



MUSINA LOCAL MUNICIPALITY

IDP REVIEW 2006 / 2007

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OUR VISION

“VEHICLE OF AFFORDABLE QUALITY SERVICES AND STABILITY THROUGH SOCIO-ECONOMIC DEVELOPMENT AND COLLECTIVE LEADERSHIP”

OUR MISSION

“TO BE A COMMUNITY DRIVEN MUNICIPALITY WITH A DEVELOPING AND ADAPTING INFRASTRUCTURE, SERVING ALL PEOPLE IN A FOCUSED EFFICIENT AND ACCOUNTABLE MANNER”

SECTION 1: REVIEW PLANNING PROCESS

1.1 BACKGROUND

Musina Local Municipality was established in terms of the Municipal structures Act, 117 of 1998, which provides for the establishment of municipalities, their categories, competencies powers and functions.

The townships of Musina and Musina-Nancefield comprises 11 000 ha in extent and is situated in the Vhembe district of the Limpopo province and within the magisterial district of Musina. The municipality is situated approximately 15 km to the south of the Limpopo River, which forms the international boundary with Zimbabwe. The international border post is Beit Bridge. The municipality owns the farm portions Vogelenzang 3MT and Messina 4MT and the Remainders of the farms Maryland 1MT and Tempelhof 150 MS and Artonville 7MT located adjacent to the Limpopo River.

The population figures for the urban areas of Musina is calculated at approximately 25 000 in 2001 and 40 826 for the whole municipal area of the Musina municipality. The number of households are estimated at 6042 with the major languages spoken are Tshivenda, Xitsonga, Sepedi, Afrikaans and English.

1.2 INTRODUCTION

In 2001 Musina local municipality produced its first IDP as required by the Municipal systems Act. The 2001 IDP document was aimed at guiding the municipality as a tool for speeding –up service delivery. The document serves as a 5-year strategic plan for council in addressing the service backlogs. The municipality is reviewing its five-year plan for the last time during its term of office as council.

The municipal systems Act 2000 section 26(c) (Act No. 32 of 2000) stipulates that an integrated Development Plan must reflect, “the council’s development priorities and objectives for its elected term, including its local economic development aims and its internal transformation needs”.

The Musina local municipality is engaged in a process of assessing its performance and undertaking an annual review of the IDP as to:

- Effect immediate, appropriate changes in service delivery and management of resources.
- Identify and strive to overcome major or systematic blockages, and
- Guide future planning on developmental objectives and resource usage.

1.3 LEGAL FRAMEWORK FOR IDP REVIEW AND PMS

In accordance with the legislative requirements, the current Council is presently undertaking its last IDP review. After the next municipal election which is due early in 2006, the next Council will be required to develop a five year Integrated Development Plan which will guide it for its term of office of five years. This Integrated Development Plan must be reviewed annually. The new council is under no obligation to continue with the already existing IDP as developed by the current Council.

The **Local Government Municipal Finance Management Act, Act 56 of 2003, Chapter, 4, sections 17 and 21**, determines that when an annual budget is tabled in terms of section 16(2), it must be accompanied by measurable performance objectives for revenue from each source and for each vote in the budget, taking into account the municipality's Integrated Development Plan.

Section 21(1) further provides that the Mayor of a municipality must:

- a) Coordinate the processes for preparing the annual budget and for reviewing the municipality's Integrated Development Plan and budget-related policies to ensure that the tabled budgetary provisions of the Integrated Development Plan and budget-related policies are mutually consistent and credible.
- b) At least 10 months before the start of the budget year, table in the municipal council a time schedule outlining key deadlines for:
 - i) The preparation, tabling and approval of the annual budget,
 - ii) The annual review of:
 - The Integrated Development Plan in terms of Section 34 of the Municipal Systems Act, Act 32 of 2000, and
 - Budget-related policies,
 - iii) The tabling and adoption of any amendments to the Integrated Development Plan and budget-related policies.
- c) Section 21 (2), determined that when preparing the annual budget the Mayor must:
 - i) Take into account the municipality's IDP, and
 - ii) Take all reasonable steps to ensure that the municipality revises the IDP in terms of Section 34 of the Municipal systems Act, Act 32 of 2000, taking into account realistic revenue and expenditure provisions for future years. (MTEF).

In addition to the requirement that every municipality should compile an IDP, the **Municipal Systems Act, Act 32 of 2000**, (hereafter referred to as the MSA) further requires that the IDP is implemented, and its performance monitored and evaluated. Thus, Municipal Council must:

- a) Review its integrated development plan annually, in accordance with an assessment of its performance measurement in terms of **Section 41, and**
- b) May amend its IDP to the extent that changing circumstances so demand, in accordance with a prescribed process.

Since the adoption of the IDP for the Musina Local Municipality in 2002 the Musina Local Municipality has complied with the abovementioned legislative requirements in respect of review and adoption of the IDP.

INSTITUTIONAL RE-ORIENTATION

The effective implementation of the IDP requires pro-active structuring of the Human as well as financial resources of the municipality to ensure that the principle of integration, holistic thinking and strategic management is maintained.

Serious attention has been given to addressing the human resources shortages that was experienced in the past. It is, however, important that the existing organizational capacity, whether human resources or financial, be continuously monitored in terms of the Performance Management System, to ensure that the developmental objectives of the IDP is achieved.

Apart from the policies that have been adopted previously, further realistic policies need to be developed to ensure effective and efficient delivery of service. The community must be part of the decision-making and planning processes of the municipality.

Some institutional issues that still need to be addressed are as follows:

- Development of further new policies and by-laws as required either by developmental needs or by legislation;
- Job evaluations to be done to ensure effective and realistic measuring of performance management, which is linked to the IDP;
- Development of a skills development plan, which must be incorporated into the Workplace Skills Plan required by the Skills Development legislation, to ensure that employees are capacitated to achieve the developmental objectives of the municipality;
- Improve the community participatory processes;
- Sustain ward committee structures;
- Review the organizational design annually;

Structures that constitute the municipality can be categorized into the following three components:

- Administrative
- Political
- Community.

a) ADMINISTRATION

The Municipal Manager, Managers (as Heads of Departments), Section Heads.

The Municipal Manager is head of the IDP, The Technical manager is delegated authority to co-ordinate.

The IDP Steering Committee and Representative Forum ensure that the IDP process is implemented. All Managers and Section Heads form part of the IDP Steering Committee. Managers and specific identified stakeholders from the community form part of the IDP Representative Forum.

b) POLITICAL

The municipality has a Plenary System with Ward Committees. The council consists of 9 councillors, of which one is elected as Mayor. A Financial Committee assists the Council in the consideration of financial issues. The Council, together with Ward Committees spearheads the IDP process on political level.

c) COMMUNITY

The IDP Representative Forum and ward committees carry the mandate for public participation at community level. The abovementioned structures, especially the ward committees and representative forum stakeholders constantly require mentorship and revival to ensure information sharing and co-operative execution of the functions for the realization of the IDP.

To this effect, the PIMS center engages in the process of building capacity to all IDP stakeholders through training of IDP Steering Committees, Councillors, Ward Committees and all stakeholders.

The hand-on support of the PIMS Center adds value to the IDP process of the Musina Local Municipality.

PROCESS OVERVIEW
IDP 2006/2007 REVIEW PLAN OF MEETINGS

PREPARATION PHASE

DATE	VENUE	TIME	MEETING TITLE
24 AUGUST 2005	RECREATION HALL	12H00	STEERING COMMITTEE
07 SEPTEMBER 2005	RECREATION HALL	09H00	STEERING COMMITTEE
14 SEPTEMBER 2005	NANCEFIELD BOARDROOM	18H00	REP. FORUM
30 SEPTEMBER 2005	COUNCIL CHAMBERS	18H00	COUNCIL MEETING

ANALYSIS PHASE

DATE	VENUE	TIME	MEETING TITLE
03 OCTOBER 2005	RECREATION HALL	09H00	STEERING COMMITTEE
19 OCTOBER 2005	NANCEFIELD BOARDROOM	18H00	REP. FORUM
31 OCTOBER 2005	RECREATION HALL	09H00	STEERING COMMITTEE

STRATEGIES PHASE

DATE	VENUE	TIME	MEETING TITLE
02 NOVEMBER 2005	RECREATION HALL	09H00	STEERING COMMITTEE
16 NOVEMBER 2005	NANCEFIELD BOARDROOM	18H00	REP. FORUM
21 NOVEMBER 2005	RECREATION HALL	09H00	STEERING COMMITTEE

PROJECT PHASE

DATE	VENUE	TIME	MEETING TITLE
06 DECEMBER 2005	RECREATION HALL	09H00	STEERING COMMITTEE
18 JANUARY 2006	NANCEFIELD BOARDROOM	18H00	REP. FORUM
27 JANUARY 2006	RECREATION HALL	09H00	STEERING COMMITTEE

INTERGRATION PHASE

DATE	VENUE	TIME	MEETING TITLE
07 FEBRUARY 2006	RECREATION HALL	09H00	STEERING COMMITTEE
15 FEBRUARY 2006	NANCEFIELD BOARDROOM	18H00	REP. FORUM
21 FEBRUARY 2006	RECREATION HALL	09H00	STEERING COMMITTEE

APPROVAL PHASE

DATE	VENUE	TIME	MEETING TITLE
01 MARCH 2006	NANCEFIELD BOARDROOM	18H00	REP. FORUM
03 MARCH 2006	MUNICIPAL OFFICES	07H00 TO 16H00	IDP PUBLIC INSPECTION
31 MAY 2006	COUNCIL CHAMBERS	18H00	COUNCIL IDP APPROVAL
07 JUNE 2006	MEC LOCAL GOVERNMENT		SUBMISSION OF IDP

SECTION 2: PHASE 1: (ANALYSIS)

2.1 SPATIAL ANALYSIS

The spatial development plan was developed during the IDP review for 2004/05 and was adopted by council for implementation on the 2005/2006 IDP. The spatial development plan is to be reviewed every financial year.

2.2 SOCIO-ECONOMIC ANALYSIS

The Musina Municipality does not have an LED strategy; an application has been lodged with Limpopo LED Fund to source a grant to develop the LED strategy for the municipality. There are a lot of economic potential within the municipality and the LED strategy will be able to offer an enabling environment for SMME and thus limit poverty and unemployment levels. The municipality has been supporting and getting involved in LED projects on an ad hoc basis, the examples of such projects are the Zelpy Pty LTD (**100 % solely owned by the municipality**) which produces Spirulina, dates liquer, lucern and the Singelele game conservancy, other community LED projects that the Municipality support utilizing the LED fund are listed in the IDP document.

TABLE: 1
MUSINA LOCAL MUNICIPALITY

REVENUE BREAKDOWN BETWEEN OWN REVENUE AND GRANTS

2002/2003		2003/2004		2004/2005		2005/2006	
GRANTS	OWN	GRANTS	OWN	GRANTS	OWN	GRANTS	OWN
000	000	000	000	000	000	000	000
2,897	32,690	3,434	38,518	7,174	31,473	8 647	38,264

TABLE: 2
BREAKDOWN OF DEBT OWED TO MUNICIPALITIES

2002/2003		2003/2004		2004/2005	
M		m		m	
20		23		17	

2.3 ENVIRONMENTAL ANALYSIS

The Municipality has an Environmental Plan and the Municipality is performing the function. The Municipality is performing the function on behalf of the District.

2.4 INSTITUTIONAL RE ARRANGEMENT

In order to maintain, strengthen and improve the human resources and administrative capacity of the Musina Local Municipality, the labour and human resource policies, and institutional arrangements and policies must be implemented and continuously upgraded and reviewed. The employment equity plan and annual report to the Department of Labour, the Workplace Skills Plan, and the organogram are tools to be used to address crosscutting issues like gender, persons with disabilities, youth, performance management and related issues of capacity building.

2.5 TABLE OF RE-PRIORITIZATION

TABLE: 3

INFRASTRUCTURE	SOCIAL	ECONOMIC	INSTITUTIONAL
1. Provision of water and sanitation	1. Facilitate provision of health and welfare facilities and services	1. Development of LED strategy	1. To render basic administration services
2. Provision of electricity	2. Facilitate of educational facilities and improve culture of technology and learning	2. Undertake feasibility study for LED projects	2. Aligning organizational development with powers, functions and transformation variables
3. Road infrastructure	3. Maintenance of safety and security	3. Establish LED fund to support economic growth	3. Skills development
4. Provision of housing	4. Implementation of disaster management plan	4. Increase level of employment	4. Service delivery excellence and performance management
5. Solid waste management	5. Provision of security around the municipal buildings		5. Strengthening international relations
	6. Promotion of youth development, sports, arts, culture and recreation		6. Legal, land, valuation and property administration
	7. Facilitate the promotion of the aged and people with disabilities		7. Provision of free basic services
	8. Public transport and community infrastructure		8. Provision of vending points in Musina
	9. Facilitate the provision of housing		9. Provision of furniture for new offices
	10. Facilitate the provision of telecommunications		10. Development of internal communication system
			11. Upgrade promises to comply with GRAP
			12. Service delivery and Budget implementation standards
			12. Increase financial capacity and management
			13. Formulating a communications strategy
			14. Implementing the communications strategy
			15. Media liaison

INFRASTRUCTURE	SOCIAL	ECONOMIC	INSTITUTIONAL
			16. Publishing the newsletter
			17. Stakeholder relations
			18. Production of information material
			19. Utilizing communication equipment
			20. Website coordination
			21. Equipping the communications office

2.6.2 IN-DEPTH ANALYSIS OF PRIORITY ISSUES

INSTITUTIONAL RE-ORIENTATION

The achievement of the developmental goals that is inherent in the IDP requires pro-active structuring of human and financial resources.

The existing labour and human resource policies, as well as institutional arrangements and policies must be implemented and continuously upgraded and reviewed.

Employee demographics (as on 30 June 2005)

TABLE: 4

Internal Levels	Black		White		Indian		Coloured		PWD's (Disabilities)		Total
	M	F	M	F	M	F	M	F	M	F	
Top Managers	2	1	1	1							5
Senior Managers	5		4	4							13
Middle Managers	4	1	3	3							11
Officials	122	46	2	1				1			172
Interns	1	1									2
Total	134	49	10	9				1			203

Organisational analysis

SWOT analysis

STRENGTHS	WEAKNESSES
Workplace Skills Plan in place for capacity building	Some policies still pending.
Development of Policies and Procedures.	Lack of proper implementation of existing policies.
Approved organogram.	Gender/disability imbalance
Existing By-laws in place.	Staff shortage to deal with workload.
New extensions to office building in process to accommodate staff.	Current lack of office space to accommodate anticipated staff.
Duty sheets for all posts in place.	Inability to align skills programmes with SETA initiated programmes.
Funds provided for job evaluation.	Inability to attract competent candidates in strategic and specialized areas
OPPORTUNITIES	THREATS
Availability of grants for capacity building.	Lack of motivation and low morale due to

<p>Small staff establishment with potential for growth.</p> <p>Regular review of existing organogram to keep track of manpower needs.</p> <p>Training budget available to address training needs.</p> <p>Formulate an employment equity strategy to address equity gaps.</p> <p>Expectation of the Job Evaluation Committee commencing its activity</p>	<p>lack of competitive incentives.</p> <p>Inability to meet set organizational targets and deliverables due to staff shortage.</p> <p>Inexistent succession plans due to lack of updated job-evaluations</p> <p>Lack of skill and capacity results in outsourcing services to an external service provider (consultants)</p>
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b) Organogram

The organogram is reviewed annually during the Strategic Plan discussion of the municipality. A number of additional posts have been provided for on the 2005/2006 organogram to address the existing staff shortages – especially on middle and lower post levels. This should address some the staff needs for the 2006/2007 IDP period, but another review of the organogram will have to be done during the 2006 Strategic Plan discussions.

TRANSFORMATION AND ORGANIZATIONAL DEVELOPMENT

Management Capacity: TABLE: 5

Municipality: Musina Local Municipality

Position	Performance Contract	Years in position	Years Experience in Local Government
Municipal Manager	Yes – Contract signed on 01 August 2001	4	7
Technical Services Manager	Yes – Contract signed on 01 August 2003	2	14
Chief Financial Officer	Yes – Contract signed on 01 August 2003	2	8
Corporate Services Manager	Yes – Contract signed on 01 August 2003	2	2
Community Services Manager	Yes – Contract signed on 01 August 2003	2	2
Planning Services Manager	N/A	N/A	N/A

Institutional capacity

FOR EACH OF THE ITEMS HEREUNDER, INDICATE, WHERE APPLICABLE IF THE POLICY EXIST, AND WHEN WAS IT ADOPTED, OTHERWISE IF IT IS A NUMBER JUST PROVIDE THE NUMBER (FOR EXAMPLE TOTAL STAFF)

TABLE: 6

Issues	Musina Local Municipality				
Organizational Structure	Adopted September 2003				
Total Staff Composition	230				
Filled Positions	203				
Job Evaluation	Job descriptions for posts levels 1-18 were revised. Job evaluation not done				
Information Management System	Registry unit is established				
Delegations	Yes Adopted October 2004				
Performance Management System	PMS policy Adopted August 2001.				
Skills Development Plan	Yes Adopted October 2004				
Employment Equity Plan	Yes July 2000				
Employee Assistance Programme	Yes				
Occupational Health and Safety Plan	Yes				
Website	Under construction www.musina.org				
Communication Plan	No				
Customer Care	Yes				

Strategy (Batho Pele)	Adopted July 2004				
Indigent Policy	Yes Adopted July 2002				
HIV/Aids Plan	Yes Adopted May 2002 and revised in 2005				
Focus Groups Program (Youth, Gender and Disability)	Yes Adopted July 2004				
Financial Delegations	Yes Designated October 2004				
Procurement Framework	Yes Adopted June 2004				
Audit Committees	No				
By-law reforms	Existing by laws under the revision.				
Credit Control Policy	Yes Adopted October 2001				
Disaster Management Plan	Yes Adopted May 2005				
Project Management Unit	Yes Was implemented October 2004				

CORPORATE GOVERNANCE: TABLE: 7

Municipality	Internal Audit Committee Established	Performance Management System Implemented	Procurement Policy in place	Terms of Reference for Mayor in place	Delegations of Authority in place		Customer Care System in place & Functioning	Tracking System for Council Decisions in place
					Financial Delegations of Authority in terms of the Municipal Finance Management Act	Functional Delegations of Authority in terms of the Municipal Systems Act		

Musina Local	No	Yes	Yes	Yes	Yes adopted August 2001	Yes October 2004	Yes	Yes
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BY-LAWS: TABLE: 8

MUNICIPALITY	Musina Local				
Planned	3				
Achieved	1				
Outstanding	2				
Challenges	Financial and time constraints				

INTER-GOVERNMENTAL RELATIONS & MUNICIPAL INTERNATIONAL RELATIONS: TABLE: 9

Municipality	Musina Local				
Participation in Provincial IGR Structures	1. Premier's Mayor Forum 2. Governance & Administration Technical Committee 3. Provincial Government's Communication Forum				
District I G R Structures	1. District Mayors Forum 2. District Municipal Managers Forum 3. District Technical Committees 4. District CFO Forums				

Twinning Agreements -list of agreements -achievements	Yes				
Challenges	Outstanding twining projects.				

d) Organisational critical challenges

Inability to attract, recruit and retain competent staff.

Newly created positions not backed by a budget

Labour growth not consistent with service need growth

Review, approval and implementation of an employment equity plan and strategy.

Annual review of the organogram and organizational structure.

Job analysis and evaluations.

Implementation and monitoring of Employee Assistance Programme.

Unavailability of a measuring and monitoring mechanism for the implementation of Batho Pele service standards.

REVENUE COLLECTION ASSESSMENT

Existing sources of revenue collection assessment. TABLE: 10

<u>Activity</u>	<u>Property taxes (rate)</u>	<u>Surplus on trading services</u>	<u>Inter-governmental grants</u>	<u>Infrastructure government grants</u>	<u>RSC levies</u>	<u>Other services (interest, fines & etc)</u>	<u>Total</u>
Potential revenue from the source (for 2004/2005 financial year)	6,871,15 9.00	19,217,502 .00	7,447,0 00	0	0	12,641,216 .00	46,176,8 77.00
Actual amount collected (2004/2005 financial year)	5,109,85 3.00	18,232,854 .00	7,173,4 62	0	0	8,131,172. 00	38,647,3 41.00
Calculate the collection efficiency (actual/potential X 100%)	74.37%	94.88%	96.33%	0	0	64.32%	83.69%

Assessment of actual expenditures and sources of funds TABLE: 11

<u>Nature of Expenditure</u>	<u>Property taxes</u>	<u>Trading Services</u>	<u>Operating Government Grants</u>	<u>Infrastructure Grants</u>	<u>Other Income</u>
Internally Funded Projects					
Capital Projects		566,723			3,986,776
General Expenditure	3,681,726	11,152,341	3,491,736		7,538,508
Salaries		2,917,248	2,440,745		6,286,529
Maintenance	22,964	408,338			730,409
Councillors Allowance	501,073				
Capital Charges	458,437	426,668			307,435
Contributions	62,000	113,032	1,240,981		
Total Expenditure	4,726,200	15,584,350	7,173,462		18,849,657
Surplus/(Deficit)	383,653	2,648,504	0		(10,718,485)

WATER SUPPLY

All households in the urban area of Musina have metered yard connections.

Households in the villages of Madimbo, Malale and Domboni have standpipes of RDP standard.

At present all households have access to water.

6042 Houses have access to water.

6042 households receive free basic services.

SANITATION

All households in the urban area are connected to a waterborne sewer system or on site septic tank system.

Households in the village have V.I.P. toilets.

6042 Households have access to sanitation.

With increasing connections to our sewer system the upgrading of the northern and southern exudation dams has become a priority issue.

ENERGY SUPPLY

All households in the urban area have metered (conventional and pre-paid) electrical house connections.

2414 Indigent households receive free basic electricity.

TABLE: 12

FREE BASIC ELECTRICITY

Households receiving free basic electricity by Municipality;

LOCAL MUNICIPALITY	Households R800 and less monthly income	Total Households Receiving free basis electricity	Budget Allocation (2004/2005) R	Total Expenditure (2004/2005) R
Musina	1984	1984	527 000	527 000
ESKOM	430	430	112 723	112 723
Total	2414	2414	639 723	637 723

CHALLENGES

There is no electricity at Domboni.

The backlog is 50 households situated in Domboni village.

Installation and upgrade of street lights.

Table 13: Access to Services: Musina Local Municipality

Service	1996 (8 401 Household)		2001 (13 955 Household)		2005 (14 903 Household)	
	Basic and above	Below basic	Basic and above	Below basic	Access (RDP Standard)	No Access (Below RDP Standard)
Water	7 324	1 077	12 797	1 158	14 503	400
Sanitation	7 155	1 246	9 676	4 279	13 455	1 448
Electricity	4 813	3 588	8 302	5 653	11 904	2 999
Refuse Removal	5 620	2 781	6 627	7 326	7 889	7 014
Housing	4 767	3 640	9 629	4 329	10 234	4 669
Telephones	6 516	1 885	9 896	4 058	12 370	2 533

MUNICIPAL CHALLENGES IN ORDER OF PRIORITY (BACKLOGS)

Sanitation: 10%
Water: 3%

Electricity: 20%

TELECOMMUNICATION NETWORK

Communication is a fundamental resource for development processes and essential to the establishment of a sustainable growth and development.

Three villages in Musina lack postal and telecommunication infrastructure, which results in a communication breakdown. Communities have to walk a long distance to access telecommunication services.

TABLE: 14

SERVICE	1996 (8401 HOUSEHOLDS)		2001 (13 955 HOUSEHOLDS)		2005 (14903 HOUSEHOLDS)	
	Basic and above	Below basic	Basic and above	Below basic	Access (RDP Standard)	No Access (Below RDP Standard)
TELEPHONES	6 516	1 885	9 896	4 058	12 370	2 533

ROAD INFRASTRUCTURE

ROADS & STORM WATER

Table 15: municipal Budget Allocation and Expenditure Road and Storm water

Municipality	2002/2003	2003/2004	2004/2005	2005/2006
	Bud – Exp ('000)			
Musina	1 259	425	3 830	2 504 3km paved

CHALLENGES

MUSINA

High backlog is at:

- (a) 11km Tarred Roads (Musina)
- (b) 10km Gravel Roads (60% Nancefield and 40% in villages)

Available equipments cannot service the entire area

Budgetary constraints

Upgrading of roads in the urban and village area

PROVISION OF HOUSING

TABLE: 16

SERVICE	1996 (8401 HOUSEHOLDS)		2001 (13 955 HOUSEHOLDS)		2005 (14903 HOUSEHOLDS)	
	Basic and above	Below basic	Basic and above	Below basic	Access (RDP Standard)	No Access (Below RDP Standard)
HOUSING	4 767	3 640	9 629	4 329	10 234	4 669

Challenges

- The housing backlog is at 4860 as per housing waiting list.
- Availability of land for future residential development

DISASTER MANAGEMENT

- There is disaster management plan.
- Local disaster forums and ward committees are in place
- There is a designated disaster operations centre.

FIRE AND RESCUE SERVICES

- Fire and rescue services are a competency of the district municipality.
- There is one fire and rescue station within the municipal area
- The rescue team service operates in corporation with EMS.

SOLID WASTE MANAGEMENT INFRASTRUCTURE

All households have access to refuse removal services

There is one dumping site designated for the three villages

Two landfill solid sites are operational

Challenges

- Permitting and securing of solid waste dumping sites

WASTE COLLECTION SERVICE IN MUNICIPALITY

TABLE: 17

LOCAL MUNICIPALITY	POPULATION 2001	GENERATED WASTE 2004 (TONS)	% POPULATION RECEIVING SERVICE	% POPULATION NOT RECEIVING
MUSINA	40 874	19 000	100 %	NIL

Table 18: Budget Allocation and Expenditure: Refuse Removal (2000-2005)

		2001/2002	2002/2003	2003/2004	2004/2005	2005/2006
		2000/2001 ('000)	('000)	('000)	('000)	('000)
Municipality	Bud - Exp	Bud - Exp	Bud - Exp	Bud - Exp	Bud - Exp	Bud - Exp
Musina	3 128 - 2 943	2 673 - 2 338	2 441 - 3 374	2 738 - 2 795	3 358 - 3 358	2804 - 000

HEALTH AND WELFARE FACILITIES

TABLE: 19

FACILITY TYPE	NO	WITH ELECTRICITY	WITH PHONE	WITH BOREHOLES	OPEN 24 HRS
Clinics	2	2	02	2	1
Community Health Centre	1	1	1	0	1
District Hospital	1	1	1	0	1
Satellite clinics	3	3		0	0

Challenges

- Deterioration of existing facilities
- Balance between free health and welfare services and available resources
- Insufficient health and welfare facilities
- Accessibility of health and welfare services
- Lack adequate doctors at service centres
- Long waiting periods before service could be received
- Inability to retain health and welfare professionals

EDUCATION

TABLE: 20

TABLE OF EDUCATION	
Not in school	223 520
Primary	285 851
Secondary	431 812
Tertiary	
Certificate	33657
Bachelors	8912
Honours	2102
Master/Doctorates	1105

Challenges

The 2001 census statistics show that a large number of people in the district are illiterate.

The biggest number of people who attended school up to Primary, Secondary and Grade 12 are male. The type of Education they receive is not marketable.

15.5% of people in Vhembe District have higher education with qualification that are not market related.

Lack of education facilities and infrastructure results in a negative culture of learning.

- The vast backlog of classrooms and learner support material, especially in rural areas impedes proper teaching and learning.
- Unavailability of ABET centres that will respond to the high illiteracy rate among the adult population
- The backlog of ABET centres in the district is 203 and only 98 have been built.

SAFETY AND SECURITY

The types of crime that are prevalent in Musina Municipality are:

- Sexual offences.
- Woman and children abuse (violence against women and children).
- Housebreaking and theft – the high level of these types of crimes is amongst others caused by alcohol and drug abuse. The other common contributing factor is the high level of unemployment and the high element of illegal immigration.
- The high level of crime is being associated with the young people and illegal immigrants within the Municipality. The Municipality has got only one Police Station and no satellites in the three rural areas.

The department is no longer in terms of the law allowed to give out crime statistics.

INCREASE LEVEL OF EMPLOYMENT

Employment and income indicators: Musina municipality: **TABLE: 21**

Employment and income indicator	Number	Percentage
Employed	16 197	41.2%
Unemployed	5 384	13.6%
Not economically active	5 073	12.9%
Total 15-65 years	26 654	
Income: None-R800	7 983	69.8%
Income: R801-R3 200	2 341	20.8%
Income: R3 200 and above	1 253	10.8%
Total households	11 578	100%

NB: Income relates to households, whereas employment relates to labour market status of those aged 15 to 65 years: Stats SA 2001

INCREASE ECONOMIC GROWTH

The strategy will assist the municipality to support economic development, growth and job creation. The strategy will be able to cover the following critical aspects of unearthing the economic potentials:

- To conduct an overview of the local socio economic environment
- Develop the LED vision
- Develop the LED objectives
- Develop the LED policies, projects and products
- Evaluation of activities

There are a lot of LED activities happening around the municipality and the need for identifying these activities is of utmost importance in order to deal with the economic growth of the municipality in a coordinated manner, and to make sure that resource allocation is planned in an economical way. This will relieve perceptions that people view government as the sole provider of jobs hence there are a lot of other economic activities that could lower the level of unemployment and poverty.

