LAND REFORM INFORMATION AUDIT FOR MINISTRY OF LANDS AND RESETTLEMENT

by

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Abstract and contents. The report provides an overview of data sets and responsibilities relating to information on land held in different Directorates of the Ministry of Lands and Resettlement (page 2), observations and recommendations on how an integrated Land Information Service (LIS) might be developed (page 7), and detailed lists of data sets and their properties (Appendix 1, page 13).

1. BACKGROUND

In its work to achieve effective land reform and resettlement, the Ministry of Lands and Resettlement (MLR) is often hampered by a lack of verifiable information, for example on the current status of land, rights to its use, and the status of resettlement programmes. Such information is needed for purposes of monitoring, evaluation and informing policy and practical decisions. As the main government body responsible for providing and utilising this information, MLR requires it to be readily accessible, reliable and understandable, and continuously updated.

Currently, information is widely distributed amongst its Directorates, with almost no linkages of data sets between the Directorates. This study sought to identify and document the locations, formats, conditions and types of land and resettlement information available. This "audit" was conducted with the longer-term objective in mind that a comprehensive land information system network be developed within the MLR so that the staff have a fully functional land inventory and resettlement information system available to them.

The study was limited to the MLR Head Office in Windhoek and more specifically to information held by the Directorate of Survey and Mapping (DSM), Directorate of Deeds Registry (DDR), Directorate of Valuation and Estate Management (DVEM), Directorate of Land Reform (DLR), Directorate of Resettlement and Regional Offices (DRO), and Directorate of Planning, Research, Training and Information Services (DPRTIS).

The terms of reference for the study stipulated the following tasks:

i. Compile an audit of the information each Directorate holds which is of relevance to the land reform programme.
ii. Specify the types of land information held, their formats, dates of acquisition, periodicity of updating, and ease of accessibility.

iii. Identify information gaps that are considered to require priority attention for the land reform programme to be enhanced.
iv. Recommend, if identified, any structural, managerial and technical improvements required by MLR to its land and resettlement information systems, to ensure sound continuation of its land reform programme.
v. Provide a succinct report on the activities, findings and recommendations of the consultancy at its conclusion.

This report is provided in fulfilment of this final task.

2. FINDINGS ON DATA AND INFORMATION IN THE MLR

The following provides an account of the main information related responsibilities in each Directorate, as well as summary notes on the sets of information held in each Directorate. A more detailed description of each set of information is provided in Appendix 1.

Directorate of Survey & Mapping (DSM)

All surveyed and registered land parcels have survey diagrams kept at the DSM. There are three types of diagrams (essentially going from large to smaller scale): Survey Diagrams, General Plans, and Noting Plans/Sheets. There is a paper file for each land parcel containing its Survey Diagrams and Noting Plan. The Noting Plan provides the latest information on the 'whole package'.

An array of filing cabinets and filing trays are used to keep these paper records of registered land parcels at the DSM. For example, each registration division has its own filing tray containing cards for each registered land parcel. They are arranged in order from most recent to oldest. Consequently when a new Survey Diagram is to be registered, the person responsible would go to the appropriate filing tray, see what the number of the last parcel registered was, and assign the next number to the new diagram.

By implication, this list of numbers is itself a set of data, since the numbers should be used to link **all** information on land parcels throughout the MLR and, indeed, in any organizations that keep sets of data on registered parcels of land. However, we were informed that there is no systematic, standard and up-to-date digital listing of registered land parcel numbers at the DSM. What is required is that every registered piece of land (and all of its details) should be recorded in a database of parcel numbers. As will be discussed later, that database would provide linkages for all other land data held by the MLR.

In addition to the paper diagrams of registered land parcels, the DSM is the custodian of a large set of digital GIS data. The primary use of the GIS data is for the compilation and publication of maps, mostly at scales of 1:50,000, 1:250,000 and 1:1,000,000. The GIS data are in two formats. The first is vector data of points, lines and polygons, from which most information on printed maps is derived. The second major set of information is in the form of aerial photographs, the most recent of which have been compiled into digital orthophotos, which, in turn, should form the standard base map reference for all vector GIS data. In other words, all vector objects should precisely match their locations on the orthophotos.

The DSM is starting a major project to build a digital cadastral information system. SwedeSurvey is implementing much of the project. This system and database is most important to the idea of building an integrated land information system because the cadastral database will provide digital GIS boundaries of all land parcels, each of which will be identified using the unique parcel number described above. In addition, all Survey Diagrams, General Plans, and Noting Plans/Sheets for each parcel will be scanned and stored as pdf files which will then be linked into the overall cadastral information database. The actual data collection for this project will start in March or April 2006 and continue for two and a half years. Both rural and urban data will be held and it should become the core data set for all land management applications in the country. Vector data of farm boundaries will be adjusted to fit features visible on the orthophotos, even though the adjustments may depart from the legally defined co-ordinates; the co-ordinates on the original Survey Plans will remain the legal reference. The cadastral information database will eventually be comprised of data for all approximately150,000 urban land parcels and about 12,000 rural parcels that are registered and surveyed in Namibia. The new database will also readily accommodate newly surveyed and registered parcels in the communal areas.

Directorate of Deeds Registry (DDR)
The Deeds Office is responsible for the documentation and holding of information on land ownership, including Deeds of Transfer, Bonds, Bond Cancellations, Sectional Title Deeds of Transfer, Sectional Title Bonds, Notarial contracts relating to, for example, Servitudes and Leases, General Powers of Attorney, and Interdicts on Sequestration, Surveyors, Caveats, Attachments and Cancellations. The Office currently has a customised Oracle database on a Linux system which adequately stores data dating from the present back to part of 2001. Between 1,000 and 2,000 transfers or deeds transactions are handled each month.

Operations in the DDR are now hampered by several conditions or constraints. The most important of these are inadequate skills and staff, particularly for administration and further development of the computer system and database, and a lack of funds to scan and fully digitise the approximately 1 million records prior to 2001.

An important point is that the Deeds Office has no records or data about properties that have never been transferred or had their ownership registered. These include, for example, surveyed and registered erven which have only ever had one owner, and land which has always been owned by government.

For the future, the Directorate needs to develop permanent digital linkages with satellite offices that are to be established in Oshakati and Rehoboth. Legal issues relating to separate land registration systems in Rehoboth and Walvis Bay need to be resolved so that all information on land parcels in those areas are incorporated into the national deeds register. There is also a need to develop new or closer links with the DSM (as noted above), with municipalities and the Ministry of Works, Transport and Communication (as the custodian of all government properties).

Directorate of Land Reform (DLR)

Division: Land Use Planning and Acquisition (LUPA)

This Division deals primarily with freehold land, in particular any farms that might be acquired by the MLR for resettlement. Any farm for sale must first be offered to the MLR. Information on these offers is first captured digitally in a spreadsheet and later verified by field visits by Regional Land Use Planners when they collect information on such aspects as boreholes, carrying capacity, and the suitability of the land for different purposes. Their information is compiled in reports in digital formats; the digital copies are kept in the Regional Offices while paper copies are provided to Head Office. Based on the Planner's report, a decision is made to purchase the farm for resettlement purposes, exempt it (because an affirmative action buyer has already been identified privately – in this case a letter of exemption is issued to the seller) or waive it (because it is not suitable for resettlement – in this case a certificate of waiver is provided to the seller). Records of all these documents are kept in separate digital spreadsheets in separate offices and on paper. The digital data are stored on diskette, CD and on hard drives, and a paper file is also opened for each farm. Paper records are also kept of farms acquired by foreign nationals for which special approval must be given by the MLR Minister. LUPA is also responsible for outsourcing the production of regional Integrated Land Use Plans.

Several concerns were identified. Reports from the Regional Land Use Planners are not available in digital formats at Head Office; the physical security of the offices in which sensitive documents are held requires tightening, digital information is often not stored securely as backups; data entry staff are inadequately trained and skilled; and there is a shortage of funds to upgrade hardware and software, and especially to keep computers free of viruses.

Division: Land Board Tenure Advice (LBTA)

Two types of land registers are kept for communal land: (a) registers for rights of leaseholds which are allocated by Regional Land Boards, and (b) registers for customary land rights, which are allocated by Traditional Authorities but then also confirmed by the Regional Land Boards.

Each Regional Office sends a report of registered land to Head Office each quarter, and every Regional Office also produces an annual report. An overall annual report containing a summary of registered land for each region is then produced by the LBTA Division for the MLR. Reports for 2003 and 2004 are available while that for 2005 is in preparation.

The following land rights have been approved since the Communal Land Reform Act of 2002, as taken from the draft annual report for 2005.

Communal land board	Approved new customary rights	Approved existing customary rights	Approved new leasehold rights	Approved existing leasehold (PTOs) rights
Caprivi	3	556	408	14
Erongo	0	0	4	0
Hardap	8	7	0	0
Karas	1	66	0	0
Kavango	0	0	76	0
Kunene	52	1033	27	3
Ohangwena	182	30	3	0
Omaheke	0	28	0	0
Omusati	116	45	8	0
Oshana	100	17	3	0
Oshikoto	600	1295	156	0
Otjozondjupa	0	20	5	0
Total	**1061**	**3095**	**690**	**17**

The Communal Land Act of 2005 required that all land rights over communal land be registered within a period of three years. That three-year period comes to an end in March 2006, but apparently only an estimated 15% of rights have so far been registered. As part of a process to extend the period and accelerate the process, it has been suggested several times that the MLR embark on a massive programme to survey and register all rights over land parcels in the communal areas.

