

EXECUTIVE SUMMARY

This document is the Integrated Land Use Plan for the entire Ngamiland District. Preparation of this Integrated Land Use Plan is in accordance with the requirement of the Tribal Land Act (Cap 32.02, 1968 including the 1993 review of the same act), Draft National Land Policy, Tribal Land Policy (1975) and Wildlife Conservation Policy (1985), for the land authorities to draft Land Use Plans.

The District has not had an Integrated Land Use Plan prepared. There have been land use plans and various management plans prepared for parts of the district and for some controlled hunting areas. More recently a comprehensive Land Use and Land Management Plan was prepared for the Okavango Ramsar Site under the land use planning and management component of the Okavango Delta Management Plan. These various plans are area specific and do not holistically address land use issues at district level. A District Integrated Land Use Plan is a single unifying document that guides and shapes utilisation of land and other resources in the district in a sustainable and equitable manner, based on existing land tenure, land use potential and land utilisation type.

The Ngamiland District Development Plan 6 recommended that the District Settlement Strategy and the Integrated Land Use Plan be prepared during the plan period 2003-2009 hence the Settlement Strategy was prepared in 2003. The major thrust of the Settlement Strategy is to provide a framework to guide equitable distribution of investments in order to achieve a spatially balanced development across the district.

The Integrated Land use Plan provides the framework for developments within the defined study areas that contribute to livelihoods through sustainable resource use. The plan incorporates national and regional policies and is based on the land and natural resource, human potential, and physical infrastructure as assessed through research and fieldwork. District stakeholders provided guidance to the consultants, and the community were closely involved in order to ensure empowerment through ownership of the plan and implementation programme.

The scope of the Ngamiland Integrated Land Use Plan has been to prepare a plan for the remainder of the district outside Ramsar site and harmonise it with the Okavango Ramsar Site Land Use Plan and other land management plans in the district. Preparation of this plan was based on extensive research and stakeholder consultations concerning identified problems regarding land use in the district.

Some of the issues are directly related to demand for land due to population growth, other problems have arisen because of opportunities for land use that have only become apparent and/or economically viable within the period subsequent to the establishment of current land use zones.

The product of this planning exercise is expected to address the conflicts and create environmentally sustainable zones for agricultural development and conservation based on the natural capabilities of the land together with its social demands. Additionally the report makes recommendations on land rezoning where this is found necessary.

The proposed land use zoning and guidelines for resource management and utilisation mainly reflect the requirements of the Terms of Reference, comments from district stakeholders and the valuable inputs by the Reference Group.

The Landboard and targeted communities have been consulted on the planning proposals developed through consultations with the stakeholders and Project Reference Group. The outcomes have been incorporated to compile the Final Plan and Report. During the preparation of this plan, an assessment of current land use practices was done and the following main issues were highlighted;

- i. There is need to improve the level of conservation/protection afforded to the Panhandle region of the Okavango Delta. The recommendations made within the Land Use and Land Management Plan to make the Delta a planning area under the auspices of the Town and Country Planning Act (1977) needs to be followed up.
- ii. There is need to develop an improved marketing strategy to help diversify the tourism market out of the current confines of the Ramsar site to help with economic development and conservation in areas such as around Nxai Pan and NGs4 & 5.
- iii. Cattle areas with high densities of *Mogau* should be converted to game ranches to improve economic efficiency of land use in some areas of Ngamiland
- iv. Game ranches could be used as an additional land use zone placed around the periphery of the Okavango Delta's WMAs. Game ranches would provide an additional buffer between wildlife areas and cattle areas.
- v. Private land owners should be given land user rights over wildlife and game farmers should be encouraged to form large conservancies and work together to ensure the economic and conservation based success of the strategy.
- vi. Recommendations made within the Tourism and CBNRM component of the ODMP report to help ensure communities receive greater benefits from the use of wildlife resources should be up held.
- vii. Where water sources are available and there is no evidence of *Mogau*, cattle expansion should be promoted to encourage the drift of cattle away from the Delta's edge.
- viii. There is need to improve cattle husbandry to help reduce conflict with wildlife with improved herding and kraal design. This should be combined with improved community benefits from the use of wildlife.
- ix. Agricultural activities must be more clearly defined and agriculture should be restricted in areas it has not traditionally occurred
- x. Village development plans are required for villages within WMAs to limit development and subsequent impact on wildlife
- xi. Improved multi-departmental collaboration is required to ensure sound environmental management objectives are upheld
- xii. The Delta should be designated as a planning area, under the auspices of the Town and Country Planning Act (1977).
- xiii. Improved regulations and land use zoning are required to reduce conflict for access to fish resources. To help with this more data is required on fishing practices and fish stocks to create an effective Delta fish management plan.