IDP PROJECTS TEMPLATE FOR MUSINA MUNICIPALITY: 2006/07/08/09

INFRASTRUCTURE CLUSTER

Project no	Project name	Status	Location	Responsible agency	Time												Total budget	Source of fund		
					06/07			07/08				08/09								
					I	II	III	I V	I	II	III	IV	I	II	III	IV				
1	INSTALL HIGHMAST COMMUNITY LIGHTING	PHASE 11	NANCEFIELD	VDC/TECHNICAL	X	X	X										R1,250 M	MIG		
2	INTERNAL SEWERAGE RETICULATION	PHASE 11	MUSINA	VDC/TECHNICAL	X	X	X	X	X								R4,0M	MIG		
3	UPGRADING OF OXIDATION PONDS		MUSINA AND NANCEFIELD	VDC/TECHNICAL	X	X	X	X	X	X	X						R7,5M	MIG		
4	UPGRADE OF WATER SUPPLY		MADIMBO, DOMBONI AND MALALE	VDC/TECHNICAL	X	X	X	X	X	X							R3,0M	MIG		
5	INSTALLATION OF PRE-PAID WATER METERS	PHASE 11	MUSINA AND NANCEFIELD	VDC/TECHNICAL	X	X	X	X	X								R4,0M	MIG		
6	INSTALLATION OF		MUSINA	VDC/TECHNICAL	X	X	X	X	X								R950	MIG		

Project no	Project name	Status	Location	Responsible agency	Time												Total budget	Source of fund		
					06/07				07/08				08/09							
					I	II	III	I V	I	II	III	IV	I	II	III	IV				
	PUMPS AND EQUIPMENTS FOR UNDERGROUND RESERVOIR																000			
7	CONSTRUCTION OF CONCRETE ROADS		NANCEFIELD	VDC/TECHNICAL	X	X	X	X	X	X	X	X	X	X	X	R2,0M	MIG			
8	UPGRADING OF TAR ROADS		MUSINA	VDC/TECHNICAL	X	X	X	X	X	X	X	X	X	X	X	R2,0M	MIG			
9	SOLID WASTE UPGRADING		MUSINA	VDC/TECHNICAL	X		X									R1,414 M	MIG			
10	HOUSING		MUSINA(INCLUDING FARMING AREAS)	DLGH	X	X	X	X	X	X	X	X	X	X	X	R8,1M	DLGH			
11	INSTALLATION OF HIGHMAST LIGHTING		NANCEFIELD, MADIMBO MALALE AND DOMBONI	VDC/TECHNICAL				X	X	X						R2,2M	MIG			
12	WATER		MOPANI	VDC/TECHNICAL				X	X							R1M	VDC			
13	ROAD UPGRADING		MOPANI	VDC/TECHNICAL				X	X							R1M	VDC			
14	INTERNAL ROADS		NANCEFIELD EXT.5	SEE PROJECT 7																
15	SMALL BRIDGE EXTENTION		NANCEFIELD EXT.5	TECHNICAL		X										75 000.00	INTERNAL			
16	INTERNAL ROADS		NANCEFIELD EXT.7	SEE PROJECT 7																
17	ERECITION OF A CONNECTING ROAD		NANCEFIELD EXT. 8 AND NANCEFIELD EXT. 6	VDC/TECHNICAL				X	X							R2,5M	MIG			
19	REGRAVELLING OF ROAD TO THE GRAVEYARD		DOMBONI	VDC/TECHNICAL				X	X							450 000	VDC			
20	PROVISION OF SEWERAGE SYSTEM		DOMBONI, MALALE AND MADIMBO	VDC/TECHNICAL	X	X	X	X								R1,6M	VDC			
21	REGRAVELLING OF INTERNAL ROADS		DOMBONI	VDC/TECHNICAL		X	X									300 000	VDC			
22	HOUSEHOLDS WATER TAPS CONNECTIONS		MADIMBO, MALALE AND DOMBONI	VDC/TECHNICAL				X	X	X						R2,8M	MIG			
23	ELECTRIFICATION OF OUTSTANDING HOUSEHOLDS		MADIMBO, MALALE AND DOMBONI	TECHNICAL				X	X	X						850 000	DME/ESK OM			
24	ERECITION OF STORM WATER		MADIMBO	VDC/TECHNICAL				X	X	X						R2,0M	MIG			

Project no	Project name	Status	Location	Responsible agency	Time												Total budget	Source of fund		
					06/07			07/08				08/09								
					I	II	III	I V	I	II	III	IV	I	II	III	IV				
	CHANNELS																			
25	REGRAVELLING OF STREETS		MADIMBO	VDC/TECHNICAL	X	X	X	X									R1M	VDC		
26	CONSTRUCTION OF A ROAD		DOREEN AND HOPE FARMS	VDC/TECHNICAL					X	X							R1M	VDC		
27	PROVISION OF WATER		FARMING AREAS	VDC/TECHNICAL					X	X	X						R1,5M	VDC		
28	RENOVATION OF MTD STADIUM		NANCEFIELD EXT.5	TECHNICAL			X	X	X	X							500 000	INTERNAL		
29	RENOVATION OF COMMUNITY HALL		NANCEFIELD EXT.7	TECHNICAL			X	X	X	X							300 000	INTERNAL		
30	RENOVATIONS OF TENNIS COURT		NANCEFIELD EXT.7	TECHNICAL					X	X							200 000	INTERNAL		
31	ROADS, EARTHMOVING AND FENCING		CEMETERY	TECHNICAL	X	X	X	X									400 000	INTERNAL		
32	INFRASTRUCTURE -UPGRADING OF RETICULATION		ELECTRICITY	TECHNICAL	X	X	X	X	X	X	X	X	X	X	X	X	R1M	INTERNAL		
33	INSTALLATION OF WATER AND SEWER RETICULATION		NANCEFIELD EXT. 4 & 8	VDC/TECHNICAL	X	X	X	X									R3.7M	VDC		
34	SEE 33 ABOVE		MUSINA EXT.14	VDC/TECHNICAL	X	X	X	X									R4.420 000	VDC		

INSTITUTIONAL CLUSTER

Object	Project name	Status	Location	Responsible agency	Time												Total budget	Source of fund
					06/07			07/08			08/09							
					I	II	II	IV	I	II	III	IV	I	II	II	I	V	
1	CONVERT TO PAPERLESS OFFICE SYSTEM		MUNICIPAL OFFICES	CORPORATE				X			X					R350 000	INTERNAL	
2	UPGRADE OR REPLACE SAMSUNG SYSTEM AFTER 4-5 YEARS		MUNICIPAL OFFICES	CORPORATE									X			X	R500 000	INTERNAL
3	ALIGNING ORGANISATIONAL DEVELOPMENT WITH POWERS, FUNCTONS AND TRANSFORMATION VARIABLES		MUSINA	CORPORATE	X			X									R80 000	INTERNAL
4	SKILLS DEVELOPMENT		MUSINA	CORPORATE	X			X									R750 000	INTERNAL
5	SERVICE DELIVERY EXCELLENCE AND		MUSINA	CORPORATE	X			X									R100 000	INTERNAL

Object	Project name	Status	Location	Responsible agency	Time												Total budget	Source of fund
					06/07				07/08				08/09					
					I	II	II I	IV	I	II	III	IV	I	II	II I	V		
	PERFORMANCE MANAGEMENT																	
6	STRENGTHENING INTERNATIONAL RELATIONS		MUSINA	CORPORATE	X			X									R50 000	INTERNAL
7	LEGAL, LAND, VALUATION AND PROPERTY ADMINISTRATION		MUSINA	CORPORATE	X	X	X	X	X	X	X	X	X	X	X	X	R1,5M	INTERNAL
1	PROVISION OF FREE BASIC ELECTRICITY	YEA RLY	MUSINA	FINANCE			X	X	X	X	X	X					R713 409.90	EQUITABLE SHARE
2	PROVISION OF INDIGENT SUBSIDY	YEA RLY	MUSINA	FINANCE			X	X	X	X	X	X					3,005,100.0 0	EQUITABLE SHARE
3	NEW OFFICE BUILDING	PHASE 2	INSTITUTIONAL	FINANCE					X	X	X	X					2,100,000.0 0	INTERNAL & LOAN
4	ESTABLISH VENDING POINTS		MUSINA	FINANCE					X	X							120,000.00	INTERNAL
5	FURNITURE FOR NEW OFFICES		INSTITUTIONAL	FINANCE									X				250.000.00	INTERNAL & LOAN
6	ESTABLISHMENT OF SATELITE OFFICES		FARMS AROUND MUSINA	FINANCE									X				210,000.00	INTERNAL & LOAN
7	PROVISION OF VENDING POINTS		NANCEFIELD EXT.7	FINANCE									X				160,000.00	INTERNAL
8	PROVISION OF CHAIRS AND TABLES FOR COMMUNITY HALL		NANCEFIELD EXT.6	FINANCE									X				6,200.00	INTERNAL
9	PROVISION OF SATELITE OFFICES IN VILLAGES		MOPANI AND DOMBONI	FINANCE									X				210,000.00	INTERNAL
10	DEVELOPMENT OF INTERNAL COMMUNICATION SYSTEM		INSTITUTIONAL	FINANCE					X								100,000.00	N/A
11	UPGRADE PROMIS TO COMPLY WITH GRAP		INSTITUTIONAL	FINANCE					X								600,000.00	INTERNAL
12	INCREASE FINANCIAL CAPACITY AND MANAGEMENT		INSTITUTIONAL	FINANCE					X								250,000.00	GRANT

Object	Project name	Status	Location	Responsible agency	Time										Total budget	Source of fund		
					06/07				07/08				08/09					
					I	II	II I	IV	I	II	III IIII	IV	I	II	II I	I V		
13	SERVICE DELIVERY AND BUDGET IMPLEMENTATION PLAN		INSTITUTIONAL	FINANCE				X								150,000.00	INTERNAL	
14	NEW OFFICE EXTENTION		NANCEFIELD	FINANCE	X	X	X	X								618 944.99	INTERNAL	
15	CONSTRUCTION OF OFFICE BUILDING		MALALE	FINANCE	X	X	X	X								547 594.00	INTERNAL	
1	FORMULATING A COMMUNICATION STRATEGY		MUSINA	COMMUNICATIONS	X			X								R3000 00	INTERNAL	
2	MEDIA LIAISON		MUSINA	COMMUNICATIONS	X			X								R100 000	INTERNAL	
3	MUSINA NEWS PUBLICATIONS		MUSINA	COMMUNICATIONS	X			X								R300 000	INTERNAL	
4	PRODUCTION OF INFORMATION MATERIALS		MUSINA	COMMUNICATIONS	X			X								R500 000	INTERNAL	
5	WEB SITE CO-ORDINATION		MUSINA	COMMUNICATIONS	X			X								R40 000	INTERNAL	
6	EQUIPING COMMUNICATIONS OFFICE		MUSINA	COMMUNICATIONS	X			X								R50 000	INTERNAL	

ECONOMIC CLUSTER

Project no	Project name	Status	Location	Responsible agency	Time										Total budget	Source of fund		
					06/07				07/08				08/09					
					I	II	III	IV	I	II	III	IV	I	II	III	IV		
1	DEVELOPMENT OF LED STRATEGY		MUSINA	IDP/LED	X			X									R700 000	LED LIMPOPO AND INTERNAL
2	UNDERTAKE A FEASIBILITY STUDY FOR FUTURE AND PRESENT LED PROJECTS		MUSINA	IDP/LED	X			X									R250 000	INTERNAL
3	LED FUND TO SUPPORT ECONOMIC GROWTH		MUSINA	IDP/LED	X			X									400 000	INTERNAL
4	PROMOTION OF SMME TO CREATE JOBS		MUSINA	IDP/LED	X			X									200 000	INTERNAL

LED PROJECTS

Project no	Project name	Status	Location	Responsible agency	Time												Total budget	Source of fund
	Laundry		hawkers stalls															
12	Brickyard	Planning	Domboni	Owners													Self	
13	Irrigation scheme	Planning	Madimbo	Owners													Self	
14	Brickyard	Planning	Malale	Owners													Self	
15	Marula salad dressing, pumpkin chutney, pumpkin jam, tomato jam and Mopane worms biltong	Planning	Musina	Owners													Self	
16	Traditional beverages production	Planning	Musina	Owners													Self	
17	Medicinal plant propagation & processing	Planning	Musina	Owners													Self	
18	Toilet paper production	Planning	Musina	Owners													Self	
19	Spirulina Production	Implemented	Nancefield ext.6	Musina municipality/Letsema Pty Ltd	X	X	X	X	X	X	X	X	X	X	X	2,732,342	Internal	
20	Lucerne farming	Implemented	Musina next to the graveyard	Musina municipality/Pty Ltd	X	X	X	X	X	X	X	X	X	X	X	19,724	Internal	
21	Singelele game conservancy	Implemented	Musina	Musina municipality/Pty Ltd	X	X	X	X	X	X	X	X	X	X	X	144,488	Internal	
22	Duets liqueur	Implemented	Musina	Musina municipality/Pty Ltd	X	X	X	X	X	X	X	X	X	X	X	8,840	Internal	
23	Musina back yard garden	Implemented	Musina	Agriculture	X	X	X	X	X	X	X	X	X	X	X	60 000	Agriculture	
24	Malale broiler/chicken	Planning	Malale	Agriculture	X	X	X	X	X	X	X	X	X	X	X	40 000	Agriculture	
25	Madimbo broiler/chicken	Planning	Madimbo	Agriculture	X	X	X	X	X	X	X	X	X	X	X	40 000	Agriculture	
26	Rifarise disabled broiler	Planning	Madimbo	Agriculture	X	X	X	X	X	X	X	X	X	X	X	250 000	Agriculture	
27	Mshongoville community garden	Planning	Nancefield ext. 4	Agriculture	X	X	X	X	X	X	X	X	X	X	X	100 000	Agriculture	
28	Freedom park community	Planning	Freedom park	Agriculture	X	X	X	X	X	X	X	X	X	X	X	100 000	Agriculture	

SOCIAL CLUSTER

Project no	Project name	Status	Location	Responsible agency	Time												Total budget	Source of fund	
					06/07			07/08			08/09								
					I	II	III	IV	I	II	III	IV	I	II	III	IV			
1	INCREASE PUBLIC AWARENESS ON CLEAN WATER STORAGE, SOLID WASTE HANDLING AND FOOD HANDLING FOR INFORMAL TRADERS		MUSINA	COMMUNITY SERVICES	X			X			X					X		R6000 00	INTERNAL
2	EDUCATIONAL AWARENESS ON ENVIRONMENTAL STRATEGY TO VARIOUS STAKEHOLDERS		MUSINA	COMMUNITY SERVICES	X			X			X					X		R6000 00	INTERNAL
3	MALARIA EDUCATIONAL CAMPAIGNS WITH VARIOUS STAKEHOLDERS		MUSINA	COMMUNITY SERVICES	X			X			X					X		R6000 00	INTERNAL
4	STRENGTHENING EXISTING HEALTH AND SOCIAL COMMITTEES		MUSINA	COMMUNITY SERVICES	X			X			X					X		R6000 00	INTERNAL
5	ESTABLISH AND		MUSINA	COMMUNITY	X			X			X					X		R90 000	INTERNAL

Project no	Project name	Status	Location	Responsible agency	Time									Total budget	Source of fund	
	MONITOR NUTRITIONAL AND POVERTY ALLEVIATION PROJECTS			SERVICES												
6	CAPACITY BUILDING OF HOME BASED CARE GROUPS AND NGO'S		MUSINA	COMMUNITY SERVICES	X			X			X			X	R45 000	INTERNAL
7	ERECTION OF PALISADE FENCING AT MUNICIPAL BUILDING		MUSINA DUMPING SITE	COMMUNITY SERVICES	X			X			X			X	R40 000	INTERNAL
8	FACILITATE EDUCATIONAL FACILITIES TO IMPROVE CULTURE OF LEARNING AND TECHNOLOGY		MUSINA	COMMUNITY SERVICES	X			X			X			X	R50 000	INTERNAL
9	MAINTANANCE OF SAFETY AND SECURITY		MUSINA	COMMUNITY SERVICES	X			X			X			X	R50 000	INTERNAL
10	IMPLEMENTATION OF DISASTER MANAGEMENT PLAN		MUSINA	COMMUNITY SERVICES	X			X			X			X	R50 000	INTERNAL
11	PROMOTION OF YOUTH DEVELOPMENT,SPORTS,ARTS,CULTURE AND RECREATION		MUSINA	COMMUNITY SERVICES	X			X			X			X	R150 000	INTERNAL
12	FACILITATE THE PROMOTION OF THE AGED AND PEOPLE WITH DISABILITY		MUSINA	COMMUNITY SERVICES	X			X			X			X	R50 000	INTERNAL
13	FACILITATE THE PROVISION OF HOUSING		MUSINA	COMMUNITY SERVICES	X			X			X			X	R50 000	INTERNAL
14	PROVISION OF PUBLIC TRANSPORT AND COMMUNITY INFRASTRUCTURE		MUSINA	COMMUNITY SERVICES	X			X			X			X	R50 000	INTERNAL

Project no	Project name	Status	Location	Responsible agency	Time								Total budget	Source of fund	
15	FACILITATE THE PROVISION OF A CLINIC		MOPANI	COMMUNITY SERVICES	X			X			X			R40 000	INTERNAL
16	FACILITATE PROVISION OF PROPER PENSION PAY POINTS		MUSINA	COMMUNITY SERVICES	X			X			X			R60 000	EXTERNAL
17	FACILITATE PROVISION OF A SPORTS GROUND		MOPANI	COMMUNITY SERVICES	X			X			X			R6000 00	INTERNAL
18	FACILITATE PROVISION OF PUBLIC TELEPHONES		MUSINA	COMMUNITY SERVICES	X			X			X			R6000.00	INTERNAL
19	FACILITATE PROVISION OF SATELITE POLICE STATION		MOPANI AND NANCEFIELD EXT.6	COMMUNITY SERVICES	X			X			X			R6000.00	INTERNAL
20	FACILITATE PROVISION OF ADDITIONAL CLASSROOMS		MOPANI	COMMUNITY SERVICES	X			X			X			R10.000	INTERNAL
21	FACILITATE PROVISION OF SATELITE CLINIC		NANCEFIELD EXT. 7, MADIMBO, MALALE AND DOMBONI	COMMUNITY SERVICES	X			X			X			R40 000	INTERNAL
22	FACILITATE THE RENOVATION OF DAY CARE CENTRE		NANCEFIELD EXT.7	COMMUNITY SERVICES	X			X			X			R6000.00	INTERNAL
23	PROVISION OF SECURITY FENCE TO AVOID LIVESTOCK		MADIMBO	COMMUNITY SERVICES	X			X			X			R150 000.	EXTERNAL/ MAC
24	ERECITION OF ROBOTS		MUSINA	COMMUNITY SERVICES	X			X						62 000	INTERNAL

SECTION 5: APPROVAL

5.1 Process towards Approval

Musina local municipality held its first steering committee meeting to draw a process plan for 2006/07 IDP review on the 24 August 2005. The process plan was then submitted to the IDP representative forum for consultations on 14 September 2005. The final process plan draft was adopted by council on 25 October 2005. The Office of the Premier initiated the wide IDP consultative meetings throughout the province and Vhembe district municipality's consultative meeting was held on the 19th January 2006. The meeting assisted on intergration of projects with sector departments and parastatals, however the sector departments projects and programmes are reflected in the IDP review 2006/07.

The Public notice for comments on the draft IDP review 2006/07 was published on the 02 March 2006 until the 30 March 2006 in order to comply with the 21 days period for public comments, all the comments received from the public was incorporated into the draft. The 2006/07 IDP review was submitted to council on 30 March 2006 for adoption together with the draft budget, as per Circular No.19 of MFMA from national treasury regulations.

ANNEXURES

ANNEXURE A : MUSINA LOCAL MUNICIPALITY BUDGET SUMMARY (DRAFT)

MUSINA LOCAL MUNICIPALITY - MTEF BUDGET

SUMMARY PER DEPARTMENT				
EXPENDITURE	2005/2006	2006/2007	2007/2008	2008/2009
COUNCIL GENERAL EXPENSES	5,737,971.00	5,769,043.00	6,813,454.00	7,042,801.00
MUNICIPAL MANAGER	2,986,869.00	2,783,757.00	3,763,620.00	3,975,576.00
FINANCIAL SERVICES	6,911,202.00	8,174,367.00	9,051,921.00	9,414,328.00
COMMUNITY SERVICES	3,613,678.00	3,250,758.00	3,644,175.00	3,482,696.00
TECHNICAL SERVICES	29,112,493.00	35,009,260.00	34,721,046.00	34,820,504.00
CORPORATE SERVICES	2,835,991.00	4,042,760.00	2,664,499.00	2,784,108.00
TOTAL EXPENDITURE	51,198,204.00	59,029,945.00	60,658,715.00	61,520,013.00

ANNEXURE B : SECTOR PLANS

11.1.1 5 - YEAR FINANCIAL PLAN

The 5 - Year Financial Plan serves as a mid-term financial framework for managing municipal revenue collection and for expenditure planning. It includes capital and recurrent expenditure and is crucial for ensuring a close planning - budget link.

11.1.2 FINANCIAL MANAGEMENT ARRANGEMENTS

11.1.2.1 POLICY AND PROCEDURES

Policy and Procedures manuals were implemented to maintain and adhere to internal control measures and financial sustainability. The following were implemented:

- Accounting and Financial Policies
- Bank reconciliation
- Books of Account
- Fixed Assets
- Creditors System
- Receipt, depositing and control over cash funds
- Sundry Creditors
- Trade debtors

- Credit control
- Budgeting Procedures and control
- Travel and Subsistence
- Inventory
- Statutory funds, trust funds and reserves etc.

11.1.2.2 FINANCIAL STRATEGY

11.1.2.2.1 Revenue Raising

A differentiated tariff structure is being charged with different categories in Musina and Nancefield. The current payment rate is as follow:

- Musina 91%
- Nancefield 43%
- Average 86%

The financial strategy is to increase average payment rates yearly with 1% over the next five years. The financial strategy is to recover 5% on arrears debtors yearly for the next five years.

11.1.2.2.2 Capital Expenditure

The financial strategy is to finance capital out of income to a maximum of R100 000.00 on all assets, except for roads.

11.1.2.2.3 Standardization: Computer Software

Computer software must be standardized. Personnel and specialised costs will accordingly be limited.

11.1.2.2.4 Asset Management Strategy

Assets financed through loans will be financed over the expected lifespan of the asset. With effect from 1 July 2003 all assets will be depreciated over the expected lifespan of the asset.

11.1.2.3 REVENUE AND EXPENDITURE FORECAST

The financial position of Council stabilised over the past seven years from an overdraft to a positive bank balance (current; day call) of R498 038.61.

The financial strategy over the past seven years was to increase cash on hand from zero equal to the balances of statutory funds reserves and provisions. With effect from 1 July 2004 all statutory funds, reserves and provisions will be written off to the maximum of cash on hand.

Provision was made for bad debts. The budget expenditure was however decreased to maximum income realised and surpluses were accordingly made for the past years. The financial strategy will mainly increase infrastructure development and service delivery. The financial position of the Council was stabilised to address future strategies. The effective implementation of credit control measures will ensure that goals that were set will be achieved.

The medium term expenditure framework addresses the estimated income over the next few years on the different services currently rendered.

11.1.3 OPERATING FINANCIAL STRATEGY

The Municipal Systems Act, 2000, makes provision for municipalities to review and decide on mechanisms to provide municipal services. Municipalities have the following options, which they can decide upon:

- Public-Private Partnerships
- Public-Public Partnerships with other public institutions including other municipalities
- Partnerships with CBOs and NGOs

However, when entering into a public-private partnership, municipalities should consider the following criteria:

- Strategic developmental weight
- Political control
- Cost-efficiency
- Jobs
- Community influence
- Income generation

The partnerships can be based according to the following options:

- BOT: Build-operate-transfer which means that the asset or business activity is transferred back to the municipality after an agreed to timeframe

- BOOT: Build-own-operate-transfer which means that the contractor owns the asset or business activity for a particular period of time and then transfers it back to the municipality
- BOTT: Build-operate-train-transfer means that the contractor is responsible for ensuring that the staff of the municipality is trained to operate the asset or the function, and then transfer the function or asset back to the municipality.

Inline with legislation, Musina Municipality has explored the following options:

- BOT: Build-Operate-Transfer
- Encourage investment (Spirulina etc.)

Musina municipality is also in the process of developing a Service Delivery Agreement, which will facilitate the process of ensuring that the municipality remains responsible for the services provided. The municipality will also be responsible for monitoring and assessing the performance of the service provider and control the setting and adjustment of tariffs for the municipal service in question.

Musina Municipality will be reviewing its organizational design in relation to its outputs and objectives. This is to establish whether there is a need to employ additional staff, give certain staff more responsibilities, move staff into other positions for which they are best suited and finally, whether there is a need for the municipality to enter into partnerships with other organizations.

The municipality is also in process of ensuring that each department develops procedure and policy manuals to facilitate effective and efficient delivery of services. Finally, the municipality is committed to ensuring that it continues to develop the skills and capacity of existing staff so that they are able to implement services more effectively and efficiently.

MUNICIPAL SYSTEMS IMPROVEMENT GRANT
2002/2003

CAPACITY DEVELOPMENT FRAMEWORK

PERFORMANCE MANAGEMENT SYSTEM

Section 1

Background, purpose, grant utilisation strategy

Current capacity constraints

The performance management system is a new perspective to local government management, which requires that the right climate for change is created. The capacity to implement such a system exists, but training and capacity building is needed on all levels on “how” to develop, apply, monitor and implement such a system. The funds will ensure that this capacity building takes place.

Current measures to deal with the constraints

Rammble Consultants were appointed to develop and monitor the performance management programme on all levels in the municipality. The Director: Administration and a Councillor were delegated to attend a training session (two phases) on the Performance Management System, presented by JUPMET through the facilitation of Department of Provincial Affairs and Local Government.

The assistance that the municipality received from the consultants engaged during the first phase resulted in us looking at performance agreements for the municipal manager and the five heads of departments. We were not able to proceed beyond that stage.

Key capacity development issues

Apart from the usual financial constraints on the operational budget and capital development funds, with the consequent shortage of staff, the municipality, (Councillors as well as officials) have the capacity to develop and render the services needed, subject thereto that reasonable capacity building and training takes place to ensure that Councillors and employees are kept up to date with current and new administrative, legislative and technological advances in local government.

We have been able to realise that during the pilot phase, we took the bottom up approach, where before we set up the whole system for the municipality we started at the bottom by getting performance agreements of the senior managers developed and signed.

We were also not able to cascade the understanding of a performance management system to the lower people.

Gaps in the system / mechanisms (monitoring, performance measurement and review, internal auditing) used to meet the requirements of the new municipal system.

Monitoring, performance measurement and review, and internal auditing are done informally by the Municipal Manager and Heads of Departments as part of their normal management functions. Other monitoring and auditing measure in place are monthly and quarterly reports to Council on financial and administrative matters and progress with projects as it develops.

A comprehensive performance management system needs to be put in place to structure and formalise the above actions to ensure that focussed and effective development, monitoring and implementation of the system takes place.

The Municipality, ie Councillors, employees, community and all stakeholders must be consulted and workshops held to reach a common understanding of the performance management system so that they will be able to jointly monitor progress.

Improving municipal systems and structures

This grant will be used to get service providers who will be able to assist to improve our systems at the municipality. The details will be elaborated on in the plan per focus area.

Addressing the local government capacity constraints

The grant funding will put a structured framework in place that will enable councillors and management to

- Maximise potential benefits
- Avoid potential pitfalls
- Address key challenges openly honestly through trial and error.
- Learn from the lessons of the pilot programme and build on those lessons to be able to move forward.

Section 2

Plan per Focus Area

FOCUS AREA 1

Objectives:

1. To equip councillors, managers, workers and stakeholders at different levels with a set of tools and techniques to regularly plan, continuously monitor, periodically measure and review the performance of the municipality in terms of the indicators and targets for efficiency, effectiveness and impact.
2. To ensure overall accountability in respect of improved delivery and value for money to the local community and citizens.
3. To create pressures for change.
4. To create a culture of best practices and encourage capacity building and sharing among neighbouring municipalities in the area.
5. To develop meaningful intervention mechanisms.
6. To guide the development of municipal capacity building programmes.

Key outputs	Indicators	Time frames
1. Starting the Performance Management process	Setting up internal institutional responsibility Managing the change process	October 2002 November 2002
2. Developing the Performance Management system	Establish the current reality Identify stakeholders Create structures for stakeholder participation Develop the system Publication of the system Adoption of the system.	September 2002 - June 2003
3. Implementation of the Performance Management system	Planning Priority setting Setting objectives Setting key performance indicators: Prescribed key performance indicators <ul style="list-style-type: none"> • Access to basic services (Batho Pele) • Access to free basic services • Level of capital spending • Number of local jobs created • Progress on employment equity at senior management level • Level of Municipal expenditure on the Workplace Skills Plan • Financial viability with respect to debt coverage, outstanding debtor in relation to revenue and cost coverage, etc. Setting targets Develop a monitoring framework Designing a performance measurement framework Conducting performance reviews Improving performance Reporting on performance: Using performance audit mechanisms Organisational performance and employer performance	March – May 2003 June 2003 July 2003 July 2003 August 2003 August 2003 August/Sept 03 Ongoing till June 2003 Ongoing till June 2003

Key Activities	Indicators	Time frames
1. Establish a task team led by a senior manager	Report to Municipal Manager who report to Council	September 2002
2. Managing the change process	Workshops: Municipality to citizens Administration to Council Line functions to executive management Employees to the organisation	October – November 2002
3. Developing the system	Assess planning, implementation and monitoring Identify gaps in terms of new integrated planning and performance management requirements Determine stakeholder roles.	Jan – March 2003
4. Identify stakeholders	Create structure for stakeholder participation	Jan – March 2003
5. Implementing Performance Management: Planning for performance <i>Setting Key Performance Indicators (Kpi's)</i>	Planning, Priority setting, setting objectives Input indicators, Output indicators, outcome indicators. Identify roles of roleplayers in monitoring and measuring.	July - September 03
6. Developing a monitoring framework	Allocate specific tasks to the gathering of data and submission of reports. Determine who conducts reviews. Improving performance.	Oct.- Dec.2003
7. Conducting performance reviews	Reporting on performance: Organisational performance and employee performance	Jan 2004 – June 2004
Budget	Amount	
Grant portion (MSIG)	500 000	
Municipal contribution	-	
Provincial/donor/other contribution (Specify)	500 000	
Total		

This will enable us as the municipality to engage service providers who will assist us to review the pilot, identifying the weaknesses and build from there. We will further be able to develop the whole system from top to bottom (and not like what we did during the pilot phase.)

