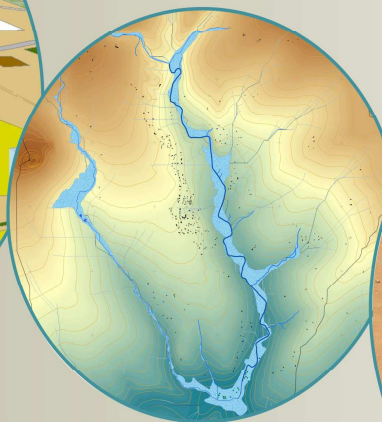


PRIMJENA GIS-A U RAZVOJU RURALNIH PODRUČJA



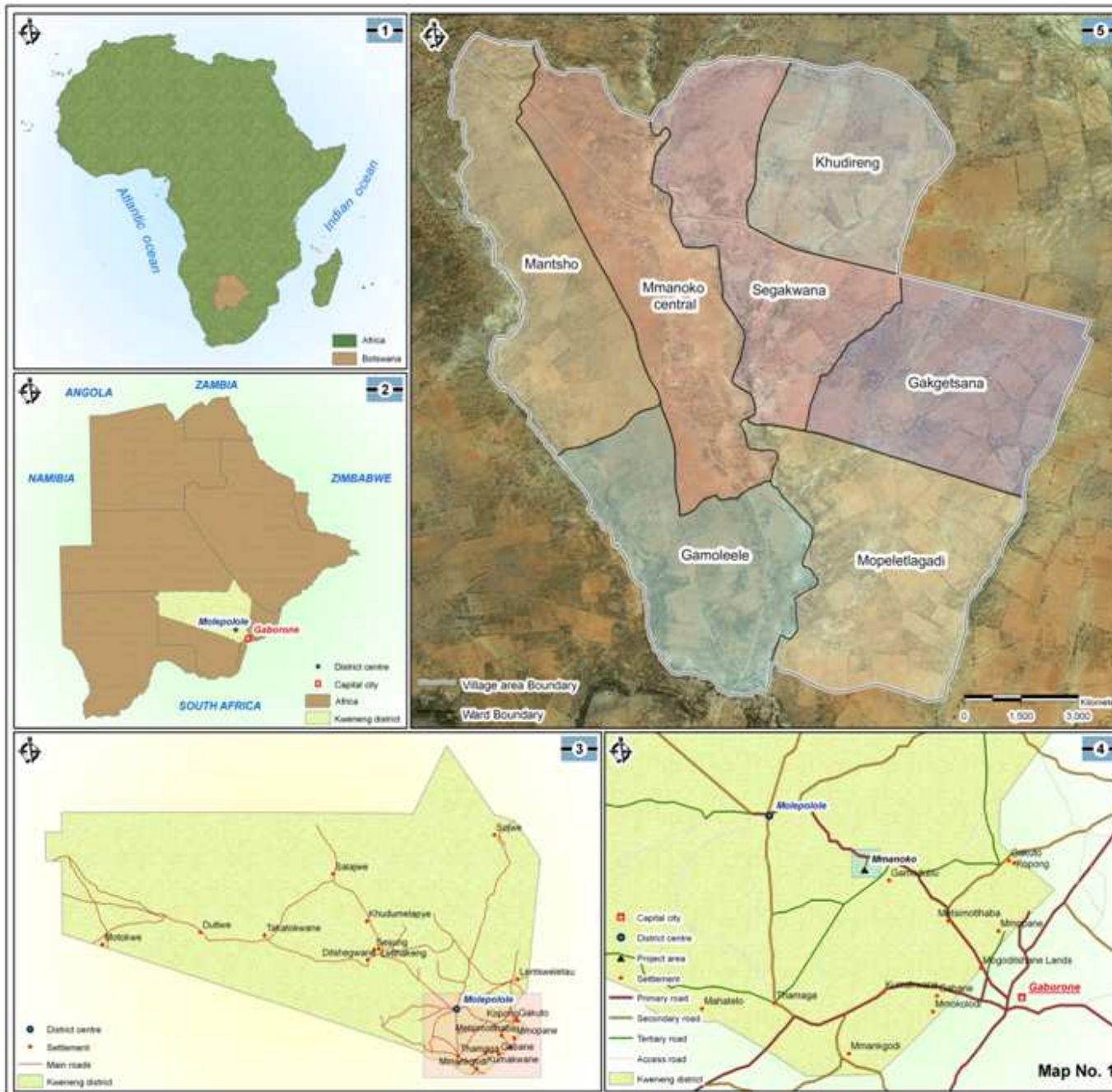
PRIMJER: MMANOKO (BOTSWANA)

Sveučilište u Zadru, Odjel za geografiju
Ante Šiljeg, prof.



Zadar, 2010.





MMANOKO DEVELOPMENT PLAN



GEOGRAPHICAL SETTING



PROJECT PHASE: SURVEY AND ANALYSIS

URP 401 - RURAL LAND USE PLANNING

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Ipeleng Gosenyang

Thato Mothaping
Lesego Makano
Queenster Appiah
Leungo Mogotetsi
Othata Kgotsana
Lee Gwang
Kgosi Maule

STUDIO PROJECT CLIENT:

MMANOKO VILLAGE

Village Community
Village Development Committee

KWENENG DISTRICT

Kweneng District Council
P/Bag 5091 Molepolole, Botswana
Kweneng Land Board
P/Bag 506, Molepolole, Botswana