- xiv. There are very few areas where land is suitable for crop production, due to limiting factors such as soil texture and moisture retention capability, as well as fertility and levels of sodium and other non-suitable salts in the soil. In addition, the use of fertilisers, herbicides and pesticides are not encouraged and/or recommended in the ecologically sensitive Okavango Delta areas, as this would create changes in downstream areas within the wetland area which is an area of important global ecological and biodiversity significance.

In developing the various possible land use and land management scenarios, consideration to a number of factors was made. Among these are aspects that include the socio-economic and livelihood strategies of communities and ecological characteristics of the entire Ngamiland District.

It was found essential to recognize planning approaches adopted in the Okavango Delta Ramsar Site Integrated Land Use Plan (2005-2029) and Ngamiland District Settlement Strategy (2003-2027). Both studies are complementary of each other and it is crucial to ensure continuity of current plans being implemented in the district. The Ngamiland District Integrated Land Use Plan will be the overarching land use planning document for Ngamiland District harmonising current plans in terms of adopted planning approaches, recommendations and management strategies.

After evaluation of the possible land planning and management options, two planning approaches were adopted for developing this plan. The first one is an option that emphasises the use of the natural resource base in making land use zoning decisions, while the second option puts emphasis on compatibility of land uses, wise use of natural resources, and meeting community needs and aspirations

The following are highlights of the land use zoning proposals;

1. Adopt Ramsar Site Integrated Land Use Plan zones

The Ramsar Site Integrated Land Use Plan has been adopted as a component of this District plan. The current zones in the Ramsar plan provide a base to work on and prepare a comprehensive district land use plan. However where necessary recommendations have been made to alter the land use zones within Ramsar site to suit the adopted strategy of this plan.

Details of the Ramsar Site Integrated Land Use Plan proposals are represented independently in the Ramsar Plan while new proposals in this project are contained herein.

2. Proposed Game ranching buffer south and west of the Okavango Delta WMAs;

The proposal attempts to reduce the current high level of human-wildlife conflict around the Delta that even a double veterinary cordon fence will do little to stop. Community attitudes towards wildlife are negative as they gain little direct benefit from the Delta's proximity. Poaching rates are increasing every year and the farms would serve as a well managed buffer between communities and wildlife.

3. Proposed Community WMA in NG4 and Mixed Use Cattle and Wildlife -NG 5

The XaiXai / Aha hills area of NG4 has good potential to be established as a major community based cultural tourism destination, especially when combined with the

geological sites of the Gowhaba caves and the proximity to the Tsumikwe community area of Namibia. Tourists should be encouraged to use the Dobe border post.

The District Inter - Ministerial Technical Committee conducted a Feasibility study for Cattle Ranch Fencing in line with the 1991 New Agrucultural Policy on Fencing, and identified the south of NG5 as suitable and the findings were adopted by Tawana Landboard hence the proposal to mix Cattle and wildlife within NG5. The study recognised the importance of wildlife resources in NG5 and proposed mixed use land use between cattle and wildlife with cattle occupying the southern portion, while the rest of NG5 becomes Wildlife Management Area.

It is recommended that a full Environemntal Impact Assesment be undertaken on the proposal for NG5 ranches in order to develop a comprehensive assessment of environmental and social impacts and to develop mitigations thereof.

