

# **Development of a Cadastral and Land Management Model for Existing Informal Land Rights in South Africa**

**Mark VAN DEN BERG and Peter HOFFMANN, South Africa**

**Key words:**

## **SUMMARY**

The system of Cadastral survey and Land Rights registration in South Africa is fairly rigid and costly to implement.

All land parcels must be monumented and surveyed to tight specifications. This is laid down in terms of the Land Survey Act and regulations. No distinction in terms of accuracy is made between the survey of a \$3,000,000 parcel of land in central Cape Town or a rural settlement land parcel in the Karoo desert.

Less than 30% of households in South Africa reside on surveyed land parcels. The remainder of households that are found on the urban fringes of cities and in rural communities are generally located on state land, alienated stated land, local government owned land, or large tracts of private land used for farming or commercial purposes.

The land tenure rights of these households are protected to some extent by a plethora of Acts of Parliament published since 1994. However, families continue to be evicted from land. The national Department of Land Affairs does not have the capacity to cope with the land issues facing South Africa and fears of a Zimbabwe scenario are gaining momentum.

This paper presents a model being developed by the Land Survey profession in conjunction with Government that will provide a cadastral and land management framework aimed at securing the land rights of all citizens of South Africa.

The model includes innovative survey techniques to demarcate land parcels, pragmatic land and information management principals to be adopted and a nationwide empowerment strategy aimed at using “community” surveyors to undertake the bulk of the demarcation work.

A feature of the model is the embodiment of community rules in the constitution of the juristic vehicles used to register the land tenure rights.

# **Development of a Cadastral and Land Management Model for Existing Informal Land Rights in South Africa**

**Mark VAN DEN BERG and Peter HOFFMANN, South Africa**

## **1. INTRODUCTION**

The cadastral survey system in South Africa is based on tried and tested survey methods that have been adapted over the years to the changing technologies of measurement. All cadastral surveys that are lodged for approval in the five Surveyor General's (SG) offices around the country must comply with minimum positional accuracies and requirements in terms of method and documentation of survey. All boundary points must be beaconed.

The same survey methodologies are employed for formal, informal and rural land survey projects. Registration of freehold tenure is based on cadastral diagrams, and all transfer deeds are lodged in the provincial deeds offices.

Most title granted to the former landless of South Africa is freehold title. The cost in terms of time and effort required to register freehold title has for several years been questioned in terms of conveyed benefits.

There is a general recognition that cadastral and tenure reform has not kept pace with political and social reform in South Africa. Land Surveyors have not been part of the land reform process up until very recently. This process has been dominated by Non-Government Organisations (NGOs) and the legal and planning professions. Land Surveying institutions have seldom engaged with the National Department of Land Affairs (DLA) who is responsible for land tenure, cadastral reform, cadastral survey and deeds registration. Instead, Land Surveyors have generally quietly gone about their business of cadastral survey of low cost housing projects, farms and the formal housing and commercial land components of the South African economy.

This paper briefly explores the problems that are affecting the land market in South Africa and puts forward some pragmatic strategies developed by the Land Survey profession to improve the efficiency and effectiveness of the land market in rural and urban areas of the country.

The strategies presently have a minimal effect on the existing Land Survey Act and on the existing customary methods of demarcating land, hence the chance of successful implementation is good.

The cadastral reform strategies will however have a significant impact on the social and economic components of the country, for a number of reasons:

- The existing customary practice of land allocation and demarcation will not be changed per se, but will be formalized to the benefit of rights holders, service providers, funders and politicians.
- This formalisation will be cost efficient and will use existing geographic information system (GIS) technologies in conjunction with traditional hard copy methods.
- The strategy takes into account that existing practices of registering freehold title for all parcels is ill founded and that other tenure instruments are more effective in some instances.
- Time and cost will be saved by employing new methods with no degradation on the value of the end product.
- The cadastral strategy includes loading land parcel information to local municipality (LM) and/or district municipality (DM) GISs. The accessibility of this information will improve service delivery to rural and urban communities alike.
- The employment of community surveyors to undertake internal demarcation of land parcels will reduce unemployment and these persons could serve health and other service providers in a data capture/maintenance role. This is currently being explored with the relevant government departments.