DATA AND TECHNOLOGY

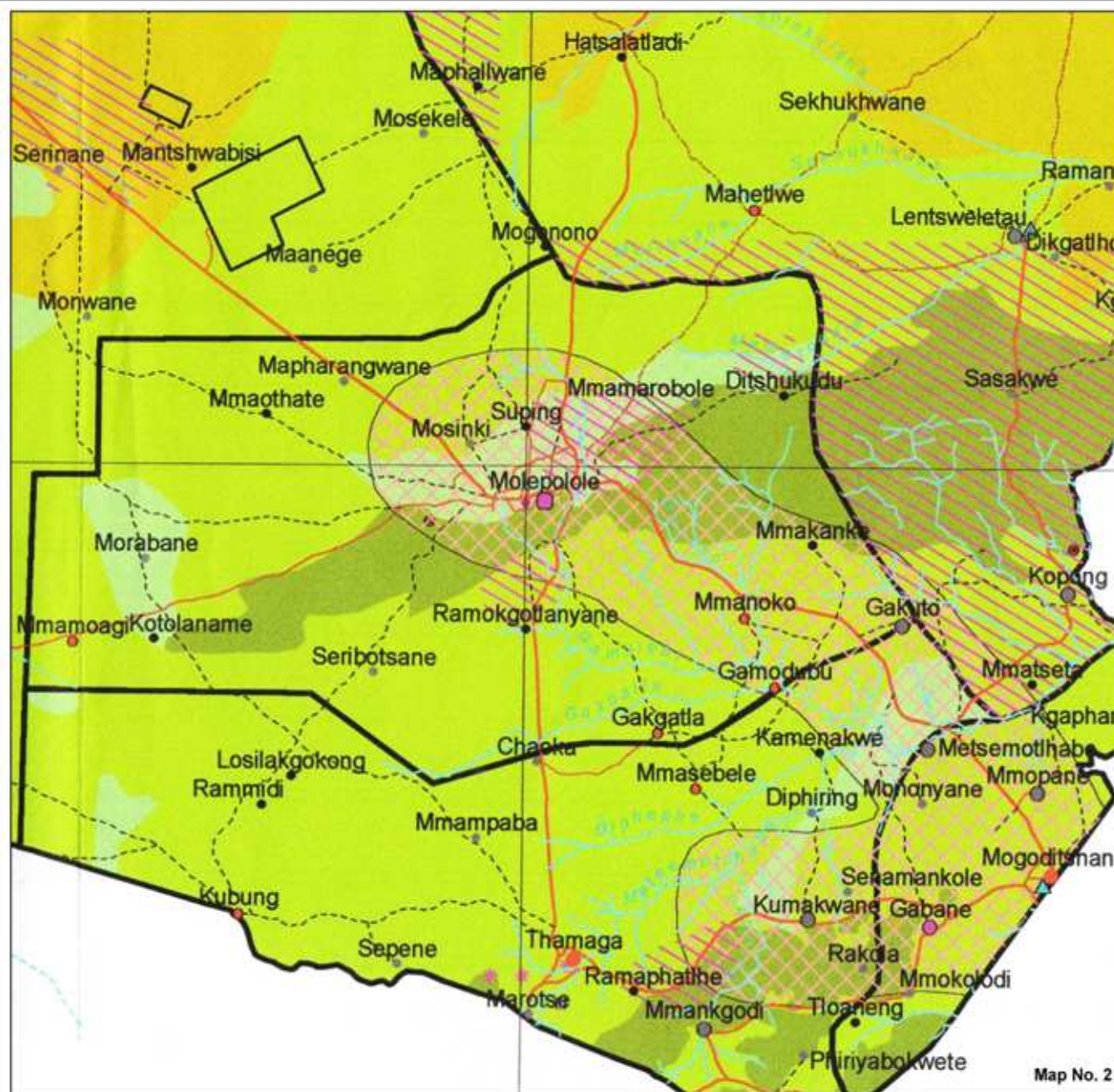
SOURCE:

Botswana National Atlas 2001
Google Earth aerial photo 2006

GIS SOFTWARE:

ArcGIS Desktop and Applications

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Map & Text: University of Zadar. All rights reserved.



MMANOKO DEVELOPMENT PLAN

DEVELOPMENT SETTING

- ### Settlements

- Primary
 - Secondary
 - Tertiary I
 - Tertiary II
 - Tertiary III
 - Tertiary IV
 - Settlements
- Δ Settlement to be Upgraded

- ### Monuments & Sites

- Archaeological
- Archaeological & Scenic
- Cultural & Architectural
- Geological & scenic
- Historical
- Historical & Cultural
- Historical, natural & scenic, cultural
- Natural & Scenic
- Scenic
- Tourist & cultural

- Roads

- Main Road
— Secondary Road
— Gravel Road
— Tracks

- Rivers

-  Seasonal
 Fossil
 Development belt
 Sub Land Board Boundaries

- ### Land Use Zones

- Land Use Zones
- Arable Agriculture
 - Pastoral Agriculture
 - Mixed Use
 - Game Reserve
 - Conservation
 - Wildlife Management Areas

- ### Secondary Use

-  Potential Fencing Policy Areas
-  CBNRM Activities
-  Wellfield
-  Ranching
-  Potential NAMPADO Areas



PROJECT PHASE: SURVEY AND ANALYSIS

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Shatho Mathangwane
Boipuso Marope
Lesego German
Ratanang Rabelago
Karabo Ramontshony
Iseleng Gosenyang

TS:

Theresa M. Smith

Franklin D. Roosevelt
Library

University of
Glasgow

George Moyo

Othello Kigosi

Author: Lee Granger
 Email: lee@granger.com

STUDIO PROJECT CLIENT:

MMANOKO VILLAGE

WINDFORD VILLAGE
 11000 Windford Village
 Windford, Connecticut 06095

Village Community
Village Development Committee

Village Development Committee
village@abn.co.uk 01223 353999

KWENENG DISTRICT

Wavening District Council

Pflanz. 005 Molekole. Entwurf.

Evening Land Board
P.O. Box 101, Melbourne, Victoria 3000

DATA AND TECHNOLOGY

SOURCE:

SOURCE:
Estimate National Ales 2001

Copyright © 2001
Geacius (PTY) LTD

DATE: (PT) 30

GIS SOFTWARE:
ArcView Desktop and

ArcGIS Desktop and ArcGIS Online

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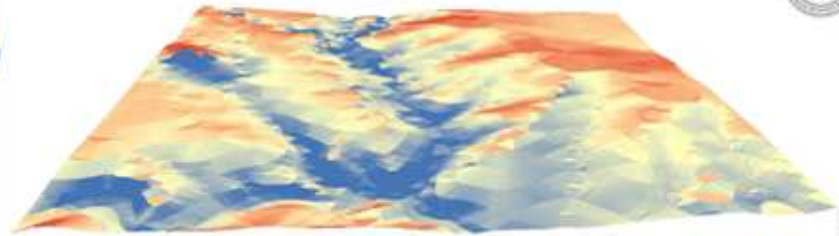
SATELLITE MAP