The Division has also been responsible for having large farms surveyed in communal areas. About 80 farms in Caprivi and 200 farms in Kavango were surveyed by private surveyors appointed by the Surveyor General. Survey Diagrams for these farms are held by the DSM. At present no complete list of all farms exists. The next region to be surveyed is the Ohangwena region. A report entitled 'Summary of the project to develop underdeveloped and under utilised communal areas' dated December 2002 proposed that the following areas/farm units could be allocated (based on farm units of 3600-4000 ha):

Region	Area (ha)	Farms
Omusati	450,000	113
Oshana	43,500	11
Oshikoto	820,000	205
Omaheke & Otjozondjupa	2,400,000	600

A major constraint is the complete absence of any computer systems of the land registers, either in Head Office or in any of the Regional Offices. A tender was awarded for the development of a database system for land registration for communal land boards in 2005, but no funds are as yet available for the implementation of this work. The proposed database would be a dynamic web application using Net Beans server software and Java extensions. There is also a shortage of funds for the delimitation of large farms.

Directorate of Valuation and Estate Management (DVEM)
The Directorate has two main functions: to provide valuation services to the MLR and to establish the taxation roll for all freehold land. For purposes of valuation services, the DVEM has (a) a MS Access database of all farm sales since 1995, and (b) a valuation roll for all freehold landowners. In addition, there are valuation reports for all proposed sales of farms offered to the MLR. These reports are in digital format but scattered on different computers and stored on different media.

At the last count there were 12,495 parcels of freehold land. Tax values are established for the lands "unimproved site value" (USV). The DVEM will develop and use a Computer Assisted Mass Valuation (CAMV) system to estimate taxable land values every 5 years. The system will use information on soils, land cover, rainfall, carrying capacity, and biomass production from the Ministry of Agriculture, Water and Forestry, and sales figures from the Deeds Office to generate the land values. Taxation values, by contrast, are determined on the basis of how much money is deemed to be an appropriate income for the government.

A strong link of data systems must be developed with the Deeds Office because all primary data for valuations come from the Deeds records. There is also a need for a data tracking system to establish where in a sequence of events each proposed farm sale is.

For the future, the DVEM will have to set up an information system for all lease agreements (for resettled farmers, farmers on large communal farms, companies on communal land etc). All the lease agreements should be in digital format and there should be a database to monitor and control these. This would help to meet the urgent need of the MLR and DVEM to be able to manage land assets more efficiently and effectively.

Directorate of Resettlement and Regional Offices (DRO)
This Directorate is responsible for the resettlement process once a farm has been acquired and subdivided into farming units by the LUPA division. The farm units are advertised and people then apply for resettlement on those farm units. The minimum farm unit size is proposed to be 3,000 hectares in Karas and Hardap and 1,000 hectares elsewhere. One family is usually allocated to each farm unit, but ex-farm workers are allocated a farm unit as a group. Units can also be allocated to co-operatives or companies.

The DRO has the following sets of data or information. (a) Paper and digital spreadsheet lists of resettlement farms and the number of people resettled on each farm. (b) Listings of applicants for each resettlement area in digital files; these should be held by the Secretary to the National Land Resettlement Committee. There is also some kind of database to track the gazetting, application and approval process for each resettlement area.

Data on both resettlement farms and applicants appear to be very scattered across the regions, with no apparent defined structure in place for the compiling/centralising process. For example, data are currently captured on Excel spreadsheets by various Regional Officers, but format incompatibility, data duplication and data loss can be a problem when trying to assemble the parts. There is a need for a cohesive Resettlement

database with associated data collection and capture protocols. Incorporated in this should be information on each farm's status with respect to the gazetting, application and approval stages. For applicants, it is proposed to develop a database of all people who have ever applied for resettlement, and to use this on an on-going basis whenever a farm has been acquired rather than advertising each opportunity individually. The database would contain ratings on the suitability of applicants.

The Directorate is keen to set up a monitoring and evaluation system for resettlement farms to assess the success of the resettlement process and to improve it where needed. Information collected would include production data on such aspects as areas planted, yields and produce sold.

Directorate of Planning, Research, Training and Information Services (DPRTIS)
This Directorate has not developed any particular information systems or data sets. However, DPRTIS might be seen as the key hub of information systems, especially as a result of its responsibilities for (a) research and development planning for land reform, (b) providing policy makers and senior management with up-to-date information, and (c) monitoring and evaluating progress and activities in the MLR. It is clearly hard to meet these responsibilities in the absence of an information system or data.

Other organisations
Enquires were made at AGRIBANK and the Ministry of Agriculture, Water and Forestry to document relevant information in their possession. AGRIBANK administers loans to farmers in terms of the affirmative action loan scheme (AALS) to promote ownership of freehold land by previously disadvantaged Namibians. The Bank has records of all loan applicants, details on the farms for which loan applications were made, and information on developments on the farms subsequent to the loans being granted. Some of this information is in spreadsheets while some is in paper format. The Bank is developing a data system to store and process all this information. Each land parcel of interest to the Bank is identified using the standard farm number.

The Ministry of Agriculture, Water and Forestry has extended the GIS data set of freehold farm boundaries to include several attributes that are not found elsewhere, for example the name and address of the owner, type of ownership, and agro-ecological zoning.

3. SUMMARY OBSERVATIONS AND RECOMMENDATIONS

A summary table of all the data and information sets encountered during this consultancy is provided at the end of this section. Several observations on the contents of the table are pertinent. First, there are approximately 20 major sets of information in the MLR. Second, many of the data sets are available only on paper. Third, of the digital formats used, Excel spreadsheets predominate. Fourth, several sets of data are now being developed or expanded substantially, the most important of which is the development of a cadastral information system and the scanning of survey diagrams in the DSM by SwedeSurvey. Another major area of potential expansion is the surveying and registration of all land rights in communal areas. The data produced by this effort should be

processed and maintained, perhaps most usefully and immediately as part of the cadastral information system of the DSM.

An intended development as a partial result of this consultancy report is the eventual deployment of a system that can integrate all information sets in the MLR. While the need for such an integrated system seems obvious, it is worth reflecting on the demands for such a system, and how it would be managed and used. These are questions that recur in the remainder of this report, but at the outset it should be noted that each set of information in the MLR was developed as a result of the responsibilities of each Directorate. In other words, staff in each Directorate perceived a need for a particular set of information and then went about assembling the set. Demands for information have therefore been dispersed across the MLR and have often been generated at a fairly low level of management.

Furthermore, the biggest and best-maintained sets of information in the MLR have been assembled as a result of legal requirements (for example, the Deeds Office) or as a result of long-standing traditions in using information (for example, in the compilation of maps by the DSM). By contrast, the weakest, most scattered, least complete and insecure information sets are to be found where obligations are unclear and where the functions of the information are hazy. *One immediate recommendation is that the MLR formally documents the purpose, contents, and needs for updating, storage and dissemination of each set of information, and also the staff positions responsible for the data sets. Mandatory protocols should then be issued to ensure that the data sets are maintained and used more effectively.*

The finding that MLR data are indeed scattered is not surprising, since each Directorate or Division has its own requirements. However, what is of concern is the fact that few people have clear ideas on what datasets are available, where they are, who is responsible for the data, and what the information can offer. *A second recommendation, therefore, is that it would be useful for "information about the information" to be shared to create greater awareness of what is available and where it can be found.* Several obvious benefits would accrue from this: for example, information would be more widely shared and known, accountability would be improved, and managers would have greater access to the information they should be using. "Information about the information" is often called metadata.

In this modern, computer-driven world, there is a general reliance on technical solutions to the problem of sharing and generating information. Of course, electronic technology offers great solutions. But they are partial solutions, and they only work when they go hand-in-hand with organizational order. The technical systems that supply data also need to be accompanied by demands for information. *From these observations stem the third recommendation that the MLR take steps to develop an organizational culture in which information, and easy access to information, is important. Along with this would go some of the aspects already mentioned, particularly the enhancement of accountability and responsibilities for custodians of information.*

Fourth, improvements in the organizational maintenance and use of information must be led by the top management of the MLR, especially as it relates to the formation of an

integrated system of data sets. It is the top management that must create and drive a demand for good information, thus making their jobs easier, more effective and – at times – saving them and the MLR embarrassment. Public monies and other resources will be managed more effectively. Accurate information on land reform could also be readily provided to other components of government, the Namibian people and international community.

Fifth, it is recommended that the integrated information system be called the MLR's Land Information Service (LIS). Most information systems are called "systems" but their most important function in providing a service is concealed by this terminology. It will further ensure that the LIS be designed and maintained to provide appropriate services rather than – as often happens – serving to meet the assumptions and expectations of computer technicians.

