>
<td>Standards Association of Zimbabwe</td>
</tr>
<tr>
<td>SPS</td>
<td>Sanitary and Phytosanitary</td>
</tr>
<tr>
<td>UNV</td>
<td>University of Zambia</td>
</tr>
<tr>
<td>USAID</td>
<td>United States Agency for International Development</td>
</tr>
<tr>
<td>ZABS</td>
<td>Zambia Bureau of Standards</td>
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</tbody>
</table>
1. INTRODUCTION

This report comprises an analysis of the regulatory environment in Botswana, Malawi, Mozambique, Namibia, Zambia and Zimbabwe as it pertains specifically to animal feeds. The report identifies specific animal feed legislation, regulations and standards in the six countries, the agency responsible for enforcement of the regulations and details on any Good Manufacturing Practice legislation that is in place.

This report has been compiled from various published sources of data including web sites of the various regional standards organizations as well as direct telephonic and e-mail contact with the regulatory authorities and standards organizations. Copies of the specific legislation have been obtained from the authorities and these are included as separate attachments alongside this report.

All six countries identified have specific legislation and regulation relating to animal feeds and most maintain some specific standard on animal feed. While the regulatory authorities have the legislation and regulation in place, enforcement is an issue given the lack of laboratory facilities and the lack of human resources to enforce compliance.

2. ZAMBIA

2.1. Animal Feed Legislation, Regulation and Standards

The Animal Feed industry is controlled by the Animal Health Act, 2010 (No. 27 of 2010). The Act provides for: the appointment of the Director responsible for veterinary services and other staff and defines their powers and functions; the prevention and control of animal diseases; the quarantine of animals; regulates the importation and exportation of animals, animal products, animal by-products, articles and animal feed; and, establishes the Animal Disease Control Fund.

Part V of the Act deals specifically with animal feeds as follows:

59. (1) A person shall not import, manufacture or sell any animal feed without a permit from the Director.

(2) A person shall not import, manufacture or sell any animal feed unless the animal feed conforms to the standards and specifications prescribed under this Act.

(3) A person who contravenes subsections (1) and (2) commits an offence and is liable, upon conviction, to a fine not exceeding five hundred thousand penalty units or to imprisonment for a period not exceeding five years, or to both.

60. (1) A person shall not import without a permit from the Director—

   (a) any animal feed which contains bone or any other substance derived from an animal carcass; or

   (b) bones or any other substance derived from an animal carcass for the purpose of manufacturing any animal feed.

(2) A person shall not manufacture or sell any animal feed containing bone or any other substance derived from an animal carcass unless such bone or substance has been sterilised in the prescribed manner.
(3) A person who contravenes subsections (1) and (2) commits an offence and is liable, upon conviction, to a fine not exceeding five hundred thousand penalty units or to imprisonment for a period not exceeding five years, or to both.

61. (1) A person shall not operate a rendering plant without a permit from the Director.

(2) A person who contravenes subsection (1) commits an offence and is liable, upon conviction, to a fine not exceeding five hundred thousand penalty units or to imprisonment for a period not exceeding five years, or to both.

62. The Minister may, by statutory instrument make regulations for—

(a) the form of register, applications, permits, reports of sampling and analysis;
(b) the manner of branding, labeling, marking or sealing packages or containers of any animal feed;
(c) the prohibition or restriction of the disposal, acquisition or use of any animal feed;
(d) the restriction, limitation or prohibition of the importation of any animal feed or class of animal feed into Zambia and the conditions under which the animal feed may be imported; and
(e) the methods to be employed for rendering.

In addition to the Animal Health Act, specific regulation is contained in the Agriculture (Farm Feed) Regulations (Cap. 226). The regulations cover registration of animal feeds, analysis and laboratory controls, sale of feeds and restricted and prohibited inputs.

Copies of both the Act and the Regulations are being submitted along with this report.

In addition to the legislation, the Zambia Bureau of Standards (ZABS), as the Statutory National Standards Body for Zambia, is responsible for the administration of the compulsory standards on poultry feed (ZS017), pig feed (ZS018) and cattle feed (ZS019).