4. Proposed Mixed Use Cattle and Wildlife -NG13 & NG 11

NG11 and NG13 are not fulfilling their economic potential. NG11 is not suitable for cattle expansion only. The region should be managed under a joint operation with direct benefits back to the panhandle communities to help compensate them from on-going human-wildlife conflict through Wildlife Utilisation while maintaining cattle.

5. Proposed NG3 game ranching:

The community has suggested the land use could be changed to take advantage of the currently under utilised area because of the occurrence of the poisonous plant Mogau.

Large conservancy style game ranches are proposed to help conserve large wilderness areas and provide economic benefits to otherwise marginal areas.

6. NG49 - Phuduhudu land use and fencing issues

Fencing the southern boundary of NG49 would serve no economically justifiable purpose, and would cut off a critically important wildlife migration. The Phuduhudu community has alternative viable opportunities than reliance on subsistence-level livestock production to make economic returns from both consumptive and non-consumptive use of wildlife within this CHA.

Ministry of Agriculture to finalise decision on continued cattle production within and around Phuduhudu. Proposals have been made to move cattle to the old BLDC ranches close to Makalamabedi and these proposals should be investigated with a view to implementation

7. Development buffer zone from the river

Due to the difficulties experienced by stakeholders in the district, the river development buffer guidelines have been revised to improve clarity and practical implementation. It is recommended that rather than using the indefinable high watermark as a boundary line from which to manage development other, more easily quantified land marks should be used as a point of measurement. For example, future guidelines should recommend taking distance measurements from:

The line of contact between mature (over 5m) riparian woodland, [categorised as tall, woodland with mixed open and closed canopy, of between 4m and 7m in height, dominated by trees such as; Sycamore Fig (Mochaba), Strangler Fig (Moumo), Knobthorn (Mokoba), Raintree (Mopororo), Large Fever Berry (Motsebi), African Mangosteen (Motsaodi), Jackal Berry (Mokutshumo), Sausage Tree (Moporoto) and any of the following;

- i. an open flooded / or dry lagoon (lediba)
- ii. an active flowing river channel
- iii. a permanently flooded floodplain (covered in either papyrus, reeds, grass or sedge)
- iv. a seasonal or historically flooded floodplain regardless of whether it is flooded at the time of site inspection or not (covered in any of the following; papyrus, reeds, grass or sedge and also dryland vegetation such as wild sage and young Acacia trees)

8. Land Use and Wildlife conflict along the pan handle of the Okavango River

Tawana Land Board to review land allocation for arable fields in the pan handle region. No fields to be allocated on or close to elephant pathways

Ministry of Agriculture to review potential for developing land banks (single fenced areas with multiple fields enclosed and allocated by either Dept of Agriculture and/ or Tawana Land Board), covering most fertile soils. Only land within these large, compact areas to be allocated for fields in the future. Developing large amalgamated farming areas will reduce wildlife conflict and spread work effort to protect boundaries across all farmers within the land bank.

9. Panhandle conservation

It is recommended that more focused studies be undertaken on the following:

- Review human pressure on natural resources of the pan handle region over the next 25 year period
- DWNP to conduct research on buffalo movement out of northern part of the Delta and risk of disease transmission to cattle within the pan handle region