The amount allocated per task will be indicated when various service providers have been engaged.

I am positive that this grant will go a long way to address capacity problems at our municipality, and let me thank you in advance for the grant.

MUSINA ACTION PLAN / ROLL OUT

2005/2006

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1. Introduction

JMS was appointed to be the strategic advisor to Musina Municipality with regard to the implementation of the Performance Management System. The contract was for a period of 3 years, renewable each year subject to the satisfaction of the Municipality. JMS is currently in the 3rd and final year of the contract. Musina has requested in the final year that JMS should embark on a skills transfer process to ensure continuity and sustainability by officials in the Municipality.

2. Background

To date the following has been completed since the sign off of the contract 3 years ago,

Financial Year	Activities Completed	Musina Project Manager
2003/2004	<ul style="list-style-type: none">✓ Change Readiness Survey✓ Refinement of the PMS✓ Development of a Training Manual (Generic)✓ Development of a Training Manual (Implementation)✓ Managers Scorecard✓ HOD's Scorecard✓ Workshops with all the employees✓ Workshop with HOD's and Managers✓ Development of assessment forms✓ Assistance with appraisal sessions	Ria Heitbrink / Ndivhuho
2004/2005	<ul style="list-style-type: none">✓ Refined scorecard in line with Business Plans✓ Development of the PMS agreements✓ Refined performance assessment forms	Ndivhuho
2005/2006	<ul style="list-style-type: none">✓ Refine scorecard in line with the IDP✓ Development of the Performance Contract for HOD's	Ndivhuho

ACTION FOR HANDOVER : ANNUAL PROGRAMME

Month	Activities	Musina Stakeholders	JMS Facilitator	Expected Deliverables	Musina Sign-Off (Signature)
July 2005	<ul style="list-style-type: none"> <input type="radio"/> Assessment Appraisals for HOD's <input type="radio"/> Develop Performance Contracts for HOD's <input type="radio"/> Refined scorecard 	Heads of Departments	Jabu Marema	Accepted and singed off contracts and scorecard	
August 2005	<ul style="list-style-type: none"> <input type="radio"/> Cascading of KPI's/ Developing and signing performance agreements for lower level staff <input type="radio"/> Refresher workshops with lower level employees 25/08/05 <input type="radio"/> Refine the procedure for assessments 	<ul style="list-style-type: none"> <input type="radio"/> All staff 	Jabu Marema	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Performance agreements <input checked="" type="checkbox"/> Refresher workshop <input checked="" type="checkbox"/> Procedure document 	
September 2005	<ul style="list-style-type: none"> <input type="radio"/> Conduct a workshop to develop and agree on performance standards 15 and 16 September 2005 <input type="radio"/> Establishment of a PMS Co-ordinating Committee <input type="radio"/> Develop assessment forms <input type="radio"/> Appraisals for all employees 26 to 30 September 2005 	<ul style="list-style-type: none"> <input type="radio"/> Heads of Departments <input type="radio"/> Municipal Manager <input type="radio"/> IDP and LED Section Heads 	Jabu Marema	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Performance standards report <input checked="" type="checkbox"/> Assessment forms 	
October 2005	<input type="radio"/>				
November 2005	<input type="radio"/>				
December 2005	<input type="radio"/>				
January 2006	<input type="radio"/> Assessment of all staff	<ul style="list-style-type: none"> <input type="radio"/> Municipal Manager <input type="radio"/> HOD's, <input type="radio"/> Section Heads, Supervisors, 	Jabu Marema	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Assessment report 	
February 2006	<input type="radio"/> Conduct refresher training with HOD's on PMS	All HOD's	Jabu Marema	3. Refresher workshop	
March 2006	<input type="radio"/> Assessment for all staff 27 to 31 March 2005		Jabu Marema	4. Assessment report	
April 2006	<ul style="list-style-type: none"> <input type="radio"/> Setting of KPA's and KPI's <input type="radio"/> 30 April 2005 <input type="radio"/> Refine performance scorecard 	<ul style="list-style-type: none"> <input type="radio"/> Municipal Manager <input type="radio"/> HOD's, <input type="radio"/> Section Heads 	Jabu Marema	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> KPA's and KPI's <input checked="" type="checkbox"/> Performance scorecard (2006/07) 	
May 2006	<input type="radio"/> Performance Contracts	<ul style="list-style-type: none"> <input type="radio"/> Municipal Manager <input type="radio"/> HOD's 		<ul style="list-style-type: none"> <input type="radio"/> Contracts 	
June 2006	5. Sign-off completion of project	Municipal Manager	Jabulane Marema/ Jbulane Hlaethoa	<ul style="list-style-type: none"> <input type="radio"/> Close-out report 	

4. Conclusion

This handover programme is not cast in stone. It allows for amendment when circumstances so require in terms of Performance management. If an amendment is include, both the parties will sign for the amendments.

This hand over plan contract is hereby entered into by JMS represented by _____ and Musina Municipality represented by _____

Agreement singed on the _____ day of _____ (Month) _____ (year)

JMS Signature:_____

Musina Municipality Signature:_____

FINAL REPORT OF THE MUSINA SPATIAL DEVELOPMENT FRAMEWORK PLAN



Prepared For: **Musina Municipality**

Prepared By: **Hluli Engineering and Environmental Consultants**

JUNE 2005

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SECTION A – INTRODUCTION

1.0 BACKGROUND

The first Integrated Development Plan for the Musina Municipality was prepared in 2002 for implementation in the 2002/2003 financial year. Subsequently the IDP has been reviewed twice in 2003 and 2004. Each of these IDP's, contain a Spatial Development Framework (SDF) section, which despite representing the whole of the municipal area, focus extensively on the town of Musina.

In November 2004 Hluli Environmental and Engineering Consultants were appointed by the Musina Municipality to prepare a series of sector plans on behalf of the municipality. This proposed Spatial Development Framework for the Musina Municipality is one of the sector plans and is part of the 2005/2006 IDP review. The preparation of the SDF has started some three months after the commencement of the other sector plans in order to incorporate the findings of the other reports and to integrate all proposed projects into a future spatial vision for the municipality.

Given the focus of the previous SDF's on the urban settlements within the Musina Municipality, this SDF will strive to cover the entire area of the Musina Municipality more thoroughly as well as the urban centres.

1.1 Purpose of the SDF and its relationship with a land Use Management System

The main purpose of an SDF is to guide the spatial form and location of future developments within a municipality. In so doing an SDF must attempt to address the spatial imbalances created during the Apartheid period. Another purpose of an SDF is to give spatial effect to multi-sectoral projects identified in the IDP as well as assist the municipality to co-ordinate the various the implementation of the various sector plans.

The SDF should be flexible and able to change to reflect changing priorities, whereas the Land Use Management System (LUMS) should be less flexible and only amended where required for a particular development. Rather than act as the direct source of rights and controls, the SDF should inform the content of the LUMS, In this regard, the SDF should:

- Only be a strategic, indicative and flexible forward planning tool to guide planning and decisions on land development;
- Develop an argument or approach to the development of the area of jurisdiction which is clear enough to allow decision-makers to deal with the unexpected;
- Develop a spatial logic which guides private sector investment;
- Ensure the social, economic and environmental sustainability of the area;
- Establish priorities for public sector development and investment; and
- Identify spatial priorities and places where public-private partnerships are a possibility.

In the rural context it is necessary to deal specifically with natural resource management issues, land rights and tenure arrangements, land capability, subdivision, consolidation of farms and the protection of prime agricultural land.

The purpose of the SDF is not to infringe upon existing land rights but to guide future land uses. No proposal in this plan creates any land use rights or exempts anyone from his or her obligation in terms of any other act controlling land uses. The SDF maps should be used as a schematic representation of the desired spatial form to be achieved by the municipality in the long term. The boundaries created through this process should therefore be left for interpretation and not be scaled. (Makado Municipality, 2004)

1.2 Contents of an SDF

The content of this SDF will be guided by the Municipal Systems Act No 32 of 2000 & Regulations which outlines the legislative requirements for an SDF. These requirements will serve as the aims of this study. Therefore the following is a summary of the aims of the SDF in terms of the regulations:

- Give effect to the DFA Principles;
- Set out Objectives re. Desired spatial form;

- **Contain Strategies:**
 - Desired pattern of land use;
 - Address spatial reconstruction;
 - Provide strategic guidance re. Location and nature of future development;
- Set out Guidelines for a land use management system;
- Set out a capital investment framework for the municipality's development programs;
 - Strategic assessment of the environmental impact of the SDF;
- Identify programmes and projects for the development of land within the municipality; Align with SDF's of neighbouring municipalities;
 - Provide visual representation of the desired spatial form:
 - Where private and public land development & infrastructure should take place;
 - Desired and undesired utilisation of space;
 - May delineate urban edge;
 - Identify areas for strategic intervention; and
 - Indicate areas of priority spending.

1.3 Guiding Legislation

National Legislation

The following legislation deals with various sectors of development, all of which have a spatial impact:

- The Constitution
- Municipal Structures Act 117 of 1998 (as amended)
- Municipal Systems Act No 32 of 2000
- Development Facilitation Act No 67 of 1995 (DFA);
- Land Use Management Bill, 2003
- National Water Act 36, 1998
- National Transport Transition Act, 2000
- Housing Act 107, 1997
- White Paper on Disaster Management, 1999
- Environmental Conservation Act 73, 1989
- National Environmental Management Act 107, 1998

- Biodiversity Act, 2004
- National Heritage Resources Act, 1999.¹

Of the above legislation this spatial development framework will mainly be guided by the Municipal Systems Act of 2000, the DFA, and the Land Use Management Bill. The other legislation is listed to emphasise the need to examine other legislation relevant to spatial planning when undertaking any more detailed spatial planning involving different sectors, in Musina.

National Policies

In terms of policies at the national level the policy document most directly affecting spatial planning is the National Spatial Development Perspective (NSDP), prepared in 2003. This document outlines a spatial vision for the whole of South Africa and outlines strategies to achieve the vision.

The NSDP Vision is as follows:

“South Africa will become a nation in which investment in infrastructure and development programmes support government’s growth and development objectives:

- By focusing economic growth and employment creation in areas where this is most effective and sustainable
- Supporting restructuring where feasible to ensure greater competitiveness
- Fostering development on the basis of local potential; and
- Ensuring that development institutions are able to provide basic needs throughout the country”.

The strategies to achieve this are as follows:

- Investing in people not places – “In order not to discriminate against people who are currently locationally disadvantaged, it is proposed that Government seek to address these inequities by maintaining the current distribution of fiscal resources to these areas, but that this investment is shifted into less fixed assets. This could mean that only a very basic level of infrastructural services is provided and that an additional amount of money goes into skills development, labour market information, and other resources that will enable those living in these areas to become more mobile”. (NSDP:27, 2003)

¹ It should be noted that this is etc.

- Re-assessing government subsidies to address the disjuncture between settlement and economic policies – i.e. providing subsidies only to those areas with economic potential.(NSDP:29,2003)
- The politics of ‘big push’ vs ‘unbalanced development’ – Acknowledges that there will be continued pockets of unbalanced growth in the medium to longer term in the interests of overall equity.
- The mismatch between economic development and SA’s natural resources – the document proposes that public investment/subsidies must favour those areas that have comparative advantage in the use of scarce resources. (NSDP:32,2003)
- Globalisation and sustainability
- Focusing infrastructure investment on appropriate levels of service
- Maintenance versus new investment
- Measuring the potential of different localities

Provincial/ District Legislation & Policies

Town Planning and Townships Ordinance No. 15 of 1986 provides for the compilation of town planning schemes in Limpopo.

Provincial Policies

Vhembe District Spatial Rationale, 2002.

The Vhembe District Spatial Rationale is a component of the Northern Province Spatial Rationale prepared in 2002. These spatial rationale’s outline provide an updates status quo of development within the district as well as current and desired settlement patterns.

SECTION B – STATUS QUO

Phase 1 of the SDF involves the collation and assembly of spatial and related attribute data which is to be analysed in Phase 2.

2.1

Local and Regional Context (Refer to Map1a and 1b)

The Musina Local Municipality is located in the very north of the Limpopo Province, bordering Botswana and Zimbabwe. The Musina Municipality covers an area of approximately 757 829 ha that extends from the confluence of the Mogalakwena and Limpopo River in the west to the confluence of the Nwanedi and Limpopo River in the east and from Tshipise and Mopane in the south to Botswana/Zimbabwe borders (Limpopo River) in the north. The municipal area consists mainly of commercial farms and only 0.08% of the total area is urban in nature.

The municipality falls within the Vhembe District, which is made up of four local municipalities, namely Musina, Makado, Thulamela and Mutale, of which Musina is bounded by Makado to the south and Mutale to the east. Musina is also bounded in the south west by the local municipality of Blouberg which falls within the Capricorn District Municipality.

2.2

Municipal Boundaries (Refer to Map 1b)

2.2.1

Municipal Wards (refer to Map No2)

The Musina Municipality is made up of five municipal wards, of which three fall within the urban centre of Musina. Ward one stretches from the western boundary of Musina municipality to Tshipise in the east. Wards 1 and 2 are the largest wards and are of a rural nature. Wards 3, 4 and 5 make up the peri-urban and urban settlement of Musina.

2.2.2

Service Delivery/Functional Boundaries (Refer to Map 7)

There are four service delivery/functional boundaries affecting the municipality of Musina. There are four magisterial areas falling either wholly or partially within the municipal boundary. The health and education jurisdictional boundary is the same but covers the area of the Vhembe District. The police jurisdictional boundary extends slightly beyond the health and education boundary.

The non-alignment of boundaries with either district or municipal boundaries could complicate the delivery of certain social facilities and services.

2.3

Demographics (Refer to Map 3)

2.3.1

Demographic Data

The demographic data for the SDF is based on the 2001 census sourced from the Demarcation Board. As such the demographic data presented here is an update on the IDP which is based on projections of the 1996 census.

Based on the above, the current population of the Musina Municipality is projected to be 41 357 people.

Attempts were made to produce a population distribution map for the Musina Municipality, however, in the 2001 census, Statistics SA no longer provided information by enumerator area rather they have aggregated the data to sub-places in accordance with the legislation protecting privacy. In an urban setting such as Johannesburg information at this level does demonstrate a settlement pattern/ population distribution. However, given that the population for the Musina Municipality is concentrated in the town of Musina the sub-places outside of the town tend to be large making it difficult to determine population distribution. While the information was examined at a voter district breakdown, the information is restricted for public use and could not be mapped in this report.

Table 1.0 Population Breakdown in Groups and Gender 1996-2001

	1996		2001		1996 - 2001
	(n)	%	(n)	%	Population Change
African	28419	86.0	36781	93.6	22.7
Coloured	113	0.3	109	0.3	-3.7
Indian	70	0.2	10	0.0	-600.0
White	4030	12.2	2411	6.1	-67.2
Other	420	1.3		0.0	
Male	17055	51.6	18785	47.8	9.2
Female	16004	48.4	20524	52.2	22.0
Population	33052		39309		15.9

Source: Stats SA, 2001

Given that the population base line has been confirmed with the 2001 Statistics SA data, the same population growth rate projections used in the IDP will be applied for the period 2001 to 2008. However, it should be noted that the implied rate of growth of the SA population has been declining steadily. The overall growth rate for 2004–2005 is estimated at about 0.9% with the rate for females slightly lower than that of males. (Stats SA, 2005)

Table 2.0 Projected Population

Year	Annual Growth Rates	Conversion Rate	Projected Population
2001	1.416	1.0142	39309
2002	1.355	1.0135	39840
2003	1.320	1.0132	40366
2004	1.250	1.0125	40871
2005	1.189	1.0119	41357
2006	1.110	1.0111	41816
2007	1.032	1.0103	42247
2008	0.953	1.0095	42648

Source: **Musina IDP 2004/2005 Review**

The salient points about Musina's population is that there has been an average increase in population of some 0.85% between 1996 and 2001 which is .05% below the natural growth rate of 0.9% which suggests that people are migrating out of the area. Another feature is that there was a 13% increase in the female population in the municipality. This suggests that more males are migrating out of the area than females. Also the trends identified between the 1996 census and 2001 census suggest a net decrease in the white, indian and coloured population groups in the area.

Evidence of illegal and unrecorded residence within the town of Musina is indicated in the disparity between the statistically recorded population growth between 1996 and 2001 and the significant increase in housing demand experienced during that period. This is a potentially serious issue as it has major cost implications for a border municipality in terms of service provision.

2.4.1

State Land

The bulk of state land (national and provincial) apart from a few individual farms is around the town of Musina and make up 8% of land holdings of the municipality. Land owned by the local municipality consists of 27 farms, distributed throughout the municipality and make up 2% of land holdings within the municipality.

2.4.2

Private land

786 (59%) of farms are privately owned within the municipality.

2.4.3

Institutional

These appear to fall into two large clusters owned by De Beers Consolidated Mines and the South African Development Trust, located around the Venetia Diamond Mine and the Domboni/Madimbo areas respectively.

2.4.4

Mixed

These mixed land ownership sites constitute parent farms that have been subdivided and the subdivisions are owned by the state, privately or by an institution. However, they only constitute some 1% of land ownership within the municipality.

2.4.5

Traditional Authority Areas

There are no traditional authority areas within the Musina Municipality area. However, the settlement cluster of Madimbo/Malale and Domboni lies just across the municipal boundary of traditional authority areas.

2.4.6

Land Reform Projects (Refer to Map No. 9)

351 land claims have been lodged on some 351 farm subdivisions, covering some 27% of the municipality area. These claims will have a significant impact on spatial developments within the municipality. Twenty one of these claims are on state land, located mainly along the N1 and rail routes and adjacent to Mapungupwe. There are another two clusters of claims, on the institutional land around the Venetia Mine owned by DeBeers consolidated Diamond mines and around the Domboni/Madimbo areas owned by the South African Development Trust. The remainder and majority of claims are on private farms distributed mainly in the south and east of the municipality.

Ownership and Claims	(n)	%
Not confirmed	20	6
State Owned (National/Provincial)	21	6
State Owned (Municipal)	1	0
Private Owned	206	59
Institutional Owned	80	23
Mixed Ownership;	7	2
Unknown	16	5
Total	351	100.0

Source: Siyamisana Planning Consultants, 2005

The above evidence suggests that there are areas of state and institutional land where there is existing land claims. This provides opportunities for easier intervention on behalf of the local municipality for purposes of furthering the SDF aims. Easier intervention is assumed because it is easier to negotiate with one large land holder, plus there should be greater agreement about desired outcomes between the different spheres of government and therefore agreement to release their land.

The IDP Review (2004/05) proposes that one agricultural settlement be established as part of the land reform program. This project needs to be confirmed and its locality mapped.

2.5

Land Cover (Refer to Map 10)

TABLE 4.0: TOTAL AREA OF MUSINA MUNICIPAL AREA AND DENSITY OF SETTLEMENT

Total area of municipality (ha)	Total area of settlements (ha)	Area of settlements as % of municipal area
757 829	636.39	0.08

Source: *Northern Province Spatial Rationale, 2002 (Draft)*

2.5.1

Vacant Land (Refer to Map No 10)

Given the broad definition of agricultural land and farming it is difficult at a municipality scale to determine what is vacant land, particularly when a lot of farms within the municipality are effectively game farms for hunting.

The notion of vacant land is only of use within the urban context. The only urban area within the municipality is the town of Musina which has significant areas of vacant land specifically to the west of the CBD.

2.5.2

Agriculture

Game farming is becoming increasingly important and there seems to be a tendency for cattle farmers to switch to game farming. Game is far more adapted to the semi-arid environment found in the Musina Municipality and require less water and care. The consolidation of game farms to facilitate large-scale eco-tourism operations and the multiple consumptive (hunting and meat production) and non-consumptive (tourism activities) utilisation of these areas provide a significant economic boost to the area (Statomet, 1997 in the Musina IDP, 2004/05).

The agricultural sector generates more employment opportunities in the municipality than any other sector in the economy. The areas indicated on Map 5 that have significant agricultural potential should therefore be protected from any development that may negatively effect existing and future agricultural activities.



Photo 1: View over citrus fields near Tshipse

Agricultural Potential

The inherent production capacities of an area can be considered a function of a number of variables, i.e. soil types, access to water (ground and surface), distances to markets, etc. On this basis five areas with agricultural potential have been identified, i.e. an area along the Limpopo River (Limpopo Valley - including Weipe farms), an area along the Sand River (to the west of Mopane), the Nwanedi farms (only small section in municipal area), an area along the Nzhelele River (Nzhelele irrigation area) and an area along the Nwanedi River (State land leased by small farmers). (Musina IDP, 2004/05)

The soils found in the Musina Area have the following potentialities in terms of various land uses, as follows:

- the Musina town is covered by soils which are of intermediate suitability for arable agriculture where climate permits.
- the area surrounding Musina town is covered by soil suitable for forestry or grazing where climate permits, but not suitable for arable agriculture. This type of soil is mostly covered or found along the Sand River and towards the Limpopo River and dominant further west.
- To the eastern side of Musina the soils are not suitable for agriculture or commercial forestry; but are suitable for conservation or recreation.
- The other type of soil found in Musina is one deemed poor suitable for arable agriculture where climate permits. These types of soil need further survey, so to enable the Municipality to decide where to grow what and where not to develop. (Geo-Environmental Report)

2.5.4 Commercial

The only significant commercial activity within the municipality occurs in the town of Musina and at the Beitbridge border post (see section 2.5.8).

The Musina CBD renders an important function, not only to the residents of the Musina Municipality, but also in a sub-regional context and beyond the international boundary with Zimbabwe. The Musina CBD has developed in a linear manner along the National Road, which extends through Musina and serves as the primary traffic route in/through the town. The locational advantage for businesses along the N1-National Road, i.e. maximum exposure to passing traffic, puts pressure on the CBD to develop along this axis in the form of “ribbon” development.

The CBD area is demarcated as follows (see Map 10):

- To the west: The portion of land owned by TRANSNET located adjacent and to the west of National Road, including Erf 1638 Messina Proper and Erven 1635, 1636 and 1637 Messina Extension 2;
- To the east: Hospital and Whyte Road, including the magistrate's and old municipal buildings;
- To the south: Erven 1616 and the Remainder and Portions 1 and 2 of Erf 298, located adjacent and to the south of Irvin Street, Mostert Street, a portion of Campbell Street, Davies Avenue and Portions 6 and 7 of Erf 761 Messina Extension 2; and

- To the north: Erven 1602 and 1603 Messina Extension 5 and Erf 1625 Messina Extension 9. (Musina IDP Review, 2004/05)

The Musina CBD is divided into distinctive zones, i.e. the retail core and the peripheral zone/s:

Retail Core Zone

This is the most intensively utilised area of the CBD with high quality and specialised retailers, financial institutions and offices on properties with high value. The retail core area is demarcated as follows:

- To the west: The portion of land owned by TRANSNET located adjacent and to the west of National Road, including Erf 1638 Messina Proper and Erven 1635, 1636 and 1637 Messina Extension 2;
- To the east: Whyte Road, including Erf 1625 of Messina Extension 9;
- To the south: Portions of Turner and Frost Avenues, Mostert Street and Erven 1616 and the Remainder and Portions 1 and 2 of Erf 298, located adjacent and to the south of Irwin Street; and
- To the north: Erven 1602 and 1603 Messina Extension 5.

A number of undeveloped business erven are found in the retail core area. If all undeveloped erven are regarded to be available for business development, then 24 627m² (excl. TRANSNET land) of land for business development are still available in the retail core area. The potential exists to densify business development in the retail core area by utilising existing land/erven more effectively. The establishment of businesses by means of “filling-in” and densification within the existing CBD will ensure that the CBD develops into a functional unit. (Musina IDP Review, 2004/05)

Peripheral Zones

Peripheral zones are areas of transition, which develop naturally on the outer edges of the CBD and consist of mixed land-use types. Peripheral zones develop mainly due to the pressure exerted on adjacent residential land-uses by a growing / expanding business area and the resultant competition for space between business and residential land-uses. These peripheral zones also develop due to the location of public uses, e.g. hospitals, magistrate's offices, etc., which associate with both business and residential components. The residential component is forced out of these zones and decay is often visible as old residential buildings are neglected, awaiting redevelopment. (Musina IDP Review, 2004/05)

Peripheral Zone will be earmarked as an office and high-density residential area and is demarcated as follows:

- To the west: Portions of Erven 613, 798, 590 & 589 Messina Extension 1 and Messina Proper;
- To the east: Whyte Road, including a portion of the Remainder of Erf 761 and Portion 7 of Erf 761;
- To the south: A portion of Campbell Street, Davies Road and a portion of the Remainder and Portions 6 and 7 of Erf 761; and to the north: Le Helloco Avenue. (Musina IDP Review, 2004/05)



Photo 2: View looking south, down the N1 through the Musina CBD

2.5.5 Industrial Uses

The only significant industrial areas are located in the town of Musina.

Secondly, manufacturing is a very important sector of the economy as it provides work opportunities to skilled and unskilled labour and creates spin-offs which bring about additional economic activities in the local economy. Industrial development should be attracted to Musina in order to generate additional economic / employment opportunities. Two industrial nodes are found in Musina i.e. Messina X3 and Messina X1 (Blikkiesdorp).

Industrial Node 1- is located to the south of Musina, adjacent and to the west of the N1-National Road. The industrial area has rail facilities and caters mainly for heavy and noxious industries. Sufficient erven for heavy industries are still available for

the medium and long term. Sufficient land, which is owned by the Musina Municipality, is also available to extend the industrial node (I1) towards the south. Industrial Node - I1 should continue to accommodate heavy and noxious industries in future.

Industrial Node 2- is located to the north of Musina, adjacent and to the east of the N1-National Road. This industrial area caters only for light and service industries. Sufficient erven for light and service industries are still available for the medium and long term. Industrial Node - I2 should continue to accommodate light and service industries in future. (Musina IDP, Review 2004/05)

2.5.6 Mines and Quarries (cross reference to section 1.7)

Mining and quarrying is currently a declining sector within the municipality of Musina. As a result there is only one active mine, namely the Venetia Diamond Mine. However, there is a plethora of closed and derelict mines throughout the municipality which in some cases constitute an environmental problem.

Only active mines are as follows:

- **Venetia Diamond Mine**
- **Tshikondeni Coal Mine**
- **Geocarpo Magnasite Mine.**



Photo 3: View of the Venetia Diamond Mine

2.5.6 Residential

The existing backlog of low-income residential erven in 2003 is taken as the number of applicants that appears on the "housing waiting list" of the municipality, i.e. 4109 houses in 2003. The Musina Municipality is in the process to provide 250 additional low-income housing units (Housing Subsidy Scheme) in Musina-Nancefield Ext. 4 & 8. These additional 250 low-income units are however developed to accommodate people from the hostel in Nancefield who lost their accommodation due to the redevelopment of the hostel into family units. The future need for low-income housing is calculated in accordance with the natural increase of the population.

Sufficient land is available for the development of middle and high-income residential erven in Musina/Nancefield for the short and medium term. The Musina Municipality allocated 177 middle-income residential erven in Musina-Nancefield Extension 4 to developers in 1999/2000. Sixty-six Middle-income houses were constructed and 111 erven are not developed at present. A total of 111 middle-income erven are therefore available in Musina-Nancefield Proper and Extensions 1 and 4 for development. The Musina Municipality owns these erven. 122 undeveloped middle-income residential erven are available in Musina-Nancefield Extension 2. De Beers (PTY) LTD. owns the township and sell the erven on a limited basis to residents of

Musina/Nancefield. Thirty-seven high-income residential erven are available in Musina for immediate occupation. The Musina Municipality also owns these erven.

The estimated future need for residential erven and land for the provision of middle and high-income residential development is indicated in Table 6. The table indicates a shortage of middle/high income erven will occur from 2008. If the available erven in Musina-Nancefield Extension 2 is taken into account, a shortage of such erven will not develop until after 2010. (Musina IDP Review 2004/2005)

TABLE 6.0: ESTIMATED FUTURE NEED FOR RESIDENTIAL ERVEN AND LAND FOR MIDDLE AND HIGH-INCOME HOUSING DEVELOPMENT IN MUSINA/NANCEFIELD

Year	Middle / high-income pop.	Increase in middle/high income population	Res. erven needed ²	Cumulative need for residential erven ³	Area needed (ha)	Cumulative area needed (ha)	Cumulative need for residential erven including Nancefield X ⁴
2003	8931			-148	124.0	-12	-270
2004	9058	127	37	-111	4.1	-9	-233
2005	9180	122	36	-75	4.0	-6	-197
2006	9301	121	35	-40	3.9	-3	-162
2007	9418	116	34	-6	3.8	-1	-128
2008	9530	112	33	27	3.6	2	-95
2009	9635	106	31	57	3.4	5	-65
2010	9735	99	29	86	3.2	7	-36

Source: Pieterse, Du Toit & Associates CC, 2003

A need for 1223 low-income housing units exists on the State owned farm of Magazant 123 M.T. The majority of people in the area are farm workers working on commercial farms in the eastern areas of the Musina Municipality. The Musina Municipality is in the process to apply for funding to develop an agri-village/s in the area.