Copies of the standards are not freely available but they can be purchased directly from the ZABS offices in Lusaka.

2.2. Enforcement Agencies

Department of Veterinary & Livestock Development

Dr. M Sitima

Ministry of Agriculture and Cooperatives
Tel: +260 11 229 470
Email: sitimamc@yahoo.com

This department administers the Animal Health Act 2010 and is responsible for registration of local animal feed producers and for certification of factories involved in international trade of animal feeds.

The Department does not have any laboratory or testing facilities and, when required, they collaborate with the Food and Drug Directorate, the University of Zambia or the Zambia Bureau of Standards.
Zambia Bureau of Standards (ZABS)
Davis Mukuka
Senior Documentation Officer
Lechwe House
Freedom Way, South End
Lusaka
Tel: 260 211 231385
Fax: 260 211 238483
Email: mukukad@zabs.org.zm, davismukuka@yahoo.com

ZABS implements standards through a Certification Mark Scheme whereby good quality products conforming to Zambian Standards are given a mark, which serves as an assurance to the buyer that the product has been produced under strict quality control/quality assurance system approved by the ZABS.

2.3. Laboratory Capabilities:
During 2006, a joint World Bank/USAID assessment team looked at laboratory capabilities in Zambia and the results still provide a good indicative position on the various laboratories certified for testing in Zambia.

Table 1: Summary of Laboratory Capabilities

<table>
<thead>
<tr>
<th>Area</th>
<th>Border Post</th>
<th>Plant Protection</th>
<th>UNZ, Food Science</th>
<th>Food &amp; Drug</th>
<th>Central Vet.</th>
<th>NISIR</th>
<th>Private labs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality systems and process</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>4</td>
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<tr>
<td>Personnel (Staff Qualifications)</td>
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<td>3</td>
<td>3</td>
<td>3</td>
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<td>Personnel (training)</td>
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<td>2</td>
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<td>2</td>
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<tr>
<td>Written procedures, checklists, defined tasks</td>
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<td>3</td>
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<tr>
<td>Analytical testing (includes chemical and measurements)</td>
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<td>2</td>
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### Table: Testing Methodology and Standards

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<td>2.5</td>
<td>1</td>
<td>4</td>
<td>3-4</td>
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<tr>
<td>Access to reagents/spare parts etc</td>
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<td>Repair services</td>
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<tr>
<td>Test standards</td>
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<td>1</td>
<td>1.5</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
</tbody>
</table>

**Key**
- **NISIR**: National Institute for Scientific and Industrial Research
- **UNZ**: University of Zambia
- **NA**: Not Applicable
- **UNK**: Unknown
- 0 = Total absence of system or capacity
- 1 = Minimal system/capacity/process in place, yet clearly inadequate or dysfunctional
- 2 = System/capacity/process has some functionality and demonstrated competence
- 3 = System/capacity/process has good functionality, although not validated through audits or recognized internationally
- 4 = Systems/capacity/process functions well and meets international standards
- 5 = Approaches international better/best practice and is audited


### 2.4. Good Manufacturing Practice Legislation

The Animal Health Act 2010 and the associated regulation contain guidelines on good manufacturing practice. Manufacturing practice would form part of the plant registration and certification process.

### 3. MALAWI

#### 3.1. Animal Feed Legislation, Regulation and Standards

This sector is regulated by the Fertilisers, Farm Feeds and Remedies (Farm Feeds) Regulations (G.N. No. 159 of 1973) which are enforced under the authority of the Department of Animal Health and Livestock Development (DAHLD) with the assistance of the Malawi Bureau of Standards.

The regulations implement provisions of the Fertilizers, Farm Feeds and Remedies Act with respect to registration, sale and control of farm feeds. A copy is attached to this report.

In addition, the Malawi Bureau of Standards (MBS) administers a number of standards and specifications relating to animal feeds. Products complying with these specifications and standards would be allowed the use of the MBS Quality Mark.

The specific standards and specifications are:

**MS 212:1995 POULTRY FEEDS – SPECIFICATION**

Specifies requirements for poultry feeds.