This consultancy has concentrated almost exclusively on information available in, and required by, Head Office. *There is an important need to investigate these same aspects in the Regional Offices and emerging Communal Land Boards with a view to enhancing their information services and to finding ways of integrating regional information with that at Head Office.*

With respect to the development of the LIS, the unique numbers given to farm parcels and erven will be of key importance in their role to link all the databases in the MLR. A diagram showing how these links could be made follows. *An important first step in making these linkages possible will be the creation and checking of a database of these numbers. Once the list of numbers has been verified, all other databases should be checked and updated to ensure that they use exactly the same numbers for each land parcel.*

Development of the LIS should happen at two levels. At a higher and central level would be the development of architecture and data systems to link the individual sets of information shown in the diagram. Simultaneously, and in parallel, work is needed to prepare each of those sets of information so that linkages can be made once the central database architecture is complete. To achieve this, the sets of data will have to be converted into appropriate formats, and they should be thoroughly checked and cleaned.

It is clear that many MLR staff could benefit from a variety of training in such aspects as data entry, backing-up of data, data verification and the prevention of virus attacks. *If possible, such training should be provided as part of the work needed to prepare individual sets of data for incorporation into the LIS.* This would allow staff to better understand the changes that need to be made to the data sets in their care. In certain cases, the trainers might also be required to help in making the actual modifications to the data sets.

Responsibilities for the development and maintenance of the LIS need to be assigned within the MLR. A logical choice would be the Directorate of Planning, Research, Training and Information Services (DPRTIS), given its role in supplying information and monitoring and evaluation services to the MLR as a whole. However, it should be noted that DPRTIS has no experience in developing or "owning" databases. The Directorate

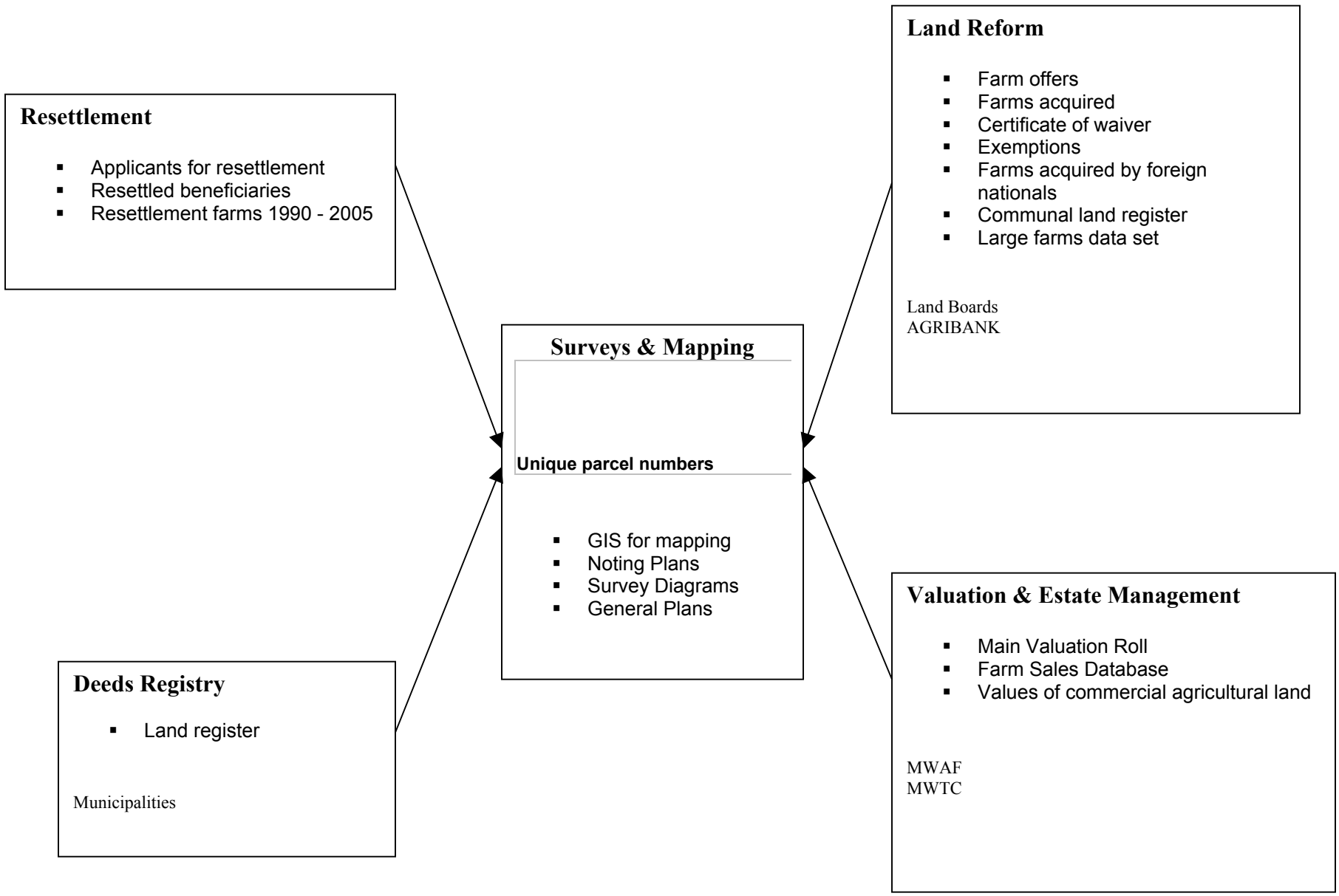
would therefore be working on an agency or service provider basis since it would essentially be attempting to co-ordinate and integrate data sets over which it has no special control or responsibility. This potential weakness might be overcome if there is sufficient demand for information from top management and elsewhere. Alternatively, responsibility for the LIS could be given to the Directorate of Surveys and Mapping (DSM). This would build on the DSM's role in developing a new cadastral information system, and in controlling the central linking land parcel numbers. *Whatever organisational choices are made, it will be crucial that the staff assigned to managing the LIS have appropriate skills, aptitudes and attitudes for the work.*

Finally, we recommend the need for the establishment of a database on land uses. Currently, there is no set of information which allows for the immediate identification of all farming land, government research farms or urban land, for example. *Likewise, there is a need to develop a system within the LIS to integrate all information that reflects the MLR's progress towards land reform.*

The most important sets of data in the MLR, as of February 2006

Name of data set	Directorate	Format	Type of digital	Major new developments
Land register	Deeds Registry	Digital & paper	Oracle database	Expansion
Farm offers	Land Reform	Digital	Excel spreadsheet	
Farms acquired	Land Reform	Digital	Excel spreadsheet	
Certificate of waiver	Land Reform	Digital	Excel spreadsheet	
Exemptions	Land Reform	Digital	Excel spreadsheet	
Farms acquired by foreign nationals	Land Reform	Paper		
Communal land register	Land Reform	Paper		Expansion
Large farms data set	Land Reform	Digital & paper	MS Word table	Expansion
Applicants for resettlement	Resettlement	Digital	Excel spreadsheet	
Resettled beneficiaries	Resettlement	Digital	Excel spreadsheet	
Resettlement farms 1990 - 2005	Resettlement	Digital	Excel spreadsheet	
GIS for mapping	Surveys & Mapping	Digital	Vector & raster	
Noting Plans	Surveys & Mapping	Paper		Scans by SwedeSurvey
Survey Diagrams	Surveys & Mapping	Paper		Scans by SwedeSurvey
General Plans	Surveys & Mapping	Paper		Scans by SwedeSurvey
Unique parcel numbers	Surveys & Mapping	Paper		SwedeSurvey database
Main Valuation Roll	Valuation & Estate Management	Digital	Excel spreadsheet	
Farm Sales Database	Valuation & Estate Management	Digital	Access Database	
Values of commercial agricultural land	Valuation & Estate Management	Digital	Vector	CAMV system
Farm boundary map	MAWF, Remote Sensing Section	Digital	ArcView shapefile	
Affirmative loan farms	AGRIBANK	Digital & paper	Excel spreadsheet	Database development

Potential linkages in a LIS between sets of data in the MLR



Note that the diagram does not show sets of data that will be created to track land purchases and to manage leases

Appendix 1: Details of major sets of data held by the MLR

Name of data set:	**Farm offers**
Directorate:	Directorate of Land Reform
Division:	Land Use Planning and Acquisition
Responsible/contact person:	Mrs Dina Hianguti
Purpose:	Store information on all farms offered for sale to government
Format:	Digital
Type of digital:	Excel spreadsheet
Scale:	
Number of records:	1980
Extent temporal:	1990 to present
Extent spatial:	Freehold land
Frequency of updating:	Every time a farm is offered
When last updated:	Daily
Estimate of completeness:	Complete
Sources of data:	Offers made by farm owners
Estimates of accuracy:	Data verified with information from Deeds office, including Title Deeds
Unique codes or identifiers:	Farm name and number
Existing linkages with other data sets:	Farm name and number entered manually but match Title Deed
Plans for expansion etc:	None
Other comments:	

Field name	Details
Qty	Sequential reference no
Farm name	Exactly as in Deeds Register
Farm no	Exactly as in Deeds Register
Registration division	
Region	
District	
Extent (ha)	
Price per ha	As given by the owner
Contact person or owner	
Contact number	
Date received in this office	
Comment	Indicates current status e.g. pending valuation; waived; withdrawn; exempted (affirmitive action candidate wants to buy the property); to be valued; purchased

Name of data set:	**Farms acquired**
Directorate:	Directorate of Land Reform
Division:	Land Use Planning and Acquisition
Responsible/contact person:	Miss L Mutota
Purpose:	Store information on farms acquired by government through purchases, donations and transfers
Format:	Digital
Type of digital:	Excel spreadsheet
Scale:	
Number of records:	Approximately 156
Extent temporal:	1990 to present
Extent spatial:	Freehold land
Frequency of updating:	Every time a farm is acquired
When last updated:	
Estimate of completeness:	Complete
Sources of data:	Letter of undertaking signed by the Minister and Deed of Sale signed by the Minister
Estimates of accuracy:	
Unique codes or identifiers:	Farm name and number
Existing linkages with other data sets:	Farm name and number entered manually but match Title Deed
Plans for expansion etc:	None
Other comments:	Each farm which is acquired has a paper file stored in this office containing a copy of the Title Deed, offer form, correspondence, letter of undertaking, Deed of Sale etc.