Photo 4: View of Nancefield from the N1

2.5.7 Small Holdings

The only small holdings exist around the town of Musina.

2.5.8 Border Posts

Pontdrift -

This border post is relatively remote and only has a police post which also serves as a pension pay-point and some ancillary residential uses. Given that there is no bridge over the Limpopo River at this point, it also has a large car park for when the river is flowing.

Beitbridge –

This is a large border crossing which could be viewed as a gateway not only in the South Africa from the north but also into the Musina Local Municipality. In and around the border posts the following land uses and activities are found:

- Truck stops
- Clearance houses and agencies
- A roadside clinic

- Petrol filling station
- A breakdown service
- A small cash and carry retail shop
- Taxi termini and waiting area
- Informal restaurants and shops
- Car/vehicle sales

These uses appear to be located around the border post in a relatively incoherent manner, some of which are causing traffic conflicts etc.

2.5.9 Nature Reserves, Conservancies and Places of Special Interest

The following registered nature reserves are located in the Musina municipal area:

- Vhembe/Dongola National Park - 2 504ha
- Messina Nature Reserve - 4 910ha
- Honnet Nature Reserve
- Venetia Limpopo Nature Reserve – 37 000ha

There are an additional 11 game farms and lodges recorded within the municipality.

Places of special interest and game farms that are located in the Musina municipal area are indicated in Tables 7 and 8 below.

TABLE 7.0 : PLACES OF SPECIAL INTEREST IN THE MUSINA LOCAL MUNICIPAL AREA

No	Name	Location	Description
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1	Musina museum	Civic Centre	Antique equipment, instruments, etc, used by the old Messina Copper mine
2	Zeederberg's mail coach	Civic Centre	Original mail coach used between Pretoria and Zimbabwe
3	Erich Meyer Park	Just east of Musina	Famous Elephant's Trunk Boabab tree (also known as the "slurpie")
4	Matakwe	10km north-west of Musina on the farm Boston 152 MS	Three Sisters, a single rock of bulai granite measuring 38ha in size
5	Bulai/Dongola Execution Rocks	20km west of Musina, adjacent to the R572	The Musina chiefs executed their prisoners at these rocks

Source: Pieterse, Du Toit & Associates CC., 1998



Photo 5: Entrance into Mapungubwe Nature Reserve

TABLE 8.0: GAME FARMS AND NATURE RESERVES IN THE MUSINA MUNICIPAL AREA

No	Name	Location from Musina	Registered Farm Name	Area	Accommodation	Type	Game	Other Facilities / Serves
1	A Fourie Game Farm	50 km west	Hayoma	2 000 ha	17 beds: 3 chalets + 2 rooms	Private Game Farm	See note	Swimming pool, conference room, lapa
2	CA Young Game Farm	25 km west	Halton	3 500 ha	16 beds: 8 chalets	Private Game Farm -mainly for local hunters	See note	
3	De Villiers Game Farms	65 km west	Kilgour 176 MS, Dersby	2 135 ha	10 beds: 1 tent	Private Game Farm - biltong hunting	See note	
4	HFT De Swardt Game Farm	24 km west	Stoke	4 000 ha	10 beds: 4 rooms (in a house)	Private Game Farm - biltong hunting	See note	Swimming pool
5	Honnet Nature Reserve	37km south east	Honnet 137MT					
6	Ilala Lodge	8 km north-west	Tovey	240 ha	32 beds: 6 chalets + 4 guest rooms			Swimming pool, conference room, restaurant, bush walks, bird watching
7	JJ Klaff Game Farm	40 km west	Moulton	4 500 ha	10 beds: house	Private Game Farm	See note	
8	Messina Nature Reserve	Adjacent and to the south and east	Toynton 49 MT; Princenhage 47 MT; Stockford 46 MT; Berenrode 45 MT and Veenen 48 MT	4 910 ha	Guest house - 6 people Bush camp (tent) - 12 people	Nature reserve	See note + leopard girafffe	Game viewing, picnic facilities, hiking(sable hiking trail)
9	Montie Sheldrake Game Ranch	28 km south-west	Sheldrake; Fontainebleau, Ryswyk; Voorburg & Zwartrant	11 200 ha	100beds: 23 chalets	Private Game Farm & Holiday Farm	See note	Conference facilities, swimming pool, lapa, game drives, bird watching
10	Piet Lee Game Farm	7 km north	Munnichausen; Templehof	4 300 ha	14 beds: farmhouse	Private Game Farm	See note	Swimming pool, lapa
11	PJL van der Merwe Game Farm	60km west	Linton	4 000 ha	14 beds: 4 tents (bush camp)	Private Game Farm (local and international)	See note	Open air conference facilities; bird watching; Swimming pool; hiking trails (Boabab Trees)

No	Name	Location from Musina	Registered Farm Name	Area	Accommodation	Type	Game	Other Facilities / Serves
12	Sonskyn Game Farm	47 km south	Frans (Delf, Kitchner' Erasmus)	1 100 ha	24 beds: 4 chalets	Private Game Farm (local and international)	See note	Swimming pool; bird watching
13	Thaba 'Nkwe Game Lodge	61 km west	Riebelton, Twyfelfontein	7 000 ha	15 beds: 7 rondavels	Private Game Farm - only corporate hunting	See note	Swimming pool, conference room, game drives, hiking trails
14	Venetia Limpopo Nature Reserve	90 km west	20 farms	37 000 ha	31 beds: 8 tents + 6 chalets	Private Game Farm (local and international)	See note	
Total Area				85885 ha				

Note: Game consists mainly of Impala, Kudu, Sable, Rooihartebeest, Eland, Waterbuck, Warthog.

Source: Pieterse, Du Toit & Associates CC., 1998



2.5.9 Heritage Sites

One of South Africa's most important heritage sites is located within the municipality, namely the Mapungubwe National Park, "whose principal feature is Mapungubwe, a great hilltop citadel that served as the capital of an advanced 13th century kingdom" (Harrison, 2004)

Another site within the municipality is the Sagola Spa hot-springs along a gravel road that runs parallel with the R525 between the Pafuri Gate and Tshipise. “There is famous traditional healer at Sagola, by the name of Tshikovha who can be consulted” (Harrison, 2004).

2.6 Natural Characteristics

2.6.1 Topography (Refer to Map 4)

Overall the municipality area has no particularly steep topography apart from a few small hillocks. The terrain generally slopes gently from the south to the north in ten river valleys running into the Limpopo River. The area lies between approximately 500m and 1000m above sea level.

2.6.2 Hydrological Assessment (Refer to Map 5)

There are three major rivers crossing the Musina Municipality. They are the main perennial Limpopo, Nwanedi and Sand Rivers. The Limpopo River is shared by many countries including Zimbabwe, Botswana and South Africa, which means it is a river we do not own. The Musina Municipality wholly or partially contains ten river catchment areas all flowing into the Limpopo River catchment area and broadly running in a south to north direction.

The Limpopo and Sand Rivers provide a good groundwater potential for the Musina area. The Sand river gneiss has high groundwater potential. A well sited borehole along the Sand river gneiss could yield up to 30L/s of ground water.

There are number of other smaller none perennial channels which are deemed locally important for water supply within the Musina Municipality. (Geo-environmental Report, 2005).

2.6.3 Natural Fauna and Flora

According to preliminary findings of the Environmental Management Plan currently being prepared the Musina Municipality falls within the Savanna Biome which has three vegetation/veld types. These include the Mopani Bushveld as the dominant type, the Soutpansberg arid mountain Bushveld and sweet veld. These three vegetation types include a number of threatened red data plant species.

The municipality is also the natural habitat for the following animals, wild dogs, buffalo, elephant, crocodile and hippos. There are also many antelope species, particularly in the many game farms within the area.

2.6.4 Environmental Aspects (Refer to Map 6)

There are four registered nature reserves within the Musina Municipality, namely the Breslau Nature Reserve, Vhember/Dongola National Park (37000ha); the Musina Nature Reserve (4 910ha) and the Honnet Nature Reserve. A further 11 Game Farms are located within the municipality totaling some 43 975ha. As such environmentally protected areas total some 11,5% of the Municipal area. [Areas of game farms still to be mapped].

The Musina Municipality also falls within the LIMDEV Corporation's "LAND OF LEGION TOURISM REGION" Initiative. According to the NPDC three tourism "hotspots" have been identified within the Musina Municipality, namely the Greater Nwanedi/Kuduland/Tshipise complex; the Messina nature Reserve to Limpopo Valley; Mapungubwe/Vhembe/Dongola and the Makuya/ Mashakhatinin/Pafuri/Thulamela complex. The latter two areas are considered to be classified as world class. These complexes will need to be taken into account in terms of linkages between them etc.



Photo 6: View from the road to Tshipise from the N1

Potential environmental hazards facing the municipality include; pollution of the riverine systems through insecticides and human waste. Other potential hazards include air pollution from old mine dumps as well as ground water pollution from the dumps.

2.6.5 Climatology

The climate is generally hot and dry and only really impacts spatially on where different types of agricultural activities should take place within the municipality.

2.6.6 Geology

Broad Geo-technical Assessment

The area does not reflect any risk for the formation of sinkholes or subsidence's caused by the presence of water-soluble rocks (dolomite or limestone), though some old mining and operational mining activity were noticed, no adverse subsidence's expected within the area, due to the geological condition of the area. (Geo-environmental Report)

Numerous, very minor mineral deposits and occurrences of mineable dimension stone occur within the central portion of the Limpopo Belt, i.e. the Beit Bridge Complex. Barring diamond mining at Venetia Mine and The Oaks Mine, there are only minor occurrences of alluvial diamonds from as yet undetermined sources, probably within Botswana. Copper mining, although once a thriving industry in the Messina area, is now largely defunct, small-scale or even artisanal in nature. The mineral occurrences in such a terrane should be assessed on an individual basis. Coal seams within the lower part of the Karoo Super group may form moderately significant deposits, provided the seams are thick enough, quality of the coal is high and there are relatively minor intercalations of siltstones. It should also be borne in mind that the Venetia Mine deposit was originally discovered in *circa* 1982, following which extensive exploration took place in the area. To date, no major diamond finds in primary kimberlite host rock, other than at Venetia and The Oaks, have been reported. (Dr I. J. Basson *Pr. Nat. Sci. MGSSA, MSEG*)

2.7

Infrastructure (Refer to Map 11)

2.7.1 Roads

The N1 national road to Zimbabwe bisects the municipality. Secondary roads include the R508 which loops off the N1 through Tshipise to Musina, the R525 which links Tshipise to the Pafuri Gate in the eastern edge of the municipality. To the west of the N1 the R572 links Musina to the R521 which runs from Alldays to the Pontdrif border post. The remaining roads are gravel roads.

2.7.2 Rail

The main rail link between South Africa and Zimbabwe runs parallel with the N1 and bisects the municipality passing through the town of Musina.

2.7.3 Airports

There are currently two airstrips, one in the town of Musina and one in Tshipise. There are approximately 12 other smaller informal landing strips on farms within the municipality.

2.7.4 Electricity

Four electrical sub-stations are located within the municipality, extending along an electricity network running up the N1 to the town of Musina, then along the R572 for some 60km before running down to the Venetia Mine and continuing between Bridgewater and Brombeek to Makado Municipality.

2.7.5 Water Schemes / DWAF Management Areas (Refer to Map 5)

The Musina Municipality predominantly falls within the DWAF water management area called Limpopo. This management area consists of the following major river systems – the Limpopo; Matlaba/Mokolo, Lephalala; Magalakwena; the Sand and the Nzhelele. Two DWAF water schemes are located between Feskraal and Madimbo. They are rudimentary and are essentially for domestic use and are called the Lupepe/Nwanedi Regional Water Scheme Area NN6B. This scheme also extends over the municipal boundary into the Malale Municipality. There are no DWAF dams within the Musina Municipality, however, the Nzhelele River is dam just to the south of the Musina Municipality.

2.7.6

Sewage Works

Only one water-borne sewage works exists in the town of Musina.

2.7.7

Solid Waste

Three landfill sites have been identified in the whole of Musina except for sites that are privately owned like the Venicia mine waste disposal site. These sites are: The Nancefield site, the new Madimbo site and the one at the border.

The three sites have been classified as general disposal sites, class GCB-, because only general waste is allowed on the sites. In addition, less than 25 tons of waste is disposed of per day and there is insignificant leachate production. All sites are not operating according to the Department of Water Affairs and Forestry Minimum Requirement for Waste Disposal by Landfill and are not authorised.

Most of waste material in Madimbo site is burned and the rest is transferred to the Nancefield site once per month. The site is well fenced and access to the site is controlled. (Draft IWMP Musina, 2005).

2.7.8

Telecommunications

Table 9 indicates the percentage of the population per ward owning a home telephone. There is a lack of public telephones in the settlements of Madimbo, Malale & Domboni. Maintenance of the existing public telephones is not satisfactory.

TABLE 9: PERCENTAGE OF POPULATION OWNING HOME TELEPHONE

Ward	Households	Telephone at Home (%)
1	2517	8.3
2	1302	9.1
3	1592	17.1
4	1362	17.7
5	1648	50.2

Source: Statistics South Africa, Census 1996

2.8 Social Services (Refer to Map 12)

2.8.1 Health

The Musina municipality is served by 1 hospital and a clinic in Musina town as well as two mobile clinics. One mobile clinic team with 3 registered nurses operates from the Nancefield Health Centre and serves an enormous area which includes Alldays, Mopane and Tshipise. A mobile clinic that is stationed at the Filoam Hospital at Nzhelele is serving the area to the east that includes the settlements Madimbo, Malale & Domboni. According to the new departmental standards Musina should have 4 mobile clinic teams.

A new Health Information Centre was constructed by the Department of Health and Welfare in Musina. This facility caters for health education (well-equipped auditorium) and offices for social workers and HIV/AIDS counselling.

Accessibility of Health Facilities

The accessibility of health facilities is indicated in Table 10.0 and the communities nearest to hospitals, health centres and clinics are indicated in Table 11.0.

TABLE 10.0: ACCESSIBILITY OF HEALTH FACILITIES IN THE MUSINA MUNICIPAL AREA, 2001

LOCAL	TOTAL	APPLICATION OF PLANNING NORMS/CRITERIA PER FACILITY											
MUNICIPALITY	NUMBER OF	HOSPITALS				HEALTH CENTRES				CLINICS			
	COMMUNITIES	Communities		Communities		Communities		Communities		Communities		Communities	
		Within 20km	%	Outside 20km	%	Within 10km	%	Outside 10km	%	Within 5km	%	Outside 5km	%
Musina [NP341]	7	3	42.8	4	57.14	3	42.86	4	57.14	4	57.14	3	42.86

Source: Dept of Health and calculations by Pieterse, Du Toit & Associates CC.

TABLE 11.0: COMMUNITIES NEAREST TO HEALTH FACILITIES

FACILITY	COMMUNITY NAME	FACILITY'S NAME
HOSPITAL/S	Musina	Musina Hospital
HEALTH CENTRE/S	Nancefield	Nancefield Health Centre (Mulenzhe)
HEALTH INFORMATION CENTRE	Musina	Musina Town Centre
CLINICS	Madimbo (Matshakatini)	Madimbo Clinic
	Musina	Musina LA PHC Clinic
SATELLITE CLINICS	Harper	Harper
	Campbell	Campbell
	Nancefield Ext. 8	Nancefield Ext. 8
	Nancefield Ext. 7	Nancefield Ext. 7
	Nancefield Ext 6	Nancefield Ext. 6

Source, **Department of Health & Musina Local Municipality, 2001**

2.8.2 Education

The number of schools, learners, educators and classrooms and the respective ratio's are indicated in Table 3.5 on pg. 31 of the IDP Phase 1 – Review 2004/05. A need for a secondary school exists at Madimbo, Malale & Domboni. The nearest secondary school is located at Matshena and pupils have to walk approximately 15km to school. Domboni does not have a primary school and children have to walk approximately 15km to the Madimbo primary school.

The backlog of teachers and classrooms is indicated in Table 3.4 on pg. 30 of the IDP Phase 1 – Review 2004/05. The national norm for "pupil to teacher" ratios is 40 : 1 and 35 : 1 respectively for primary and secondary institutions. The "pupil to classroom ratio" should therefore be similar², as it is accepted that there should be one classroom per teacher or per 35 / 40 children. The schools that do not conform to the national standards are highlighted in the table. The information for some of the schools is lacking and could therefore not be compared with the national norms and standards.

² This calculation will not be accurate in all cases, especially in some secondary schools where a large variety of subjects are presented.

2.8.3 Postal Facilities

According to the S.A. Post Office there are two post offices within the Musina Municipality, both within the town of Musina, one in the CBD and the other in Nancefield.

2.8.4 Community Facilities

Libraries

There are two libraries in the municipality of Musina, both in the town of Musina.

Sports Facilities

The following sport facilities are found in Musina:

- Messina Golf Club: A municipal 9 hole facility exists - open to members of the club;
- 1 rugby field;
- 6 tennis courts;
- 2 bowls greens;
- 1 badminton court;
- 2 basket-ball fields;
- a pistol shooting range (SANDF);
- a micro-light club; and
- a horse riding school.

The De Beers Health and Racquet Club is located in Musina and has the following facilities:

- 2 squash courts,
- 1 action cricket field,
- a gym,
- aerobics facilities; and
- an archery range.

The following sport facilities are found in Nancefield:

- a sport stadium in Nancefield Extension 1, providing soccer and athletic facilities and 2 tennis courts;

- a badminton court (community hall);
- 2 tennis courts;
- a soccer field in Nancefield Extension 5; and
- 1 volley ball court; and
- 1 netball court.

Cemeteries

Given the highly rural nature of the municipality, the only area requiring cemeteries is the Town of Musina. No shortage of cemeteries has been recorded.

2.8.5 Safety and Security

Police Stations

The Musina police station falls within the area of jurisdiction of the Far North and reports to the Area Commissioner who is situated in Thohoyandou. The police station is responsible for policing the Messina Magisterial District, which covers an area of approximately 5 600km². The station handles approximately 250 - 300 cases per month and deports approximately 700 - 1 000 illegal immigrants from Zimbabwe per month. Musina has one police station and the following branches:

- Crime Intelligence Service: 7 policemen
- Crime Investigation Service: 18 policemen
- Dog Unit: 5 policemen
- Uniform Branch: 76 policemen (165 posts)
- Vehicle Custody Unit: 6 policemen

The Beit Bridge Border Control and Policing Service is located at the border post with Zimbabwe and operates separately from the Musina police station. A Vehicle Theft Unit is also stationed at the border post. The number and type of police stations are indicated in Table 12 below.

TABLE 12.0: POLICE STATIONS AND MAGISTRATE'S COURT

VILLAGE NAME	POLICE STATION		MAGISTRATE'S COURT
	MOTHER	SATELLITE	
MUSINA	1	1	1
PONTDRIFT	1	0	0
TSHAMATUMBA	1	0	0
TOTAL	3	1	1

Source: Northern Province Spatial Rationale, 2001

Magistrates Courts

The magistrate's office in Musina performs judicial functions for the whole of the Musina Magisterial District. The magistrate's court is a District Court and consists of the chief magistrate, assistant magistrate, one state prosecutor and administrative staff. The magistrate building has two courtrooms and the circuit court (District and Supreme court) also use these facilities for specific cases. The Musina magistrate court handled a total of 5 061 cases in 1997.

The settlements of Madimbo, Malale & Domboni are being served by the court in Mutale. A periodical court is stationed at Masisi.

2.8.6 Emergency Services

The personnel of the Musina Fire Brigade consist of 4 firemen. The fire brigade which is owned by the municipality is responsible for a large area from Huntleigh, ± 50 km to the south of Musina, to Pontdrift ± 100 km to the west, to Pafuri ± 170 km to the east and to Beitbridge ± 13 km to the north of Musina. The fire brigade also renders an across border service to Zimbabwe, but only for the areas located adjacent to the border (± 12 km).

The Department of Health and Social Welfare provides the ambulance service in Musina. At present there are 1 senior division officer, 2 senior ambulance assistants and 14 ambulance assistants. The ambulance service has 5 ambulances and 1 rescue vehicle.

2.8.7

Welfare (Refer to Map 12)

Pension payout points are available at the following locations:

- Brombeeck (shop);
- Doreen (shop);
- Folovhodwe (serve part of Domboni)
- Linton (shop);
- Madimbo (shop - Happy farm) (serve Malale and Domboni);
- Nancefield (Nancefield Community Hall);
- Mopane (shop);
- Pontdrift (police station);
- Tshipise (Gordonia Store).

2.9

Spatial Structure of the Municipality

2.9.1

Hierarchy of Settlement Patterns

The following extract has been taken from the IDP Review for 2004/2005:

"The Northern Province Spatial Rationale, 2002 (draft) identifies a settlement hierarchy for the whole of the Northern Province and the hierarchy for the Musina municipal area is described in terms of this hierarchy.

A settlement hierarchy is usually based on the classification of individual settlements³ (e.g. towns and villages). Approximately 2445 towns and villages in Limpopo have been individually classified in terms of a proposed hierarchy. Polokwane is the highest order settlement with second order settlements such as Mokopane, Thohoyandou, Tzaneen, Makhadu, Musina, etc. Third order settlements include places such as Giyani, Lebowakgomo, etc. The settlement hierarchy as contained in the Spatial Rationale is as follows:

- First order settlements (growth points) are individual settlements (e.g. towns/villages) or a group of settlements located relatively close to each other where meaningful economic, social and institutional activities, and in most instances a substantial number of people are grouped together in the relevant growth point. These growth points seem to have a natural growth potential but some do not develop to their optimum potential due to the fact that

³ For the purposes of this classification and the spatial rationale, settlement is defined to include all types of settlements (e.g. proclaimed towns and rural villages).

capital investments are made on an ad hoc basis without any long-term strategy for the growth point and/or the area as a whole.

The three categories included as growth points should be stimulated according to their status in the hierarchy by amongst others providing higher levels of service infrastructure, also to ensure that appropriate services are available for potential business and service/light industrial concerns. Higher levels of services, which reflects these growth point's status in terms of the settlement hierarchy, and therefore relative to other settlements in the area will also attract residential development to these growth points with the implication that certain threshold values in population be reached to provide for higher levels of social, physical, institutional and economic services.

The three categories of growth points are briefly described in terms of their relative importance/priority in the proposed hierarchy:

- Provincial growth point (PGP): a provincial growth point is the highest order in the hierarchy and therefore also the most important type of growth point. PGP's all have a sizable/reasonably large economic sector providing jobs to many local residents, fulfils a regional and some even a provincial service delivery function, have a large number of social (e.g. hospitals, tertiary educational institutions) facilities, as well as institutional activities such as government offices and local and/or district municipal offices. The majority of these provincial growth points also have a large number of people. Growth points include settlements such as Polokwane, Mokopane, Bela-Bela, Makhado, Musina, Thohoyandou, etc.;
- District growth points (DGP): these growth points already have meaningful economic activity with some job creation, various higher order social facilities such as hospitals, health centres, tertiary educational institutions. Most of these district growth points also accommodates some government offices and in many instances also the district and/or local municipal offices. In most instances these district growth points also have a large number of people grouped together in the growth point.
- Municipal growth point (MGP): in terms of the various categories of growth points the municipal growth point has a meaningful but relatively small economic sector compared to the district, but more specifically the provincial growth point. Municipal growth points serving mainly large farming areas often have a sizable business sector providing a meaningful number of job opportunities. These growth points also have some higher order social and institutional activities. In most instances these growth points also have a substantial number of people, but in some instances such as Northam, the emphasis is on the economic sector (e.g. business and mining activities in the area) with a relatively small number of people, although the growth point

serves a large rural/farming community. In traditional rural areas the economic sector is relatively small with only a few businesses, but a substantial number of people with a natural growth potential if positively stimulated.

- Second order settlements (population concentrations): are individual settlements (e.g. towns/villages) or a group of settlements located close to each other which have a small or virtually no economic base, meaningful social and often some institutional activities, but a substantial number of people located at these settlements. In many/most instances the population concentrations form part of a settlement cluster that also have one or more growth points within the settlement cluster. These population concentrations are mainly located adjacent to tarred roads or intersections of main district roads which provide accessibility to job opportunities. These nodes should also be given priority in terms of infrastructure provision with a high level of services, although not at the same level as for growth points. This approach should be followed to attract people from smaller villages in the area with a lower level or no service infrastructure.
- Third order settlements (local service points): these third order settlements exhibit some development potential based on population growth and/or servicing function potential although most of them only have a very limited economic base. Most of these settlements (specifically in the traditional rural areas) have 5000 people or more, and do not form part of any settlement cluster. Most of these settlements are relatively isolated in terms of surrounding settlements. Only in a few instances two or more settlements, which are in very close proximity to each other, have been grouped together and classified as a local service point. The potential for self-sustained development growth is limited by the lack of development opportunities in these settlements. Most of these settlements can also be distinguished from lower order (fourth and fifth order settlements) mainly because of their servicing functions. Some of these third order settlements have established government and social services.
- Fourth order settlements (village service areas): this category of settlement in the settlement hierarchy has been identified to allow for circumstances in mainly traditional rural areas where a couple or more settlements are located/grouped in such a way that they are interdependent and/or linked together by means of specific social infrastructure (e.g. clinics, secondary schools, etc.) which provides a service to the specific inter-related group of settlements which are mutually dependent on these facilities. All these settlements are relatively small and have usually less than 2000 people per village.
- Fifth order settlements (all small settlements): this category includes all those settlements mainly rural villages that are not included in the previous 4 categories of the settlement hierarchy. For the purposes of the Spatial Rationale, the fourth order settlements have also been included into this category. These settlements are grouped together by

the fact that by far the majority are very small (less than 1000 people) and are rural settlements that are only functioning as residential areas with no economic base. The potential for future self-sustainable development of these settlements is also extremely limited and mostly non-existent. (IDP Review", 2004/2005)

The settlement hierarchy of the Musina Municipal Area, in terms of the Spatial Rationale is as follows:

- Musina (Musina & Nancefield) can be described as a provincial growth point (1st order settlement) due to their relative high level of economic activity and rendering of services to local and surrounding communities.
- Madimbo, Malale & Domboni can be described as 5th order settlements due to their small populations and the fact that they are only functioning as residential areas with no economic base. The potential of these settlements for future self-sustainable development is extremely limited.
- Tshipise can be described as a 3rd order settlement (local service points) due to its function in terms of limited service delivery to the surrounding commercial farming areas, tourism attraction and nature conservation. Tshipise does not have a residential or business component and can therefore not be regarded as a growth point. (IDP Review", 2004/2005)

2.9.2 Activity Spines

There is only one existing activity corridor being the N1. This corridor is essentially a movement corridor but does offer opportunities for commercial activities at appropriate points.

The N1 passes directly through the town of Musina where traffic is slowed and significant economic and tourism opportunities can be accrued through passing traffic.

2.9.3 Nodal Points

The only nodal point within the municipality is the town of Musina. This node is a growth point within the Municipality, which is continuing to growth despite indications of out-migration.

Musina and Nancefield are located directly adjacent to each other and forms an urban unit that is different from the most "apartheids" towns where the former "black" residential areas were located a few kilometres away from the "white" residential areas and business centra (e.g. Pietersburg/Seshego). The existing spatial structure of Musina is however distorted to a

certain extent as the general direction of new low-income residential development (Nancefield) is away from the workplace, i.e. the Central Business District (CBD) and industrial areas. The main reasons for this problem are the following:

- the location of a “koppie” in the centre of Musina that forces development to the west;
- the location of the northern and southern sewerage works limits any residential development towards the east of Musina;
- land available for residential development that is owned by the Musina Municipality is located to the west and south of Musina;
- the vacant land (to the north of Musina) between the road to Beit Bridge and the road to Pontdrift and Nancefield is characterised by rocky outcrops; and
- the location of the Messina nature reserve and the SANDF to the south of Musina. (Musina IDP, 2004/05 Review)

Harper (Nancefield X6) and Campbell (Nancefield X7) were former mine compounds of the Messina Copper mine are not integrated in the urban area of Musina due to their location approximately 1km and 4km to the west of Musina. (Musina IDP, 2004/05 Review)

2.9.4 Directions of Growth

As mentioned above the only apparent area of growth within the municipality is the town of Musina. Within the town of Musina the current growth trend in terms of land take-up appears to be towards the west.

2.9.5 Proposed Developments

A number of housing projects are proposed around the town of Musina, an agricultural settlement of 200 agricultural village units, a recreational facility in Nancefield, an indoor sports facility in a rural settlement area and a multi-purpose Art and Crafts centre adjacent to the N1 by 2004. [The locality and status of these projects needs to be confirmed and mapped].

Various land use and infrastructure proposals for the town of Musina, were made by Pieterse Du Toit Town and Regional Planning Consultants on behalf of the Municipality in the previous SDF (see maps IDP Map 3, 4, and 4.1). The status of these proposals will also be confirmed and reviewed if necessary.

2.9.6 Economic Activity Areas

The obvious economic activity area within the municipality is the town of Musina, having the highest population concentration in the municipality.