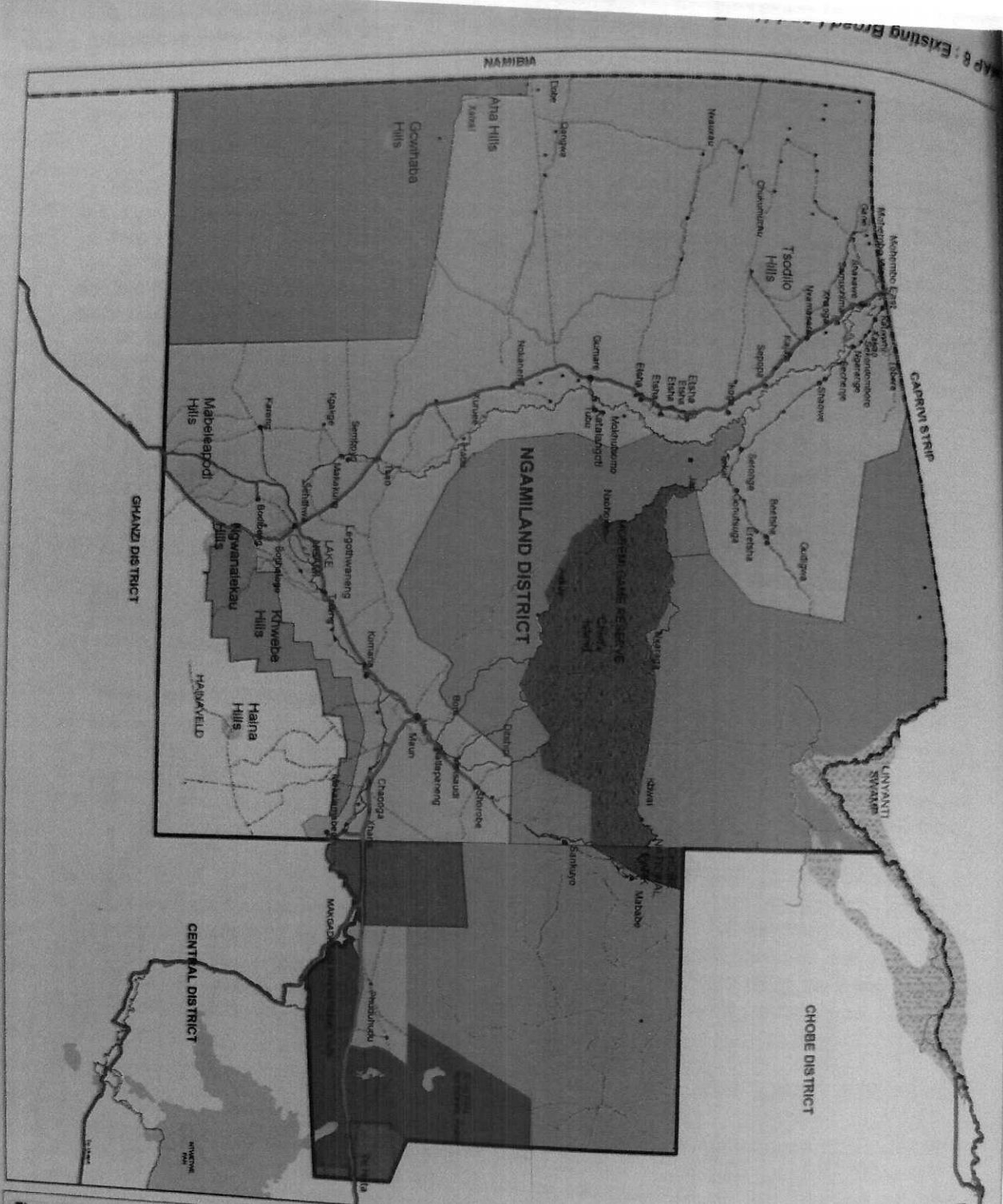
10. Fish Conservation

It is recommended that more focused studies be undertaken on the following:

- To review impact of commercial hook and line fishing within the Delta and also to investigate impact of net fishing to fish populations
- To devise appropriate land use boundaries between commercial, traditional and sport fisheries
- Local communities to be encouraged to be involved in sustainable resource management of fishery resources

11. Management of Settlement Expansion

The following recommendations are made:



STRAHL AND STEINBACHER'S LAND USE ZONES (2004)

EXISTING BROAD LAND USE ZONES

LEGEND

- Major Village
- Village
- Settlement
- Hills
- Road Type
 - Turred Road
 - Gravel Road
 - Track
- Rivers
- Fossil rivers
- International Boundary
- Project Area
- Swamp
- Salt Pans
- BLDC Ranch
- Game Reserve
- NPWD-Fencing Component Ranches
- National Park
- Pastoral/Viable-Residential
- Wildlife Management Area