**MS 240:1995 PIG FEED – SPECIFICATION**

Prescribes the requirements and methods of sampling and test for pig feed.
MS 289:1991 ANIMAL FEEDS AND FEEDING STUFFS – METHODS OF SAMPLING AND TESTS
This Malawi standard specifies methods of sampling animal feeding stuff, including fish feeds, for quality control for commercial, technical and legal purposes.

MS 289:4:1991 ANIMAL FEEDS AND FEEDING STUFFS – METHODS OF TEST – MICROBIOLOGICAL METHOD
Prescribes the microbiological methods for testing animal feeds and feeding stuffs.

MS 302:2008 CONTAMINANTS AND TOXINS IN FOOD
This standard contains the main principles and procedures which are used and recommended by the Codex Alimentarius in dealing with contaminants and toxins in foods and feeds, and lists the maximum levels of contaminants and natural toxicants in foods and natural toxicants in foods and feed which are recommended by the CAC to be applied to commodities moving in international trade.

MS 417:1995 MEAT MEAL AND MEAT AND BONE MEAL AS LIVESTOCK FEED – SPECIFICATION
Prescribes requirements for meat meal and meat and bone meal meat for livestock feeding.

MS 422:1997 FISHMEAL AS LIVESTOCK FEED – SPECIFICATION
Prescribes requirements for fish meal for livestock feeding.

MS 423:1995 BONE MEAL AS LIVESTOCK FEED – SPECIFICATION
Prescribes requirements for bone meal to be used as a mineral supplement in livestock feeds.

MS 424:1997 BLOOD MEAL AS LIVESTOCK FEED – SPECIFICATION
Prescribes requirements for blood meal as livestock feed.

MS 512:2009 ANIMAL FEEDING STUFFS-DETERMINATION OF FREE AND TOTAL GOSSYPO
This Malawi Standard specifies a method for the determination of the content of free and total gossypol and chemically related substances in animal feeding stuffs. The method is applicable to cotton seed and cotton seed meals and cakes, and to compound feeding stuffs containing these substances. The detection limit for free gossypol is 20 mg/kg and that for total gossypol is 50 mg/kg.

These standards are only available from MBS and there is a charge associated with obtaining these documents.

3.2. Enforcement Agencies
Department of Animal Health and Livestock Development (DAHLD)
Ministry of Agriculture
PO Box 2096
Lilongwe, Malawi
Tel: +265 1 754 073 / 753038
DAHLD is responsible for the administration of the Fertilisers, Farm Feeds and Remedies (Farm Feeds) Act and the associated Regulations. The Department is responsible for the registration and certification of manufacturing facilities. According to a survey undertaken through the University of Malawi, access to analytical laboratories is a major constraint to the animal feeds industry in Malawi, suggesting that enforcement of the regulations may sometimes be difficult.

Malawi Bureau of Standards (MBS)
Moirs Road
Blantyre
Tel: +265 1 870 488 Fax: +265 1 870 756
E-mail: mbs@mbsmw.org

The MBS is responsible for administering standards and for certifying companies for the MBS Quality Mark. Companies manufacturing products covered by specific Malawi standards are inspected periodically and when the products consistently comply with the relevant standards, they are certified.

3.3. Good Manufacturing Practice Legislation

Farm Feeds and Remedies (Farm Feeds) Act does contain regulations on manufacturing of farm feeds however, this legislation is old (1973) and would not contain regulation on modern manufacturing processes.

MBS does have guidelines on implementing HACCP in manufacturing facilities, and the standards and specifications administered by MBS meet international standard.

4. NAMIBIA

4.1. Animal Feed Legislation, Regulation and Standards

The key piece of legislation is the Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies Act No 36 of 1947. This is a South African Act that was adopted by Namibia at independence. The Act governs the registration, importation, sale and use of the farm feeds in Namibia. A copy of this Act is included along with this report.

Other legislation that supports trade in meat, in particular the export trade, relates to the identification of livestock and the prevention of undesirable residues in meat. Feeding of ruminant protein to ruminants is banned (Government Notice 199, Government Gazette No 1927 of 15th August 1998).