## 2. BACKGROUND

The legal system relating to the cadastral and land market in South Africa has effectively created a two-tier land market system. One of these is the familiar form operating within the parameters of legislation relating to land use, tenure and the cadastre. This “formal” framework leads to a specific form that provides for a range of housing options and infrastructure within a regulated market. The second system is the one falling outside the aforementioned parameters and is invariably referred to as the informal land market. (Hornby, November 2002).

Prior to April 27 1994 (end of Apartheid), there was an Apartheid geography in which over thirteen million people were squashed into thirteen percent of South Africa’s land and to which a further three and a half million people had been added through the state sponsored forced dispossessions of the 1960’s and 1980’s. Africans living in these reserves experience severe conditions of racially unequal and distorted access to services, markets and opportunities and an experience of “poverty amongst plenty”. This Apartheid landscape was complimented by a complex legal plurism around land rights. Different race groups had different types of rights to land, with ownership limited to whites while some blacks were granted permission to occupy land occupied by the South African Development Trust or consolidated into homelands. These racially different rights were administered through multiple regional and local systems which included tribal authorities, magistrates, deeds registries and Surveyor Generals offices. (Hornby, November 2002).

The new ANC government wasted no time in drafting new land legislation to give some tenure security to the majority of South Africans who had no legal claim to land.

A white paper was to have been produced at the end of 1997, which the Department of Land Affairs (DLA) failed to do, shifting instead to a lengthy legislative drafting process that

TS17 Urbanisation and Informal Settlements

3/12

Mark van den Berg and Peter Hoffmann

TS17.1 Development of a Cadastral and Land Management Model for Existing Informal Land Rights in South Africa

resulting in the Communal Land Rights Bill only in August 2002. In the absence of a tenure policy framework, the Department legislated around urgent tenure issues as they emerged. This resulted in the five laws.

The Community Property Associations Act (1996) provided for the creation of communities into juristic purses for the purposes of owning and managing land that were acquired through land reform.

The Land Reform (labour tenants) Act (1996) secured the rights of labour tenants and provided for them to acquire land in an attempt to halt the eviction of people from farms. Two further pieces of legislation further regulated eviction. These were the Extension of Security of Tenure Act (1997), which applied to all agricultural land and the Prevention of Illegal Eviction From or Unlawful Occupation of Land Act (number 19) of 1998 which applied to urban and peri-urban situations. The interim Protection of Informal Land Rights Act (number 31), of 1997 was minimalist legislation to prevent the arbitrary disturbance or termination of the *de facto* rights of people living on and using state land. (Hornby, November 2002).

The six guiding principals of land tenure reform as laid out in the white paper are:

- Tenure reform must move towards legally enforceable rights to land and away from ‘permit-based’ land rights.
- Tenure reform must build a unitary non-racial system of land rights for all South Africans, where any South African may access the system of registration, support and administration comprising flexible and diverse types of land rights within a unitary framework.
- Tenure reform must allow people to choose from a range of tenure systems which will be developed, including both individual- and group-based ownership systems.
- Tenure systems offered must be consistent with the Constitution’s commitment to basic human rights and equality, including the new group-based tenure systems to be developed.
- All tenure reform processes must recognize and accommodate the *de facto* (i.e. ‘on the ground’) vested rights which people have acquired by, for example, their occupation of the land. Where these overlap or conflict with other rights, vested rights must be accommodated on additional alternative land. Tenure reform must not result in the unintentional eviction of rights holders, which would undermine the principle of tenure security.
- Finally, new tenure systems and laws should be brought into line with existing reality on the ground and in practice – principles of adjudication must recognize existing *de facto* vested rights, and long term historical ownership which exists in practice (but is currently not recognized in law) must be legitimized.

The Communal Property Associations Act (CPA) is used extensively by DLA to purchase land on behalf of land claimants. The land claimants become beneficiaries of a Communal

Property Association set up in terms of the Act and their rights are clearly defined in the rules of each association set up.

This Act like all other Acts listed above, does not deal with the location on the ground of individual land rights. This has led to a certain amount of confusion interpreting the acts. The lack of spatial definition is very apparent with all the above Acts although the Communal Land Rights Bill does attempt to define registered land tenure rights.

The Communal Land Rights Bill has run into a political storm with traditional leaders who perceive the bill to undermine their authority in traditional areas. This debate is ongoing and no breakthrough is in sight.

Communal tenure will always be a part of the social fabric of South Africa.