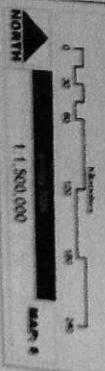
DATA SOURCES

Base data revised and updated from the Dist Geographic map sheet series using ArcInfo 8 and ArcView 3. National Settlements Policy Brief (2001)

Map compilation: FTM Systems (Pty) Ltd
Map Editing: Spatial Dynamics

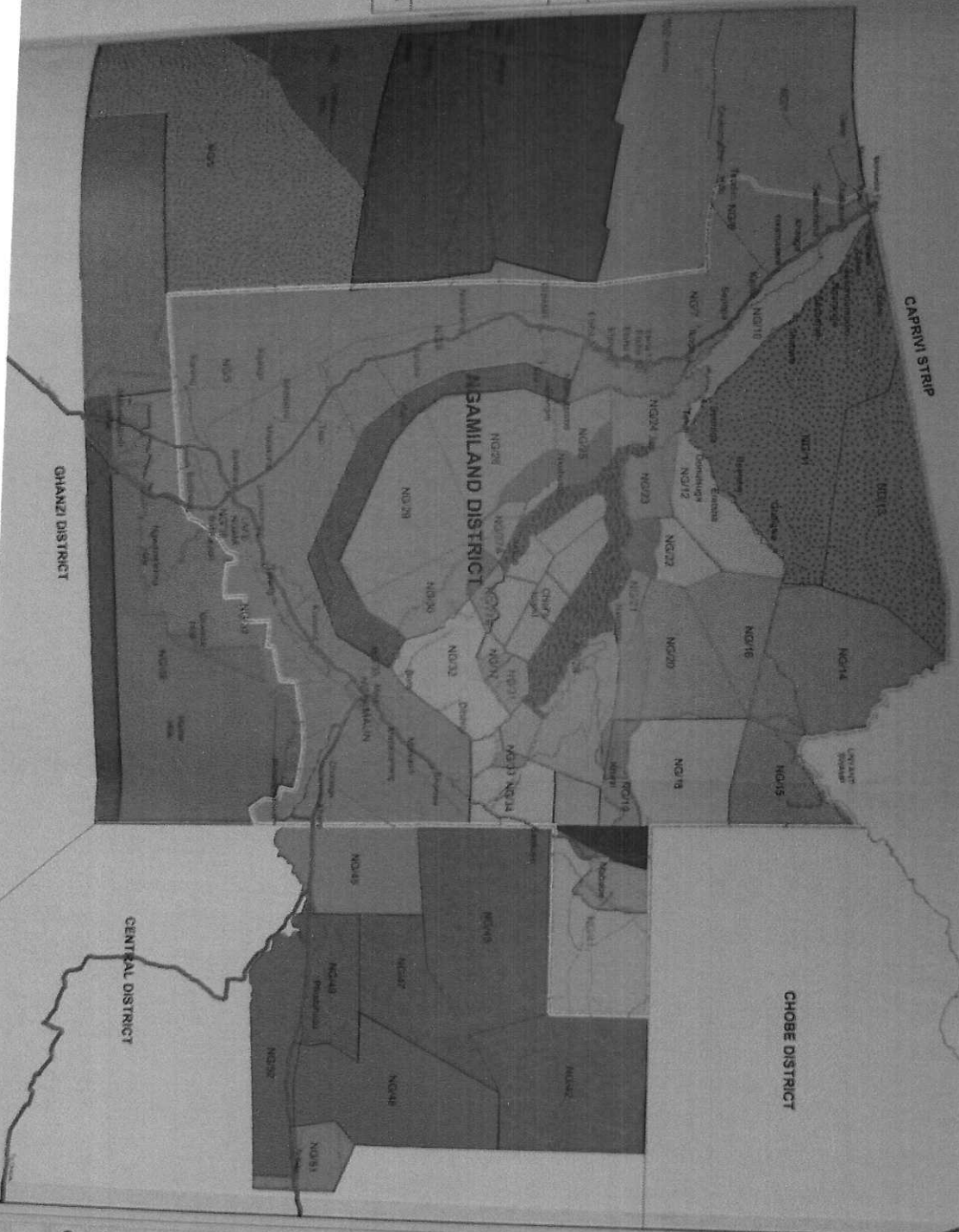
CLIENT: Department of Lands

CONSULTANT: Landtek Solutions



NGAMILAND INTEGRATED LANDUSE PLAN
(2008)

