



LAND REGISTRATION USING AERIAL PHOTOGRAPH IN NAMIBIA COSTS AND LESSONS

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OUTLINE OF PRESENTATION

1. Introduction
2. Communal Land in Namibia
3. Communal Land Registration
4. Lessons Learnt
7. Improving the site survey
8. Improving the registration of land rights
9. Roadmap
10. Challenges

NAMIBIA

- Size: 825 thousand km² (1.5x France, 1/11 of USA)
- Population: 2 Million
- HIV infected: ca 20%
- Climate: Savanna and Dessert
- Independence: 1990
- GDP: \$10.72 billion (2007 est.)
- Main Exports: diamonds, uranium, (copper, gold, zinc, lead), cattle, fish, tourism
- About half of the population depends on subsistence agriculture for its livelihood
- One of the world's most unequal income distributions

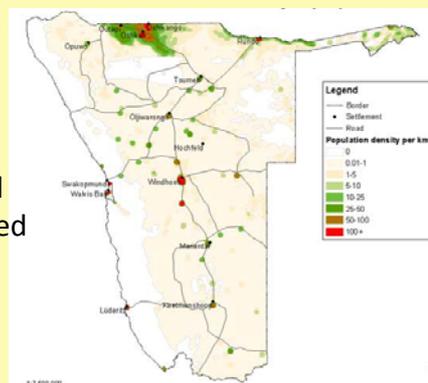


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POPULATION DISTRIBUTION

- High density in the north, ca 50% of population
- Due to favorable agricultural climate
- Ca. 76% of the communal land rights will be allocated in the Northern part



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ADMINISTRATIVE LAND UNITS

In Namibia, land is divided into three administrative units:

- **commercial land (44%)**
- **communal land (36%)**
- **state land (20%)**



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THE LAND ISSUE IN NAMIBIA

- Access to land is believed to be one of the most pressing social, political and economical issue
- Until independence, virtually all commercial land was owned by white farmers. 44% of land owned by 6% of population
- There is a growing pressure on communal areas due to population growth and fencing of large areas.
- Laws were put in place to tackle the above issues, but...

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COMMUNAL LAND REFORM ACT

- Communal Land Reform Act (CLRA) was formulated to ensure a proper management of communal land
- The Act transfers the responsibility to administer and allocate land rights in communal areas to Communal Land Boards and Traditional Authorities
- The CLRA required that any person, should apply for recognition and registration of his/her customary land right before 1 March 2006

ROLE OF MLR IN COMMUNAL LAND REGISTRATION

- MLR is the prime administrator of Communal Land
- Assists the CLBs by providing:
 - Secretaries of the CLBs
 - Secure keeping of the (land registration) records
 - Surveying of communal land parcels
 - Diagrams and certificates for land rights
 - Financial and logistical support

STEPS INVOLVED IN REGISTRATION

- Applicant fills application form
- Applicant requests a letter of consent from the local headman
- Applicant supplies application to the TA
- TA approves or disapproves and sends it to the CLB
- CLB/MLR verifies the application, including a (GPS) site survey
- CLB ratifies or rejects application, registers and communicates results back to the TA
- TA, communicates to the applicant who pays on receipt of his certificate

IMPROVING THE SITE SURVEY

Lessons learnt after 5 years of site survey

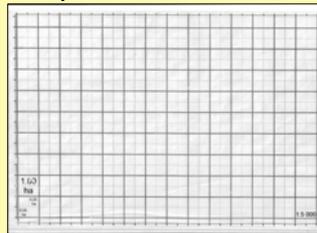
- 1389 land parcels registered
- Lack of communication
- Average of 5 parcels could be mapped by one team a day

Therefore

- A faster way to register parcels needed to be found
- A new method should also ensure that fewer mistakes will be made
- Part of the work needs to be outsourced

AERIAL PHOTOS FOR SURVEYING

- Availability of 2007 Full color digital Aerial Orthophotos with a 1m resolution for the North
- Easier and faster if features are visible
- What you see is what you get (wysiwyg)
- Community participation
- Better suitable for systematic survey
- Can be shown on survey diagrams
- Area can be checked in the field
- Multi-purpose