MMANOKO 3D VIEWS



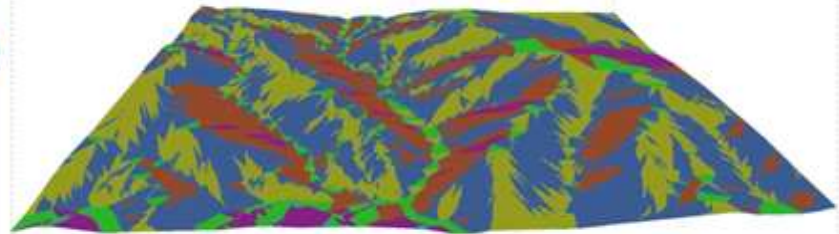
SOLAR RADIATION



VILLAGE ROADS AND WARDS



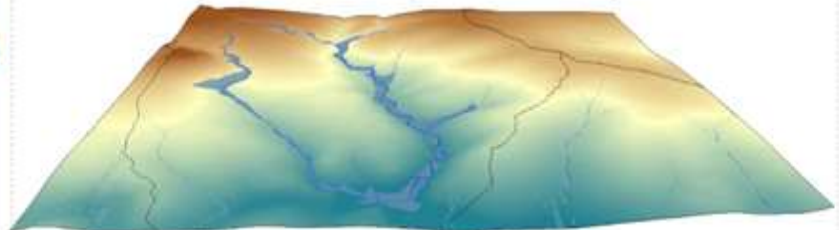
ASPECT



ELEVATION



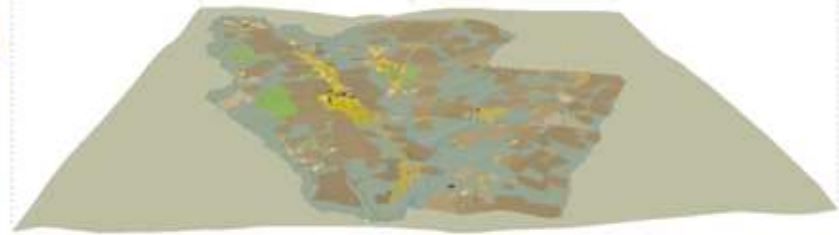
HYDROLOGY

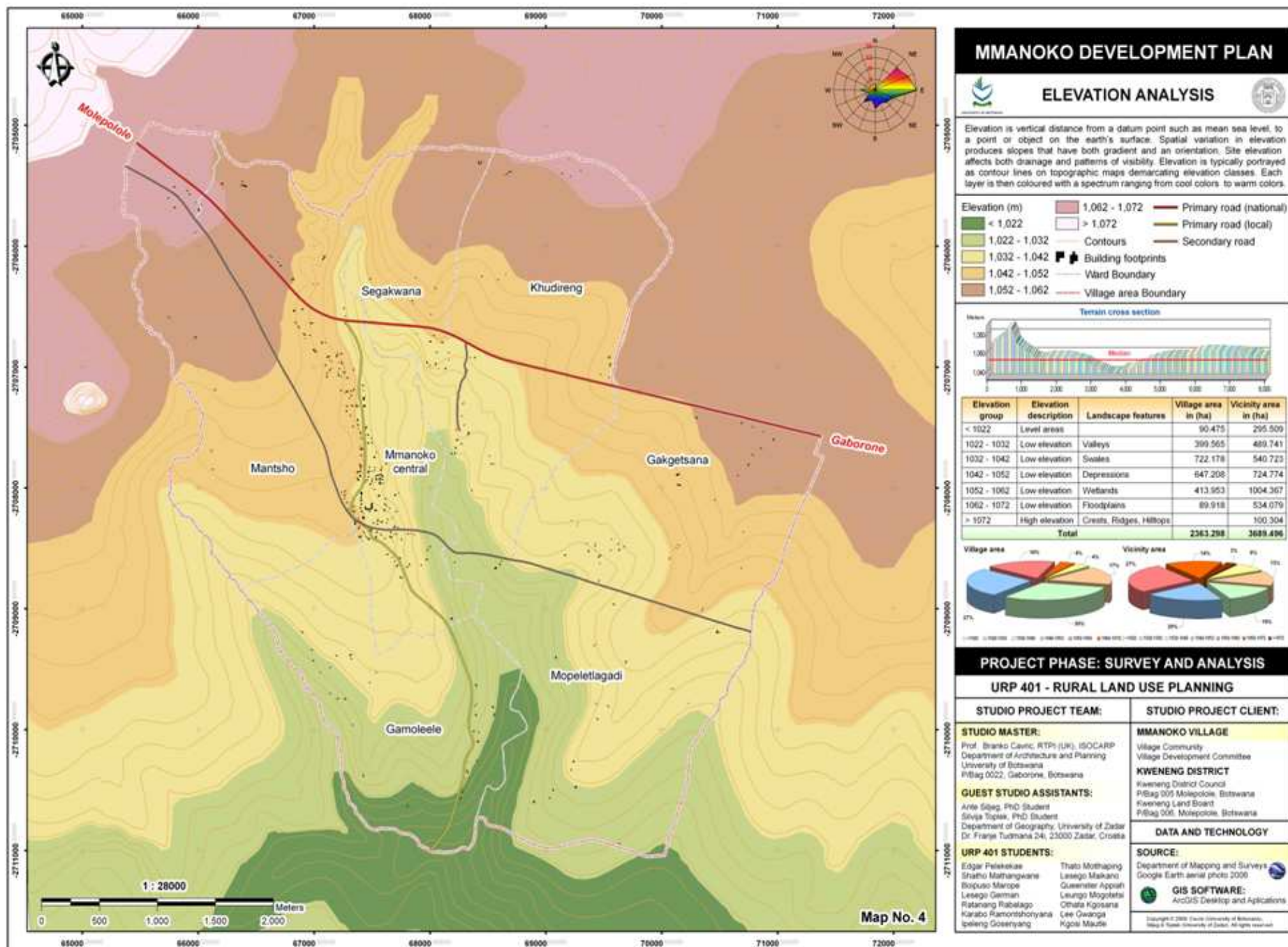


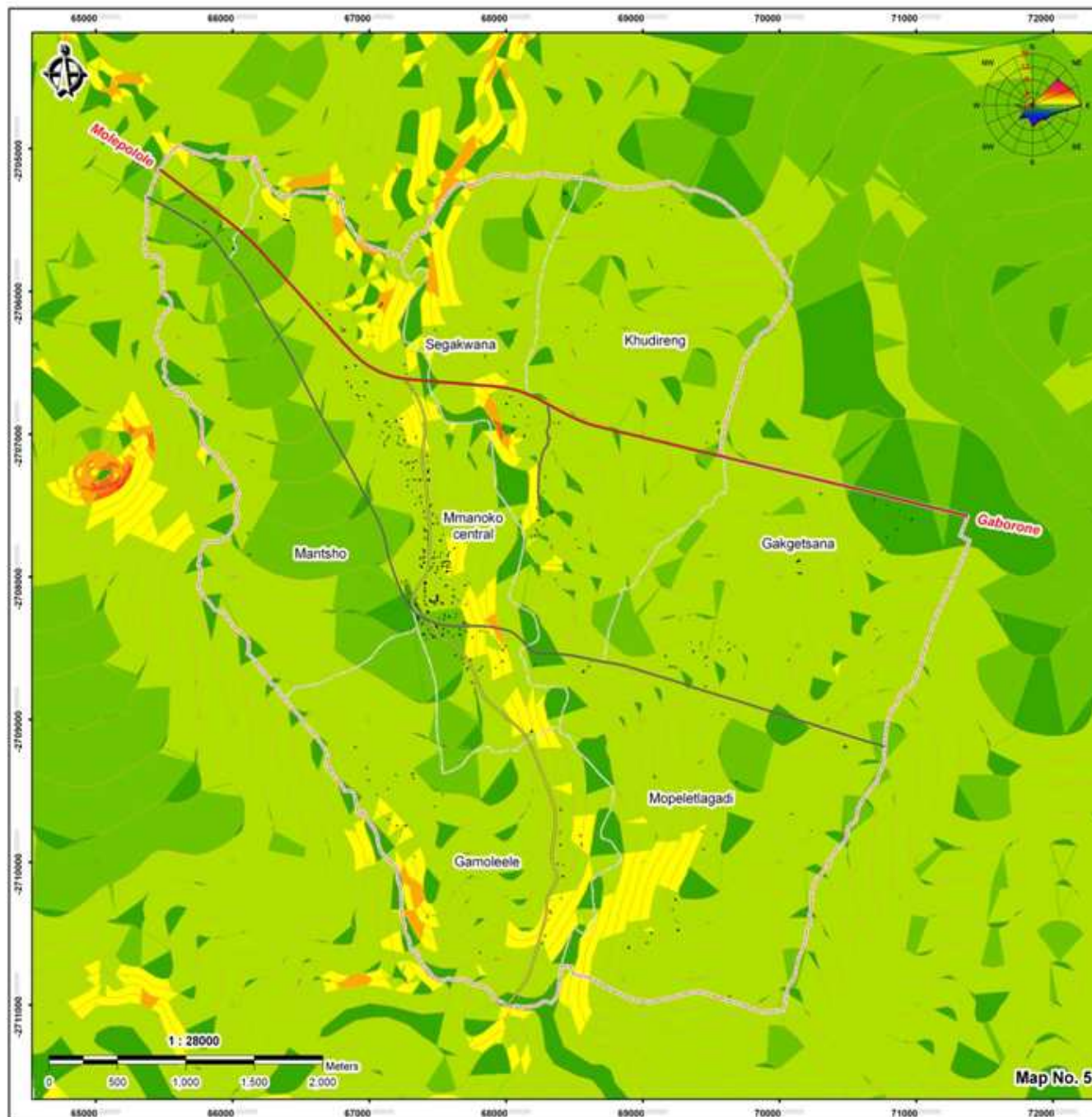
SLOPE



LAND USE



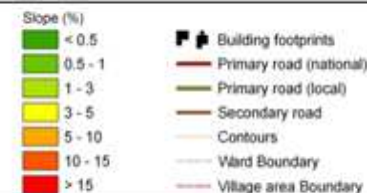




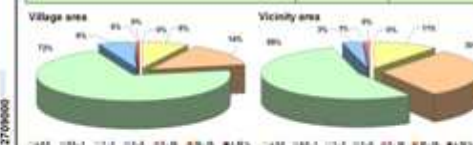
MMANOKO DEVELOPMENT PLAN

SLOPE ANALYSIS

Slope is defined as the steepness of the terrain. It is usually expressed in terms of percent that shows the change of vertical elevation between two points. By classifying the ground slopes of an area. A slope analysis commonly consists of a slope map on which the terrain is divided into a number of distinct slope categories (sub areas) within which certain land uses should be avoided if possible because of high development costs and environmental threats.