The Namibian Standards Institute currently does not have any standard relating to animal feeds and therefore is not involved in the animal feed industry in any way.

4.2. Enforcement Agencies

Ministry of Agriculture, Water and Forestry
Directorate of Veterinary Services
4.3. **Good Manufacturing Practice Legislation**

Namibia does not have GMP legislation. However, given that the Namibian economy relies heavily on the export of beef, ostriches and hides and skins, the livestock industry in general is well managed and controlled to ensure that processes meet European procurement standards.

5. **BOTSWANA**

5.1. **Animal Feed Legislation, Regulation and Standards**

Animal feed manufacture and sales are regulated by the Diseases of Animals (Stock Feed) Regulations of 10th December 2004. The Regulation reads as follows:

1. **Citation**

   These Regulations may be cited as the Diseases of Animals (Stock Feed) Regulations.

2. **Interpretation**

   (1) In these Regulations, unless the context otherwise requires, "stock" means bulls, oxen, cows, heifers calves, donkeys, mules, sheep, camels, goats, horses, mules, asses, pigs, domesticated birds, fowls or poultry, and any other animal that has been prescribed to be stock for purposes of these Regulations.

   (2) For the purposes of regulations 3 and 4, "stock" shall not include poultry, fowl or domesticated birds.

3. **Manufacturing of stock feed**

   Subject to regulation (2), no person shall manufacture or constitute, for the purpose of feeding stock, any product containing:

   (a) poultry excreta;

   (b) meat and bone meal or any other protein of ruminant origin; or

   (c) waste which contains any animal derived protein.

4. **Labeling of products intended to feed stock**

   All products manufactured or constituted for the purpose of feeding stock, which are intended for retailing shall, be conspicuously marked) - "This product does not contain any poultry excreta, meat and bone meal, or any other protein of animal origin".

5. **Feeding of stock**

   No person shall feed stock, except poultry, fowl or any domesticated bird, any product which contains poultry excreta, meat and bone meal, or any other protein of animal origin.

6. **Fertiliser containing animal protein**
No person shall use, as fertiliser, on any pasture land or any land to which stock has uncontrolled access, any product which contains-
(a) poultry excreta;
(b) meat and bone meal or any other protein of animal origin; or
(c) waste containing any animal derived protein.

7. Waste disposal
No person shall, on pasture land or any other place to which stock has uncontrolled access, dispose of any-
(a) poultry excreta;
(b) meat and bone meal or any other protein of animal origin, or
(c) waste containing any animal derived protein.

8. Offences and penalties
Any person who contravenes these Regulations commits an offence and is liable on conviction to a fine not exceeding P500 or to imprisonment for a term not exceeding six months or to both.

5.2. Standards
The Botswana Bureau of Standards administers a number of standards relating to animal feeds. Currently only the following two are compulsory specifications and the rest are voluntary.

**COMPULSORY STANDARDS AND SPECIFICATIONS**

*BOS 8 – 1: 2008*
This standard specifies the basic requirements for chicken (layers, broilers and breeders) feeds

*BOS 25: 2000*
Animal feeding stuff - Cattle feeds
Requirements for cattle feeds

**VOLUNTARY STANDARDS AND SPECIFICATIONS**

*BOS 8 - 2: 2002*
Poultry feeds - Part 2: Ostrich feeds
The standard specifies the basic requirements for ostrich feeds

*BOS 234: 2006*
Animal feeding stuffs – Guinea fowl feeds – Specification
*This Botswana Standard specifies the basic requirements for guinea fowl feeds*
BOS 225: 2006
Poultry feeds – Broiler breeder feeds - Specification
This Botswana Standard specifies the basic requirements for broiler breeder feeds

BOS 190: 2006
Animal feeding stuffs- Pig feeds – Specification
The standard specifies requirements for the following types of feeds:
pig creep meal
The standard specifies requirements for the following types of feeds:
pig creep meal
pig weaner meal
pig grower meal
pig finisher meal
lactation meal, and
dry sow and boar meal

BOS 246: 2007
Animal feeding stuffs – Rabbit feeds - Specification
This Botswana Standard specifies the basic requirements for rabbit feeds

BOS ISO 6490-1: 1985
Animal feeding stuffs – Determination of calcium content – Part 1: Titrimetric method
This part of ISO 6490 specifies titrimetric method for the determination of calcium content of animal feeding stuffs. The method is applicable to all animal feeding stuffs having calcium greater than 1g/kg.