Further projects identified in the Musina Municipal Area by DEAT and the NPII that are being investigated for viability at present include (Musina IDP 2004/2005):

- Gumbu Limestone (mining),
- Madimbo Diamonds (mining),
- Soutpansberg silliminate (mining),
- Nwanedi Nature Reserve (tourism),
- Mapungubwe (Dongola) National Park (tourism),
- Cattle and game farming at Musina/Tshipise (agriculture/tourism) and the;
- Upgrading of the N1 - National Road from Makhadu to Musina (infrastructure), upgrading of the Beitbridge Border Post (infrastructure), etc.

3.0 EXISTING LAND MANAGEMENT

3.1 Existing Land Use Management System

Town Planning and Townships Ordinance No. 15 of 1986

The town planning ordinance is currently the only alternative legal mechanism to the DFA to administer development applications. The ordinance is the only mechanism available to guide the implementation of town planning schemes within the province and therefore the local municipality. Currently the only area subject to a Town planning Scheme is the town of Musina.

3.2 Environmental Impact Issues

3.2.1 Applicable Environmental Management Plans

A Strategic Environmental Assessment and Environmental Management Plan for the Musina Local municipality is currently being prepared.

3.2.2 Sensitivity Areas

It is anticipated that the highest environmentally sensitive areas within the Municipality is its riverine areas, natural heritage sites and nature reserves.

3.3 Planning Equipment & Imagery Data

3.3.1 Digital Area Maps and Satellite Imagery

Digital area maps of the area are available through the MDB but are very basic and require additional data to make them more useful. Satellite imagery for the municipality is not currently available but could be sourced at considerable expense from private service providers.

3.3.2 Available Mapping

There appears to be very limited mapping available at the municipality, particularly of areas outside of the urban or settlement areas.

3.3.3 Computer Systems

The local municipality does not appear to have a computer GIS system and therefore has no means of manipulating or printing mapping electronically.

3.3.4 Aerial Photographic Base

No aerial photographs of the entire municipality have been located, however, there is photographic coverage of the town of Musina, owned by telkom.

4.0 SPATIAL DEVELOPMENT ISSUES AND TRENDS (REFER TO MAP 14)

Environmental Issues:

- The rivers and landscapes within the district are subject to pollution from human activities.
- Air pollution from derelict mine dumps could potentially cause health problems;
- Litter and unsightly waste dumps create an image of a segregated environment and have a negative impact on the aesthetics of the area.

- There are a number of red data plant species that need to be protected.
- Limited information on environmental issues and sensitive environmental areas. This also makes an assessment of the environmental impact of spatial development difficult.

Spatial Issues:

- Temporal population movements from neighbouring countries are possibly imposing additional stresses on the community facilities within the municipality and needs to be addressed.
- Numbers of suspected illegal immigrants settling in Musina are increasing pressures on housing and social facilities.
- Despite the above the adjoining countries also provide opportunities with respect to movement of trade and tourists between SA, Botswana and Zimbabwe.
- The border post areas need to be improved and made more efficient while enhancing economic opportunities for the municipality.
- It appears that the focus of population growth is within the urban areas of Musina namely Nancefield and Musina Town, at the expense of the smaller rural settlements.
- The correlation of state and large institutional land holding with land claims suggests opportunities for the municipality to intervene in the acquisition of land for resolving some of the land claims and meeting the need for additional service settlements.

- The agricultural areas within Musina are limited and need to be preserved and therefore, should be taken into consideration in the spatial planning of the area.
- The national road [N1] running through the area presents some commercial opportunities for development in the areas adjacent to it.
- Mining within the municipality appears to be on the decline, with many mines shut down, however there is potential for coal mining should the road infrastructure be improved.
- There is a cluster of rural settlements around the Domboni which have poor access to basic services. These settlements are dormitory residential areas, with limited supporting land uses.
- Related to the above, the vast area of low population densities within the more rural areas of the municipalities, i.e. the western area, combine to make the potential provision and maintenance of infrastructure and other municipal services very costly. Future settlement development should thus be concentrated in a few locations where bulk infrastructure is already available and where services can be maintained in as cost-effective a way as possible.
- The municipality contains a number of nature reserves, conservancies and game farms, which is a comparative advantage over other municipalities.
- The Golden Horseshoe Initiative – a conceptual spatial framework that aims to provide a receptacle for a diverse portfolio of Tourism and related activities is a major opportunity in the area. Area extends from the western, northern and eastern borders of the Limpopo Province.
- Future spatial planning in the municipality should protect the natural resources in the area and promote tourism/recreational development in those areas, which has potential for it [e.g. the areas adjacent to the numerous river catchment areas, watercourses, and nature reserves in the area].
- Overall there appears to be a greater provision of infrastructure and facilities in the eastern area creating a spatial imbalance between the west and eastern areas in terms of settlement and infrastructure development, which may need to be addressed should tourism development around Mapumgupwe/Dongola Complex develops.

- There is poor accessibility to social and economic activities for rural populations.
- Under-utilisation of the railway network and inefficient public transport.
- The majority of social facilities are located around Musina Town and to the east of Musina. Nineteen educations facilities exist in Musina municipality, of which only four are located to the west of Musina. There are three medical facilities within the municipality, two of which are in the town of Musina. One magistrate's court is located in Musina.
- There appears to be a shortage of education and health facilities in terms of the minimum access distance to these facilities, in the western portion of the municipality (western half of Ward 1).
- Other shortages of social facilities include libraries in wards 1 and 2; postal facilities (or at least post box facilities) in the same areas.
- Additional pension pay-points should be sought along the northern edges of the municipality and in the far western areas in order to achieve a equal distribution across the municipality.
- The rural settlements tend to be of a clustered nature and sparsely distributed outside of the eastern portion, within the municipality.

Land Use, Land Reform & Housing Summary & Issues:

- Bulk of land in municipality is being used for agricultural purposes ranging from cattle farming, arable farming and game farming.
- Urban settlements only make up 0.08% of land cover.

- There is no uniform Land Use Management System in place for the entire municipality to guide planning decisions in a coherent manner.
- There is no administration and record system to assist officials in making planning and development application decisions.
- There is a lack of Local Framework Plans, Policies and Town Plans for settlements within the municipality particularly those emerging settlements and small rural settlements.
- No verified vacant land audit exists within the urban nodes to assist in decision making around urban expansion areas or housing projects.
- No Open Space Framework exists at the local settlement level or municipality level.
- Twenty-seven percent of the Municipality area is subject to land claims. This is a significant amount of land which could significantly impact on spatial planning within the municipality.
- The state and institutional land provides opportunities for easier intervention on behalf of the local municipality with regards to access to that land.

SECTION C – STRATEGIC SPATIAL ASSESSMENT

5.0 STRATEGIC SPATIAL ASSESSMENT (Refer to Map 14)

5.1 Key Spatial Determinants of the Municipality

Given the above the key spatial determinants that need to be considered in the preparation of the proposed SDF include:

- **The Golden Horseshoe spatial Initiative; which affects the entire municipality along its western and northern boundaries. This initiative effectively could encourage a east west movement of tourists along the R525 and R572.**
- **Role of border posts with relation to settlement location and economic growth of the municipality;**
- **The large number of game farms and conservation clusters or identified tourism “Hot-Spots” within the municipality, particularly the area around Mapungubwe and the Madimbo/Pafuri Gate Corridor;**
- **The growth of Musina as a growth point;**
- **The clustered distribution of rural settlements in the east and sparse distribution of settlements in the west of the municipality;**
- **The N1 as a major economic opportunity;**
- **The importance of the border posts into Zimbabwe and Botswana;**
- **The distribution of land claims in relation to state or institutionally owned land for opportunities for local government interventions.**

5.2 Translation of IDP Vision into Spatial Vision

The vision for the Musina Municipality as spelt out in the IDP is as follows:

“VEHICLE OF AFFORDABLE QUALITY SERVICES AND STABILITY THROUGH ECONOMIC GROWTH, DEVELOPMENT AND COLLECTIVE LEADERSHIP”

The vision as expressed above has two main thrusts which have spatial implications. Namely, affordable quality services implies service provision must be as efficient as possible often achieved through densification of settlements. The second thrust is economic growth and development which suggests the promotion of growth areas as outlined in the National Spatial Perspective.

From the above thrusts we can derive a Spatial Vision for the municipality as follows:

“TO DEVELOP A SPATIAL FRAMEWORK FOR THE MUNICIPALITY THAT PROMOTES SETTLEMENT CONSOLIDATION, AND PROVISION OF BASIC NEEDS, ENHANCES THE AGRICULTURAL AND TOURISM SECTORS WITHIN THE MUNICIPALITY WHILE ENSURING THAT LOCAL RESIDENTS ARE ABLE TO BENEFIT FROM THESE SECTORS THROUGH EQUAL ACCESS TO THESE OPPORTUNITIES BOTH PHYSICALLY AND ECONOMICALLY”.

5.3 Spatial Aims and Objectives

In light of the above and based on the status quo analysis, national and provincial spatial policies as well as the strategic spatial assessment, of the Musina municipal area in the sections above, a set of clear spatial aims and objectives are adopted for the SDF, namely:

Aim:

- ***To promote the creation of sustainable human settlements and quality urban environments in line with the NSDP;***

Objectives:

- **To enhance linkages between the rural areas and urban settlements;**
- **To encourage urban integration at the local settlement level to redress the imbalances of the past;**
- **To ensure the protection of environmentally sensitive areas;**
- **Promote the establishment of settlement clusters through the land reform process.**

Aim:

- ***To achieve economic growth and development through maximizing the potential comparative advantages of the municipality;***

Objectives:

- **To enhance potential movement corridors, namely the N1;**
- **To enhance the comparative economic advantages of Musina as a border municipality while reducing the negative impacts;**
- **To enhance the potential tourism linkages trans-nationally and internationally;**
- **To enhance arable agriculture and mining activities in appropriate areas**
- **To upgrade the basic infrastructure in strategic areas.**

7.0 PROPOSED SPATIAL STRATEGIES

To achieve the above aims and objectives the following strategies need to be adopted.

- Linkages between the rural settlements and the Town of Musina as well as the N1 will be enhanced through the upgrading of secondary roads between these settlements and the N1;
- Linkages could also be improved through improved public transport networks and facilities;
- Establishment of market produce collection points as well as labour assistance points in the rural settlements to service the town;
- Urban integration at the local level is to be achieved through the allocation of land for residential purposes in the developable open spaces between the Nancefield and Musina town;
- Urban integration is also to be encouraged through better pedestrian, cycle routes and public transport mechanisms between Nancefield and the CBD.
- Urban integration can also be enhanced by the encouragement of economic activities closer to the previously disadvantaged areas, especially along the N1;
- The protection of the environment must be ensured through firstly the identification of sensitive areas, riverine areas etc. and the preparation of EIA's before any significant developments are approved.
- In accordance with the NSDP policies, i.e. rural settlements without the potential for economic sustainability only be provided with basic services and people oriented investments such as training facilities. As such these settlements should be grouped into clusters where feasible for social facilities and infrastructure provision.
- Furthermore the provision of infrastructure services or human centred investments can be better facilitated through the land reform process in areas where land is more accessible due to it being owned by the state or large institutions. Therefore those areas where there are land claims that coincide with state or large institutionally owned land should be targeted/prioritised.
- The N1 movement corridor can be enhanced through a variety of means including: common signage on the road; provision of appropriate development rights on the road at strategic points along the road, (i.e. co-ordinating development with the Makado Municipality to form a series of service nodes), improving attractions for passing commercial and tourism traffic within the growth point of Musina.

- Liaise with the Department of Foreign Affairs with regard to the improvement of the border post areas to enhance economic developments and at the same time controlling activities to avoid competition with the growth point of Musina. In addition, the negative impacts of illegal or legal cross border migration should be addressed with the Department of Foreign Affairs.
- Liaise with SAN Parks, and the Provincial Department of the Environment to advance the process of establishing a transfrontier park with Botswana and Zimbabwe;
- Investigate the possibility of enlarging the Mapungubwe Nature Reserve by either merging it with the Breslau Nature Reserve or over the R572 into the existing Conservancy as part of the continued development of the Mapungubwe/Vhembe/Dongola complex;
- Establishment of a rural service node/tourism node in the north western corner, close to the R572 and R521 intersection.
- In alignment with the NSDP the bulk of infrastructure investment is to be focused/prioritised in Musina as the growth point, while in the rural settlement clusters and service centres infrastructure should be focused on the provision of basic needs.
- Enhance tourism through the area by promoting the Golden Horseshoe initiative, to encourage the movement of tourists from the Kruger Park through to Zimbabwe or Botswana. This can be achieved through the encouragement of tourist attractions along particular routes.
- Feasibility studies need to be undertaken to determine the most economically viable areas for arable farming and for coal mining within the municipality. Infrastructure provision then needs to be prioritised into these areas.

SECTION D – PROPOSED SPATIAL FRAMEWORK PLAN

8.0 MACRO SPATIAL FRAMEWORK

The macro spatial development framework will cover the entire municipal area of Musina. The proposed spatial framework consists of the following three main components:

- a proposed hierarchy of access routes,
- a proposed clustering of settlements and
- a broad land use and activities guide for the municipality.

The combination of these three components will hopefully:

- contribute to a desired pattern of land use;
- Address spatial reconstruction;
- Provide strategic guidance re. Location and nature of future development.

8.1 Movement System

A hierarchy of movement routes is proposed which will provide guidance on the nature of the movement volumes and types of activities that should take place along these corridors.

The main access route defined through the area is the existing N1 which needs particular treatment outlined in the land use framework. The main purpose of this road is for through traffic and as an access road into the municipality from the adjoining municipality to the south and Zimbabwe to the north. There should be views from the road for tourists. New emerging settlements along this route should be planned a short distance from the road itself. Key commercial nodes could be identified for craft markets and other tourist attractions on this route, possibly at major intersections with roads accessing the municipality.

The proposed secondary road network will effectively link the municipality internally (i.e. linkages between the local municipalities). These roads will include the R521, R525 and the R572. These roads should pass through settlements and will serve as major local trading and tourism routes.

The proposed third level of road network will be the remaining local distributor roads intended to provide access for both local residents, agricultural sector and tourists within the municipality. These roads will tend to be the responsibility of the local municipality and may change depending on the changing needs of the municipality over the period of the IDP.

8.2 Proposed Settlement Pattern

Within the Musina Municipality, although a number of different types of settlements have been defined, only a two tier hierarchy of settlements has been defined, comprising of the main Provincial Growth Point (as defined in section 2.9.1) and other settlements. These other settlements comprise of some 13 settlements of which some are in close proximity to each other. These settlements would be defined as fourth and fifth order settlements in the Provincial/District Spatial Rationale, 2001 (see section 2.9.1).

Growth Points

The only provincial growth point or 1st order settlement in the municipality is the town of Musina/Nancefield. Analysis indicates that it is continuing to grow despite the decline in the Zimbabwe economy. Given its locality on the N1 just 14km from the Beitbridge Border Post and that it is bisected by the R572 running from east to west across the entire municipality it is ideally sited to continue as the growth point of the municipality. Detailed spatial recommendations are made for this urban area in section 9 below.

Rural Service Centre

In the Provincial and District Spatial rationale this type of settlement is also defined as a local service point. The only settlement of this nature in the municipality is Tshipise, as it has a very limited economic base and no residential component. However, it does exhibit some economic potential with regard to its tourism and service functions. Therefore this settlement exhibits characteristics of a third order settlement in accordance with the District Spatial Rationale, but lacks a residential component.

It is recommended that residential development be encouraged within this center. All the land around and including Tshipise is privately owned but subject to land claims. In the resolution of these claims a potential residential settlement could be planned with associated infrastructure and services. The comparative advantage of Tshipise is that it could service a large agricultural area and has a significant tourist attraction in terms of the Tshipise Hot Springs and the Honnets Nature Reserve. It also lies on the R575 which will form part of the tourism route in accordance with this SDF.

Rural Settlement Cluster/ Population Concentrations

The only existing rural settlement cluster within the municipality is the Madimbo, Malale and Domboni Cluster of small rural settlements in the south eastern border of the municipality. This cluster also includes settlements such as Folorodwe and Feskraal. The total population of these settlements is estimated at approximately 2800 people. As these settlements have no economic base and limited potential to development such a base it is recommended that these settlements be treated a one cluster for the purpose of social facilities provision. Infrastructure investment should be prioritized in the area but only to meet basic needs.

In the NSDP this cluster would be seen as an areas of disadvantaged locality and be provided with very basic infrastructure and resources to build people's skills to enable them to be mobile and seek employment elsewhere. It is therefore recommended that a broad settlement plan be prepared for this cluster to determine where the social facilities should be located and how people could access them from the various settlements within the cluster.

Future Rural Settlement Cluster/Tourism Node

In order to stimulate development around the proposed Mapungubwe/ Vhembe/ Dongola complex (now that the Mapungubwe nature reserve has recently been established) a rural service centre / tourism node concept could be investigated in the area. This concept could involve the acquisition of land through the land reform process to establish a relatively concentrated settlement around some social facilities. Adjacent to this planned settlement the surrounding land could be given increased development rights and possible rates incentives to develop tourist facilities. The members of the new rural service center could either obtain employment within the tourist facilities or establish their own tourist attraction, i.e. community based tourism opportunities.

The area around the intersection of the R572 and R521 is in relatively close proximity to the Mapungubwe Nature reserve as well as the Pontdrift Border. The land in the south eastern quadrant of the intersection is owned by De beers and is subject to land claims. Again in resolving the land claim issues a possible settlement could be established in the vicinity which could house labour for potential tourism facilities as well as service as a local service centre for the local population.

Border Service Centres

It is acknowledged that it is essential that certain ancillary land uses/activities need to be located at a border post, such as clearing agents, inter-modal transport facilities etc. However, there is also a concern that around the Beitbridge border that certain land uses are establishing there that are not essential and that compete with those activities in the town of Musina. The concern is that the focus of economic activities within the town of Musina will be diluted or made less viable if competing commercial activities develop around the border post. Secondly, for security purposes a residential settlement around the border post is discouraged.

Therefore it is recommended that a detailed precinct plan be prepared for the area around the border post to establish exactly what land uses and activities are essential for the border post activities and where they should be located in relation to the border to ensure a service centre which could expand over time, in an orderly manner.

Such a service centre could also be envisaged for the Pontdrift border post if and when the border post acquires a greater status through the construction of a bridge over the Limpopo River into Botswana. This future service centre could play an important role as a tourism gateway into the Mapungubwe/Vhembe/Dongola complex.

8.3 Broad Land Use and Activities Guide

Ranching/Game Farming

The bulk of land in the municipality is used for either cattle ranching or game farming. A cost benefit analysis needs to be undertaken to establish the benefits of the apparent growth in game farming with respect to its economic and

employment benefits to the citizens of Musina Municipality. Should the benefits be insignificant incentives to encourage people to undertake alternative land use activities in these areas could be researched by the municipality.

Arable Agricultural Areas

It is proposed to reserve areas of arable land, mainly along the Lompopo River Valley and in the east along the river valley's of the Sand and .. Rivers. However, an overall agricultural potential study needs to be undertaken prior to or together with the formulation of the Land Use management scheme for the municipality to verify the exact areas that need to be reserved for arable agriculture.

Arable agriculture is an important economic and employment generator and needs to be expanded through irrigation schemes where possible.

Existing Conservation Areas

A major comparative advantage of this municipality is the high number of nature reserves and game farms in the area. The nature reserves need to be well maintained and linked into a broader marketing initiative in support of the "Golden Horseshoe" spatial initiative proposed by the Limpopo Province. Furthermore, nature reserves should be encouraged to merge where possible to facilitate the accommodation of larger species of game. In this respect the Transfrontier Park proposed as part of the Mapungubwe/Dongola complex should be supported and assisted where possible by the municipality.

Riverine Systems

It is also important to maintain the riverine catchments running into the Limpopo River. In this respect it is proposed that a river reserve of 50 metres on either side be kept free of all land use activities to ensure the riverine areas do not get polluted.

9.0 MICRO SPATIAL FRAMEWORK (Refer to Map 16)

9.1 Musina

Movement System

The main movement corridor through the town of Musina is the N1. As pointed out, in the status quo section of this report, this road offers enormous economic opportunities from passing traffic of both a commercial and tourist nature. As such, additional opportunities to encourage people to stop in Musina should be sought. A range of accommodation, from up-market to budget facilities should be encouraged. Related to this a proposed truck-stop site next to the old copper mine is suggested, but requires more detailed feasibility research. A network of service roads adjacent to the N1 in the CBD should be investigated to ensure a free movement of traffic in the future, while enabling people to easily stop.

An additional secondary distributor road is proposed to better link the western end of Nancefield into the existing CBD.

Given that Musina is small enough to walk between areas, it is proposed that much more emphasis be placed on pedestrian and cycle modes of transport. In this respect, demarcated pathways should be established that have adequate lighting, have steps where necessary and are overlooked or patrolled for safety purposes.

CBD

The Musina CBD remains the main centre of commerce in the town. Generally more mixed use development should be encouraged within the CBD, especially with respect to a mix of residential and retail/office developments. This would ensure a 24 hour presence within the CBD, which would make the area safer and more attractive to late travellers passing through the area. The CBD would also be the ideal locality for higher density rental accommodation, providing people with flexibility and high levels of convenience to retail, recreation and employment opportunities.

However, as part of the preparation of the LUMS a detailed assessment of the CBD needs to be undertaken in order to establish the exact location and extent of appropriate land use rights, to achieve the above proposals.

Residential

As outlined in the section.. there is a housing waiting list of 4109 units in Musina. However, as mentioned in the section under demographics, it is speculated that many people on this waiting-list have come over the border and illegally obtained SA documentation and have applied for housing. It is also possible, as suggested by the demographic figures, that people from across the border are utilising Musina as a staging point to get established in South Africa after which, they move to Gauteng to seek further opportunities. It is therefore proposed that a study needs to be undertaken to try and obtain a quantitative estimate of these people so that the housing demand can be re-evaluated before any housing Board Subsidies are sought.

However, with respect to available land for residential expansion it is proposed to expand Nancefield to the south west, with the intention of ultimately linking the residential areas around to the existing residential areas in the south.

Industrial

Both industrial areas have enough land to accommodate additional industries in the short to medium term. Should additional land be required for industry in the longer term future it should be sought on the western or northern periphery closer to Nancefield and adjacent to the railway line. This is to ensure reduced distances for workers to travel to work. It is important that the heavy industrial area to the south of Musina does not expand to the south as it will then create a buffer between the eventual expanded residential areas and those established residential areas to the east of the N1, and this would be counter-productive to the object of integration.

Open Space System

A open space system is proposed for the town of Musina as indicated on Map 16. The open space system is to form a dual role, that of preserving the riverine systems running through the town, and secondly to provide pleasant pedestrian and cycling routes along these systems. It is envisaged that this system would link all significant open public open spaces together providing a continuous safe environment to move within for both people and small wildlife.

11.0 GUIDELINES FOR A LAND USE MANAGEMENT SYSTEM

The Land-Use Management Bill provides for a uniform, effective and efficient framework for spatial planning and land use management (Land Use Management System) in both urban and rural contexts. The Bill aims to rationalise the existing plethora of planning laws into one national system that will be applicable in each province, in order to achieve the national objective of wise land use. The Land-Use Management Bill will take effect on a date to be determined by the President by proclamation, estimated to be November 2005.

The Spatial Development Framework of Musina should operate as an instrument (plan) indicating desired patterns of land use, directions of growth, urban edges, priority development areas and areas where stricter land use control should be enforced. This plan has a legal effect of guiding and informing land development and management. The detailed administration of land development and land use changes should, however, be dealt with by a Land Use Management System (LUMS). A LUMS is a scheme recording the land-use, development rights and restrictions applicable to each property or erf. The LUMS should be amended when required for a particular development and to meet certain requirements. The Spatial Development Framework influences the contents of the Scheme and the Scheme has a binding effect on land development and management.

A direct link must exist between the Spatial Development Framework Plan, the LUMS, the municipality' budget and the capital expenditure framework because:

- The rights recorded in the scheme determine the value of land which influence the rates and income of the municipality; and
- Any new development or change in land use has to be adequately serviced by infrastructure and the capital expenditure framework will indicate where the municipality is able to allocate funds for the upgrading of infrastructure.

It is therefore clear that a uniform Land Use Management System is necessary for the Musina Municipality. The basis of the new LUMS should be set on the principles and norms indicated in the Draft White Paper on Spatial Planning and Land Use

Management, i.e. achieving sustainability, equality, efficiency, fairness and good governance in spatial planning and land use management. The White Paper states that LUM has two underlying rationales, i.e.:

- The resistance to uncontrolled development; and
- The wish to promote desirable development.

The following basic principles derived from the various sets of indicative legislation regarding spatial planning and land use management should form the basic principles for a LUMS:

- Emphasis on facilitating and promoting development;
- Emphasis on flexibility of the LUMS to be able to respond to land development of all types, in a more dynamic manner.
- Emphasis on a minimalism approach (controlling those issues necessary to comply with development objectives, management needs and ensuring that land use management can be carried out effectively and efficiently);
- Promote administrative just actions and social justice, transparency and accountability;
- Create a coherent LUMS, which attempts to consolidate fragmented components of land use management;
- Emphasis on a sectoral integrated development planning approach;
- Promotion of co-ordination and/or integration between spheres of government;
- Promotion of sustainable and viable development;
- Promotion of development in under developed and rural areas;
- Promotion of public participation, especially in rural areas;
- It should promote the restructuring of any distorted spatial patterns created by the apartheid system; and finally
- The LUMS should be innovative and applicable to the circumstances of the Musina Municipality and the province.

The Land Use Management Bill, 2001 has as yet not been promulgated. This Bill states that the municipality must adopt such a land use scheme within 5 years after the enactment of the act. In the case of Musina where the different sets of legislation is applicable in the different areas within the municipal area, it will be very difficult to adopt such a scheme at once, especially since most of the areas have never formed part of any land use/town planning scheme. The White Paper provides for an incremental approach. It is proposed that the Musina Municipality still uses the existing legislative statutes in place for the respective areas within the municipality until a uniform LUMS is adopted for the entire municipal area. In Phase 2 objectives and strategies were already formulated for the compilation of a uniform land use management system in 2003/04. The municipality is therefore committed to draft a LUMS for its area of jurisdiction.

This document merely provides an overview and basic guidelines for the LUMS for Musina Municipality. The detail of the LUMS will be addressed when the actual LUMS is drafted. The basic contents of the LUMS of the Musina Municipality

should at least contain Scheme Clauses and a set of Maps indicating use zones applicable to each property. The scheme clauses should include the following:

- Introductory section which will place it in its legal context.
- Definitions of terms used in the scheme, that are consistent with terms used in the scheme for the entire Musina;
- General directive principles and criteria of all types of applications and land use changes;
- Visions, Statements of Intent and definition of zones – each zone should have a Statement of Intent which is a statement on the desired future development and why.
- General conditions applicable to all properties, such as the protection of land and environment, handling of stormwater, etc.
- Specific conditions applicable to use zones: densities, etc.
- The purpose for which each piece of land may be used, i.e. use zones/permited land uses.
- Conditions applicable to each use zone used in the scheme, including:
 - Densities;
 - Type, extent and scale of buildings and structures that may be erected;
 - Coverage, Height, Floor Area Ratio (FAR), etc.
 - Conditions applicable to building lines, building restriction areas, boundaries.
 - Parking ratio's and loading zones;
 - Site Development Plans;
 - Conditions applicable to consent uses, permissions granted under use zones, etc.
- Application procedures for various types of development applications and any permission to be granted in terms of the scheme.
- Powers of the municipality and further provision to add or amend any by-law in this regard.

A LUMS currently being piloted in KwaZulu Natal has proposed three levels of land use schemes, namely an Elementary Scheme, a Primary Scheme and a Comprehensive Scheme to accommodate the needs of different areas.

Elementary Planning Scheme

An Elementary Planning Scheme would normally be applicable to small rural settlements, emerging settlements, un-proclaimed towns, and areas where there is settlement, but a lack of, or imprecise cadastral boundaries.

An Elementary Planning Scheme should contain at least the following:

- A policy statement regarding the proposed future development of the area;

- A description of the area of effect of the scheme;
- Districts, or land use areas, to define key land uses such as agriculture, settlement, and land reserved for civic and social purposes;
- The location of key roads;
- Environmentally sensitive areas;
- The location of utilities and services, and
- The location of community land uses.

An Elementary Planning Scheme is likely to make use of a limited number of Districts or defined land use areas only.

Primary Planning Scheme

A plan prepared at the level of a Primary Planning Scheme would normally be applicable to small towns and settlements where a greater level of land use management is required. A Primary Planning Scheme should be prepared by using a limited number of Zones and Districts.

Comprehensive Planning Scheme

A Comprehensive Planning Scheme will be used for larger and more complex urban and metropolitan areas, and would contain a large number of Districts based primarily on the need for a finer grain of land use differentiation, and on differences of intensity. Districts could also be prescribed on the basis of differences of permitted Consent uses.

The Rural Component of Planning Schemes

The rural component of a Planning Scheme should primarily be applied to manage land; outside defined urban areas so as to promote the general principles of sustainability, efficiency and integration to ensure that prime agricultural land is protected, and to ensure that important areas of environmental significance and biodiversity are protected.

A Planning Scheme for a rural area is likely to make use of a range of Zones, Districts, Management Areas and Special Zones. Owing to the large scale of most of the District and Local Municipalities, the settlements and urban areas which are managed by a Planning Scheme should be shown on the Planning Scheme Map for a rural area as a blank area, indicating that they already have more detailed Planning Schemes of their own.

The key Zones which will accommodate most primary uses which occur within rural areas should be selected from the list contained in Table 1. There is a need at the Integrated Development Plan level to maximise the use and development of resources in rural areas. Municipalities may undertake a more

detailed analysis of rural areas and make use of Districts and Management Areas to manage and promote development.