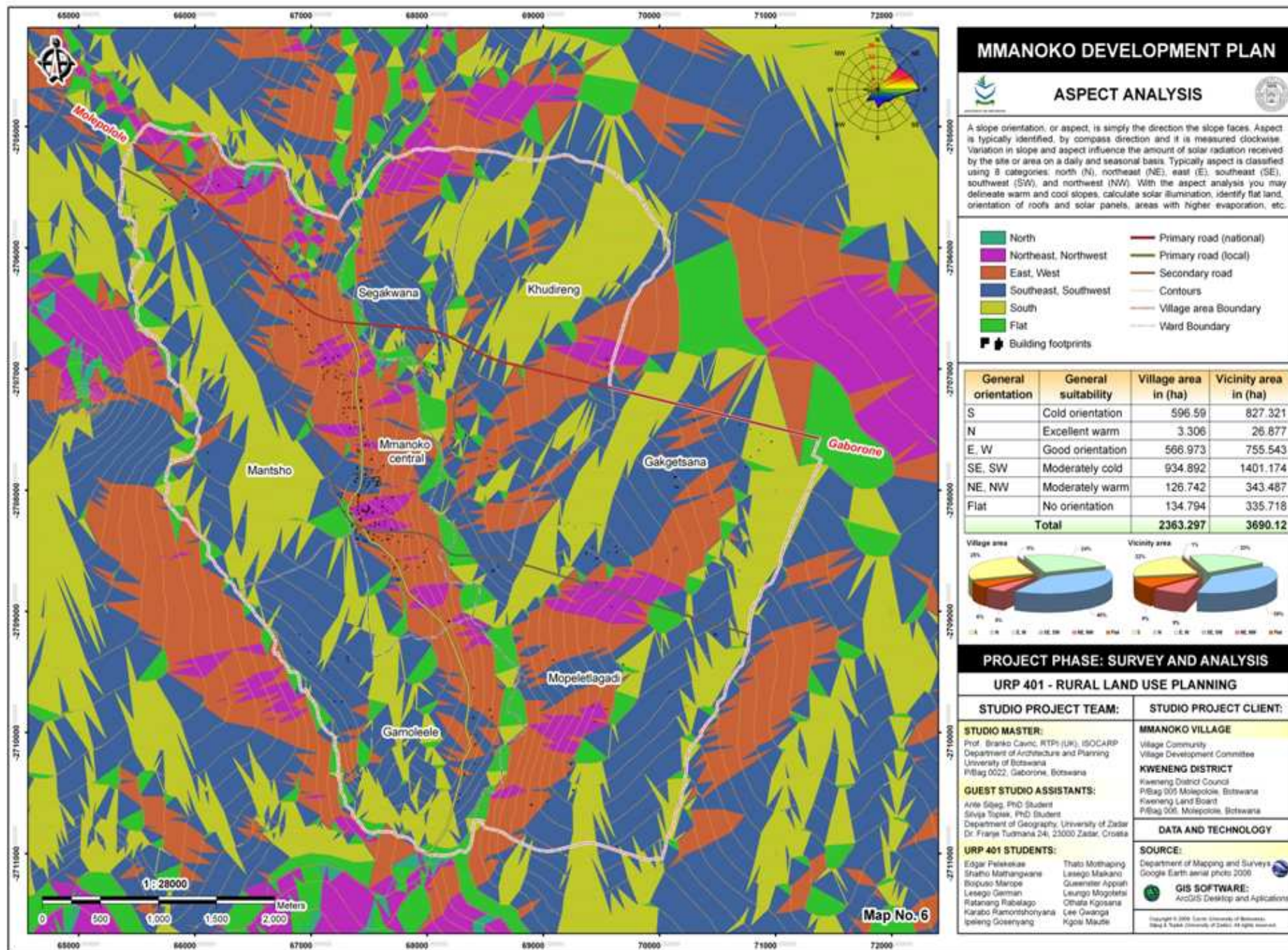
Slope in %	General topography	General suitability	Village area in (ha)	Vicinity area in (ha)
< 0.5	Flat	No feasible	183.574	401.053
0.5 - 1	Nearly flat	No limitation	339.556	1112.158
1 - 3	Gently sloping	Desirable	1690.872	2026.275
3 - 5	Gently undulating	Moderate	137.776	124.178
5 - 10	Undulating	Fair to good	11.08	22.297
10 - 15	Strongly sloping (rolling)	Unsuitable	0.432	3.094
> 15	Steeply sloping (hilly)	Undesirable	0.006	1.159
Total			2363.298	3690.214