Changes and continuities in social relationships and institutions affect the configuration of all tenure forms, including communal tenure in South Africa. Communal tenure is deeply imbedded in social relationships defined by kinship ties. These shape norms around how responsibilities and rights are understood and allocated. Although kinship ties do, and are, changing, they also provide a base of constancy that enables individuals to understand and mediate the relationship in and between families, sub-groups, communities and the broader society. Kinship relationships therefore form a solid block of norms and conventions that change very slowly, unless (like all other relationships) they are subjected to extreme pressures and stresses. (Ziqubu, November 2001).

### **3. SITUATIONAL ASSESSMENT**

The SG is custodian of all cadastral records in the country. As matters stand at the moment, these cadastral records reflect mainly the formal sector of South Africa and the “black township” areas surveyed under the “separate development” strategy of Apartheid and the low cost housing projects sponsored by the Department of Housing.

The Chief Surveyor General has created a cadastral land information system for the “formal” component of the entire country using the cadastral records in his offices. Most of the farm data has been digitized from 1/20 000 compilation sheets and the rest of the spatial database has been generated by co-ordinate entry. The completeness and accuracy of large sections of the database is however questionable and unfortunately this database cannot be effectively used for land management. No servitudes have been captured and there is no meta database. History has also been excluded from the database. Confidence in the use of the system is therefore low.

Regional offices of DLA suffer from severe capacity and skills problems. The regional staff are battling to cope with processing of land claims and cannot offer any assistance to communities and/or LMs in the administration of the CPA and other land legislation.

Wall to Wall' LMs and DMs have been created for the entire country in terms of the Municipal Structures Act of 1998.

A DM typically covers between 10 and 25 LMs. DMs and LMs have separately defined powers and functions in terms of the Municipal Structures Act.

Municipalities are responsible for the provision of basic services (water, sanitation, telecommunications, roads) to urban and rural area. Most LMs and DMs in the rural areas of South Africa are severely understaffed and lack essential resources in order to discharge their functions.

The stand-off between DLA and the Department of Traditional Affairs over the Communal Land Rights Bill is set to continue for the immediate future. This will have an adverse impact on the formalisation of communal and individual land rights in the rural and tribal areas of South Africa.

HIV Aids is decimating the population of South Africa. The HIV infection rate is in excess of 35% in rural areas and approximately 30% in the urban areas of South Africa. Most of the HIV positive cases in South Africa are in the informal urban areas.

The provision of basic services to the rural poor is improving at a steady rate.

Unemployment in South Africa stands at 35%. This rate could fall slightly due to the AIDS pandemic.

DLA has embarked on a strategy to provide total coverage of 1/10 000 orthophoto maps for South Africa. Approximately 60% of the rural areas of South Africa are already covered by this mapping.

Documented information relating to the change in status of built environment, natural environment, social fabric, health services etc at the community and household level is virtually none existent for rural areas of South Africa. This is due to several factors including lack of defined procedures to record change, lack of training, lack of capacity, lack of co-operation between service providers and lack of funds.

All cadastral surveys undertaken in South Africa must be personally supervised and signed off by professional land surveyors. The Land Survey Act number 8 of 1997 requires that metal beacons be placed at all boundary end points. Each beacon or monument position must be independently checked and the positional accuracy must comply with set tolerances. All cadastral surveys are based on the WGS84 projection.

The average turn-around time to gain the necessary consent from Government Departments and sub-divisional approval from the SG is nine months for rural sub-divisions and six months for urban sub-divisions. Some urban township surveys can take up to two years to finalise, depending on the state of the underlying cadastral and ownership data.

Undertaking large cadastral surveys in urban areas is further complicated due to the various layers of ownership rights that are prevalent. In some areas in Pietermaritzburg, there are up to four layers of overlapping ownership. This is a result of surveys undertaken prior to 1994 where there were independent SG offices and deeds registries dealing with “white” and “black” affairs.

Many of the owners are deceased and the complexity of unraveling land for housing purposes is significant and time consuming.

#### **4. SITUATION ANALYSIS**

Past experience has shown that attempting to formalize informal settlements by traditional cadastral survey of land parcels and registration of freehold title does not work.

The land assembly process is too time consuming and costly to be of benefit to beneficiaries. The freehold ownership created initially quickly reverts back to customary land transactions and within a short period of time, the deed office records do not represent the ownership transacted on the ground. This western norm of survey and registration needs a drastic overhaul.