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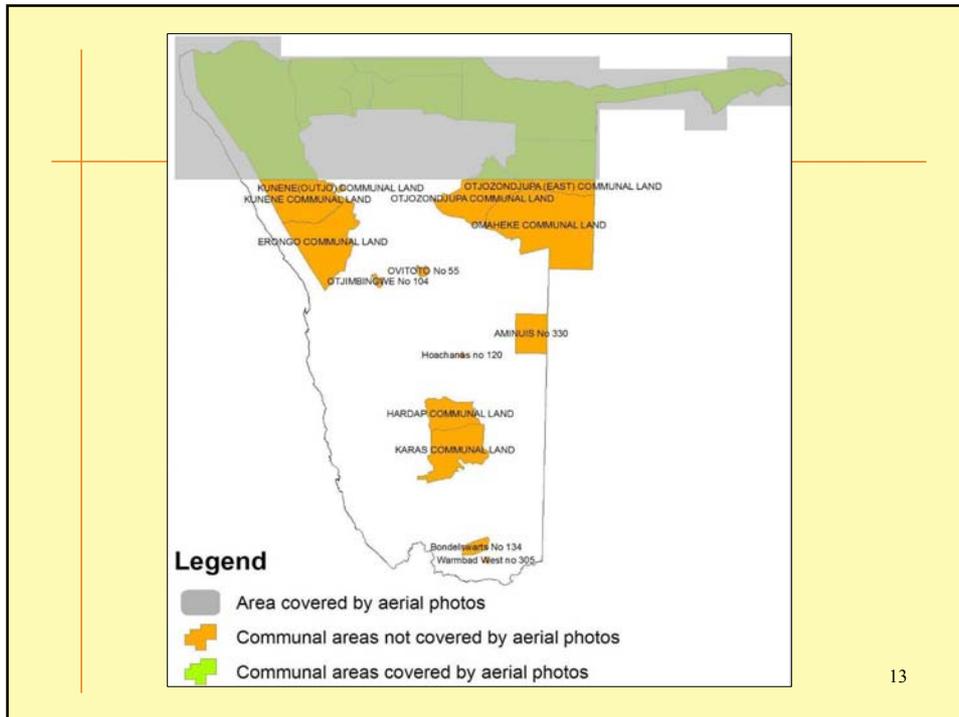
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What you see is what you get (wysiwyg)



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RESULTS AERIAL PHOTOS

- 5x faster then GPS
- Less prone for errors then GPS
- Communities are better involved

COSTS

Activity	Direct cost in €	Nr. Of days (team of 2)	Total cost in €
GPS survey	-	60.000	9.0 Million
Aerial Survey	0.4 million	13.000	2.4 Million
Aerial Photos + Quick bird	(1.7) + 2.1 million	-	3.8 Million

- The cost for a field team is estimated at 150 €
- Quickbird images not covered cost €2.1 million

IMPROVING THE REGISTRATION OF LAND RIGHTS

Lessons learnt

- No uniform register used
- Inaccessibility of information
- Incomplete registration
- All outputs were made manual

Therefore a Land administration system needed to enable

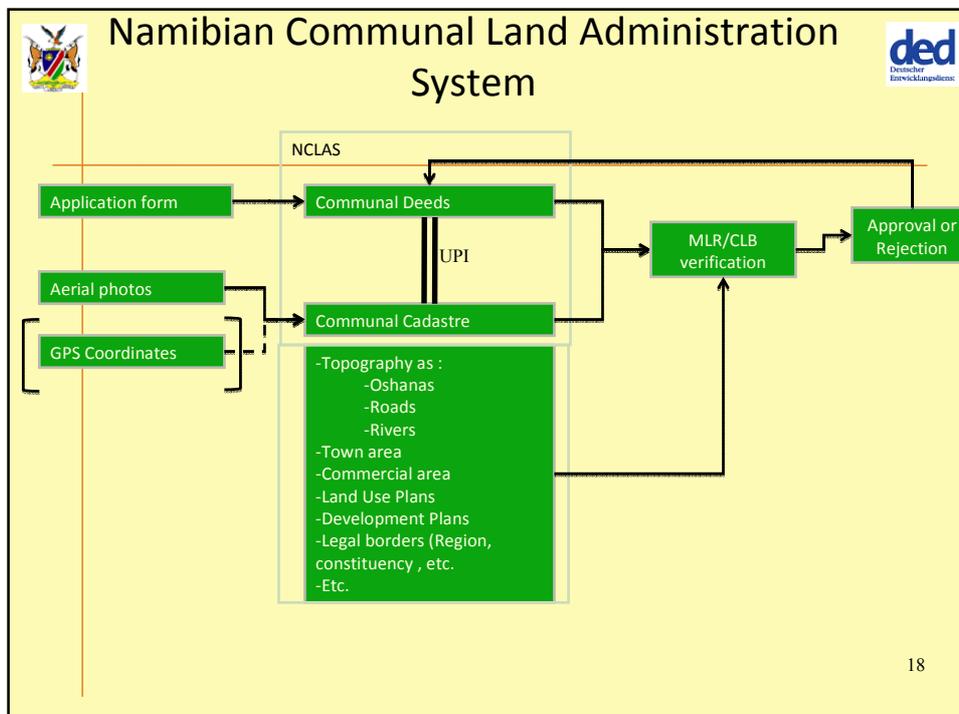
- Easy information retrieval
- Incorporate a unique parcel identifier
- Secure storage