Field name	Details
Qty	Sequential refernce number
Farm name	Exactly as in Deeds Register
Farm number	Exactly as in Deeds Register
Registration division	
Region	
Size (ha)	
Purchase price	Price paid by government. If the farm was transferred e.g. from MAWF, or donated this contains 'Donated' or 'Transferred'
Transfer cost	Conveyencer's cost
Year of transfer	
Families resettled	Data provided from Resettlement, some 2 -3 months or so after purchase

Name of data set:	**Certificate of waiver**
Directorate:	Directorate of Land Reform
Division:	Land Use Planning and Acquisition
Responsible/contact person:	Mrs Dina Hianguti
Purpose:	To issue certificates of waiver when the Ministry has assessed a farm and has no interest in purchasing it
Format:	Digital
Type of digital:	Excel spreadsheet
Scale:	
Number of records:	
Extent temporal:	1990 to present
Extent spatial:	Freehold land
Frequency of updating:	Each time a farm is waived
When last updated:	
Estimate of completeness:	Complete
Sources of data:	Regional Land Use Planners assessment of farm
Estimates of accuracy:	
Unique codes or identifiers:	Farm name and number
Existing linkages with other data sets:	Farm name and number entered manually but should match Title Deed
Plans for expansion etc:	None
Other comments:	Each farm also has a paper file.

Field name	Details
Farm name	Exactly as in Deeds Register
Farm number	Exactly as in Deeds Register
Registration division	
Region	
Deed of Transfer number	
Owner	
Owner's date of birth	
Date of offer	
Date of signing by Minister	

Name of data set:	**Exemptions**
Directorate:	Directorate of Land Reform
Division:	Land Use Planning and Acquisition
Responsible/contact person:	Ms Frieda Nekola
Purpose:	Record farms which are exempted because an affirmative action candidate wants to purchase the farm
Format:	Digital
Type of digital:	Excel spreadsheet
Scale:	
Number of records:	Approximately 750
Extent temporal:	1992 to present
Extent spatial:	Freehold land
Frequency of updating:	Each time a farm is exempted
When last updated:	
Estimate of completeness:	Complete
Sources of data:	Letter of exemption signed by the Minister
Estimates of accuracy:	
Unique codes or identifiers:	Farm name and number
Existing linkages with other data sets:	Farm name and number entered manually but match Title Deed
Plans for expansion etc:	None
Other comments:	Each farm exempted has a paper copy of the exemption letter filed by financial year, in this office. Linked by farm name and number. Exemption letters are prepared in this office.

Field name	Details
Qty	Sequential reference number
Farm name	Exactly as in Deeds Register
Region	
Farm number	Exactly as in Deeds Register
Registration division	
Size (ha)	
Year exempted	
Seller	
Buyer	
Price per ha	Determined by the seller
Date	Date the exemption letter was signed

Name of data set:	**Farms acquired by foreign nationals**
Directorate:	Directorate of Land Reform
Division:	Land Use Planning and Acquisition
Responsible/contact person:	Mrs Mutota
Purpose:	To record farms acquired by foreign nationals
Format:	Paper files only
Type of digital:	
Scale:	
Number of records:	Approximately 40
Extent temporal:	Approximately 1995/6 to present
Extent spatial:	Freehold land
Frequency of updating:	At every purchase of a farm by a foreign national
When last updated:	
Estimate of completeness:	
Sources of data:	This ministry, MTI, MET, MAWF
Estimates of accuracy:	
Unique codes or identifiers:	
Existing linkages with other data sets:	Farm name and number entered manually but match Title Deed
Plans for expansion etc:	Plan to digitise when time allows
Other comments:	Information includes farm name and number, name and ID of applicant, investment agreement (from MTI), previous owner and farm size

Field name	Details

Name of data set:	**Farm boundary map**
Directorate:	MAWF, Remote Sensing Section
Division:	
Responsible/contact person:	Ms Celeste Espach
Purpose:	
Format:	Digital
Type of digital:	ArcView shapefile
Scale:	
Number of records:	
Extent temporal:	
Extent spatial:	Whole country
Frequency of updating:	Updated on an ad hoc basis as farmers give information on e.g. subdivisions
When last updated:	Updated in 2005 with respect to land ownership, otherwise 1998
Estimate of completeness:	
Sources of data:	
Estimates of accuracy:	
Unique codes or identifiers:	ID Code giving farm number, portion and registration division
Existing linkages with other data sets:	None
Plans for expansion etc:	
Other comments:	

Field name	Details
ID	Code giving farm number, portion and registration division e.g. FMC/00149/00REM
Farm name	
Tel	Of owner
NAU	Y/N field indicating membership of NAU
Surname	Of owner
Initials	Of owner
Postal address	Of owner
Ownership	Type of ownership e.g. Gov; Ind; cc; Pty(Ltd)
Nationality	Of owner
Birth date	Of owner
Sumgroup	Racial grouping e.g. blacko; AA; gov; white; for; com; res. Updated in 2005
Group	Language group? E.g. D; H; A; G
Confirmed	Y/N field indicating whether Group was confirmed
ID	Of owner
Purchase date	
District	
Registration division	
Area_ha_GI	Area in hectares
Area_ha_DE	Area in hectares
Ranking	Ranking according to agroecological zone
AEZ	Agroecological zone
Longitude	
Latitude	
GPZ	Growing period zone
Reg_div_co	
Farm number	

cc_kg_ha	Carrying capacity in kg per ha
cc_lsu	Carrying capacity in large stock units
cc_ssu	Carrying capacity in small stock units
Year bought	
Families_re	Number of families resettled
Price	
Newfield	Name of resettlement project
Research_s	Name of research station
land use	empty
cc_70s_lsu	Carrying capacity in the 1970s: large stock units
cc_70s_ssu	Carrying capacity in the 1970s: small stock units
cc_2000s_lsu	Carrying capacity in the 2000s: large stock units
cc_2000s_ssu	Carrying capacity in the 2000s: small stock units
cc_2000s_kg	Carrying capacity in the 2000s: kg per ha
Hunting	Y/N
Ecotourism	Y/N
Cattle	Y/N
Sheep	Y/N
Goats	Y/N
Crops	Y/N
Aals	Y/N
Horticulture	Y/N

Name of data set:	**Main Valuation Roll**
Directorate:	Directorate of Valuation and Estate Management (DVEM)
Division:	
Responsible/contact person:	J. Kanjemba
Purpose:	Land valuation for the purpose of attributing land tax rates to farms
Format:	Digital
Type of digital:	Excel spreadsheet
Scale:	N/A
Number of records:	12420 (farms & portions)
Extent temporal:	Up to September 2004 (see comments)
Extent spatial:	Freehold land
Frequency of updating:	Dynamic
When last updated:	
Estimate of completeness:	95%
Sources of data:	Deeds registrar
Estimates of accuracy:	
Unique codes or identifiers:	Farm name and number; Title deed number
Existing linkages with other data sets:	Comes from Deeds database
Plans for expansion etc:	
Other comments:	This is the approved Valuation Roll as at September 2004. The values set remain in place for a period of 5 years. There is also an Interim Valuation Roll which contains a) corrections/changes to the main roll b) any farms not registered at the time the main roll was approved.

Field name	Details
Registration Division	A,B,C,etc as per 1:1000000 map
Name of farm	
Farm number	
Extent	area in ha
Name of owner	individual, cc, gov etc.
USV	Unimproved site value/ ha
ID of owner	
Address of owner	
Total USV	Extent * USV
Remarks	
Title deed number	
Nationality	

Name of data set:	**Farm Sales Database**
Directorate:	Directorate of Valuation and Estate Management (DVEM)
Division:	
Responsible/contact person:	J. Kanjemba
Purpose:	Data on all farm sales (used for resettlement and taxation purposes)
Format:	Digital
Type of digital:	Access Database
Scale:	N/A
Number of records:	1807
Extent temporal:	Up to present
Extent spatial:	Freehold land
Frequency of updating:	Regular - currently busy with Dec. 2005
When last updated:	Current
Estimate of completeness:	All registered sales
Sources of data:	Deeds Office
Estimates of accuracy:	N/A
Unique codes or identifiers:	Farm name and number; Title deed number
Existing linkages with other data sets:	
Plans for expansion etc:	
Other comments:	The database contains 1 table. The data entered come from a hard copy print out provided by the Deeds Office. The data provided in hard copy are as follows: Title deed no., Date of transfer, Previous owner, Current owner, Date of Birth (for both owners), farm name, ha, price.