BOS ISO 6491: 1998
Animal feeding stuffs – Determination of phosphorus content – Spectrometric method
This International Standard specifies spectrometric method for the determination of the phosphorus content of animal feeding stuffs. The method is applicable to animal feeding stuffs with a phosphorus content less than 50g/kg. It is particularly appropriate for the analysis of products with low phosphorus content. For products with higher phosphorus content, application of a gravimetric method is advised, using for instance quinoline phosphomolybdate.

BOS ISO 6496: 1999
Animal feeding stuffs – Determination of moisture and other volatile matter content
This International Standard specifies a method for the determination of the moisture and other volatile matter content of animal feeding stuffs. The method is applicable to animal feeding stuffs with the exception of: milk products, • mineral substances, • mixtures containing a considerable amount of milk products or mineral substances, for example milk replacers, • animal feeding stuffs containing humectants (e.g. propylene glycol)

BOS ISO 6498: 1999
Animal feeding stuffs – Preparation of test samples

This International Standard specifies methods for the preparation of test samples from laboratory samples of animal feeding stuffs including pet foods.

BOS ISO 6651: 2001

Animal feeding stuffs – Semi-quantitative determination of aflatoxin B1 – Thin-layer chromatographic methods

This International Standard specifies two methods for the determination of aflatoxin B1 in animal feeding stuffs. These methods can only be used for semi-quantitative determinations.

BOS ISO 6866: 1985

Animal feeding stuffs – Determination of free and total gossypol

This International Standard specifies a method for the determination of the content of free and total gossypol and chemically related substances in animal feeding stuffs.

These standards are available from the offices of the Bureau of Standards and there is a charge involved.

5.3. Enforcement Agencies

Ministry of Agriculture

Directorate of Animal Production

Director Animal Production: Mr. Stanley Kgaogano Mosielele
Tel: +267 368 9610/397 3754
Switchboard: +267-368 9000
E-mail: smosielele@gov.bw

Director of Veterinary Services: Dr T.K. Phillemon-Motsu

The Regulations outlined above are administered and enforced by the Directorate of Animal Production within the Department of Agriculture.

Deputy Director

Botswana National Veterinary Laboratory

Private Bag 0035
Gaborone
Tel: (267) 392 8816
Fax: (267) 392 8956

Another agency that has some dealings with enforcement in the industry is the Botswana National Veterinary Laboratory (BNVL). The BNVL is a specialized division of the Department of Veterinary Services which performs laboratory animal disease diagnostics to allow for proper management of animals and disease prevention. The laboratory also certifies products of animal origin such as milk and dairy products, meat and meat products fitness for human consumption.
The Residues Section of BNVL has as its main focus on consumer food safety. This section has a mandate to monitor the levels of residues of veterinary drugs and hormones, and environmental contaminants (pesticides and heavy metals) meat and milk with emphasis on beef and ostrich meat eligible for export.

The legal instrument that controls the use of these hormones and growth promoters is the Diseases of Animals (Prohibition of Use of Anabolic Hormones and Thyrostatic Substances) Regulations, 1987 and Amended in 2007. These regulations list the prohibited items and define how the animals subjected to such substances should be treated and disposed off.

Meat and Bone Meal (MBM) and animal feeds are also tested by this section as MBM of animal origin is prohibited to be fed to certain specified livestock in Botswana and the Diseases of Animals (Stock Feed) Regulations, 2004 controls the manufacture, labeling, retailing and feeding of MBM. This regulations also affects the feeding of animal protein (swill/ kitchen left over’s) to animals such as pigs.

Botswana Bureau of Standards
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The Botswana Bureau of Standards administers the compulsory specifications on animal feeds. Enforcement of compulsory standards is provided for in the Standards Act Section 13, which states that any one violating a compulsory standard is committing an offense.