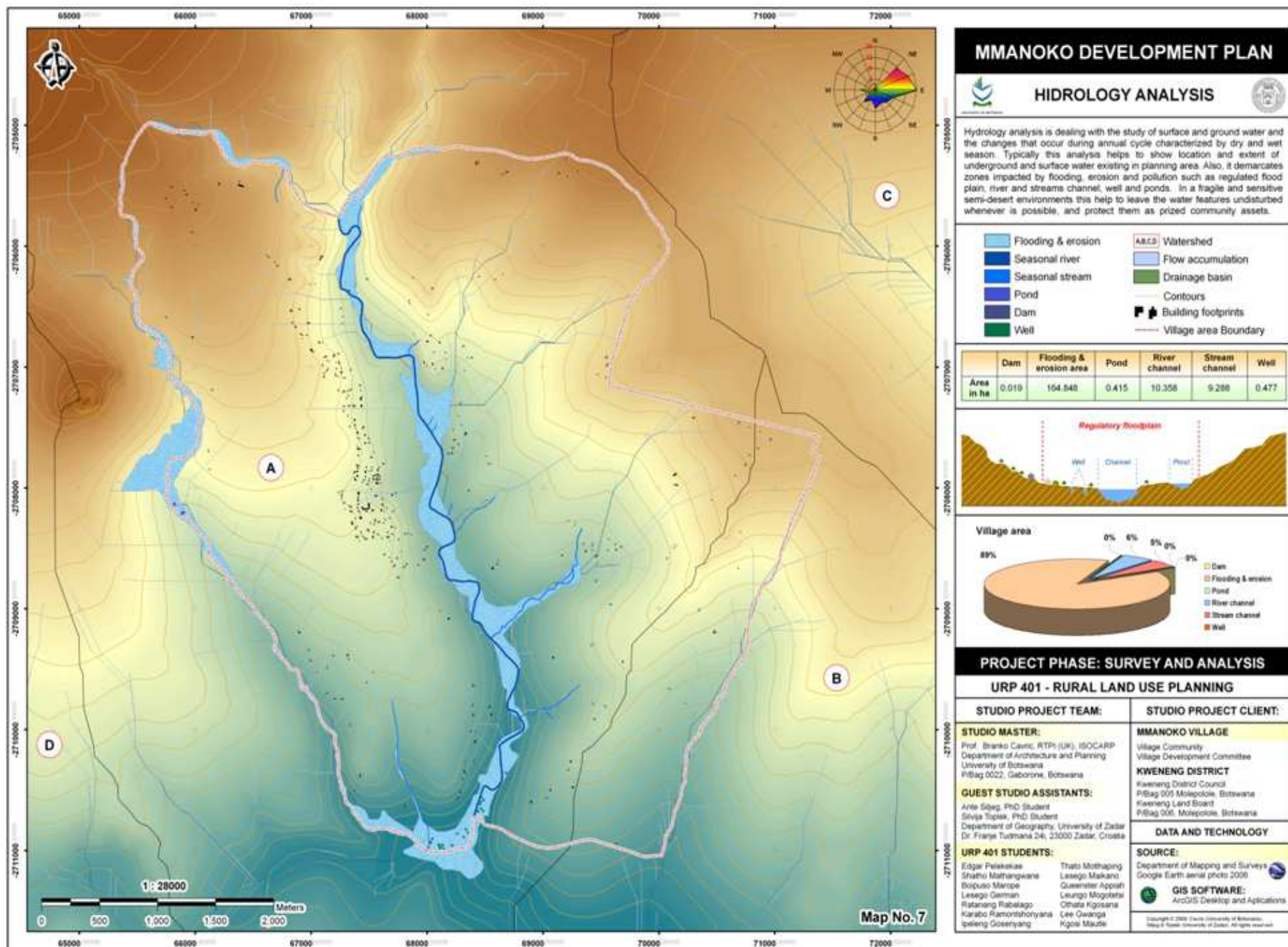


PROJECT PHASE: SURVEY AND ANALYSIS

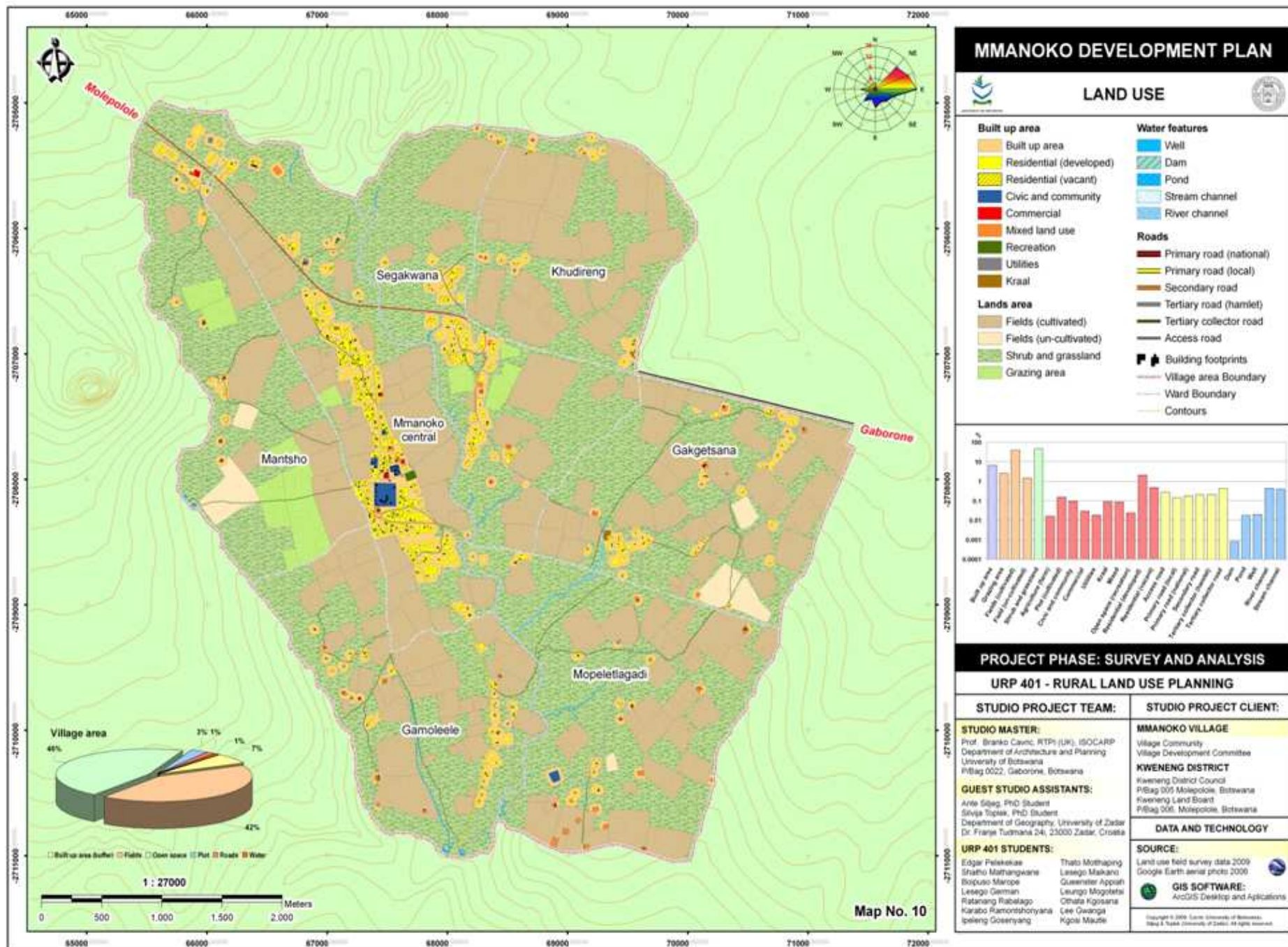
URP 401 - RURAL LAND USE PLANNING

STUDIO PROJECT TEAM:	STUDIO PROJECT CLIENT:
STUDIO MASTER: Prof. Branko Covic, RTP (UK), ISOCARP Department of Architecture and Planning University of Botswana P/Bag 0022, Gaborone, Botswana	MMANOKO VILLAGE Village Community Village Development Committee KWENENG DISTRICT Kweneng District Council P/Bag 001 Molepolole, Botswana Kweneng Land Board P/Bag 006, Molepolole, Botswana
GUEST STUDIO ASSISTANTS: Anle Selag, PhD Student Siviya Topole, PhD Student Department of Geography, University of Zadar Dr. Franje Tudman 24, 23000 Zadar, Croatia	DATA AND TECHNOLOGY SOURCE: Department of Mapping and Surveys Google Earth aerial photo 2009 GIS SOFTWARE: ArcGIS Desktop and Applications
URP 401 STUDENTS: Edgar Pelekeae Shatso Mathangwane Boipuso Marope Lesego German Rikareng Rabalego Karabo Ramonothonyana Iseleng Gosenyang Thato Mothaping Lesego Makano Gwenter Appah Leungo Mogotetsi Oritso Kgosiwa Lee Gwagwa Kgosi Mautle	Copyright © 2009. Source: University of Botswana. Map & Layout: University of Zadar. All rights reserved.