Field name	Details
Title Deed Number	
Name of farm	
Farm number	
Extent	area in ha
Carrying capacity	large stock units/ha
Transferor	individual, cc etc.
Transferee	individual, cc etc.
ID of owner	
Date of transfer	
Purchase price	N$
Analysis per ha	price per ha (= purchase price/extent)
Donated	check box for whether the farm was sold or donated

Name of data set:	**Communal Land Register**
Directorate:	Directorate of Land Reform
Division:	Land Boards, Tenure & Advice
Responsible/contact person:	Alfred Sikopo
Purpose:	Registering leasehold or customary land rights
Format:	Paper only
Type of digital:	N/A
Scale:	N/A
Number of records:	1062 new customary rights, 3095 existing customary rights, 690 new leasehold rights, 17 existing leasehold rights
Extent temporal:	Since the Communal Land Reform Act no.5 of 2002
Extent spatial:	Communal land
Frequency of updating:	N/A
When last updated:	N/A
Estimate of completeness:	N/A
Sources of data:	Regional land boards
Estimates of accuracy:	N/A
Unique codes or identifiers:	Certificate number
Existing linkages with other data sets:	N/A
Plans for expansion etc:	
Other comments:	There are 2 types of register: a) Right of leasehold: allocated by the land board;1 register per region; can allocate up to 50 ha; can allocate land for business purposes b) Customary land rights: allocated by traditional authority; 1 register per traditional authority; can only allocate up to 20 ha No complete digital maps currently exist however the land parcels for Oshana, Omusati and Ohangwena have been mapped as part of the NARIS project with MET. These digital data are located in Oshakati.

Field name	Details
Name of Land Board	
Region	
Month	
Year	
Name (lessee)	
Sex	
Nationality	
Date of birth/ID	
Name of spouse(s) & dependants	
Type of right	
Certificate number	
Geographical location	includes a sketch map and GPS co-ordinates
Size in m2/ha	
Period of lease	
Name of communal area	
Securities & servitudes	

Name of data set:	**Large communal farms**
Directorate:	Directorate of Land Reform
Division:	Land Boards, Tenure & Advice
Responsible/contact person:	Alfred Sikopo
Purpose:	Details of large communal area farms surveyed
Format:	Digital & paper
Type of digital:	Word spreadsheet
Scale:	N/A
Number of records:	304
Extent temporal:	present
Extent spatial:	Certain communal land
Frequency of updating:	Data entry just started
When last updated:	N/A
Estimate of completeness:	Complete
Sources of data:	Surveyor General
Estimates of accuracy:	Accurate
Unique codes or identifiers:	
Existing linkages with other data sets:	None
Plans for expansion etc:	
Other comments:	Farms are 2000 – 2500 ha in size. Includes the 80 farms in Caprivi and 200 in Kavango which have been surveyed. Will also include 24 farms in the Ohangwena region. Should be up-to-date by the end of February.

Field name	Details
Farm number	
Name of owner	
Geographical location	GPS co-ordinates
Region	
Constituency	
Size	

Name of data set:	**Land register**
Directorate:	Directorate of Deeds Registry (DDS)
Division:	Record keeping
Responsible/contact person:	Ms Van Wyk
Purpose:	To document information on land ownership, including Deeds of Transfer, Bonds, Bond Cancellations, Section Title Deeds of Transfer, Sectional Title Bonds, Notarial contracts such as Servitures and Leases, General Powers of Attorney, Interdicts such as Sequestration, Surveyor, Caveats, Attachments and Cancellations
Format:	Partially digital (2006 to part of 2001) & paper (all)
Type of digital:	Oracle database
Scale:	
Number of records:	
Extent temporal:	1800s to present
Extent spatial:	Freehold land
Frequency of updating:	Daily
When last updated:	Daily
Estimate of completeness:	Incomplete. Data for 2006 to part of 2001 computerised. Deeds data incomplete - only approx 60% have complete data wrt Deeds
Sources of data:	Deeds of Transfer, Bonds, Bond Cancellations, Section Title Deeds of Transfer, Sectional Title Bonds, Notarial contracts, General Powers of Attorney, Interdicts
Estimates of accuracy:	
Unique codes or identifiers:	For township properties: Erf no, Registration division and Region; For farms: Name and no of farm, Registration division and Region
Existing linkages with other data sets:	Erf no, and farm name and no. Needs to be linked to Surveyor General and to Valuation office based on a unique code which is being developed by SwedeSurvey and DSM. No links to MWTC, MAWF or any other ministry, except Auditor General.
Plans for expansion etc:	Rehoboth and Walvis Bay data are not fully incorporated due to having different/old systems - limitations exist wrt legislation; a new Bill will be enacted to address these issues. In WB old leaseholds cannot be converted to current system; also private individuals can hold mineral rights. In Rehoboth a Title system has been used since 1976.
Other comments:	Digitised but still maintained manually. Approx 1 million deeds still need to be digitised/scanned (pre 2001 documents). There is provision for resettlement leases and expropriated farms but these are not used as yet. Each doc has a digital barcode which links to the Erf no/Farm name and no and owner details.

Field name	Details
Barcode	All documents
Lodgement date	All documents
Status date	All documents
Status	All documents
Document type	All documents. E.g. Notarial contracts and leases; Antenuptial contracts; General Powers of Attorney; Bonds in favour of; Bonds against
Endorsement type	All documents
Refnumber	All documents
ClientID	All documents
ConveyancerID	All documents
Institution	All documents
PhysicalFileLocation	All documents
ScanVersion	All documents
TrackID	All documents: Tracking
PersonnelID	All documents: Tracking
DateAllocated	All documents: Tracking
Status	All documents: Tracking
Notes	All documents: Tracking

Registration division	Properties: Township
Municipality	Properties: Township
Township or settlement	Properties: Township
Erf no	Properties: Township
Extent and measuring unit	Properties: Township
Portion no	Properties: Township
Diagram no	Properties: Township. No of original survey diagram
Status	Properties: Township. (e.g. combined, subdivided)
Related erfs	Properties: Township
Government property?	Properties: Township
Secure property?	Properties: Township
Conditions	Properties: Township
Registration division	Properties: Farms
Municipality	Properties: Farms
Farm no	Properties: Farms
Farm name	Properties: Farms
Extent and measuring unit	Properties: Farms
Portion no	Properties: Farms
Diagram no	Properties: Farms
Status	Properties: Farms. (e.g. combined, subdivided, converted to erf or converted to township/settlement/village)
Related farms	Properties: Farms
Government property?	Properties: Farms
Secure property?	Properties: Farms
Conditions	Properties: Farms
Registration division	Properties: Sectional title
Municipality	Properties: Sectional title
Township or settlement	Properties: Sectional title
Erf no	Properties: Sectional title
Name of scheme	Properties: Sectional title
Diagram no (related to erf no)	Properties: Sectional title
Sectional plan no	Properties: Sectional title
No of units	Properties: Sectional title
Unit no	Properties: Sectional title. Per unit
Extent and measuring unit	Properties: Sectional title. Per unit
Participation quota	Properties: Sectional title. Per unit
Government property?	Properties: Sectional title
Secure property?	Properties: Sectional title
Conditions	Properties: Sectional title
Unit	Properties: All
Share	Properties: All
Purchase price	Properties: All
Purchase date	Properties: All
Registration date	Properties: All
Legal entity type	Owners: Legal entity
Surname comp	Owners: Legal entity
Full name	Owners: Legal entity
Date of birth	Owners: Legal entity
ID reg no	Owners: Legal entity
Marital status	Owners: Legal entity
Citizenship	Owners: Legal entity
Name of company	Interdicts. Interdict against a company
Registration no of company	Interdicts. Interdict against a company
Full name(s) or initials	Interdicts. Interdict against a private person
Surname	Interdicts. Interdict against a private person
ID no or DOB (if available)	Interdicts. Interdict against a private person
Registration division	Interdicts
Municipality	Interdicts

Township or settlement or village	Interdicts
Erf or farm no	Interdicts
Portion no (if applicable)	Interdicts
Name of farm or scheme	Interdicts. Depends on property type
Unit no	Interdicts. Depends on property type
Plaintiff	Interdicts
Legal practitioner on behalf of plaintiff	Interdicts
Interdict type	Interdicts
Case no	Interdicts
Date delivered	Interdicts
Region	Proclamations
Local authority	Proclamations
Municipality	Proclamations
Township/settlement/village	Proclamations
Erf nos	Proclamations. Can be more than one range
General plan no	Proclamations
Proclamation reference	Proclamations
Gazette reference	Proclamations
Client names	Deeds fees
Client contact details - postal, tel, fax, email	Deeds fees
Client account details - type, balance, invoice preference, status, blacklisted	Deeds fees
Contact person details - name, postal, tel, fax, email	Deeds fees
Transaction details - account no, datetime, type, amount, receipt no, invoice no, slipno	Deeds fees
Invoice details - account no, dates, total, paid?, issue date, debit variance, credit variance	Deeds fees
VAT - percentage, inception date, version	Deeds fees
Service Transactions - user ID, invoice no, amount, date time, bar code, ref no	Deeds fees

Name of data set:	**People who have applied for resettlement**
Directorate:	Directorate of Resettlement
Division:	
Responsible/contact person:	Elifas Gottlieb (Khomas region)
Purpose:	Details of all people who have applied for resettlement
Format:	Digital
Type of digital:	Excel spreadsheet
Scale:	N/A
Number of records:	Uncertain - data spread between regions
Extent temporal:	Since 1990
Extent spatial:	Freehold land
Frequency of updating:	Regular
When last updated:	Ongoing
Estimate of completeness:	Uncertain
Sources of data:	Regional offices
Estimates of accuracy:	Uncertain
Unique codes or identifiers:	Reference number for each application
Existing linkages with other data sets:	None
Plans for expansion etc:	
Other comments:	Data are spread across regions. Some sifting is required when the data are compiled as the same person may have applied several times.