Recommended Ngamiland Land Use Plan



LEGEND

Settlement Type

- Major Village
- Village
- Settlement

Road Type

- Farmed Road
- Gravel Road
- Track

Ngamiland

- Boundary
- Other Districts
- Controlled Area
- Hunting Area

Proposed land use

- Community
- Wildlife
- Utilisation
- Gama Ranch
- Market Use
- Wildlife Utilisation
- Moored Zonation
- Low
- Density
- Tourism
- Medium
- Density
- Tourism
- Wilderness
- Zone

Existing Land Use

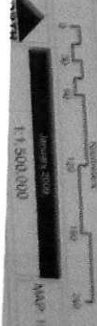
- Game reserve
- Arable / Pastoral / Residential
- Proposed Wildlife Management Area
- T.G.L.P. rancher
- Wildlife
- Management Areas
- Panhandle
- Fencing Campaign
- Ranches
- Tourism Development Area
- Maibela Community Use Zone
- Maibela Hunting Grounds
- Maibela Proposed Community
- Proprietary Area
- Makosa Seasonal Use Area
- Arable / Pastoral / Residential
- Chobe National Park
- Commercial
- Photographic Area
- Commercial Wildlife Utilisation (beasthold)
- Community Managed Wildlife Utilisation
- Community
- Photographic Area
- Community Wildlife Utilisation (beasthold)

DATA SOURCES

Map data compiled and updated from various sources including aerial photography, satellite imagery, and ground truthing. The map was compiled using ArcView 3.2a and ArcMap 9.3.1. The map was compiled in 2007. The map was compiled by the Department of Lands and Survey.