The need to conserve prime agricultural land, and to make optimal use of resources within rural areas, are widely recognised planning principles. In determining how agricultural land should be used and managed, the Department of Agriculture uses Bioresource Units (BRUs) to determine the broad potential of agricultural land, and Ecotopes to determine detailed agricultural potential and land use.

Within the broad framework provided by the proposed Musina Spatial Framework Plan a much more detailed land use breakdown needs to be defined at the local municipality level. This detailed level of land use management must be guided by the LUMS system to provide a guide to officials and potential developers alike on what would be appropriate land uses in particular areas. The main land uses proposed are conservation areas, pastoral/game farming areas, arable farming areas, riverine areas, and settlements areas.

In terms of the proposed LUMS the overall municipality would have Primary Town Planning Schemes. A primary Planning Scheme should be prepared by using a limited number of Zones and Districts. Normally there is only a single District for most land use types, however, it could be possible to identify more than one Residential District as a consequence of density variations within the larger rural settlements. The example of Planning Scheme Zones that could be utilised in Musina include:

- Environmental Management Zones;
- Open Space;
- Residential Zones;
- General Mixed Use Zone;
- Civic and Social;
- Industrial;
- Recreation;
- Development Interface;
- Agricultural Zone; and

- **Special Zone**

Within the residential Zone there could be both a low density residential district and a medium density residential district.

The remaining small emerging rural settlements, rural cluster settlements and rural hinterland would be subjected to an Elementary Planning Scheme. An Elementary Planning Scheme should contain at least the following:

- A policy statement regarding the proposed future development of the area;
- A description of the area of effect of the scheme;
- Districts, or land use areas, to define key land uses such as agriculture, Traditional and Non-Traditional settlements, land reserved for civic and social purposes, quarrying and mining, Transportation and Access, Special Areas and management Areas (including Protected Areas and Proclaimed Parks).
- The location of key roads;
- Environmentally Sensitive Areas;
- Location of Utilities and Services; and
- The location of community land uses.

Within the municipality and particularly in the rural component of the Planning Schemes one should make use of a range of zones, districts, management areas and Special Zones. An example is the Greater St Lucia Wetlands Park's Land Use Management Controls which could be incorporated as is as a Management Area within Musina. The Proclaimed Parks, such as Mapungubwe, Musina and Honnets nature Reserve and other environmentally sensitive areas could utilise Environmental Overlays to incorporate zones such as:

- Natural Monuments and areas of Cultural Significance;
- Habitat and Wildlife Management Areas;
- Protected land
- Sustainable Use areas;
- Important Environmental Management Areas; and
- Other more recent additions to the LUMS system as well as biosphere or bio-resource units to protect environmentally sensitive areas and agricultural resources.

12.0 PROPOSED SPATIAL PROJECTS AND CAPITAL INVESTMENT FRAMEWORK FOR THE MUNICIPALITY'S DEVELOPMENT PROGRAMS

Based on the strategies and spatial framework 46 projects with spatial implications, including housing projects have been identified. Most of these projects have already been formulated and budgeted in the IDP but they align closely with the strategies and proposals outlined in the Spatial Development Framework.

Table 12: Proposed Programmes and Projects for the Development of Land in the Musina Municipality

(* indicates that the stipulated project and budget is already in the 2005/06 budget)

Programme and Description of Projects	Location	Responsible Authority & Timing	Budget & Sources of Funding
Detailed Planning Programme			
Project 1: Preparation of a detailed Land Use Management Scheme for the entire municipal area	Entire Municipality Area	Corporate Services in 4 th quarter of 2005	R150 000.00 * Internal & External
Project 2: Detailed precinct plan for the Beitbridge Border Area	Beitbridge Border Post	Corporate Services in 1 st Quarter of 2006	R 60 000.00 – Proposed new budget addition – Internal & Dept. of Foreign Affairs
Project 3: Preparation of a feasibility study to establish a rural settlement or tourism node in the west	Ward 1 between Pontdrift and Mapungubwe	Corporate Services in 1 st Quarter of 2006	R80 000.00 - Proposed new budget addition – LG & H
Project 4: Cost Benefit Analysis of Game Farming within the Municipality	Entire Municipal area	Corporate Services in 3rd Quarter of 2006	R60 000.00 - Proposed new budget addition - Internal
Project 5: Preparation of a detailed rural settlement plan for Madimbo, Malale and Domboni	Madimbo, Malale and Domboni	Corporate Services in 1 st Quarter of 2006	R80 000.00 - Proposed new budget addition
Project 6: Formalisation of one rural settlement to upgrade existing informal land ownership rights from existing PTO's to title deeds.	Farming Areas	Corporate Services to undertake by early 2005.	R10 000.00 as an initial budget – already budgeted in 2005/06 budget (<i>This budget appears to be too small</i>)
Project 7: Draft a Strategic Environmental Assessment for the Musina municipal area	Entire Municipal Area	Corporate Services to undertake by early 2005.	R50 000.00 * Internal
Project 8: Formalisation of a rural settlement to	Madimbo	Corporate Services in	R10 000.00 * Internal

Programme and Description of Projects	Location	Responsible Authority & Timing	Budget & Sources of Funding
upgrade existing informal land ownership rights from the existing PTO's to title deeds		1st Quarter of 2006	
Project 9: Develop a Tourism Strategy for the Musina municipal area	Entire Municipal Area	Community Services, 1st to 2nd quarter 2005	? * (blank in budget)
Project 10: Establish a land reform forum to complete a survey to determine the number of farm workers and their accessibility to proper housing and services	Private farms	LG & H, 2nd quarter 2005/06	R5,5m LG&H
Infrastructure Programme			
Project 11: Implement Recycling programs at Madimbo, Malale and Domboni	Madimbo, Malale and Domboni	Community Services, 2nd to 3rd Quarter 2005	R10 000.00 * Internal
Project 12: Install internal sewage reticulation in Musina	Musina	Vhembe/Tech Services, 1st to 3rd quarters 05/06	R4,0m * MIG
Project 13: Provision of Bus-stop Shelters	Musina	Tech Services, 1st to 3rd quarters 05/06	R180 000.00 * Internal
Project 14: Pave 1,5km of streets per year in Nancefield using labour intensive methods	Nancefield	Vhembe/Tech Services,	R5,0million from MIG
Project 15: Facilitate the establishment of public telephone system in Madimbo, Malale and Domboni	Madimbo, Malale and Domboni	Community Services 3rd quarter 2006	R10 000.00 * Internal
Project 16: Upgrade and tar the loop road off the R525 between Tshipise and Parfuri Gate, running through Fodorodwe, Domboni and Madimbo.	Fodorodwe, Domboni and Madimbo	Vhembe/Tech Services during 1st to 4th quarter 2006	R? – Proposed new budget addition
Project 17: Upgrade and tar the road between the R521 and Mopane running through Bridgewater, Brombeek and Bandur.	Ward 1 - Bridgewater, Brombeek and Bandur.	Vhembe/Tech Services, 1st quarter to 4th quarter 2007	R? – Proposed new budget addition
Project 18: Upgrade and tar the road between Bandur and the R572 in the north.	Ward 1	Vhembe/Tech Services, 1st quarter to 4th quarter 2007	R? – Proposed new budget addition
Project 19: Roads and Curbing in Musina	Musina	Tech Services, Vhembe/Tech	R3,1m * MIG

Programme and Description of Projects	Location	Responsible Authority & Timing	Budget & Sources of Funding
		Services, 1st to 3rd quarter 05/06	
Project 20: Provision of toilets in built up areas	Musina	Tech Services, 1st to 2nd quarters 05/06	R70 000.00 * Internal
Project 21: Upgrade high tension electrical feeder lines in Musina	Musina	Tech Services, 4th quarter 05 to middle of 2006	R900 000.00 * Internal
Project 22: Electrification of Malale	Malale	Eskom 3rd & 4th Quarter of 2005	R520 000.00 * DME
Project 23: Drain waterlogged area in Nancefield (next to the cemetery)	Nancefield	Vhembe tech/Services, 4th quarter of 2005	R1,4m * MIG
Project 24: Develop a Service delivery policy	Musina	Tech Services, 3rd quarter 04/05 to 3rd quarter 05/06	R40 000.00 * Internal
Social Services Programme			
Project 25: Facilitate 3 more mobile clinics in municipal area.	Entire Municipality	Musina, during 1st quarter of 2006	R10 000.00 * - Internal
Project 26: Facilitate a clinic at Malale to be used as a mobile point	Malale	Community Services during 1st quarter of 2006	R10 000.00 * -Internal
Project 27: Construction of a day-care centre	Farm-lands?	Technical Services, 1st to 3rd quarter of 05/06	R200 000.00 * Internal
Project 28: Facilitate Satellite police stations at Madimbo, Malale and Domboni	Madimbo, Malale and Domboni	Community Services, during 1st quarter 05/06	R10 000.00 * Internal
Project 29: Investigate situation at Pension Pay-points.	Entire municipality	Community Services, 4th quarter 04/05 to 3rd quarter 05/06	R10 000.00 * Internal
Project 30: Facilitate the establishment of a periodical mobile court in rural settlement areas	Madimbo, Malale and Domboni	Community Services, 2nd quarter 05/06	R10 000.00 * Internal
Project 31: Facilitate two satellite offices in farm areas	Farm Areas	CFO, 1st quarter 06/07	R420 000.00 * Internal and Loan

Programme and Description of Projects	Location	Responsible Authority & Timing	Budget & Sources of Funding
Project 32: Develop one recreational facility in Nancefield (park)	Nancefield	Tech Services, 4th quarter 04/05 to 1st quarter 05/06	R50 000.00 * Internal
Project 33: Maintain and improve existing sports facilities	Musina	Vhembe /Tech Services, 3rd and 4th quarter 04/05	R1,5m * Internal
Project 34: Upgrade existing cemetery facility adjacent to the industrial area	Musina	Tech Services, 1st quarter 05/06 to middle 06/07	R300 000.00 * Internal
Project 35: Develop indoor sport facility in rural settlement area.	Madimbo	Tech Services, 4th quarter 04/05 to 1st quarter 05/06	R50 000.00 * Internal
Project 36: Develop one recreational facility in Nancefield (park).	Nancefield	Tech Services, 4th quarter 04/05 to 1st quarter 05/06	R50 000.00 * Internal
Detailed Housing Programme			
Project 37: Develop 106 new low-income housing units (subsidy scheme) in Malale.	Malale	LG&H, 1st to 4th Quarter 06/07	R 2 968 000 – Proposed New budget addition – LG&H
Project 38: Develop 300 low income housing units in villages 2004/06	Rural villages	LG&H 1st to 3rd quarter 05/06	R7 530 000. * LG&H
Project 39: Develop 300 low income housing units units in Nancefield	Nancefield	LG&H, 1st to 3rd Quarter 05/06	R 8 400 000 * LG&H
Project 40: Develop 299 new low-income housing units (subsidy scheme) in Madimbo.	Madimbo	LG&H, 1st to 4th Quarter 06/07	R8 372 000 – Proposed new budget addition, LG&H
Project 41: Develop 100 rental stock units in Musina.	Musina	LG&H, 1st to 4th Quarter 06/07	R 2 800 000 - Proposed new budget addition, LG&H
Project 42: Develop 500 new low-income housing units (subsidy scheme) per year for the financial years 2004/05, 2005/06 & 2006/07	Musina	LG&H, 1st to 4th Quarter 06/07	R 14 000 000 - Proposed new budget addition, LG&H
Institutional and Economic Programme			
Project 43: Compilation of an Valuation Role	Entire Municipality	Corporate Services to be undertaken during 05/06 financial yrs	R30 000.00 - Already in the 2005/2006 budget.

Project 44: Feasibility study for LED Projects	Musina	IDP & LED, 4 th quarter 04/05	Led Fund *
Project 45: Develop a LED Policy	Musina	IDP & LED, 4 th quarter 04/05	Led Fund *
Public Transport Programme			
Project 46 :Transport Forum to arrange discussions with Department of Transport & taxi associations to improve public transport between Musina and the 3 settlements.	Madimbo, Malale and Domboni	Community Services	R20 000.00 * - Internal

14.0 CONCLUSION

This report constitutes the draft final report of the Musina Local Municipality Spatial Development Framework for perusal by the municipality officials.

It is anticipated that this report still has small gaps and linkages that need to be made. As such it is anticipated that final additions and amendments are still to be done for the production of the final SDF Report.

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www.demarcation.org.za

DISASTER MANAGEMENT PLAN

Prepared by Hluli Environmental Consultants and Engineers in consultation with the Musina Disaster Management Committee/ Advisory Forum under the provisions of the Disaster Management Act 2002 Version: 1.0 Date of Version: July 25, 2005 **OVERALL OBJECTIVE** To consolidate the existing single management system into an effective disaster management system that is compliant with national legislation and able to encourage preparation, prevention, response and recovery activities.

STRATEGIC FOCUS

Building a system that will be reckoned with amongst councils' competing interests through a holistic and comprehensive disaster and risk management culture. Authority for Planning and Authorisation of the Plan

The Musina Local Municipality Disaster Management Plan has been prepared in accordance with the provisions of the Disaster Management Act, 2002, Sections 52 & 53; the Vhembe District Municipality Integrated Development Plan; within the framework for disaster management in the municipality; and is aimed at ensuring an integrated and uniform approach to comprehensive disaster management in the Municipality

This Plan has been documented by the Musina Disaster Management Committee, which it has been proposed, should become the Advisory Forum as required by legislation, and is approved by the Disaster Management Committee:

Councillor G Ramushwana:

Chairperson: Disaster Management Committee

Musina Local Municipality

Dated:

This Plan is endorsed by the Executive Committee and is recommended to Council for approval.

A. Luruli

Municipal Manager

Dated: _____

This Plan is approved.

Mayor of Musina Local Municipality Councillor D. Mokobi Dated: _____

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Annexes

A. Concepts of Disaster Management

B. Principles of Disaster Management

C. Administrative Support Functions

- Activation of Management Committee
- Community Awareness and Education
- Disaster Management Centre SOPs
- Financial Management
- Legal Issues
- Requests for Assistance

D. Operational Support Functions

- Communications
- Community Welfare
- Evacuation Planning and Evacuation Centre Management
- Impact Assessment
- Medical & Public Health
- Public Information
- Public Works & Engineering
- Rescue
- Transport Logistics
- Utilities
- Warnings

Foreword

South Africa is susceptible to a range of natural and technological hazards, which have the capacity to impact significantly on national and municipal development strategies and initiatives. The sustainability of such initiatives will therefore depend very much on how successfully risks associated with these hazards can be managed.

This Disaster Management Plan has been developed by the Musina Local Municipality in liaison with the Disaster Management Committee. The plan provides a framework through which an holistic and comprehensive risk management can be undertaken within the Musina Local Municipality

The focus, as required by the Disaster Management Act, 2002, and within the legislated disaster management framework, is on minimising the effects of hazards on local communities by ensuring a co-ordinated effort in risk management within the Musina Local Municipality utilising partnerships of Provincial Government, District and Local Municipalities, and non-government bodies with a responsibility or capability in disaster risk management and emergency response.

This plan has been designed around the international Risk Management Standard AS/NZS4360: 1999, utilising the risk management philosophy of the Comprehensive Hazard and Risk Management (CHARM) process. CHARM is a holistic disaster management concept which uses a multi-agency, multi-sectoral approach to risk minimisation, providing linkages to development priorities as

outlined by the Musina Local Municipality's Integrated Development Plan (IDP). The plan outlines the national disaster management framework. The plan further identifies the risk environment for Musina Local Municipality and outlines the key institutional and programming components relative to effective risk management and emergency response. The Plan is not designed to usurp the incident management responsibilities of the various emergency services or other organisations within the community that respond to events which fall within their normal daily activities. Instead the plan is designed to enhance the capacity of emergency services to

more effectively plan for and respond to emergency situations. This is achieved through the combined processes of hazard and risk analysis, which provides a more realistic base of information upon which to frame operational plans and procedures.

The Plan is a dynamic document that may be extended in the future to incorporate any additional risk treatment options as they are identified following formal hazard and risk analysis. The Plan will also be amended in line with changes in legislation and current best practice, and to reflect lessons learnt from the impact of hazards and other disaster situations that may arise.

Amendments Sheet

Distribution List

Agency/Organization	Copies
Musina Local Municipality	
Vhembe District Municipality	
Musina Local Municipality Disaster Management Committee/ Advisory Forum	
Department of Agriculture	
Department of Economic Development And Tourism	
Department of Education	
Department of Health and Social Welfare	

Department of Labour	
Department of Traditional And Local Government Affairs	
Department of Transport and Works	
Department of Water Affairs And Forestry	
Emergency Medical Rescue Services	
Eskom	
Musina Chamber Of Commerce	
Mopane District Municipality and others	
Limpopo Road Traffic Inspectorate	
Metro Rail	
National Disaster Management Centre	
Provincial Disaster Management Centre	
South Africa Red Cross	
South African National Defence Force	
South African Police Services	
Telkom	

Definitions

“CHARM” - a comprehensive hazard and risk management tool and/or process within the context of an integrated national development planning network;

“community safety” - as used in this document, refers to community safety in the broadest sense and is not confined to crime prevention and law enforcement issues;

“consequence” - the likely negative effects on persons, society, the environment or the economy, that may eventuate as a result of a hazard impact;

“disaster” - a progressive or sudden, widespread or localized, natural or human-caused occurrence which-

(a) causes or threatens to cause-

- (i) death, or disease;
- (ii) damage to property, infrastructure or the environment; or
- (iii) disruption of the life of a community; and

(b) is of a magnitude that exceeds the ability of those affected by the disaster to cope

with its effects using only their own resources;

“disaster management” - a continuous and integrated multi-sectoral, multi-disciplinary process of planning and implementation of measures aimed at-

- (a) preventing or reducing the risk of disasters;
- (b) mitigating the severity or consequences of disasters;
- (c) emergency preparedness;
- (d) a rapid and effective response to disasters;
- (e) post-disaster recovery and rehabilitation;

“emergency preparedness” - a state of readiness which enables organs of state and other institutions involved in disaster management, the private sector, communities and individuals to mobilise, organise, and provide relief measures to deal with an impending or current disaster or the effects of a disaster;

“hazard” - something that has the potential to cause significant negative impacts on community elements (such as social, environmental and economic).

“integrated development plan”, in relation to a municipality, - a plan envisaged in section 25 of the Local Government: Municipal Systems Act. 2000 (Act No. 32 of 2000);

“level of risk” - expression of the severity of a risk derived from consideration of likelihood the event will occur and the potential consequence that may arise

“likelihood” - an expression of how likely it is that a specific hazard will occur within a given time frame. It is used as a qualitative description of probability or frequency

“municipal manager” - a person appointed as such in terms of section 82 of the Local Government: Municipal Structures Act, 1998 (Act No. 117 of 1998);

“risk” - used to describe the likelihood of harmful consequences, arising from the interaction of hazards, vulnerable elements (i.e. the community) and the environment

“risk treatment options (strategies)” -measures contained within mitigation, preparedness, response and recovery programs that aim to eliminate or drastically reduce the level of risk

“vulnerability” - the degree to which an individual, a household, a community or an area may be adversely affected by a disaster. Vulnerability refers to the susceptibility and resilience of the community and environment to hazards.

Description of the Municipality

Background and Scope

In 1994/1995 the Local Authority Committee for Nancefield and the Town Council of Messina amalgamated and became the Greater Messina Transitional Local Council, and after the election in December 2000 the municipality was established as the Messina Local Municipality. In 2002 the name of the town was changed to Musina and the Municipality is known as the Musina Local Municipality.

Musina is situated in the Northern area of the Limpopo Province and within the Magisterial District of Musina. The municipality is situated approximately 15 km to the south of the Limpopo River close to the international border post of Beit Bridge and situated 540 m above sea level in the midst of the well known Limpopo Valley, on the N1 close to Beit Bridge.

Since the new demarcation of municipal areas in 2000, the municipal area of Musina stretches from Beitbridge to about 30 km south (Huntley's Farm) and from Malale (close to the Pafuri gate in the south east to just before All days in the north west). An area of 7578,29 km² kilometers.

The name is derived from the Musina tribe the Chieftainship of Dopokobotha who discovered and mined the copper deposits. This area forms part of the Golden Horseshoe of tourism in the Limpopo Province.

Musina in Limpopo province is regarded as one of the richest areas in tourism in terms of its scenery and cultural composition. To detail and effectively utilize these riches, a multi-disciplinary research effort has started its initial stage.

DESCRIPTION OF THE STUDY AREA

Musina Municipality is located on the far northern region of the Limpopo Province. it borders South Africa with Zimbabwe. Musina is the only town north of the Soutpansberg and is the most northerly town in South Africa. Musina is located approximately 500km north of Pretoria, 224km north of Polokwane and approximately 108km north of Makhado, which is the nearest neighbouring town. Musina is situated 13km south of the Beit Bridge border post to Zimbabwe on the N1-national road and railway line, linking South Africa to the rest of Africa.

POPULATION

POPULATION FIGURES (DWAF + Census + BMR)

The population figures according to the data of the Department of Water Affairs, Statistics South Africa (SSA) and the Bureau for Market Research (BMR) is reflected in TABLE 0.1.

TABLE 0.2 indicates the population figures (race & gender) per ward as calculated by the SSD. TABLE 0.3 indicates the population figures per type of enumerator area (EA). The population figures of the 1996 Census indicate a population figure of 33 061 people in 1996 for the Musina municipal area. This figure was accepted to be an undercount and the BMR adjusted the 1996 population figure to 37 624. The adjusted population figure of the BMR will be accepted as the correct population for the Musina municipal area. Although the population figures that are used in the tables/figures of the SSD are inaccurate (undercount), it will still be used throughout this document to indicate tendencies for specific issues.

TABLE 0.1: POPULATION FIGURES FOR THE MUSINA MUNICIPAL AREA (DWAF/BMR)

MUNICIPALITY	SETTLEMENT/ COMMUNITY NAME	NO. OF SETTLE- MENTS	POPULATION FIGURES						ESTIMATED POPULA- TION 2001 (*2)	
			DEPARTMENT OF WATER AFFAIRS (*3)		CENSUS POPULA- TION	BMR (AMENDED) CENSUS POPULATION (*1)				
HOUSEHOLDS (NO. OF STANDS) FORM C 1998	POPULATION 1998	2000	1996	HOUSE- HOLDS 1996	HH SIZE 1996	POPU- LATION 1996				
Musina	Harper	1	140	980	1003					
	Malale	1	135	945	97					
	Madimbo (Matshakatini)	1	197	1389	1263					
	Musina	1	1389	5728	6076					
	Mopane	1	20	128	132					
	Nancefield	1	3769	26384	27990					
	Weipe	1	100	630	652					
	Farming areas (rest)	n/a	--	--	--					
TOTAL		7	5750	36184	37213	33061	8421	4.47	37642	40836

- SOURCES:
1. Department of Water Affairs (CWSS-Study)
 2. SSA - 1996 Census
 3. Bureau for Market Research (BMR)

- NOTES:
- (*1.) Amended Census population based on population figures of both the Department of Water Affairs (CWSS - study) and the 1996 Census Survey.
 - (*2.) Estimated population based on annual growth rates calculated by the BMR.
 - (*3.) Department of Water Affairs (CWSS Study) population figures excludes "farming areas". Population figures are only provided for settlements/communities.

TABLE 0.2: POPULATION PER WARD

WARD	POPULATION	RACE (%)					GENDER (%)	
		AFRICA	COLOURED	INDIAN	WHITE	OTHER	MALE	FEMALE
1	10016	91	0.3	0.1	7.7	1	53	47.1
2	3972	91	0.2	0	7.9	0.9	52.2	47.9
3	5941	99.2	0.2	0	0	0.7	44.1	56
4	5284	98.8	0.2	0	0.6	0.4	47.6	52.5
5	7839	58.4	0.7	0.8	37.2	2.9	58	42

Source: Statistics South Africa, Census 1996

TABLE 0.3: POPULATION FIGURES BY TYPE OF ENUMERATION AREA

TYPE OF AREA	AFRICAN	COLOURED	INDIAN/ASIAN	WHITE	UNSPECIFIED	TOTAL	
						NO.	%
Urban	15,194	71	58	2,120	280	17,723	53.61
Commercial farms	12,486	39	7	1,886	143	14,561	44.04
Tribal authorities	739	-	-	32	4	775	2.34
Unspecified	-	-	-	-	2	2	0.01
Total	28,419	110	65	4,038	429	33,061	100.00

Source: Statistics South Africa, Census 1996

POPULATION GROWTH RATES & PROJECTIONS

The population growth rates and projections for the Musina municipal area are indicated in

TABLE 0.4. The population growth rates were done in conjunction with the Bureau for Market Research (BMR). The BMR estimated that 40 836 people live in the Musina municipal area in the year 2001. This figure will increase to 41 935 in 2003 and 44 308 in 2008.

TABLE 0.4: POPULATION GROWTH RATES AND PROJECTED POPULATION

YEAR	ANNUAL GROWTH RATES	CONVERSION RATE	PROJECTED POPULATION
1996	1.862		37 642
1997	1.766	1.0177	38 307
1998	1.678	1.0168	38 950
1999	1.591	1.0159	39 569
2000	1.760	1.0176	40 265
2001	1.416	1.0142	40 836
2002	1.355	1.0135	41 389
2003	1.320	1.0132	41 935
2004	1.250	1.0125	42 460
2005	1.189	1.0119	42 964
2006	1.110	1.0111	43 441
2007	1.032	1.0103	43 890
2008	0.953	1.0095	44 308

Source: Pieterse, Du Toit & Associates CC. & BMR, 1996

NOTES:

Households in 1996: 8421

Household size in 1996: 4.47 persons per household

HOUSEHOLD SIZE, NUMBER OF CHILDREN BORNE AND AGE OF MOTHERS AT BIRTH OF FIRST CHILD

The average size of households in the Musina municipal area were determined by the BMR and calculated at 4.47 people per household. The occupancy rate of erven is higher in Nancefield (± 5.8 people per erf)⁴ and the three settlements of Madimbo, Malale & Domboni ($\pm 5-6$ people per erf)⁵ than in Musina (± 3.43 people per erf) 1. The reason for the higher occupancy rate in Nancefield and the three rural settlements is overcrowding of erven (backyard structures) and traditionally larger families, especially in rural areas. The average size of households in low-income areas will decrease in future due to factors such as acceptance of birth control measures, weakening of traditional views regarding large families and HIV/AIDS.

The number of children ever borne per population group is indicated in **Error! Reference source not found.**.. The largest percentage of "number children ever borne per population" group falls within the 0 - 3 children group. A significant percentage is also found in the 4 - 6 children group. These figures give an indication of family size within population groups.

NUMBER OF CHILDREN EVER BORN BY POPULATION GROUP

NO. OF CHILDREN	AFRICAN/BLAC		COLOURED		INDIAN/ASIAN		WHITE		UNSPECIFIED	TOTAL	
	NO.	%	NO.	%	NO.	%	NO.	%		NO.	%
0	1,876	24.45	5	18.52	12	66.67	207	17.89	15	2,115	23.66
1	1,520	19.81	5	18.52	2	11.11	110	9.51	5	1,642	18.37
2	1,243	16.20	7	25.93	0	0.00	359	31.03	22	1,631	18.25
3	910	11.86	2	7.41	0	0.00	251	21.69	3	1,166	13.04
4	666	8.68	4	14.81	0	0.00	126	10.89	10	806	9.02
5	478	6.23	0	0.00	1	5.56	58	5.01	6	543	6.07
6	382	4.98	0	0.00	1	5.56	33	2.85	2	418	4.68
7	244	3.18	1	3.70	2	11.11	9	0.78	0	256	2.86
8	142	1.85	1	3.70	0	0.00	3	0.26	0	146	1.63
9	91	1.19	2	7.41	0	0.00	0	0.00	0	93	1.04
10	66	0.86	0	0.00	0	0.00	1	0.09	0	67	0.75
11	28	0.36	0	0.00	0	0.00	0	0.00	0	28	0.31
12	12	0.16	0	0.00	0	0.00	0	0.00	0	12	0.13
13	5	0.07	0	0.00	0	0.00	0	0.00	0	5	0.06

⁴ LDO, 2000

⁵ African Renaissance, 2001

NO. OF CHILDREN	AFRICAN/BLACK		COLOURED		INDIAN/ASIAN		WHITE		UNSPECIFIED	TOTAL	
	NO.	%	NO.	%	NO.	%	NO.	%		NO.	%
14	4	0.05	0	0.00	0	0.00	0	0.00	0	4	0.04
15	4	0.05	0	0.00	0	0.00	0	0.00	0	4	0.04
16 +	3	0.04	0	0.00	0	0.00	0	0.00	0	3	0.03
TOTAL	7,674	100.00	27	100.00	18	100.00	1157	100.00	63	8,939	100.00

Source: Statistics South Africa, Census 1996

The age of mothers at the birth of their first child is indicated in **Error! Reference source not found.** Approximately 3 percent of total births were related to mothers aged 15 years and younger. A need therefore exists for educational programmes for teenagers with respect to birth control and sexual behaviour.