METHODS USED TO IMPROVE THE LAND ADMINISTRATION

- A new system named Namibian Communal Land Administration System (NCLAS) was developed
 - Similar to the Communal Deeds and Cadastre
 - The NCLAS consists of two parts
 - Communal Deeds, MS Access
 - Communal Cadastre , ArcGIS Geodatabase
- New Unique Parcel Identifier (UPI)
- Creation of output automated
 - Certificates and diagrams
 - Register and index

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NCLAS OUTPUTS

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NCLAS OUTPUTS

Cell Name	Village	UPI	Certificate number	Constituent	Start date	End date	Type of right	Land use approval	Area (ha)	Fee paid	Governance	First name	ID type	ID number	Conditions	Restrictions	
Amatwe	Amatwe		Amatwe0001	094HCL-CU0001	07 Jun 05		New Customary Land Right	Farming (Crop) and Residential Unit				Simon	Large Namibia	National ID card	0020210170		
			Amatwe0002	094HCL-CU0002	07 Jun 05		Existing Customary Land Right	Farming (Crop) and Residential Unit				Nikola	German	National ID card	0002011010		
			Amatwe0004	094HCL-CU0004	07 Jun 05		Existing Customary Land Right	Farming (Crop) and Residential Unit				Mika	Tswana	National ID card	0101000408		
			Amatwe0005	094HCL-CU0005	19 Sep 05		Existing Customary Land Right	Farming (Crop) and Residential Unit				Amehel	Arabic	National ID card	0101011017		
			Amatwe0007	094HCL-CU0007	07 Jun 05		Existing Customary Land Right	Farming (Crop) and Residential Unit				Jordan	Morita Tswana	National ID card	0807110020		
			Amatwe0009	094HCL-CU0009	06 Jul 05		Existing Customary Land Right	Farming (Crop) and Residential Unit				Gabriel	Arabic	National ID card	0104011002		
			Amatwe0010	094HCL-CU0010	07 Jun 05		Existing Customary Land Right	Farming (Crop) and Residential Unit				Phofusa	Arabic	National ID card	0010110100		
			Amatwe0011	094HCL-CU0011	07 Jun 05		Existing Customary Land Right	Farming (Crop) and Residential Unit				Johnnes	Nakobena	National ID card	0011100023		
			Amatwe0012	094HCL-CU0012	07 Jun 05		Existing Customary Land Right	Farming (Crop) and Residential Unit				Gabriel	Rwandat	Date of Birth	19-08-1944		
			Amatwe0013	094HCL-CU0013	07 May 05		Existing Customary Land Right	Farming (Crop) and Residential Unit				Asser	Phanibe	National ID card	04010110020		
			Amatwe0014	094HCL-CU0014	07 Jun 05		Existing Customary Land Right	Farming (Crop) and Residential Unit				Elber	Arabic	National ID card	0102011010		
			Amatwe0018	094HCL-CU0018	07 Jun 05		Existing Customary Land Right	Farming (Crop) and Residential Unit				Lorah	Vidua	National ID card	0020100110		
			Amatwe0019	094HCL-CU0019	24 Jun 05		Existing Customary Land Right	Farming (Crop) and Residential Unit				Mapepe	Johnnes	National ID card	0101010010		
			Amatwe0020	094HCL-CU0020	07 Jun 05		Existing Customary Land Right	Farming (Crop) and Residential Unit				Edwige	Petua Pavia	National ID card	0008110001		
			Amatwe0021	094HCL-CU0021	07 Jun 05		Existing Customary Land Right	Farming (Crop) and Residential Unit				Maria Lou	Arabic	National ID card	0110100023		
			Amatwe0022	094HCL-CU0022	07 Jun 05		New Customary Land Right	Farming (Crop) and Residential Unit				Albus	Osikao	National ID card	0110100020		
			Amatwe0023	094HCL-CU0023	07 Jun 05		Existing Customary Land Right	Farming (Crop) and Residential Unit				Nangitso	Evetha	National ID card	0004100027		
			Amatwe0024	094HCL-CU0024	07 Jun 05		New Customary Land Right	Farming (Crop) and Residential Unit				Nouyatsah	Leto	National ID card	0105000034		
			Amatwe0025	094HCL-CU0025	07 May 05		Existing Customary Land Right	Farming (Crop) and Residential Unit				Isango	Auguste	National ID card	0002100020		
			Amatwe0026	094HCL-CU0026	07 Jun 05		Existing Customary Land Right	Farming (Crop) and Residential Unit				Phanago	Phelus	National ID card	0010100006		
			Amatwe0028	094HCL-CU0028	07 Jun 05		Existing Customary Land Right	Farming (Crop) and Residential Unit				Phileson	Phelus	National ID card	0401000008		
			Amatwe0027	094HCL-CU0027	08 Jun 05		Existing Customary Land Right	Farming (Crop) and Residential Unit				Isango	Joel Shilob	National ID card	0008000035		
			Amatwe0029	094HCL-CU0029	08 Jun 05		Existing Customary Land Right	Farming (Crop) and Residential Unit				Usanga	Mona Ngano	National ID card	00020110021		
			Amatwe0030	094HCL-CU0030	08 Jun 05		New Customary Land Right	Farming (Crop) and Residential Unit				Nakobe	Esme Leto	Date of Birth	07-05-1982		
			Amatwe0032	094HCL-CU0032	08 Jun 05		Existing Customary Land Right	Farming (Crop) and Residential Unit				Njumbali	Imeni	National ID card	0110001004		
			Amatwe0033	094HCL-CU0033	08 Jun 05		Existing Customary Land Right	Farming (Crop) and Residential Unit				Theodor	Frans	National ID card	0001100008		
			Amatwe0034	094HCL-CU0034	08 Jun 05		Existing Customary Land Right	Farming (Crop) and Residential Unit				Oreweus	Abner	National ID card	0402010010		
			Amatwe0035	094HCL-CU0035	08 Jun 05		Existing Customary Land Right	Farming (Crop) and Residential Unit				Oreweus	Thomas	National ID card	0302000005		
			Amatwe0036	094HCL-CU0036	08 Jun 05		New Customary Land Right	Farming (Crop) and Residential Unit				Isango	Esme Nanyika	National ID card	0102000009		
			Amatwe0037	094HCL-CU0037	08 Jun 05		New Customary Land Right	Farming (Crop) and Residential Unit				Mute	Joanna	National ID card	0009100004		
			Amatwe0038	094HCL-CU0038	08 Jun 05		Existing Customary Land Right	Farming (Crop) and Residential Unit				Salvius	Phelus	National ID card	0020100010		
			Amatwe0039	094HCL-CU0039	08 Jun 05		Existing Customary Land Right	Farming (Crop) and Residential Unit				Isango	Helen	National ID card	00020110009		
			Amatwe0040	094HCL-CU0040	08 Jun 05		Existing Customary Land Right	Farming (Crop) and Residential Unit				Katelo	Barbara	National ID card	0009100003		
			Amatwe0041	094HCL-CU0041	08 Jun 05		Existing Customary Land Right	Farming (Crop) and Residential Unit				Isango	Asia	National ID card	00020110008		
			Amatwe0042	094HCL-CU0042	08 Jun 05		Existing Customary Land Right	Farming (Crop) and Residential Unit				Elber	Leonard	National ID card	0302000118		