The effects of Aids also complicate freehold ownership. Deceased estates are very costly to unwind legally particularly in the absence of the last will and testament, which is the norm. Deceased estates are growing in South Africa at virtually the same rate as the Aids pandemic. Freehold title has yet to show any benefits for owners of land parcels in the low cost housing category.

Extensive research has been undertaken in rural areas by several NGOs including the Association for Rural Advancement. This research has shown the following:

- The customary process of documentation of land parcels involving parties to the transfer, the Headman or *Induna* and *Ibanla* (group of neighbours who clarify existing boundaries and witness the new) is firmly set in customary tradition and will continue irrespective of any new legislated process of demarcation.
- Access to land is contingent upon community membership where the *Nkosi* controls on advice from the *Induna*.
- Members are entitled to residential land and access to commonage. Arable land is subject to availability and negotiation with those that have it.
- Household transfer rights include giving, loaning and bequeathing land and selling top structures.
- Households have strong, exclusive residential rights, seasonally exclusive rights to arable land, sharing rights to grazing land and natural resources.
- Commercial banks generally “red-line” rural land and urban land in low cost areas and refuse to supply mortgage finance for land parcels in these categories. In some cases, funds are loaned on a short-term basis (less than five years) and at a 10% interest premium.

- The National Department of Housing has indicated that they are prepared to grant development finance on “lesser” tenure forms than freehold.
- Obtaining real rights to land currently requires surveying, registration and consent procedures. These are too expensive for the poor (requiring professional input) and are long, complex processes that conflict with community practices (particularly consents to sub divide), which creates the conditions for default. (Ziqubu, November 2001).
- Current legislation and bureaucracy enable only an exclusive choice between formal and informal tenure, which locks people into one or other system. (Ziqubu, November 2001).

## 5. SURVEY PROFESSION’S STRATEGY

The survey profession is in the process of restructuring itself into a single body which is to be named the South African Geomatics Institute (SAGI). SAGI will represent the entire survey industry including community surveyors.

The vision of SAGI is to:

To serve our nation (South Africa) with holistic and appropriate solutions in the domains of:

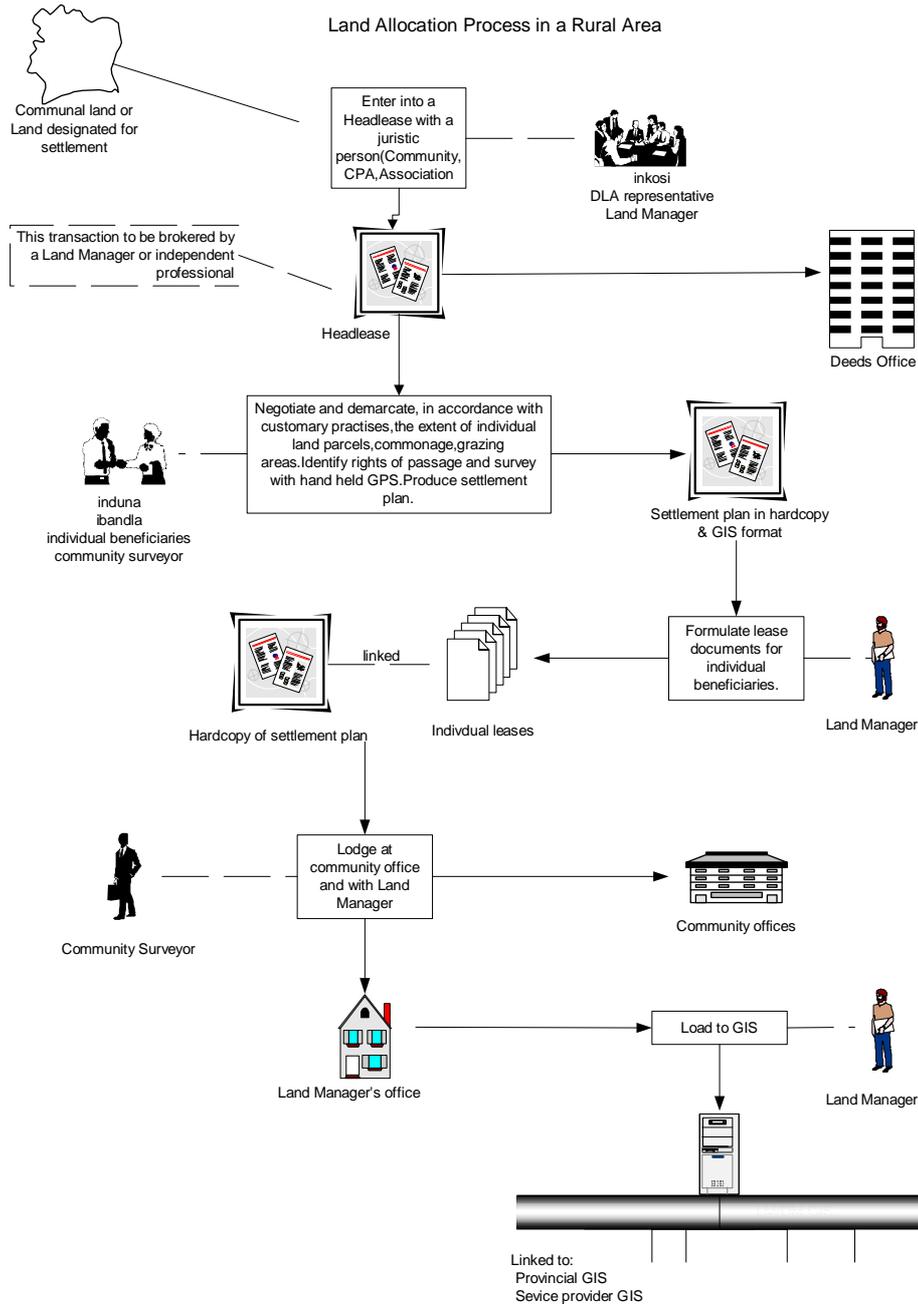
- Land reform and administration
- Development and resource management
- Spatial information