AGE OF MOTHER AT BIRTH OF FIRST CHILD BY POPULATION GROUP

CATEGORY	AFRICAN		COLOURED		INDIAN/ASIAN		WHITE		UNSPECIFIED	TOTAL	
12-15	486	3.53	0	0.00	0	0.00	6	0.31	1	493	3.08
16-49	3,937	28.57	18	41.86	4	12.50	880	44.97	15	4,854	30.33
UNSPECIFIED	1,375	9.98	4	9.30	2	6.25	64	3.27	32	1,477	9.23
N/a	7,982	57.92	21	48.84	26	81.25	1,007	51.46	143	9,179	57.36
TOTAL	13780	100.00	43	100.00	32	100.00	1957	100.00	191	16003	100.00

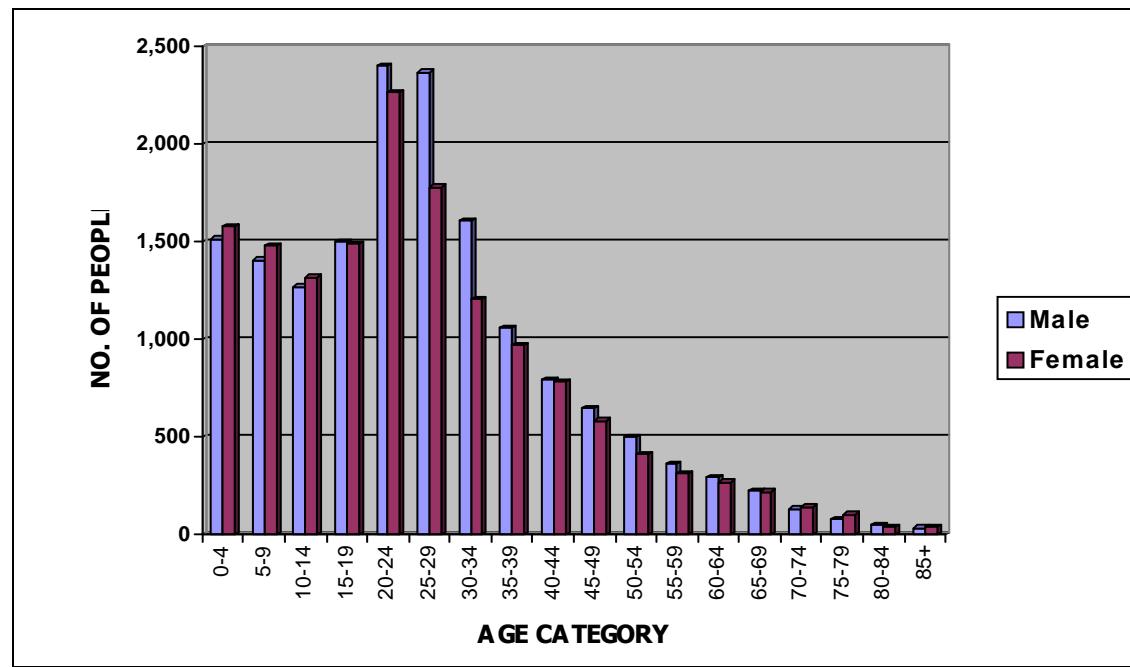
Source: Statistics South Africa, Census 1996

AGE & GENDER DISTRIBUTION

The age distribution of the population of the Musina Local Municipality is presented in **Error! Reference source not found.**, **Error! Reference source not found.**, **Error! Reference source not found.**, (page 10) and **Error! Reference source not found.** (page 10). 27.86% of the population in the Musina municipal area is aged 0-15 years (children), which is relatively low compared to the figure for the Northern Province of ±40%. This figure implies an average future population growth. The very low percentage of children in Ward 1 may be explained by the fact that this ward consists

mainly of commercial farms (including game farms) with an ageing community and where the owners are not necessarily staying on such farms with their families.

AGE AND GENDER DISTRIBUTION OF POPULATION



Census 1996

Source: Statistics South Africa,

AGE DISTRIBUTION PER WARD

WARD	POPULATION	CHILDREN 0-15y (%)	YOUTH 16-35y (%)	MIDDLE AGE 35-64y (%)	ELDERLY 65+ (%)
1	10,016	15.2	49.1	20.6	2.2
2	3,972	31.9	41.2	22.3	3.1
3	5,941	34.6	41.6	19.8	2.8
4	5,284	31.9	40.1	20.6	4.7
5	7,839	25.7	44.1	23	3.9
TOTAL/AVERAGE	33,052	27.86	43.22	21.26	3.34

Source: Statistics South Africa, Census 1996

AGE AND GENDER DISTRIBUTION OF POPULATION (Category 1)

	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+	UNSPECIFIED	TOTAL
08	1,272	1,498	2,398	2,366	1,607	1,060	796	649	502	363	296	229	137	81	51	35	796	17,057
81	1,320	1,492	2,265	1,781	1,207	969	784	585	413	317	274	222	142	4	41	43	988	16,004
89	2,592	2,990	4,663	4,147	2,814	2,029	1,580	1,234	915	680	570	451	279	5	92	78	1,784	33,061

AGE AND GENDER DISTRIBUTION OF POPULATION (Category 2)

	0-5	%	6-15	%	16-65	%	65+	%	UNSPECIFIED	%	TOTAL	%
MALE	1,808	10.60	2,640	15.48	11,337	66.47	476	2.79	796	4.67	17,057	51.59
FEMALE	1,895	11.84	2,745	17.15	9,868	61.66	508	3.17	988	6.17	16,004	48.41
TOTAL	3,703	11.20	5,385	16.29	21,205	64.14	984	2.98	1,784	5.40	33,061	100.00

POPULATION GROUP BY FIRST HOME LANGUAGE

	IsiNdebele	IsiXhosa	IsiZulu	Sepedi	Sesotho	Setswana	Siswati	Tshivenda	Xitsonga	Afrikaans	English	Other	Unspecified	Total
African/Black	372	77	112	6,577	1,559	131	23	15,253	1,697	122	179	2,112	205	28,419
Coloured	3	-	-	13	3	-	-	4	-	45	28	7	7	110
Indian/Asian	-	-	2	-	-	-	-	7	15	1	13	3	24	65
White	4	-	-	5	-	-	1	11	11	3,055	775	46	130	4,038
Unspecified	-	-	-	67	2	-	-	76	2	10	10	22	240	429
Total	379	77	114	6,662	1,564	131	24	15,351	1,725	3,233	1,005	2,190	606	33,061
%	1.15	0.23	0.34	20.15	4.73	0.40	0.07	46.43	5.22	9.78	3.04	6.62	1.83	100.00

POPULATION GROUP BY FIRST HOME LANGUAGE PER WARD

FIRST HOME LANGUAGE (%)													
Ward	IsiNdebele	IsiXhosa	IsiZulu	Sepedi	Sesotho	Setswana	Siswati	Tshivenda	Xitsonga	Afrikaans	English	Other	
1	2.2	0.2	0.5	9.9	11.4	0.6	0.1	46.6	2.3	6	2	17.1	
2	1.4	0	0.2	6.1	5.9	0.1	0	71	1.9	5.8	2.7	3.8	
3	0.3	0.1	0.3	36.5	0.9	0.2	0	50.8	9.1	0	0.2	0.6	
4	0.9	0.2	0.3	32.9	0.2	0.1	0.1	52.2	9.5	0.8	0.3	1.9	
5	0.7	0.6	0.2	18.4	1.4	0.7	0.1	27	4.9	30.3	8.5	2.5	

Source of the above Tables: Statistics South Africa, Census 1996

LANGUAGE COMPOSITION

The 1ST home language per population group is presented in [Error! Reference source not found.](#) (page 10). The 1ST home language per ward is indicated in [Error! Reference source not found.](#) (page 10). It is clear from the tables that Venda is the most used home language (46.43%) in the Musina municipal area. Venda is also the most used home language in Wards 1 - 4. Afrikaans is the most used home language in Ward 5 (30.3%), which represents the residential areas of Musina.

MIGRATION

Very little information is available about migration patterns in the Musina municipal area. The following comments are made pertaining to the province as a whole.

The lack of sufficient job opportunities in Limpopo to accommodate the economically active population, together with the apartheid policy of influx control, has entrenched a migratory labour pattern in the country. Although the exact extent of migration is very difficult to determine, it can be estimated by considering the discrepancy in the gender structure. On this basis the DBSA estimated a male absenteeism ratio of 32, 6% for Northern Province in 1980 and 37, 1% in 1990.

Male absenteeism in the former Northern District was 48, 1% of the economically active males. The growth in migration between 1980 and 1990 was 4, 8% per year, which is more than twice the population growth rate. It is probably evidence of more people seeking specific kinds of jobs that are not available in Northern Province. This trend is likely to continue until the Province manages to increase the number and nature of local job creation by way of economic and project development strategies. It should be considered that these estimates are derived from an assumption that only males migrate, which is not true. The actual extent of migration should therefore exceed the estimated figures.

The movement of people from neighbouring Southern African countries represents another form of migration. Accurate figures are once again difficult to obtain because a large number of these people enter the country illegally. Figures obtained from the Department of the Interior indicate a marked acceleration in the repatriation of illegal immigrants from 44 000 in 1988 to 82 000 in 1992. Persons repatriated in 1992 were mostly from Mozambique (61 000) and from Zimbabwe (12 000). Places of entry are the Lowveld and Northern Districts of the Northern Province. Many people stay in the province while others immediately or gradually move to Gauteng. On the basis of research conducted by Minnaar and Hough of the HSRC, it is estimated that there were between 400 000 and 600 000 illegal immigrants in the Northern Province in 1996.

EMPLOYMENT

EMPLOYMENT STATUS

The employment status of the population of the Musina municipal area is indicated in **Error! Reference source not found.** and **Error! Reference source not found.** The unemployment figures for Ward 3 and 4 (Nancefield) are much higher than for the other wards. The figures still compare favourably with the unemployment rate of ±41% (1995 figure) of the Northern Province.

EMPLOYMENT STATUS

CATEGORY	Male	Female	Total
Employed	8937	7265	16201
Unemployed	1734	3649	5383

Scholar or student	1273	1259	2532
Home-maker or housewife	20	477	497
Pensioner or retired person/to old to work	172	367	539
Unable to work due to illness or disability	103	160	262
Seasonal worker not working presently	43	83	126
Does not choose to work	127	371	499
Could not find work	190	417	607
Not applicable (younger than 15 and older than 65)	6201	6465	12665
Total	18800	20513	39313

Cells in this table have been randomly adjusted to avoid the release of confidential data

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EMPLOYMENT STATUS PER WARD

WARD	POPULATION	EMPLOYED %	UNEMPLOYED %
1	10,016	98.8	1.2
2	3,972	92.3	7.7
3	5,941	74.7	25.3
4	5,284	71.3	28.7
5	7,839	87.8	12.2

Source: Statistics South Africa, Census 1996

OCCUPATION BY CATEGORY

The occupation of the population of the Musina municipal area in terms of category is indicated in **Error! Reference source not found.** The highest percentage of jobs is in the unskilled/elementary category, i.e. 57.29%. Approximately 20% more females than males are employed in the unskilled category.

OCCUPATION BY CATEGORY

CATEGORY	MALE		FEMALE		TOTAL	
	NO.	%	NO.	%	NO.	%
Legislators, senior officials and managers	132	1.88	43	0.94	175	1.51
Professionals	206	2.94	213	4.65	419	3.62
Technicians and associate professionals	160	2.28	122	2.66	282	2.43
Clerks	123	1.76	293	6.40	416	3.59
Service workers, shop and market sales workers	630	8.99	287	6.27	917	7.91
Skilled agricultural and fishery workers	767	10.95	245	5.35	1,012	8.73
Craft and related trades workers	1,020	14.56	154	3.36	1,174	10.13
Plant and machine operators and assemblers	516	7.36	38	0.83	554	4.78
Elementary occupations (unskilled)	3,453	49.28	3,185	69.54	6,638	57.29
TOTAL	7,007	100.00	4,580	100.00	11,587	100.00

Source: Statistics South Africa, Census 1996

OCCUPATIONAL CLASSIFICATION BY ECONOMIC SECTOR

The occupational classification of the population of the Musina municipal area in terms of economic sector is indicated in **Error! Reference source not found.**. The largest percentage of people is employed in the agricultural and hunting sector, i.e. 17.13%.

OCCUPATIONAL CLASSIFICATION BY ECONOMIC SECTOR

CATEGORY	MALE		FEMALE		TOTAL	
	NO.	%	NO.	%	NO.	%
Agriculture, hunting, forestry and fishing	3,631	21.29	2,034	12.71	5,665	17.13
Mining and quarrying	411	2.41	69	0.43	480	1.45
Manufacturing	157	0.92	71	0.44	228	0.69
Electricity, gas and water supply	44	0.26	5	0.03	49	0.15
Construction	451	2.64	61	0.38	512	1.55
Wholesale and retail trade	339	1.99	326	2.04	665	2.01
Transport, storage and communication	444	2.60	38	0.24	482	1.46
Financial, insurance, real estate, business services	176	1.03	146	0.91	322	0.97
Community, social and personal services	707	4.14	557	3.48	1,264	3.82
Private households	477	2.80	1,141	7.13	1,618	4.89
Exterritorial organisations	4	0.02	0	0.00	4	0.01

CATEGORY	MALE		FEMALE		TOTAL	
	NO.	%	NO.	%	NO.	%
Representatives of foreign governments	0	0.00	0	0.00	0	0.00
Industry NEC or unspecified	912	5.35	563	3.52	1,475	4.46
Not applicable	7,560	44.32	10,129	63.29	17,689	53.50
NA: Institution	1,745	10.23	865	5.40	2,610	7.89
Total	17,058	100.00	16,005	100.00	33,063	100.00

Source: Statistics South Africa, Census 1996

HOUSEHOLD INCOME & EXPENDITURE

INDIVIDUAL INCOME DISTRIBUTION

The individual income distribution of the population is indicated in **Error! Reference source not found.** It is clear from **Error! Reference source not found.** that a high percentage of individuals, i.e. ±60%, earn less than R501 per month.

MONTHLY INDIVIDUAL INCOME

CATEGORY	MALE		FEMALE		TOTAL	
	NO.	%	NO.	%	NO.	%
None	4,297	25.19	5,842	36.50	10,139	30.67
R1 - R200	2,601	15.25	2,528	15.80	5,129	15.51
R201 - R500	2,557	14.99	1,940	12.12	4,497	13.60
R501 - R1000	931	5.46	402	2.51	1,333	4.03
R1001 - R1500	703	4.12	251	1.57	954	2.89
R1501 - R2500	510	2.99	224	1.40	734	2.22
R2501 - R3500	329	1.93	169	1.06	498	1.51
R3501 - R4500	200	1.17	97	0.61	297	0.90
R4501 - R6000	232	1.36	75	0.47	307	0.93
R6001 - R8000	124	0.73	25	0.16	149	0.45
R8001 - R11000	102	0.60	10	0.06	112	0.34
R11001 - R16000	45	0.26	3	0.02	48	0.15
R16001 - R30000	22	0.13	3	0.02	25	0.08
R30001 or more	17	0.10	4	0.02	21	0.06
Unspecified	2,094	12.28	2,822	17.63	4,916	14.87
NA: Institution	2,294	13.45	1,610	10.06	3,904	11.81
Total	17,058	100.00	16,005	100.00	33,063	100.00

ANNUAL HOUSEHOLD INCOME AND EXPENDITURE

The household income and expenditure of the population is indicated in **Error! Reference source not found.** indicates that 54.65% of households earn less than R12000 per year or R1000 per month. The accepted minimum level of income per annum for households to sustain a living is R950 per month (BMR, 2001) for the Northern Province. It is clear that a substantial number of households in the Musina municipal area own less than the required minimum to maintain an acceptable living standard.

ANNUAL HOUSEHOLD EXPENDITURE

EXPENDITURE CATEGORY	No.	%
None	-	0
R1-2400	-	0
R2401-6000	1,554	18.48
R6001-12000	2,491	29.63
R12001-18000	1,191	14.17
R18001-30000	1,054	12.54
R30001-42000	488	5.80
R42001-54000	336	4.00
R54001-72000	268	3.19
R72001-96000	271	3.22
R96001-132000	238	2.83
R132001-192000	176	2.09
R192001-360000	127	1.51
R360001 or more	21	0.25
Unspecified/dummy	192	2.28
NA: Institution/hostel	-	0
TOTAL	8,407	100.00

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ANNUAL HOUSEHOLD INCOME

INCOME CATEGORY	No.	%
None	387	4.60
R1-2400	999	11.88
R2401-6000	2,245	26.70
R6001-12000	964	11.47
R12001-18000	604	7.18
R18001-30000	508	6.04
R30001-42000	262	3.12
R42001-54000	179	2.13
R54001-72000	222	2.64
R72001-96000	165	1.96
R96001-132000	174	2.07
R132001-192000	81	0.96
R192001-360000	53	0.63
R360001 or more	18	0.21
Unspecified/dummy	1,418	16.86
NA: Institution/hostel	129	1.53
Total	8,408	100.00

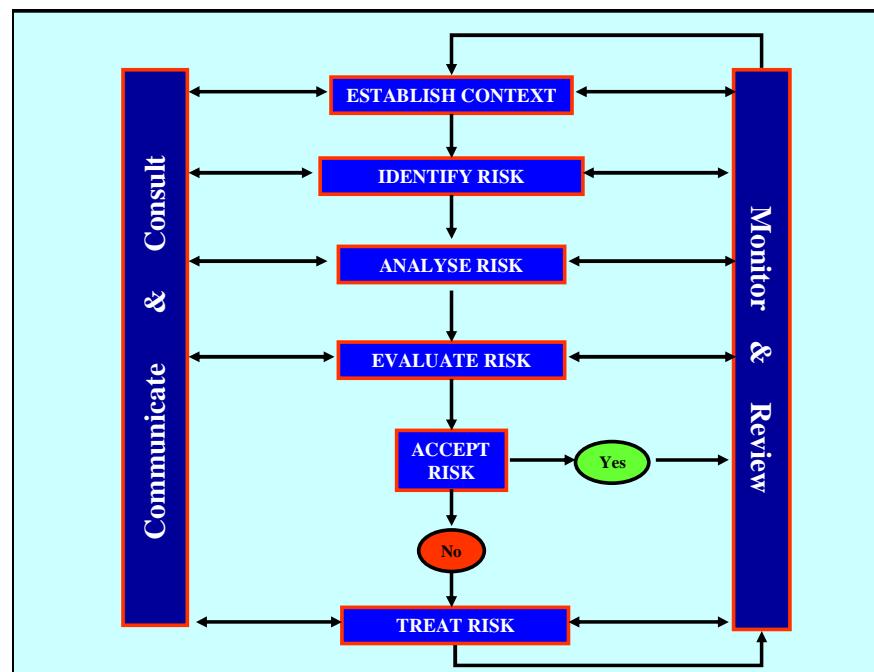
RISK MANAGEMENT OVERVIEW

Risk Management Process

Risk management policies and procedures have been adopted in a wide range of professions and industries, but only in recent years have national and international risk management standards been developed. These have established policies, procedures and practices for the management of the tasks of identifying, analysing, evaluating, treating and monitoring risk.

The international risk management standard AS/NZS 4360:1999 is widely used to guide risk management efforts in both the developed and least developed country environments. A key feature of this standard is that it focuses on both the sources of risk (the hazards) and the elements of the community that may be at risk from the hazards (the vulnerable sectors).

AS/NZS 4360:1999, Risk Management



CHARM

The Importance of CHARM

Whilst there is already a significant level of disaster reduction, risk management and/or mitigation being practiced within South Africa, efforts tend to be siloed within single government departments or Non Government Organisations and private sector agencies.

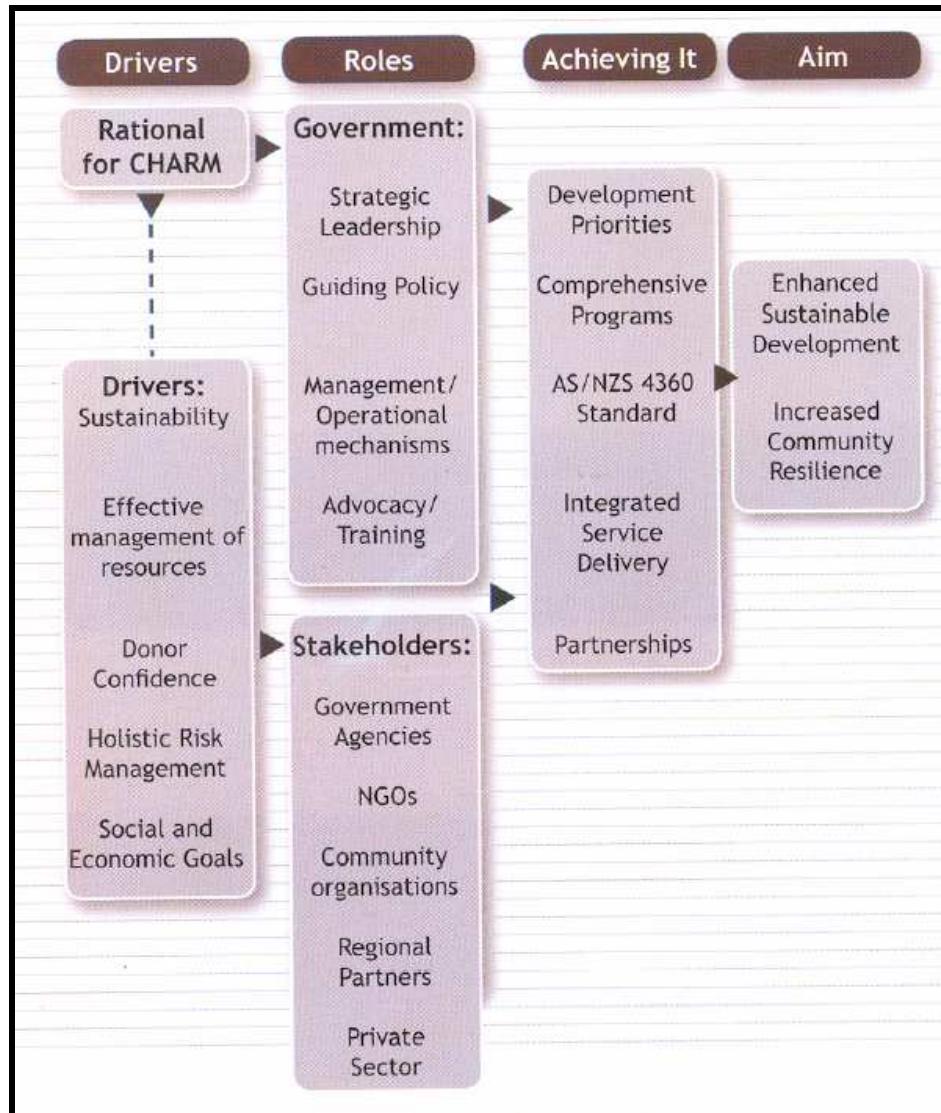
In many instances, agencies try to address risk reduction for a range of hazards simultaneously from within the limited resources of single departments. In such cases duplication of effort is common and there are usually a number of obvious programming gaps, which tend to impact upon the effectiveness and sustainability of outputs.

CHARM is not a new business per se; however it is a new way of doing business. It moves the disaster management approach away from just being response and relief toward a more holistic risk management containment strategy that is linked intrinsically to national development planning. Although effective response and recovery mechanisms are important, there needs to be a balance whereby risk is minimised through deliberate and planned sustainable mitigation efforts.

Rationale for CHARM

The rationale for CHARM is to integrate recognised risk management practices within the development planning processes of countries. This is conceptualised in Figure 3.2 below, which show the reasons for CHARM, how existing arrangements can be used to achieve the aims of CHARM.

Rationale for CHARM



South Africa has committed to changing the disaster management paradigm toward a front end, all hazards, whole of country, Comprehensive Hazard and Risk Management (CHARM) programming process that enhances national development efforts. The critical ingredients of CHARM are that it has an holistic programming focus, it seeks to involve all national and regional partners in collaborative efforts, and it is modelled on the AS/NZS 4360:1999⁶ standard to ensure it meets accredited standards and thus recognised regionally and internationally as a viable concept.

The success of CHARM is dependent upon it being recognised by government as a viable tool to coordinate the effective pooling and integrative utilisation of resources for sustainable development planning. It should be mainstreamed as “core business” within government, non-government and national partner program activities.

Other attributes of CHARM are:

- It is linked to national development planning (social, economic and infrastructure)
 - It assists in establishing and prioritising development activities
 - It targets the management of both existing and future risk
 - It is linked to existing national and regional institutional mechanisms and programs
 - It facilitates collaborative partnerships and enhances information sharing
 - It creates a programming environment that maximises the use of available resources and minimises duplication.
-
- The CHARM process is in itself a useful professional development mechanism
 - It provides a mechanism for establishing formal linkages between all stakeholders
 - It creates an environment for enhanced collaboration at national and regional levels

The Key Element of the CHARM Process

The key elements of the CHARM Process are outlined in Figure 3.3 and Figure 3.4

The alignment between normal management, risk management, disaster risk management practices and CHARM

Normal Management	Risk Management (AS/NZS 4360:1999)	Disaster Risk Management (Qld)	CHARM
Problem Definition	Establish the Context: <ul style="list-style-type: none"> Establish strategic, organisational and risk management contexts Develop risk evaluation criteria Define the structure 	Establish the Context: <ul style="list-style-type: none"> Identify issues and establish risk management framework Develop risk evaluation criteria 	Establish the Context: <ul style="list-style-type: none"> Sensitise senior political and policy officials Identify strategic issues Identify existing frameworks for management of CHARM Identify national development priorities Review project appraisal criteria Develop Training support program Develop risk evaluation criteria
Research	Identify Risks <ul style="list-style-type: none"> Identify what can happen Identify how and why it can happen 	Identify Risks: <ul style="list-style-type: none"> Identify and describe hazards, community and environment Scope and analyse vulnerability Establish risks 	Identifying Risks <ul style="list-style-type: none"> Identify and assess hazards Identify and assess vulnerability in key sectors Identify risks
Analysis	Analyse Risks: <ul style="list-style-type: none"> Determine existing controls Determine likelihood and consequence Estimate level of risk 	Analyse Risks: <ul style="list-style-type: none"> Determine Likelihood Determine Consequence Estimate level of risk 	Analyse Risks <ul style="list-style-type: none"> Determine Likelihood Determine Consequence Assign level of risk
Decision Making	Evaluate Risks: <ul style="list-style-type: none"> Compare against criteria Set risk priorities Accept risk or not 	Evaluate Risks: <ul style="list-style-type: none"> Compare against criteria Set risk priorities 	Evaluate Risks <ul style="list-style-type: none"> Decide on risk acceptability Set risk priorities
	Treat Risks: <ul style="list-style-type: none"> Identify treatment options Evaluate treatment options Select treatment options 	Treat Risks: <ul style="list-style-type: none"> Identify mitigation, preparedness, response and recovery options Evaluate options Select options 	Treat Risks: Managing Existing Risk: <ul style="list-style-type: none"> Evaluate treatment options Select and prioritise treatment options Allocate responsibilities against core business functions of agencies Develop an implementation plan based on gaps Link with regional partners Close the programming gap through new project proposals Implement the plan Managing Future Risk <ul style="list-style-type: none"> Identify options for project design changes Liaise with national authorities and development partners Incorporate changes
Implementation	<ul style="list-style-type: none"> Prepare treatment plans Implement plans 	<ul style="list-style-type: none"> Plan and Implement Treatments 	<ul style="list-style-type: none"> Coordinate and monitor implementation

Comprehensive Hazard and Risk Management – the Steps

Hazard (source of risk)	Vulnerable Sector (element at risk)	Potential Risk (risk statements)	Likelihood	Consequence	Action Priority	Risk Treatment Options (Include current control measures)	Risk Treatment Evaluation (determine effectiveness, cost and potential benefit of risk treatments)	Responsible Agency (link treatment option to core business of relevant organisation)	Gap Analysis (identify residual risk and develop program to address)	Link Municipal & Provincial Partners & Donor Organisations (identify assistance required & link with partners/donors re strategies)	New Projects (close the gaps by National or Provincial Government program or donor-funded program)

In the preparation of this document, only the pure risk management component of the CHARM process has been addressed, taking the process as far as the column “Level of Risk”. It will be the responsibility of the Disaster Management Advisory Forum to continue with the process, under the guidance of personnel from the Disaster Management Centre.

Further assistance will be required to introduce and implement the full scope of CHARM, linking it to the sustainable development of the municipality.

The Context of the Plan

Purpose of this Section

- To develop a shared understanding of strategic and organisational benefits that will emerge from the introduction of the CHARM process.

- To identify development priorities, development projects, development policies and strategies.
- To develop a management mechanism that will guide the implementation of the CHARM process within the context of whole of district business.
- To develop draft evaluation criteria that will be used to decide which risks are addressed first and to set priorities for treatment of these risks.

Critical Success Factors

- The Municipality gives risk management, utilizing the CHARM process a high priority in its Integrated Development Plan.
- The Municipality highlights this process as a key development planning issue, and allocates resources including an annual budget and appropriate infrastructure to undertake the process in this coming financial year – unlike before this plan was prepared.
- The Municipality identifies the need to have universal involvement in the risk management process; hence it followed a participatory planning process with workshops.
- The Municipality has identified the special vulnerability of women, children, the aged and the infirm to hazard impacts, and have ensured a broad representation of women in the Disaster Management Committee, and will seek to improve on this going forward in the (revamped) future form, the Disaster Management Advisory Forum.

(1) Strategic local and organisational issues and their implications.

- While many are identified in the IDP. Disaster Management is clearly a new competing interest within the municipality and lacks infrastructure and resource allocation. The councillor responsible for disaster management is currently responsible for everything concerning disaster, even those that should ideally be handled by officials.
- This situation would lead to poor or lack of effective implementation of the plan.
- The consultation process has recommended strongly that there municipality must appoint a disaster management coordinator. Such as person could also be given other risk management tasks.
- It is anticipated that this person shall be key to the operations and functioning of the Disaster infrastructure.