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NCLAS OUTPUTS

First Name: Shaanika, Surname: Aamwama ID card: 2107111100095, Date of Birth: 11/07/2021 Nationality: Namibian, Citizen of: Namibian Marital Status: MARRIED Spouse: Josefina Nandigolo Ivulika Address: Iikokola, , Parcel: IikkPN000023	First Name: Elikan, Surname: Abed ID card: 55081800473, Date of Birth: 18/08/1955 Nationality: Namibian, Citizen of: Namibian Marital Status: MARRIED Spouse: Petrina Amaambo Address: Onngilamo, , Parcel: Onnglm000036
First Name: Joel, Surname: Abed ID card: 3903031100991, Date of Birth: 03/03/1939 Nationality: Namibian, Citizen of: Namibian Marital Status: MARRIED Spouse: Hinanawo Gabriel Address: Omaandi, , Parcel: Omaand000028	First Name: Kamska Avula, Surname: Abed ID card: 68041200133, Date of Birth: 12/04/1968 Nationality: Namibian, Citizen of: Namibian Marital Status: UNMARRIED Spouse: Address: Omaandi, , Parcel: Omaand000073

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CONCLUSIONS ON NCLAS

- Faster than the old process
- Quality of output is better
- Uniform
- Data is now entered in a proper database
- Data is Accessible and secured

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ROADMAP

- 2009-2013
- Register all (ca 300.000) existing land rights before
- Orthophotos and Quickbird
- Project management team
- Outsourcing
- Communication campaign
- NCLAS Central database developed
- Maintenance structure

CHALLENGES

- The process of creating Awareness about the new law
- To register all applications for existing land rights
- Limited human and financial resources
- Maintenance of the databases and IT infrastructure
- Amending the law to accommodate regional differences
- Transferring more responsibilities to lower authorities
- Getting the right people at the right places



Thank you for
your attention

Time for
questions



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