One of the goals of SAGI is to ensure sustainable delivery and maintenance of appropriate land rights.

In order to reach this goal and realize the first bullet of our vision, the Council of SAGI has developed a strategy that addresses the issues laid out in the situation assessment and analysis presented earlier in this paper and offers a pragmatic, cheap and implementable solution to defining and securing land rights in rural and informal urban areas. The rural process is depicted in the figure attached. The main tenets of our strategy are:

- Introduce formality to the customary and traditional practice of demarcation and allocation of land rights without disrupting or changing the existing processes.
- Use the *Lease* form of tenure to secure occupation rights and rights over commonage and grazing land.
- Maintain the principal of surveying the outside figure of communities and communal land to a higher degree of accuracy in terms of the Land Survey Act. In rural areas adopt a much less formal method of demarcating individual land rights using hand held GPS (2-5m accuracy) and operated by relatively low skilled community surveyors. Comply with traditional process of demarcation and right allocation. Demarcate commonage and grazing areas using the same GPS technology and record information onto hard copy settlement plans and in digital format for inclusion to a local or district level GIS. Standard specifications will be defined for this.
- The hard copy settlement plan should be overlaid on digital orthophotos if such basemaps exist.

- The settlement plan could be lodged with the SG for record purposes but would not be examined and approved as a document capable of registration in the deeds office.
- LMs must appoint (with government funding for now) land managers at a LM level who will be responsible for the training, supervision and appointment of community surveyors and for the quality assurance of settlement plans. Land managers must take professional responsibility for the accuracy and completeness of these plans.
- Land managers will also be responsible for the supply of settlement plan data in a GIS format according to a standard specification, to GIS facilities at local and district municipalities.
- Land managers will also be responsible to frame lease agreements for individual rights holders. These lease agreements will describe the rights of the holder, rights of passage over adjoining and commonage land, rights of grazing etc. Again, these rights will be a direct interpretation of the traditional rights allocation process.
- The individual lease(s) will be annexed to the settlement plan and lodged at a community office. New allocations that occur as a result of inheritance or new entrance will be handled the same way, with suitable endorsements recorded on the leases and settlement plan.
- The land manager would periodically uplift changes made on the hard copy documents and update to the relevant GIS(s).
- The lease contracts are contracts between a lessor (CPA, Community represented by an Nkosi, LM, Property Association etc) and a lessee, the individual rights holder. Leases are thus defendable in South African courts and offer solid protection to individual rights holders.
- Any new entrant wishing to establish a commercial enterprise in a communal area will need to comply with existing planning and environmental legislation in addition to obtaining consent from the community leadership. The demarcation in this case will be undertaken by a registered land surveyor in terms of the Land Survey Act and the necessary diagrams lodged with the relevant SG. The CPA allows for long leases registered in the deeds office to be granted to third parties. The payment process for such a lease right is an issue still to be workshopped.
- The urban situation is very similar to the rural. Detailed topographic survey is normally required for engineering services design. Municipality planning and environmental legislation may also require a slightly different procedure in the demarcation of individual land parcels. The main issue however is the survey of land parcels need not be lodged with the SG for approval nor will land parcels be registered in the deeds office.