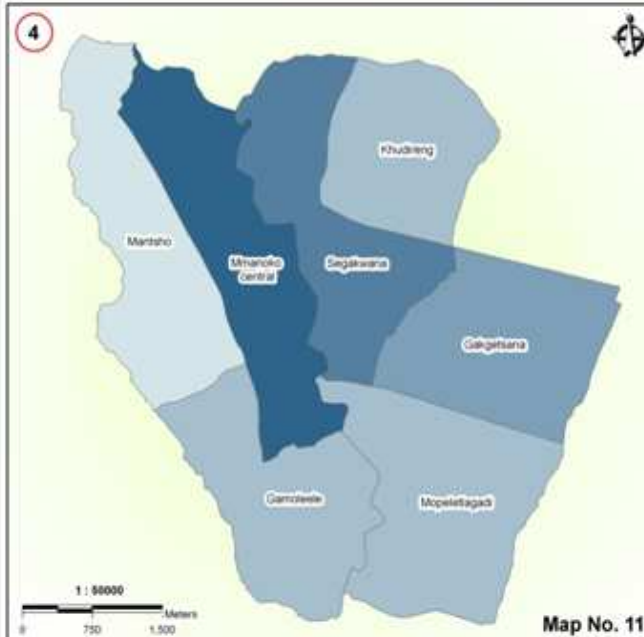
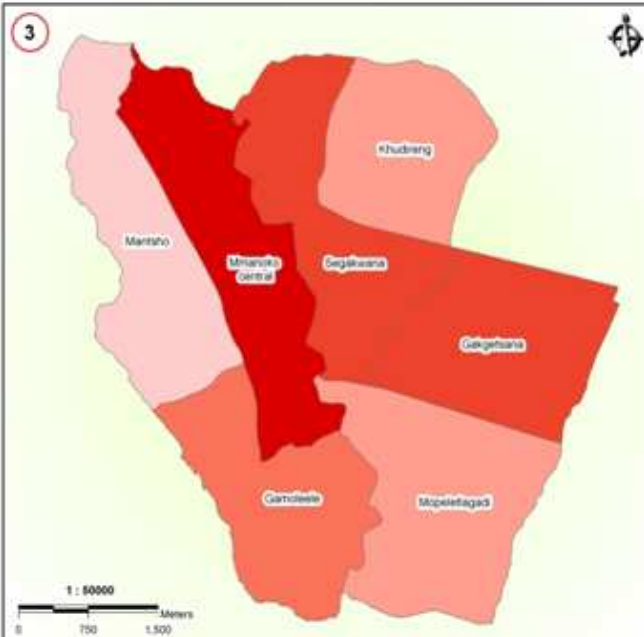
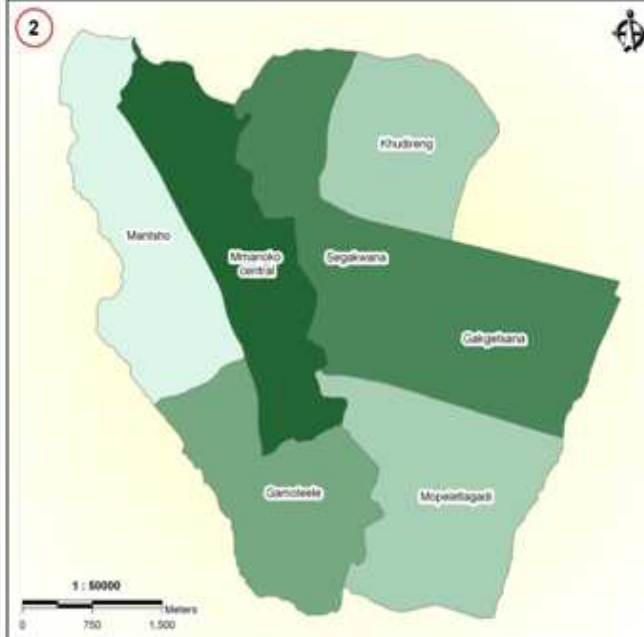












Map No. 11

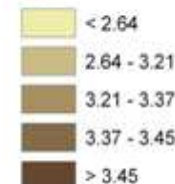
MMANOKO DEVELOPMENT PLAN



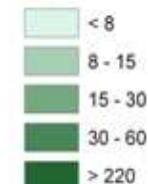
POPULATION ANALYSIS



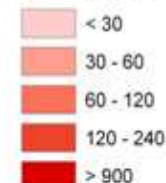
1 Area (km²)



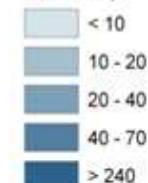
2 Households



3 Population



4 Population density



PROJECT PHASE: SURVEY AND ANALYSIS

URP 401 - RURAL LAND USE PLANNING

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Ratsofeng Rabalago
Karabo Ramonothonyana
Ipeleng Gosenyang

Thato Mothaping
Lasego Makano
Queenster Appiah
Leungo Mogoletsi
Omaro Kgosiwa
Lee Gwangi
Kgosi Maudie

STUDIO PROJECT CLIENT:

MMANOKO VILLAGE
Village Community
Village Development Committee
KWENENG DISTRICT
Kweneng District Council
P/Bag 001 Molepolole, Botswana
Kweneng Land Board
P/Bag 006, Molepolole, Botswana