Field name	Details
Applicant name	
Sex	
No. of Dependents	
Reference number	of application
Income	
Income spouse/dependents	
Place of residence	
LSU	large stock units owned by the applicant
SSU	small stock units owned by the applicant

Name of data set:	**Resettled beneficiaries**
Directorate:	Directorate of Resettlement
Division:	
Responsible/contact person:	Elifas Gottlieb (Khomas region)
Purpose:	List of successful applicants who have been resettled
Format:	Digital
Type of digital:	Excel spreadsheet
Scale:	N/A
Number of records:	1553 families
Extent temporal:	since 1990
Extent spatial:	Freehold land
Frequency of updating:	Regular
When last updated:	November 2005
Estimate of completeness:	Complete
Sources of data:	Regional offices
Estimates of accuracy:	Good
Unique codes or identifiers:	Reference number for each application
Existing linkages with other data sets:	None
Plans for expansion etc:	
Other comments:	

Field name	Details
Region	
Registration division	
Farm name	
Size	ha
Carrying capacity	LSU and SSU
Rainfall	50mm isohyets
No. people who applied	split by sex
No. people recommended	i.e. who were successful
Name	
Sex	
ID	
No. of dependents	
Reference number	of application
Income	
Income spouse/dependent	
Place of residence	
Unit ID	
Size of unit	ha
LSU	large stock units owned by the applicant
SSU	small stock units owned by the applicant

Name of data set:	**Resettlement farms 1990 - 2005**
Directorate:	Directorate of Resettlement
Division:	
Responsible/contact person:	Elifas Gottlieb (Khomas region)
Purpose:	List of resettlement farms
Format:	Digital
Type of digital:	Excel spreadsheet
Scale:	N/A
Number of records:	approx. 130 listed
Extent temporal:	1990 to 2005
Extent spatial:	Freehold land
Frequency of updating:	Regular
When last updated:	Nov 2005
Estimate of completeness:	Complete on freehold land
Sources of data:	Regional offices
Estimates of accuracy:	Unknown
Unique codes or identifiers:	Farm name and number
Existing linkages with other data sets:	None
Plans for expansion etc:	
Other comments:	The Excel file is entitled 'People resettled on Commercial farms 1990 - 2005'

Field name	Details
Region	
District	
Farm name & number	
Size	ha
Year bought	
Families/units	
Remarks	

Name of data set:	**Isovalue map for commercial agricultural land**
Directorate:	Directorate of Valuation and Estate Management (DVEM)
Division:	
Responsible/contact person:	J. Kanjemba
Purpose:	The map indicates farm units according to unimproved site value categories, for land tax purposes
Format:	Digital
Type of digital:	ArcView shapefile/s
Scale:	
Number of records:	N/A
Extent temporal:	Since 1999
Extent spatial:	Freehold land
Frequency of updating:	5 years
When last updated:	
Estimate of completeness:	Complete
Sources of data:	MAWF
Estimates of accuracy:	
Unique codes or identifiers:	Farm name and number
Existing linkages with other data sets:	
Plans for expansion etc:	
Other comments:	The map represents farm values assigned for the first (5 year period) land tax evaluations. It makes use of the farms shapefile and other data which come from MAWF.

Field name	Details

Name of data set:	**GIS for map production**
Directorate:	Directorate of Surveys and Mapping (DSM)
Division:	
Responsible/contact person:	Uzo Okafor
Purpose:	GIS data for map production and other purposes
Format:	Digital
Type of digital:	Vector and raster
Scale:	N/A
Number of records:	N/A
Extent temporal:	Variable
Extent spatial:	Whole country
Frequency of updating:	Ongoing
When last updated:	N/A
Estimate of completeness:	Complete
Sources of data:	Directorate of Surveys and Mapping
Estimates of accuracy:	Accurate
Unique codes or identifiers:	N/A
Existing linkages with other data sets:	None
Plans for expansion etc:	
Other comments:	Large set of vector data in the feature classes listed below. Ongoing revision and additions have been through map production projects for areas north of 21 degrees South (1:250,000 and certain areas at 1:50,000), between 21 degrees and 25 degrees South (1:250,000) and south of 25 degrees (1:250,000 and 1:50,000). Also have orthophotos compiled from aerial photographs taken in 1996, 1997 and 1998. These orthophotos are intended to form the "standard basemap" for all DSM vector data.

Field name	Details
AIR_TRANSPORT: AERODROME	Geometry type: AREA
AIR_TRANSPORT: AIRFIELD	Geometry type: AREA; Scale ID: 50 000
AIR_TRANSPORT: AIRPORT	Geometry type: AREA; Scale ID: 250 000
AIR_TRANSPORT: APRON	Geometry type: AREA; Scale ID: 500 000
AIR_TRANSPORT: HELIPAD	Geometry type: AREA
AIR_TRANSPORT: LANDING STRIP	Geometry type: AREA
AIR_TRANSPORT: RUNWAY	Geometry type: AREA
ARTIFICIAL_SURFACE: CUTTING	Geometry type: AREA
ARTIFICIAL_SURFACE: DIGGING	Geometry type: AREA
ARTIFICIAL_SURFACE: EMBANKMENT	Geometry type: AREA
ARTIFICIAL_SURFACE: EXCAVATION	Geometry type: AREA; Scale ID: 50 000
ARTIFICIAL_SURFACE: MINE DUMP	Geometry type: AREA; Scale ID: 250 000
ARTIFICIAL_SURFACE: OPEN CAST MINE	Geometry type: AREA; Scale ID: 500 000
ARTIFICIAL_SURFACE: SALT WORKS	Geometry type: AREA
ARTIFICIAL_SURFACE: SLIMES DAM	Geometry type: AREA
BARRIER: ANTI EROSION WALL	Geometry type: LINE
BARRIER: DAM WALL	Geometry type: LINE; Scale ID: 50 000
BARRIER: FENCE	Geometry type: LINE; Scale ID: 250 000
BARRIER: GAME PROOF FENCE	Geometry type: LINE
BARRIER: WALL	Geometry type: LINE; Scale ID: 500 000
BARRIER: WEIR	Geometry type: LINE
BUILDING_AREA: BORDER CUSTOMS	Geometry type: AREA
BUILDING_AREA: CLINIC	Geometry type: AREA
BUILDING_AREA: CLUB HOUSE	Geometry type: AREA