5.4. Good Manufacturing Practice Legislation
Botswana does not have GMP legislations. However, as is the case with Namibia, given that the economy relies to a degree on exports of beef and beef products, the livestock sector is well controlled to ensure that facilities meet stringent EU requirements.

An example of how seriously the Botswana authorities take this commitment is the self-imposed beef export ban introduced earlier in 2011. The Botswana authorities decided to take 6 months to fully address deficiencies identified by EU veterinary inspectors from the European Commission Food and Veterinary Office who conducted an inspection mission in Botswana during January 2011. Deficiencies that needed to be addressed included deficiencies in Botswana’s official controls, traceability, food business operator’s controls and certification procedures.

6. MOZAMBIQUE

6.1. Animal Feed Legislation, Regulation and Standards
The key legislation governing manufacture and sale of animal feeds in Mozambique is Order No. 23.358 approving the regulation on production and trade of forage for animal consumption. This legislation was passed in August 1970. A full copy of this regulation (in Portuguese), is attached along with this report.
This Regulation consists of 37 articles specifying the sanitary procedures to be satisfied in order to produce and market forage for animal feed. It establishes the maximum limits of additives to be contained in such products (specifying the type of additive). These products must display on the label the ingredients and satisfy the packaging requirements detailed in the text. Sanctions for illegal activities are prescribed.

6.2. Enforcement Agencies

National Directorate of Veterinary Services
Director of Veterinary Services: Dr Florencia A. Massango Cipriano
Ministry of Agriculture
Maputo
Tel: +258 21 460 082

The National Directorate of Veterinary Services is responsible for all legislation and regulation pertaining to livestock in Mozambique including animal feed legislation.

6.3. Good Manufacturing Practice Legislation

There is no GMP legislation in place outside of the current legislation. The manufacturing sector in general is receiving a great deal of attention from the international donor community as issues, such as the current SPS system, is weak and this affects Mozambique's access to international markets as well as the country’s ability to get involved in value-added activities. This also applies directly to the animal feed industry where shortcomings in various sanitary controls exist.

7. Zimbabwe

7.1. Animal Feed Legislation, Regulation and Standards

The manufacture and sale of animal feeds in Zimbabwe is controlled by the Fertilizers, Farm Feeds and Remedies Act [Chapter 18:12].

Essentially, farm feeds may only be sold if:

- They are registered under this Act; and
- they packed in the prescribed manner; and
- the container in which it is sold complies with the prescribed requirements and is branded, labelled, marked or sealed in the prescribed manner; and
- it is of the composition, efficacy, fineness and purity specified in the application for its registration and possesses all other properties specified in such application.

The Farm Feeds (Amendment) Regulations 1997 (No 6) prohibits the feeding of ruminant protein to ruminants, and the definition of ‘ruminant’ is updated by an unnumbered Statutory Instrument of 2001 (Farm Feeds (Amendment) Regulations, 2001 (No 7) to mean ‘any cloven-hoofed cud-chewing animal’.

Copies of this legislation are attached to this report.
According to the Standards Association of Zimbabwe there are no compulsory standards in Zimbabwe for animal feeds.

7.2. Enforcement Agencies

**Ministry of Agriculture and Rural Development**

Division of Livestock and Veterinary Services
1 Borrowdale Road
Ngungunyana Building
Telephone: +263-4-700596/ 706081
Fax: +263-4-734646

The Department of Agriculture is the key authority in terms of Farm Feeds Act. The regulatory office within the Division of Livestock and Veterinary Services maintains the register of producers registered under the Act.

**Standards Association of Zimbabwe (SAZ)**

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Harare, Zimbabwe
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E-mail: manyerukf@saz.org.zw

As the National Standards Authority, SAZ administers the standards applicable to animal feeds. SAZ maintains a complete laboratory and testing facility at its Workington location in Harare. The Chemical and Food Technology Division of the Technical Services Unit provides quality, chemical/physical analysis, and specialist testing and advisory services for animal feeds.

7.3. Good Manufacturing Practice Legislation

There is no GMP legislation in place in Zimbabwe outside of the current Act governing the manufacture and sale of farm feeds.