DATA AND TECHNOLOGY

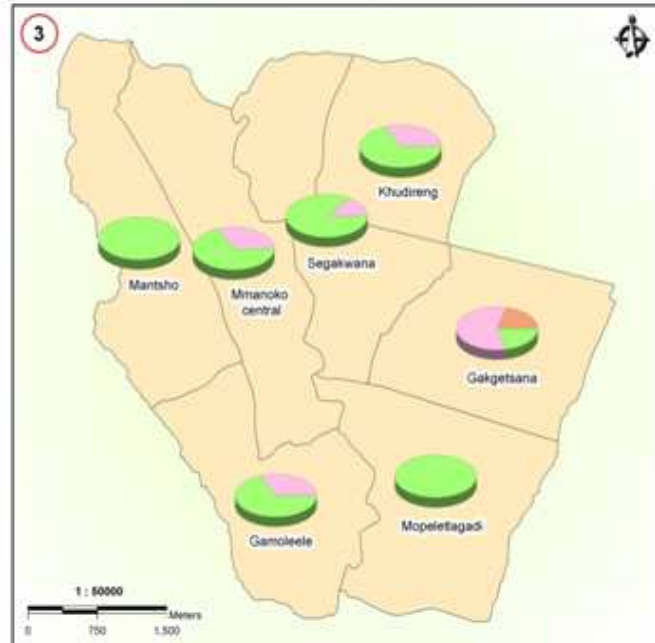
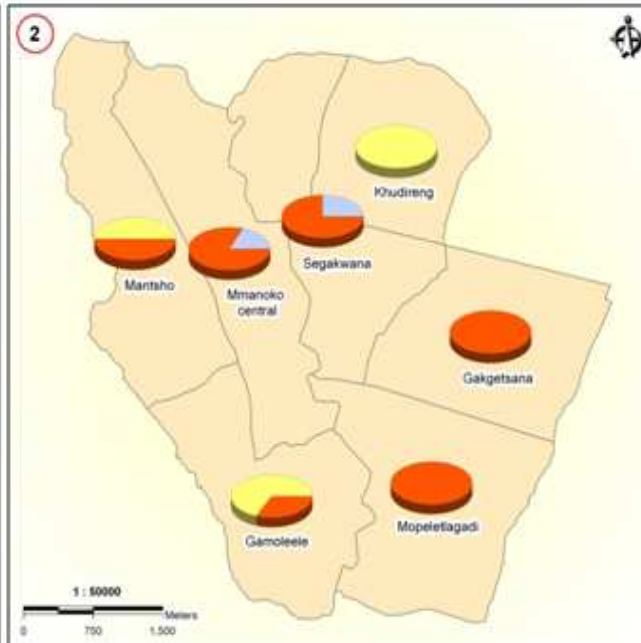
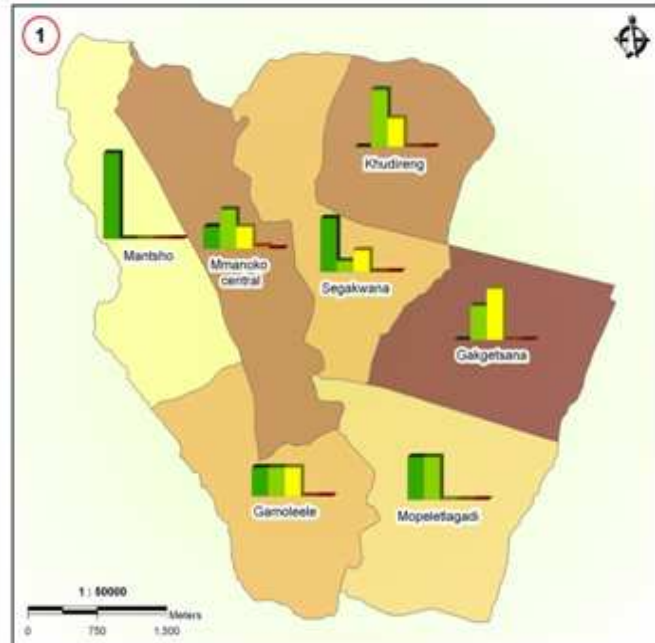
SOURCE:

Land use field survey data 2009
Google Earth aerial photo 2009

GIS SOFTWARE:

ArcGIS Desktop and Applications

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Map & Layout: University of Zadar. All rights reserved.



MMANOKO DEVELOPMENT PLAN



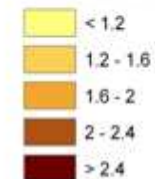
DEVELOPMENT SURVEY



1 Quality of life



Arithmetic mean



— Ward Boundary

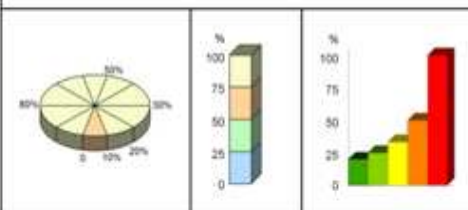
2 Building types



3 Household income



4 Housing tenancy



PROJECT PHASE: SURVEY AND ANALYSIS

URP 401 - RURAL LAND USE PLANNING

STUDIO PROJECT TEAM:

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Karabo Ramontshonyana
Ipeleng Gosenyang

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Lasego Makano
Queenster Appiah
Leungo Mogoletsi
Ophelo Kgosiwa
Lee Gwangi
Kgosi Maudie

STUDIO PROJECT CLIENT:

MMANOKO VILLAGE
Village Community
Village Development Committee
KWENENG DISTRICT
Kweneng District Council
P/Bag 207, Molepolole, Botswana
Kweneng Land Board
P/Bag 206, Molepolole, Botswana

DATA AND TECHNOLOGY

SOURCE:

Land use field survey data 2009
Google Earth aerial photo 2006



GIS SOFTWARE:
ArcGIS Desktop and Applications

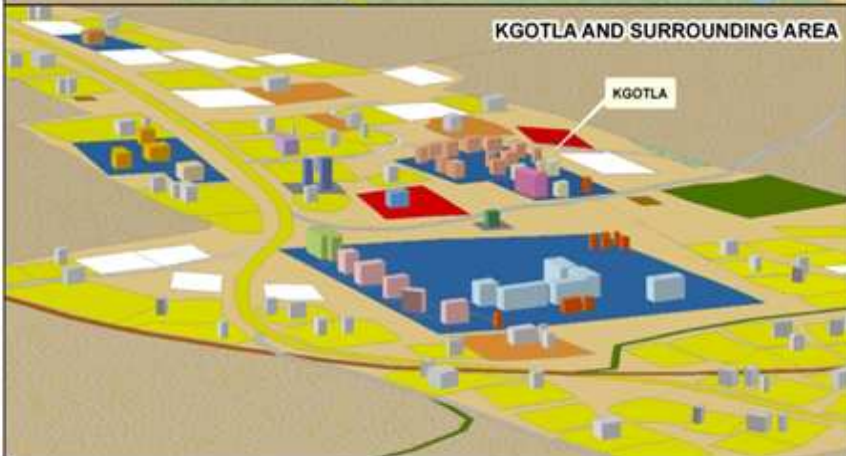
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Map No. 12

MMANOKO CENTRAL WARD



KGOTLA AND SURROUNDING AREA



BUILT ENVIRONMENT 3-D ANIMATIONS



TRADITIONAL HOUSE



TYPICAL HOUSE



MODERN HOUSE