BUILDING_AREA: COLLEGE	Geometry type: AREA
BUILDING_AREA: FACTORY	Geometry type: AREA
BUILDING_AREA: HEALTH CENTRE	Geometry type: AREA
BUILDING_AREA: HOSPITAL	Geometry type: AREA
BUILDING_AREA: HOTEL	Geometry type: AREA
BUILDING_AREA: MAIN BUILDING	Geometry type: AREA
BUILDING_AREA: MARKET	Geometry type: AREA
BUILDING_AREA: MISSION STATION	Geometry type: AREA; Scale ID: 50 000
BUILDING_AREA: PARLIAMENT	Geometry type: AREA; Scale ID: 250 000
BUILDING_AREA: PLACE OF WORSHIP	Geometry type: AREA; Scale ID: 500 000
BUILDING_AREA: POLICE STATION	Geometry type: AREA
BUILDING_AREA: POLYTECHNIC	Geometry type: AREA
BUILDING_AREA: POWER STATION	Geometry type: AREA
BUILDING_AREA: PRISON	Geometry type: AREA
BUILDING_AREA: SAW MILL	Geometry type: AREA
BUILDING_AREA: SCHOOL	Geometry type: AREA
BUILDING_AREA: SHOPPING CENTRE	Geometry type: AREA
BUILDING_AREA: UNIVERSITY	Geometry type: AREA
BUILDING_POINT: CLINIC	Geometry type: POINT
BUILDING_POINT: HEALTH CENTRE	Geometry type: POINT
BUILDING_POINT: HOSPITAL	Geometry type: POINT
BUILDING_POINT: HOTEL	Geometry type: POINT
BUILDING_POINT: HOUSE	Geometry type: POINT
BUILDING_POINT: HUTS	Geometry type: POINT
BUILDING_POINT: INFORMAL DWELLING	Geometry type: POINT
BUILDING_POINT: LIGHTHOUSE	Geometry type: POINT
BUILDING_POINT: PLACE OF WORSHIP	Geometry type: POINT
BUILDING_POINT: POLICE STATION	Geometry type: POINT
BUILDING_POINT: POST OFFICE	Geometry type: POINT
BUILDING_POINT: RUIN	Geometry type: POINT
BUILDING_POINT: SCHOOL	Geometry type: POINT
BUILDING_POINT: SHED	Geometry type: POINT
BUILDING_POINT: STORE	Geometry type: POINT
COASTAL: BREAKWATER	Geometry type: LINE
COASTAL: CHANNEL	Geometry type: LINE; Scale ID: 50 000
COASTAL: COASTAL ROCK	Geometry type: LINE; Scale ID: 250 000
COASTAL: COASTLINE	Geometry type: LINE; Scale ID: 500 000
COASTAL: DOCK	Geometry type: LINE
COASTAL: DRY DOCK	Geometry type: LINE
COASTAL: ESTUARY	Geometry type: AREA
COASTAL: HARBOUR	Geometry type: LINE
COASTAL: LAGOON	Geometry type: AREA
COASTAL: PIER	Geometry type: LINE
COASTAL: QUAY	Geometry type: LINE
COASTAL: TIDAL POOL	Geometry type: AREA
COASTAL: WHARF	Geometry type: LINE
DRAINAGE_LINE: AQUADUCT	Geometry type: LINE
DRAINAGE_LINE: CANAL	Geometry type: LINE; Scale ID: 50 000
DRAINAGE_LINE: FURROW	Geometry type: LINE; Scale ID: 250 000
DRAINAGE_LINE: PIPELINE	Geometry type: LINE; Scale ID: 500 000
DRAINAGE_LINE: SIPHON	Geometry type: LINE
MAP_INDEX: 10 000	Geometry type: AREA; Scale ID: 50 000
MAP_INDEX: 50 000	Geometry type: AREA; Scale ID: 250 000
MAP_INDEX: 250 000	Geometry type: AREA; Scale ID: 500 000
MAP_INDEX: 500 000	Geometry type: AREA
INLAND_WATER: DAM	Geometry type: AREA
INLAND_WATER: FISH FARM	Geometry type: AREA
INLAND_WATER: LAKE	Geometry type: AREA

INLAND_WATER: LARGE RESERVOIR	Geometry type: AREA
INLAND_WATER: MARSH	Geometry type: AREA; Scale ID: 50 000
INLAND_WATER: MUD FLATS	Geometry type: AREA; Scale ID: 250 000
INLAND_WATER: PAN	Geometry type: AREA; Scale ID: 500 000
INLAND_WATER: POOL	Geometry type: AREA
INLAND_WATER: PURIFICATION PLANT	Geometry type: AREA
INLAND_WATER: SEWAGE WORKS	Geometry type: AREA
INLAND_WATER: SWAMP	Geometry type: AREA
LAND_USE: BIRD SANCTUARY	Geometry type: AREA
LAND_USE: BOTANICAL GARDEN	Geometry type: AREA
LAND_USE: CARAVAN PARK	Geometry type: AREA
LAND_USE: CEMETERY	Geometry type: AREA
LAND_USE: CLINIC	Geometry type: AREA
LAND_USE: CLUB	Geometry type: AREA
LAND_USE: COLLEGE	Geometry type: AREA
LAND_USE: CONTAINER DEPOT	Geometry type: AREA
LAND_USE: CULTIVATED LAND	Geometry type: AREA
LAND_USE: DRIVE IN THEATER	Geometry type: AREA
LAND_USE: GARDEN	Geometry type: AREA
LAND_USE: GOLF COURSE	Geometry type: AREA
LAND_USE: GOLF DRIVING RANGE	Geometry type: AREA; Scale ID: 50 000
LAND_USE: HEALTH CENTRE	Geometry type: AREA
LAND_USE: HIGH URBAN DENSITY	Geometry type: AREA; Scale ID: 250 000
LAND_USE: HOLIDAY RESORT	Geometry type: AREA; Scale ID: 500 000
LAND_USE: HOSPITAL	Geometry type: AREA
LAND_USE: HOTEL	Geometry type: AREA
LAND_USE: INFORMAL SETTLEMENT	Geometry type: AREA
LAND_USE: LOW URBAN DENSITY	Geometry type: AREA
LAND_USE: MARKET	Geometry type: AREA
LAND_USE: MILITARY CAMP	Geometry type: AREA
LAND_USE: MISSION STATION	Geometry type: AREA
LAND_USE: ORCHARD VINEYARD	Geometry type: AREA
LAND_USE: PARK	Geometry type: AREA
LAND_USE: PARLIAMENT	Geometry type: AREA
LAND_USE: PLACE OF WORSHIP	Geometry type: AREA
LAND_USE: PLANTATION	Geometry type: AREA
LAND_USE: POLICE STATION	Geometry type: AREA
LAND_USE: POLYTECHNIC	Geometry type: AREA
LAND_USE: POST OFFICE	Geometry type: AREA
LAND_USE: POWER STATION	Geometry type: AREA
LAND_USE: PRISON	Geometry type: AREA
LAND_USE: RACE COURSE	Geometry type: LINE
LAND_USE: RACING TRACK	Geometry type: LINE
LAND_USE: RECREATION AREA	Geometry type: AREA
LAND_USE: REFUSE DUMP	Geometry type: AREA
LAND_USE: RIFLE RANGE	Geometry type: AREA
LAND_USE: RUIN	Geometry type: AREA
LAND_USE: SCHOOL	Geometry type: AREA
LAND_USE: SHOPPING CENTRE	Geometry type: AREA
LAND_USE: TRACK OTHER	Geometry type: LINE
LAND_USE: UNIVERSITY	Geometry type: AREA
LAND_USE: ZOO	Geometry type: AREA
NAVIGATIONAL_AID: MARINE BEACON	Geometry type: POINT; Scale ID: 50 000
NAVIGATIONAL_AID: MARINE LIGHT	Geometry type: POINT; Scale ID: 250 000
NAVIGATIONAL_AID: NDB	Geometry type: POINT; Scale ID: 500 000
NAVIGATIONAL_AID: VOR	Geometry type: POINT
RAILWAY: ABANDONED	Geometry type: LINE
RAILWAY: LARGE STATION	Geometry type: LINE

RAILWAY: MARSHALING LINE	Geometry type: LINE
RAILWAY: MULTI TRACK	Geometry type: LINE
RAILWAY: MULTI TRACK ELECTRIC	Geometry type: LINE
RAILWAY: NARROW GAUGE	Geometry type: LINE
RAILWAY: SERVICE LINE	Geometry type: LINE
RAILWAY: SIDING	Geometry type: POINT
RAILWAY: SINGLE TRACK	Geometry type: LINE
RAILWAY: SINGLE TRACK ELECTRIC	Geometry type: LINE
RAILWAY: STANDARD	Geometry type: LINE; Scale ID: 50 000
RAILWAY: STATION	Geometry type: POINT; Scale ID: 500 000
RAILWAY: STATION BUILDING	Geometry type: AREA
RAILWAY: UNDER CONSTRUCTION	Geometry type: LINE; Scale ID: 250 000
RELIEF_LINE: CONTOUR	Geometry type: LINE; Scale ID: 50 000
RELIEF_LINE: DEPRESSION CONTOUR	Geometry type: LINE; Scale ID: 250 000
RELIEF_POINT: SPOT HEIGHT	Geometry type: POINT; Scale ID: 500 000
RIVER_AREA: DRY WATER COURSE EXTENT	Geometry type: AREA
RIVER_AREA: FLOOD BANK	Geometry type: AREA
RIVER_AREA: NON-PERENNIAL EXTENT	Geometry type: AREA
RIVER_AREA: PERENNIAL EXTENT	Geometry type: AREA; Scale ID: 50 000
RIVER_AREA: SAND BANK	Geometry type: AREA; Scale ID: 250 000
RIVER_LINE: DRY WATER COURSE CENTER LINE	Geometry type: LINE; Scale ID: 500 000
RIVER_LINE: NON-PERENNIAL CENTER LINE	Geometry type: LINE
RIVER_LINE: PERENNIAL CENTER LINE	Geometry type: LINE
RIVER_LINE: RAPIDS	Geometry type: LINE
RIVER_LINE: WATERFALL	Geometry type: LINE
ROAD_LINE: DISTRICT ROAD	Geometry type: LINE; Scale ID: 50 000
ROAD_LINE: HIKING TRAIL	Geometry type: LINE
ROAD_LINE: MAIN ROAD	Geometry type: LINE
ROAD_LINE: OTHER ACCESS	Geometry type: LINE; Scale ID: 500 000
ROAD_LINE: STREET	Geometry type: LINE
ROAD_LINE: TRACK FOOTPATH	Geometry type: LINE
ROAD_LINE: TRUNK ROAD	Geometry type: LINE
STRUCTURE_AREA: MINE	Geometry type: AREA
STRUCTURE_AREA: STADIUM	Geometry type: AREA
STRUCTURE_AREA: STORAGE TANK	Geometry type: AREA
STRUCTURE_AREA: TOLLGATE	Geometry type: AREA
STRUCTURE_LINE: AERIAL CABLE WAY	Geometry type: LINE
STRUCTURE_LINE: BRIDGE	Geometry type: LINE
STRUCTURE_LINE: CONVEYOR BELT	Geometry type: LINE
STRUCTURE_LINE: PIER	Geometry type: LINE
STRUCTURE_LINE: POWER LINE MULTIPLE	Geometry type: LINE; Scale ID: 50 000
STRUCTURE_LINE: POWER LINE SINGLE	Geometry type: LINE; Scale ID: 250 000
STRUCTURE_LINE: SLIPWAY	Geometry type: LINE; Scale ID: 500 000
STRUCTURE_LINE: TELEPHONE LINE	Geometry type: LINE
STRUCTURE_LINE: TUNNEL	Geometry type: LINE
STRUCTURE_POINT: COOLING TOWER	Geometry type: POINT
STRUCTURE_POINT: DIPPING TANK	Geometry type: POINT
STRUCTURE_POINT: LOOK OUT TOWER	Geometry type: POINT
STRUCTURE_POINT: MINE	Geometry type: POINT
STRUCTURE_POINT: OTHER PUMP	Geometry type: POINT
STRUCTURE_POINT: PUMP HOUSE	Geometry type: POINT
STRUCTURE_POINT: RADIO MAST	Geometry type: POINT
STRUCTURE_POINT: SILO	Geometry type: POINT
STRUCTURE_POINT: STADIUM	Geometry type: POINT
STRUCTURE_POINT: STOCK PEN	Geometry type: POINT