CLIENT: Department of Lands

CONSULTANT: L AND S Solutions



**NGAMIL AND INTEGRATED LANDUSE PLAN
(2008)**

Map Title
Recommended Ngamiland Land Use Plan

LEGEND

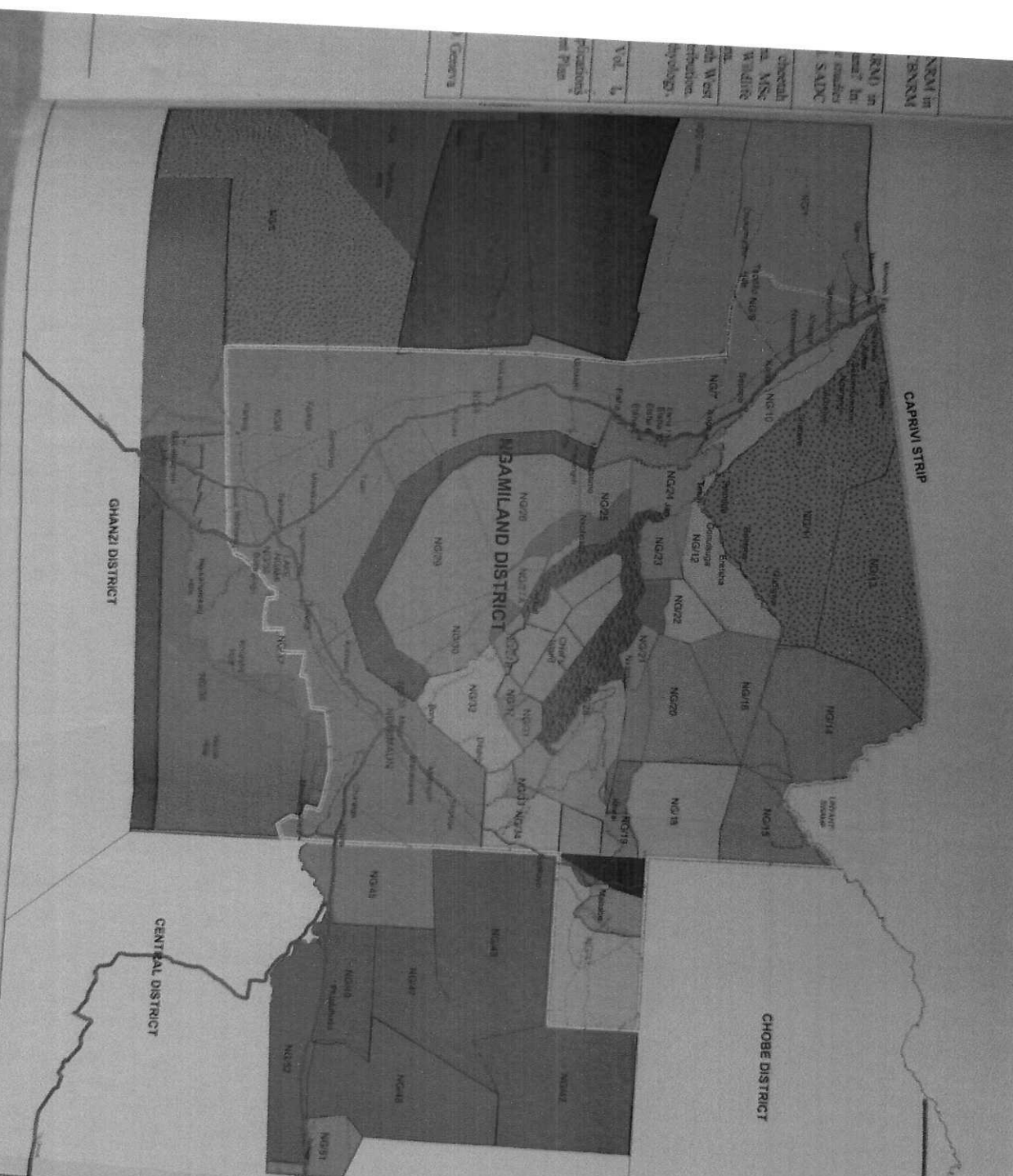
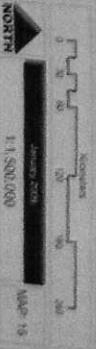
- | | |
|------------------------------------|--|
| Settlement Type | Existing Land Use |
| Major Village | Game reserves |
| Village | Arable / Pastoral / Pastoralist |
| Settlement | Proposed Wildlife Management Area |
| Road Type | T.G.P ranches |
| Trunk Road | Wildlife |
| Gravel Road | Management Areas |
| Track | Parish |
| Ngamiland Boundary | Fencing Component |
| Other Districts | Ranches |
| Controlled Area | tourism Development Area |
| Hunting Area | Wildlife Community Use Zone |
| Proposed land use | Mababe Hunting Grounds |
| Community Wildlife Utilisation | Mababe Proposed Community Photographic Area |
| Game Ranch | Mababe Seasonal Use Area |
| Mixed Use | Arable / Pastoral / Pastoralist |
| Livestock and Wildlife Utilisation | Savannah |
| Moromi Zonation | Chobe National Park |
| Law | Commercial |
| Density | Photographic Area |
| Tourism | Commercial Wildlife Utilisation (Incentive) |
| Muslim | Community Managed Wildlife Utilisation in Livestock Area |
| Density | Community Photographic Area |
| Wilderness Zone | Community Wildlife Utilisation (Incentive) |

DATA SOURCES

Base data revised and updated from the Dept Geographic map sheet series using Aerial 3rd Order Review & National Statement Policy (RSP) (2002)
Map Compilation: Spatial Dynamics
PROJECTION: BNG/205, 013, 1,41,2,NG
DATUM: D. 082, 1960

CLIENT: Department of Lands

CONSULTANT: LANDPLAN Solutions



NGAMIL DISTRICT
CAPRIVI STRIP
GHANZI DISTRICT
CENTRAL DISTRICT
CHOBE DISTRICT