## 6. OUTCOMES

The cadastral and tenure methods describes in this paper provide the following:

- A low cost appropriate solution that gives spatial definition to the various Land Acts published and aimed at protecting land rights of the poor and previously disadvantaged people of South Africa.
- Use of well accepted concepts of lease tenure to define individual and group rights and referring to a settlement plan that spatially defines the different land parcels.

- This approach provides land holders and communities with the option to upgrade from a personal lease to a long term lease if increased security of tenure is desirable.
- The use of lease tenure fits well with rural communities who do not want to alienate their land and still control certain rights relating to the land. This can be included in the conditions of lease.
- Communities will benefit from the increase of availability of spatial information relating to the community. LMs are generally all implementing GIS capacity and would welcome “base layer” cadastral and tenure information for their systems. This will assist in capital budget allocation and assist with the myriad of LM responsibilities and functions including disaster management and environmental planning.
- Government has laid down strict guidelines regarding the payment of rates and taxes to LMs. The problem up until now has been with the identification of households that are required to pay. Households earning less than a set minimum amount enjoy a rates holiday in most LMs.
- A systematic demarcation of land rights in the urban and rural of South Africa will greatly enhance the information systems that will be used for this purpose.
- There are approximately fifteen thousand settlements containing two million households that require formalized tenure in South Africa. DLA has laid down a challenge to the survey industry to come up with solutions.
- The survey and tenure solutions proposed in this paper will be workshopped with DLA and other Government departments to gain agreement on a way forward.
- Funding development is of prime concern to Government and it is essential that Government recognizes that leasehold tenure is capable of receiving household and development subsidies.

## 7. CONCLUSION

The cadastral system of South Africa is based on a well surveyed and managed system of control beacons strategically placed throughout the country. The cadastral system gives confidence to banks, other lending institutions, business and the affluent public regarding the accuracy and description and safe lodgment of land records. Very few boundary disputes reach the courts. This system needs to be preserved, but at the same time, it must be adapted to suit the needs of the majority of people in South Africa.

The system must be flexible enough to allow for upgrading of land tenure when the need arises.

It is possible to extend the cadastral system to include the rural and low cost urban housing projects, without prejudicing the integrity of the cadastral system. Conversely, extending the cadastral system in the manner described in this paper will be vastly cheaper than the current options, and will empower many citizens to become community surveyors and will support information management at Local Municipality level.

The creation of a new category of community surveyor will greatly benefit communities because the work content of these surveyors will lead to other opportunities in communities

for example, the maintenance of health events, recording information for water and sanitation service providers etc.

## REFERENCES

- Fourie, C. 1999 and Nino-Fruck, O. 1999 - An integrated Geo-information system for decision-makers in Africa - Working Week and Survey 1999 Conference held in South Africa
- Ziqubu, N. and Cousins, T. and Hornby, D 2001 – Using local practices and records to secure individual tenure rights in common property situations – lessons from the case studies on what might work on the ground – pages 7 – 9. Paper written for Dept of Land Affairs, National Land Tenure Conference, 26 –30 November 2001, Durban
- Palmer, D. and McLaughlin, J. 1997 – Integrated land administration: Institutional and technical challenges – pages 7 – 10
- Payne, G. 1996 – Urban land tenure and property rights in developing countries – a review – pages 3 – 20, Intermediate Technology publications 1997
- Davies, C. and Fourie, C. 1998 – A land management approach for informal settlement in South Africa – pages 1 – 5, South African journal of surveying and mapping, volume 24, parts 5 & 6, August and December 1998
- Hornby, D. 2002 – Article written for AFRA News, How well does the DLA service the public, AFRA

## CONTACTS

Mr Mark van den Berg  
MHP Geomatics Incorporated  
15 Acacia Ave  
Westville  
KwaZulu-Natal  
SOUTH AFRICA  
Tel. + 27 31 266 8242  
Fax + 27 31 266 7005  
Email: mark@mhp.co.za  
Web site: www.mhp.co.za