STRUCTURE_POINT: STORAGE TANK	Geometry type: POINT
STRUCTURE_POINT: TELECOM TOWER	Geometry type: POINT
STRUCTURE_POINT: TOLLGATE	Geometry type: POINT
STRUCTURE_POINT: WINDMILL	Geometry type: POINT
TEXT: BUILT-UP AREA NAME	Geometry type: POINT
TEXT: CONSTITUENCE NAME	Geometry type: POINT
TEXT: COUNTRY NAME	Geometry type: POINT
TEXT: FARM NAME	Geometry type: POINT
TEXT: GENERAL TOPONYMS	Geometry type: POINT; Scale ID: 50 000
TEXT: MILLAGES	Geometry type: POINT
TEXT: NATIONAL PARK NAME	Geometry type: POINT; Scale ID: 250 000
TEXT: RAPIDS	Geometry type: POINT
TEXT: REGION NAME	Geometry type: POINT; Scale ID: 500 000
TEXT: RIVER NAME	Geometry type: POINT
TEXT: VILLAGE NAME	Geometry type: POINT
TOPO_AREA: BARREN AREA	Geometry type: AREA
TOPO_AREA: EROSION	Geometry type: AREA
TOPO_AREA: ISLAND IN WATER	Geometry type: AREA
TOPO_AREA: NOT CLASSIFIED	Geometry type: AREA
TOPO_AREA: ROCKY OUTCROP	Geometry type: AREA; Scale ID: 50 000
TOPO_AREA: SAND DUNE	Geometry type: AREA; Scale ID: 250 000
TOPO_AREA: SANDY AREA	Geometry type: AREA; Scale ID: 500 000
TOPO_AREA: SINKHOLE	Geometry type: AREA
TOPO_LINE: CUT LINE	Geometry type: LINE; Scale ID: 50 000
TOPO_LINE: FIRE BREAK	Geometry type: LINE; Scale ID: 250 000
TOPO_POINT: BATTLEFIELD	Geometry type: POINT
TOPO_POINT: CAVE	Geometry type: POINT
TOPO_POINT: GRAVE	Geometry type: POINT; Scale ID: 50 000
TOPO_POINT: GROUND SIGN	Geometry type: POINT; Scale ID: 250 000
TOPO_POINT: MONUMENT	Geometry type: POINT; Scale ID: 500 000
TOPO_POINT: SHIPWRECK	Geometry type: POINT
VEGETATION: DENSE BUSH	Geometry type: AREA; Scale ID: 500 000
VEGETATION: GRASSLAND	Geometry type: AREA
VEGETATION: MODERATE BUSH	Geometry type: AREA
VEGETATION: OPEN BUSH	Geometry type: AREA
VEGETATION: TREE	Geometry type: POINT; Scale ID: 250 000
VEGETATION: WOODLAND	Geometry type: AREA; Scale ID: 50 000
WATER_SOURCE: BOREHOLE	Geometry type: POINT; Scale ID: 500 000
WATER_SOURCE: FOUNTAIN	Geometry type: POINT
WATER_SOURCE: HOT SPRING	Geometry type: POINT
WATER_SOURCE: JETTED WELL	Geometry type: POINT
WATER_SOURCE: RESERVOIR	Geometry type: POINT; Scale ID: 50 000
WATER_SOURCE: WATER TOWER	Geometry type: POINT
WATER_SOURCE: WATERTANK	Geometry type: POINT
WATER_SOURCE: WELL	Geometry type: POINT

Name of data set:	**Survey Diagrams**
Directorate:	Directorate of Surveys and Mapping (DSM)
Division:	
Responsible/contact person:	Mr Lehane
Purpose:	Definitive boundaries for surveyed land parcels
Format:	Paper only
Type of digital:	
Scale:	Variable
Number of records:	
Extent temporal:	1800s to present
Extent spatial:	Whole country
Frequency of updating:	Ongoing
When last updated:	
Estimate of completeness:	Complete
Sources of data:	GPS
Estimates of accuracy:	Accurate but will vary with date of survey
Unique codes or identifiers:	Erf no, and farm name and no.
Existing linkages with other data sets:	Erf no, and farm name and no.
Plans for expansion etc:	
Other comments:	Each diagram contains a sketch of the land parcel with associated information. There is a file for each land parcel containing the survey diagram. Whenever a change is made (e.g. portion created or amalgamated), the new survey diagram is placed in the file. Unique identifiers (currently in existence) work as follows: Farms comprise: 1. Registration division (A,B,C,D,F,G,H,J,K,L,M,N,P,R,S,T,V on the 1:1000 000 map) 2. Farm number 3. Portion The farm number begins from 1 in each division and is a sequential number following from the last farm registered. If, for example, 2 farms are amalgamated then it receives a new farm number and the old 2 numbers are never used again. The same applies for portions. Erven comprise: 1. 3 letter prefix (e.g. whk, kwh etc.) 2. Erf number (starting from 1 in each prefix area) As for farms, erf numbers continue from the last number registered in each suburb.

Field name	Details
Latitude	surveyed points (projected units)
Longitude	surveyed points (projected units)
Registration Division	
Unique identifier (Farm name and number, or Erf number)	
Date of survey	
Surveyor	
Scale	

Name of data set:	**General Plans**
Directorate:	Directorate of Surveys and Mapping (DSM)
Division:	
Responsible/contact person:	Mr Lehane
Purpose:	A diagram showing several land parcels for a particular area/suburb etc. indicating parcel number and distance and direction along each boundary line.
Format:	Paper only
Type of digital:	
Scale:	Variable
Number of records:	
Extent temporal:	1800s to present
Extent spatial:	Whole country
Frequency of updating:	Ongoing
When last updated:	
Estimate of completeness:	Complete
Sources of data:	Survey diagrams
Estimates of accuracy:	Accurate
Unique codes or identifiers:	Erf no, and farm name and no.
Existing linkages with other data sets:	Erf no, and farm name and no.
Plans for expansion etc:	
Other comments:	

Field name	Details
Unique identifier (Farm name and number, or Erf number)	
Length of each boundary line	In projected units
Direction of each boundary line	In projected units
Servitudes	e.g. roads

Name of data set:	**Noting Plans (sheets)**
Directorate:	Directorate of Surveys and Mapping (DSM)
Division:	
Responsible/contact person:	Mr Lehane
Purpose:	Essentially a simplified general plan showing land parcels within a particular area (e.g. town suburb, farms and farm portions). This displays parcel boundaries with their identifier numbers. The noting plan represents the latest data on the 'whole package'.
Format:	Paper only
Type of digital:	
Scale:	Variable (see comments)
Number of records:	
Extent temporal:	1800s to present
Extent spatial:	Whole country
Frequency of updating:	Ongoing
When last updated:	
Estimate of completeness:	Complete
Sources of data:	Survey diagrams
Estimates of accuracy:	Accurate
Unique codes or identifiers:	Erf no, and farm name and no.
Existing linkages with other data sets:	Erf no, and farm name and no.
Plans for expansion etc:	
Other comments:	Noting plans are created at different scales depending on the type of land parcels depicted: 1:1000, 1:2000, 1:2500 (towns) 1:12000 (large towns/ small farms) 1:25000, 1:50000, 1:100000 (farms) Whenever a change is made (e.g. portion created or amalgamated), the new survey diagram is placed in the folder and the noting plan is updated.

Field name	Details
Area or suburb	
Farm names and numbers and portions, or erf numbers	

End of appendix and report ----------