(2) the Local institutional system to drive the risk management process

- The current single incident emergency services should be consolidated as one Disaster management Centre, modelled on its provincial and national counterparts, to which the coordinator will be central.

- The Disaster Management Committee should be reformed as the Disaster Management Advisory Forum DMAF and formalised as the governance structure overseeing the Disaster Management Centre and ensuring the effective implementation of the Plan.
- The DMAF will from time to time coopt or contract service providers or experts that it may deem necessary to.

(3) Strategic development priorities, sector development projects, policies and strategies.

- Priorities have been identified in the IDP; however they have not been prioritised in respect to risk management. It is expect that the Spatial Development Framework will take into account Disaster Management Imperatives and needs, thus facilitating an essential inter-plan linkage.

(4) Guidelines for minimising the level of future risk

- The DMAF shall develop this at an appropriate time.

As part of the broader IDP review and Development Planning Support process there should be consideration for the establishment of an environmental impact assessment as a standard procedure preceding all developments within the Municipality, which could be used to minimise future risk. The DMAF should also work on the nest ways of ensuring that economic and social impact can be measured in terms of the CHARM principles in future.

(5) Implement capacity building and transformation

The DMAF shall develop a capacity building and change management programme to orient everyone to the new system, as well as transform single incident management culture and processes, as a way of building new rules and ways of doing things.

(6) Overarching risk evaluation criteria

- The following risks are unacceptable:
 - Risks to plant, animal and human life
 - Risks to public health
 - Risks to public and private property
 - Risks to natural resources and the environment
 - Risks to the economy
 - Risks to the sustainable development of the municipality

South Africa's National Disaster Management Structure

The South African National Disaster Management structure as outlined in the Disaster Management Act 2002, is based on the three spheres of Government, namely National, Provincial and Municipal.

National

At the national level, the key institutional mechanism is the Inter-Ministerial Committee for Disaster Management, chaired by the Minister for Provincial and Local Government. The primary functions of this committee are to advise and make recommendations to Cabinet:

1. on issues relating to disaster management
2. on the establishment of a national framework for disaster management, aimed at ensuring an integrated and uniform approach to disaster management in the Republic by all national, provincial and municipal organs of state, statutory functionaries, non-governmental institutions involved in disaster management, the private sector, communities and individuals

Provincial

At the provincial level, the key institutional mechanism is the Inter MEC Committee for Disaster management. The key responsibilities are to promote an integrated and co-ordinated approach to disaster management, with special emphasis on prevention and mitigation.

Municipal

At the municipal level, the key institutional mechanism is the Disaster Management Portfolio Committee. The key responsibilities of this committee are similar to those at provincial level, but with a municipal focus.

DISASTER MANAGEMENT STRUCTURE

MUNICIPAL

PRESIDENT

P
O
L

PROVINCIAL

PREMIER

MAYOR

Municipal Disaster Management Framework

In accordance with the provisions of the Disaster Management Act of 2002, the Municipality is required to operate within a disaster management framework, which must provide a coherent, transparent and inclusive policy on disaster management appropriate for the district as a whole.

The disaster management framework must reflect a proportionate emphasis on disasters of different kinds, severity and magnitude that occur or may occur in the district, place emphasis on measures that reduce the vulnerability of disaster-prone areas, communities and households, and must-

- Guide the development and implementation of disaster management envisaged by the Disaster Management Act of 2002;
- Establish prevention and mitigation as the core principles of disaster management;
- Give effect to the application of co-operative governance on issues concerning disasters and disaster management between government, private sector and community organisations, and
 - (i) determine the relationship between the local government exercising primary responsibility for the co-ordination and management of a disaster in terms of sections 26(1), 40(1) and 54(1) or (2) of The Act and the spheres of government, non-government organisations or the private sector performing supportive roles;
 - (ii) allocate specific responsibilities in this regard to the different spheres:
- Facilitate-
 - (i) the involvement of the private sector, non-governmental organisations, traditional leaders, technical experts and volunteers in disaster management;
 - (ii) community participation in disaster management; and
- (iii) *partnerships for purposes of subparagraphs (i) and (ii) between organs of state and non-governmental organisations and communities;* *the private sector,*
- Facilitate disaster management capacity building, training and education, including in schools, and provide incentives for such capacity building, training and education;
- Promote disaster management research;

- Guide the development of a comprehensive information management system;
- Take into account indigenous knowledge relating to disaster management;
- Provide a framework within which the Musina Municipality can liaise with organs of state which may fund disaster management with specific emphasis on preventing or reducing the risk of disasters, including grants to contribute to post-disaster recovery and rehabilitation and payment to victims of disasters and their dependants;
- Address the requirements for co-operation and co-ordination between the different spheres of government, the private sector, non-governmental organisations and communities; and
- Provide key performance indicators in respect of the various aspects of disaster management.

Institutional Systems

Musina Local Municipality

Disaster management is a vital part of the core business of the Municipality as part of its constitutional responsibility to provide a safe and healthy environment. It is important that Council is overtly supportive of the process, both philosophically and materially, in order to promote disaster management to participating organisations and the public generally. Accordingly, elected members and senior executive personnel have a leading role in the disaster management strategies for the Municipality.

Municipal Directors and their Managers must become familiar with this document and its contents, and must ensure that this document available to all personnel under their control.

Musina Disaster Management Executive Committee

Committee Membership:

Mayor, Musina Local Municipality

Chairman: Disaster Management Portfolio Committee

Municipal Manager (Head: Disaster Management Centre)

Manager: Community Services

Manager: Technical Services

Coordinator: Vacant

Manager Emergency Services

The functions of the Disaster Management Executive Committee are:

- 1) to ensure that the Municipality develops and maintains -
 - i) a disaster management framework ; and
 - ii) a disaster management plan;

As required by the Act;

- 2) to appoint and maintain a Local Disaster Management Advisory Forum, involving senior representatives of Municipality, Provincial Government Departments, Musina Municipality Departments, Non-Government Organisations and Community Organisations or to alternatively build on the Disaster Management a Committee as proposed;
 - 3) to actively promote the Comprehensive Hazard and Risk Management Program throughout all areas of the management of the Municipality, strengthening the linkages to sustainable development through the Integrated Development Plan;
 - 4) to foster comprehensive disaster management in the municipality, in the spirit of the legislation, through the employment of the Comprehensive Hazard and Risk Management Program as developed with the Disaster Management Advisory Forum;
-
- 5) to take operational support decisions during a disaster-related activation of the District Disaster Management Centre.

Musina Disaster Management Advisory Forum (DMAF)

Committee Membership:

Chair: Councillor G Ramushwana

Members: Senior representatives of:

In its full form, the DMAF should be comprised of the

- Provincial Disaster Management Centre
- Relevant District and surrounding local municipalities
- South Africa Red Cross
- Musina Chamber Of Commerce
- Limpopo Road Traffic Inspectorate
- South African Police Services
- Department Of Labour
- Department Of Traditional And Local Government Affairs
- Department Of Welfare
- Department Of Water Affairs And Forestry
- Department Of Transport
- Department Of Health

- Department Of Agriculture
- Department Of Education
- Department Of Works
- Department Of Economic Development And Tourism
- Department of Home Affairs and Customs
- Eskom
- Emergency Medical Rescue Services
- South African National Defence Force
- Metro Rail
- Telkom

**** Representatives of other agencies may be co-opted to the Forum as required.*

The functions of the Disaster Management Advisory Forum are:

- 1) to ensure the continuing development of the disaster management strategies through the CHARM Program
- 2) to assist in the maintenance and future development of this Plan

Frequency of Meetings

The committee should meet monthly, on a regular day (to be decided).

Meetings will be held at the Disaster Management Centre (DMC) building (when the proposed building is completed). Until the DMC building is completed, alternative arrangements for meeting venues will be the responsibility of the Manager: Health and Safety.

Administrative requirements for the Disaster Management Advisory Forum (DMAF) and meetings of the Forum will be the responsibility of the DMC.

Review of the Plan

Main Plan

The Musina Local Municipality Disaster Management Plan should be reviewed by a working group from the DMAF as follows:-

- April Working group reviews and amends (as required) the main plan
- May Draft plan submitted to full Disaster Management Advisory Forum for acceptance/amendment
- June Reviewed plan submitted to Municipality Executive Committee for endorsement, and endorsed plan submitted to full Council for approval

The master contact list for all organisations/persons involved in the Municipality's disaster management arrangements should be updated at each Committee meeting and will be held by the DMC.

Capacity Building and Transformation Program

The Manager, Community Services will ensure that a suitable disaster management training program is designed and implemented, in collaboration with any training provided by the National or Provincial Disaster Management Centres. The training program will include specific training, through workshops, discussion forums and formal instruction, in order to maintain the disaster management knowledge and understanding levels of all participants at the highest possible level.

The DMC will liaise with the Provincial Disaster Management Centre in relation to accessing Provincial training programs and will arrange for members of the Disaster Management Advisory Forum to be made aware of training courses being offered by Province or any other appropriate agency.

Introductory training sessions will be conducted for members of the DMAF and Municipality staff as follows:-

- DMAF Presentations by the Manager: Health and Safety on the current situation with Disaster Management at Local Government level. Training should be tailored to ensure that members of the DMAF can fulfil their key functions
- Municipality Training sessions for staff who may be employed in the Human Resources Department during its operational activation.

Reporting Requirements

The DMAF will report annually (and at other times as may be directed) regarding its activities to the Executive Committee of the Musina Local Municipality. The annual report shall include such content as is required by the Act, and copies thereof shall be furnished to the National Disaster Management Centre, the Provincial Disaster Management Centre, and all Local Municipalities within the municipality.

Public Education

The community should be informed of the Disaster Management arrangements the Municipality has in place by the conduct of public meetings, information distribution, newspaper articles, advertisements and brochures as follows.

Council Offices

- The DMC is to ensure each Municipality public office has on display any public awareness material available
- The current copy of the Municipal Disaster Management Plan is to be available for public viewing in the head office of the Municipality.

Business

- The DMC should ensure all Parks, Game Reserves, Tourist Information Centres, Resorts and other centres have ample supplies of brochures and information on the Municipality's disaster management arrangements.

Industry

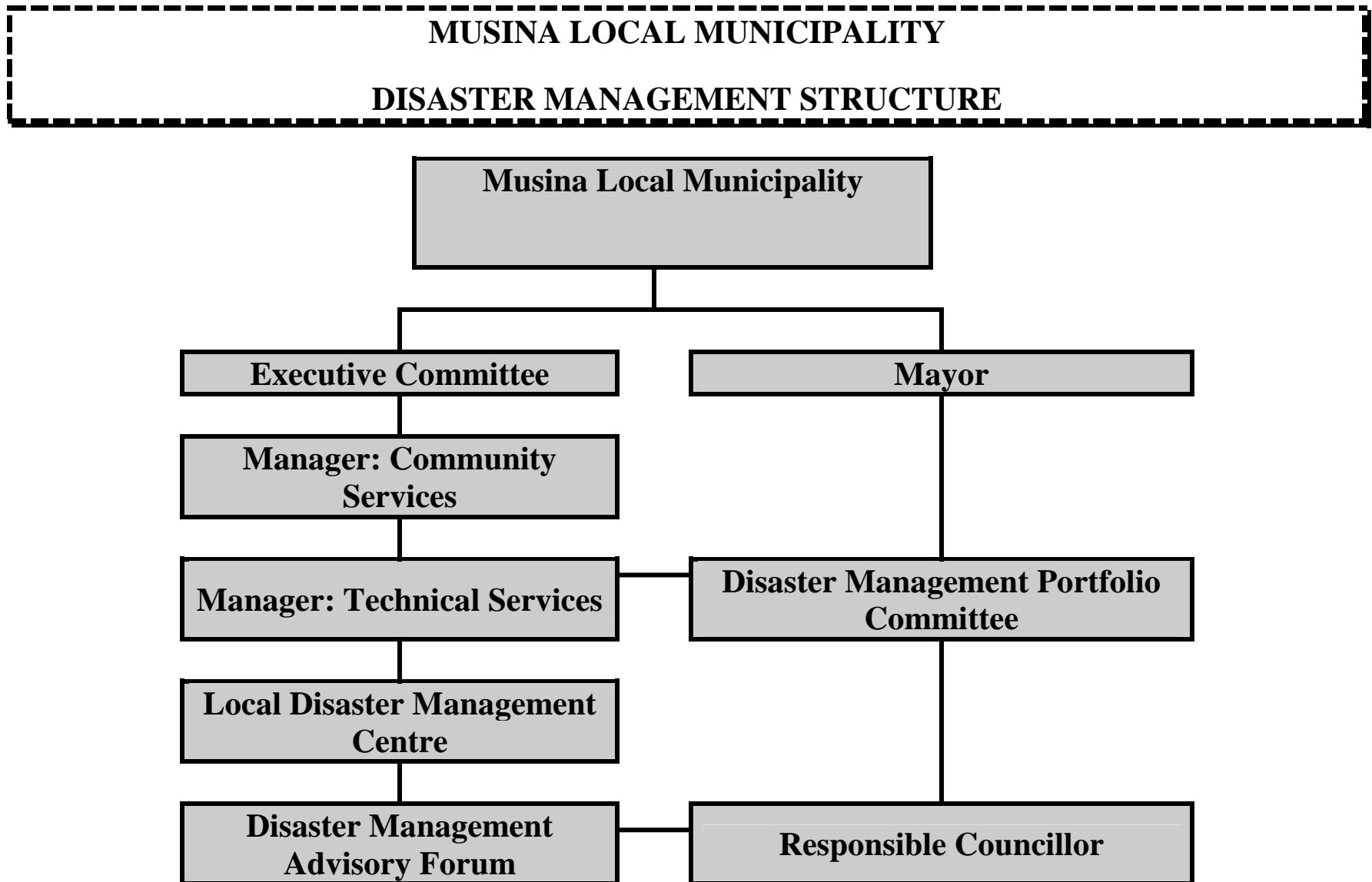
- The DMC should conduct meetings with industry groups to ensure their members are aware of the Municipality's Disaster Management arrangements.

Community

- The DMC should conduct public information sessions to present the current arrangements in place to assist the community to prepare for potential hazard impacts or threats. Such meetings should be held in all areas of the Municipality, and should be tailored to be language appropriate.

Media

- The Council should provide a media release on the adoption of the new Disaster Management Plan, and following any subsequent



Hazard and Risk Analysis

Purpose of this Section

- To identify what risks present the greatest threat to district development planning.
- To develop an understanding of what development initiatives may be vulnerable to the influences of hazards.
- To develop an understanding of how best to manage existing, residual and future risks.
- To assign levels of risk

The Key Steps

1. Identification and assessment of significant hazards

- The Disaster Management Advisory Forum has identified the major hazards for the District, along with some potential consequences. These are displayed below

List of Major Hazards

Hazard	Potential Consequences
<i>Animal Disease</i>	Most animal disease emergencies present little direct threat to human health; however the cost in purely economic terms may be particularly significant. Many rural residents rely on their animals for subsistence, and there are a number of larger animal-based industries in the Municipality.
<i>Fire (Veld/Structural)</i>	Loss of life, (loss of breadwinner), severe injury, loss of homes, loss of crops, loss of stock loss, of grazing land, loss of income. Stretching of the emergency response capability.
<i>Flood/Severe Storm or Rainfall Event/Landslip</i>	Loss of life, (loss of breadwinner), severe injury, loss of homes, loss of stock loss of income, increased risk of disease.
<i>Hazardous Material Event</i>	<u>Loss of life, (loss of breadwinner), severe injury, evacuation of large areas, fires, explosions, ground and air pollution.</u> Road and rail transport traveling through the District carrying dangerous chemicals and corrosive substances poses the threat of a significantly dangerous accident.
<i>Human Epidemic</i>	Loss of life, (loss of breadwinner), extended illness, loss of employment because of absenteeism, over-taxing of the medical response capability.

Major Infrastructure Failure	<p>Loss of electrical power, causing: lack of heating; lack of refrigeration; limited fuel supplies; loss of employment through closures of industry.</p> <p>Loss of communications, leading to severe impact on the Municipality's disaster co-ordination ability. Loss of telephone, fax, computer (internet), automated teller machines, electronic sales.</p>
Major Transportation Event	<p>Loss of life, (loss of breadwinner), severe injury, loss of income, stretching of response and medical capability.</p> <p>Transport could a chemical spill, even explosion, as it has happened before, and the locality is situated at a border/gateway into Southern Africa, South Africa's major trading partners), trains, tour coaches, school buses, taxis or heavy transport vehicles.</p>
Terrorist Activity	<p>Loss of life, (loss of breadwinner), severe injury, loss of income. Combination of the consequences from all other hazards, dependent upon the type of terrorist activity employed.</p>
Water Contamination	<p>Increased disease, loss of life, loss of stock, pressure on health facilities.</p>

Certain other hazards/conditions were nominated for inclusion in the Plan, but will not be dealt with under the locality's disaster planning arrangements.

HIV/AIDS

It is the view of the Municipality that HIV/AIDS, while a serious problem, falls within the core function of the Department of Health, and the Municipality has identified programs in its Integrated Development Plan to address the issue in conjunction with health authorities. It is therefore not viewed as appropriate to include HIV/AIDS as a disaster management concern.

Earthquake

Historical evidence would suggest that the risk of the impact of earthquake in the locality is minimal, and the subject has not been addressed in the Plan. In the unlikely event of the occurrence of an earthquake, the event will be handled utilising the agreed functional arrangements outlined in the document.

Oil Spill at Sea

This is a matter adequately addressed by other arrangements. The consequences of an oil spill at sea may require support from the disaster management system, and will be addressed using the concept of the "All Hazards Approach" to disaster management.

Terrorist Activity

While this has been included as a hazard for the purposes of this Plan, it is not addressed with a view to its mitigation, but purely as to its consequences. The consequences of a terrorist event will be similar to the consequences of many other events outlined in this document, and will be addressed using the concept of the “All Hazards Approach” to disaster management.

Further Actions Required

Future Hazard Analysis Requirements

- A more rigorous hazard analysis of the locality is required. Climate change events and their potential to influence the impact of hazards have not been considered

Ideally, this process will have a number of outputs:

Hazard Mapping

GIS-based mapping of possible flood levels	Identification of areas susceptible to landslip
Satellite and aerial photography	Identification of areas susceptible to coastal erosion
Identification of areas most susceptible to fire	Updated population information (current information is from the 1996 census)
Identification of riverine areas susceptible to flooding as a result of a dam failure (outside the District)	

Identification of Vulnerable Critical Infrastructure

It is vital that following the completion of the hazard mapping, studies are conducted to identify any siting of critical infrastructure which is in a potentially hazardous area. It will then be necessary to address the risk to the critical infrastructure, using the risk management process.

Identification of Critical Infrastructure

Identification of the location of the following:

▪ Government buildings	▪ Emergency Services buildings
▪ Hospitals	▪ Clinics
▪ Power facilities	▪ Communications facilities
▪ Water reticulation facilities	▪ Water storage facilities
▪ Airports/airstrips	▪ Fuel storage areas
▪ Railways	▪ Major roads/bridges
▪ Banks, financial institutions	▪ Major industrial concerns

Identification of Vulnerable Communities

Similarly, once the hazard mapping is completed, the results will identify those areas of the community that are most vulnerable to a variety of hazards.

On completion of the identification of these areas of the community, it must be a priority of the disaster management system, through its linkages with the Integrated Development Plan to address the risks to those areas.

Development Implications

The combination of all of the above areas will ultimately provide municipal planners with definitive information upon which to base future development of the District, and a sound basis for the refusal of development applications as necessary.

Identify and assess risks associated with the hazards

The Disaster Management Advisory Forum has identified the risk descriptors and have undertaken a risk assessment of the key hazards. These are displayed as follows:

Risk Descriptors

Descriptor	Potential Scenarios
Insignificant Risk	No fatalities. Medical treatment required. Small number displaced for a short period. Some damage. Little disruption to community. Some impact on environment with no lasting effects. Some financial loss.
Minor	Small number of fatalities. Hospitalisation required. Minor temporary displacement. Significant damage. Some community disruption. Serious impact on environment with no long-term effects. Significant financial loss.
Moderate	Multiple fatalities. Numerous injuries requiring hospitalisation. Significant numbers displaced for short periods. Serious damage requiring some external assistance. Community functioning with difficulty. Severe impact on environment with long term effects. Serious financial loss.
Major	Numerous fatalities. Extensive injuries, with significant hospitalisation. Large number displaced for significant duration. Severe damage that requires external resources. Community only partially functioning. Severe permanent damage to the environment. Severe financial loss.
Catastrophic	Mass fatalities. Large numbers requiring extended hospitalisation. General and widespread displacement for extended duration. Widespread extensive damage. Community unable to function. Widespread severe permanent damage to the environment. Widespread severe financial loss.

Qualitative Analysis Matrix – Level of Risk

<u>Consequence</u>	Insignificant	Minor	Moderate	Major	Catastrophic
<u>Likelihood</u>	1	2	3	4	5
A (almost certain) 1:1	H	H	E	E	E
B (likely) 1:10	M	H	H	E	E
C (possible) 1:50	L	M	H	E	E
D (unlikely) 1:100	L	L	M	H	E
E (rare) 1:500	L	L	M	H	H

E: extreme risk; immediate action required

H: high risk; senior management attention needed

M: moderate risk; management responsibility must be specified

L: Low risk; manage by routine procedures

Detailed Risk Analysis

Hazard	Vulnerable Sector	Potential Risk	Likelihood	Consequence	Consequence
All Hazards	All Sectors	<ul style="list-style-type: none"> ■ Inadequate (or unidentified) disaster management experience or expertise within the Municipality. ■ Inadequate response capability within the Emergency Services agencies in the Municipality. ■ Inadequate response times to rural areas of the Municipality. ■ Lack of communication facilities in rural areas. ■ Lack of effective roads infrastructure in the more remote rural areas. ■ Misunderstanding by most agencies relative to the meaning of the term 'disaster management'. ■ Traditional practices. (Traditional leaders allocating land for homes in areas devoid of infrastructure; non-use of sanitation facilities, leading to water pollution and disease; acceptance of the requirement to walk long distances to source water.) 	These risks are generic, and have not been analysed.		
Animal Disease	People	<ul style="list-style-type: none"> ■ Loss of production (income) will have a severe impact on the food supply of the rural population. 	C	2	M
	People	<ul style="list-style-type: none"> ■ Loss of production (income) will have a severe impact on the economic viability of the rural population. 	C	3	H
	Economy	<ul style="list-style-type: none"> ■ Loss of export capability. 	C	4	E
	Economy	<ul style="list-style-type: none"> ■ Impact on the reputation of the area. 	C	3	H
	Natural Fauna	<ul style="list-style-type: none"> ■ Cross contamination with indigenous wildlife will spread disease. 	C	3	H
Fire	People	<ul style="list-style-type: none"> ■ Air pollution causing extra people to seek medical care 	B	3	H

	People	<ul style="list-style-type: none"> ▪ Death / severe injury 	B	3	H
	Built environment	<ul style="list-style-type: none"> ▪ Destruction of homes 	B	3	H
	Education	<ul style="list-style-type: none"> ▪ Destruction of schools affecting continuing education 	C	2	M
	Natural Environment	<ul style="list-style-type: none"> ▪ Ground erosion due to loss of grass/vegetation cover 	C	3	H
	People	<ul style="list-style-type: none"> ▪ Informal settlements have an increased vulnerability to fire because of the close quarters and lack of access. 	B	4	E
	Management	<ul style="list-style-type: none"> ▪ Loss of communication lines/poles, affecting disaster information and co-ordination 	B	3	H
	Economy	<ul style="list-style-type: none"> ▪ Loss of crops 	B	3	H
	Economy	<ul style="list-style-type: none"> ▪ Loss of grazing land 	B	2	H
	Crime	<ul style="list-style-type: none"> ▪ Loss of power will see an increase in criminal activity 	C	2	M
	People	<ul style="list-style-type: none"> ▪ Loss of roofing thatch, rendering housing uninhabitable 	B	3	H
	Economy	<ul style="list-style-type: none"> ▪ Loss of stock 	B	4	E
	Infrastructure	<ul style="list-style-type: none"> ▪ Power sub-stations may be damaged or destroyed 	C	3	H
	Infrastructure	<ul style="list-style-type: none"> ▪ Power transmission lines/poles may be damaged or destroyed. 	C	3	H
	People	<ul style="list-style-type: none"> ▪ Pregnant women, young children the elderly and the disabled unable to evacuate in time 	B	3	H
	People	<ul style="list-style-type: none"> ▪ Psychological well being of the community will be affected as a result of the losses suffered. 	B	3	H
	Infrastructure	<ul style="list-style-type: none"> ▪ Smoke will block transport routes 	C	1	L
Flood, Storm Severe Rainfall, Landslip	Management	<ul style="list-style-type: none"> ▪ Areas will be cut off by washed out roads, preventing access by response agencies. 	A	3	E
	Built Environment	<ul style="list-style-type: none"> ▪ Buildings and facilities destroyed or damaged. 	B	3	H

	People	<ul style="list-style-type: none"> ▪ Informal settlement will be destroyed, leaving large numbers of people homeless. 	B	4	E
	People	<ul style="list-style-type: none"> ▪ Death of breadwinner, causing long-term financial problems for the family. 	C	4	E
	People	<ul style="list-style-type: none"> ▪ Death or serious injury will occur from drowning, lightning strike, flying debris or structural collapse. 	C	2	M
	Natural Environment	<ul style="list-style-type: none"> ▪ Environmental damage, including due to inappropriate agricultural practices. 	C	3	H
	Infrastructure	<ul style="list-style-type: none"> ▪ Loss of communications. 	C	3	H
	People	<ul style="list-style-type: none"> ▪ Loss of crops, affecting sustainability of subsistence food supply production 	C	4	E
	Infrastructure	<ul style="list-style-type: none"> ▪ Loss of power 	B	2	H
	People	<ul style="list-style-type: none"> ▪ Loss of income and assets. 	C	3	H
	People	<ul style="list-style-type: none"> ▪ Overcrowding of medical facilities will increase disease 	B	2	H
	People	<ul style="list-style-type: none"> ▪ Overcrowding of people in evacuation centres may lead to further disease outbreaks 	B	2	H
	People	<ul style="list-style-type: none"> ▪ People will not be able to evacuate the area 	B	4	E
	People	<ul style="list-style-type: none"> ▪ Pregnant women, young children the elderly and the disabled unable to evacuate in time 	A	4	E
	People	<ul style="list-style-type: none"> ▪ Psychological well being of the community will be affected as a result of the losses suffered. 	A	3	E
	People	<ul style="list-style-type: none"> ▪ Sanitation and health problems. 	A	3	E
	Economy	<ul style="list-style-type: none"> ▪ Significant stock losses. 	C	4	E
	Economy	<ul style="list-style-type: none"> ▪ Significant crop losses. 	C	4	E
	Infrastructure	<ul style="list-style-type: none"> ▪ Transport facility damage including road and rail bridges, roads, airfields and railways. 	C	2	M
	People	<ul style="list-style-type: none"> ▪ Women left to care for extended families with no means of transport out of the area. 	A	4	E

Hazardous Material Event	People	<ul style="list-style-type: none"> ▪ Human exposure to toxic chemicals resulting in serious harm or death. 	B	2	H
	Natural Environment	<ul style="list-style-type: none"> ▪ Pollution of the atmosphere will occur from the release of hazardous material. 	A	2	H
	Natural Environment	<ul style="list-style-type: none"> ▪ Pollution of the soil. 	B	4	E
	Natural Environment	<ul style="list-style-type: none"> ▪ Pollution of the water table. 	B	4	E
Human Epidemic	Economy	<ul style="list-style-type: none"> ▪ Loss of income within the Municipality. 	B	4	E
	People	<ul style="list-style-type: none"> ▪ Low immunization rates in the Municipality will increase the likelihood of an epidemic occurring. 	A	4	E
	People	<ul style="list-style-type: none"> ▪ Psychological effects on the community. 	A	4	E
	Economy	<ul style="list-style-type: none"> ▪ Stigma being attached to the Municipality accompanied by a tourist and visitor downturn. 	C	2	M
	People	<ul style="list-style-type: none"> ▪ Substantial loss of life. 	A	4	E
	People	<ul style="list-style-type: none"> ▪ Vector/vermin contact will spread the epidemic throughout the Municipality and beyond. 	B	3	H

Major Infrastructure Failure	Infrastructure	<ul style="list-style-type: none"> ▪ Business and industry refrigeration and cooling facilities will be rendered inoperable. 	A	2	H
	Economy	<ul style="list-style-type: none"> ▪ Computer network facilities will be rendered inoperable. 	A	2	H
	Economy	<ul style="list-style-type: none"> ▪ Electronic banking facilities will be rendered inoperable. 	A	2	H
	People	<ul style="list-style-type: none"> ▪ Fuel supply facilities will be rendered inoperable. 	A	2	H
	People	<ul style="list-style-type: none"> ▪ Household refrigeration and cooling facilities will be rendered inoperable. 	A	2	H
	Water supply	<ul style="list-style-type: none"> ▪ Water supply pumping facilities will be rendered inoperable. 	A	2	H
	Sewerage	<ul style="list-style-type: none"> ▪ Sewerage pumping facilities will be rendered inoperable. 	A	2	H
	Management	<ul style="list-style-type: none"> ▪ Telephone land-line and cell communications will be rendered inoperable. 	A	2	H

	Management	<ul style="list-style-type: none"> ■ Base radio transmitter stations relying on power will be rendered inoperable. 	A	2	H
	Management	<ul style="list-style-type: none"> ■ Disaster communications facilities will be rendered inoperable. 	A	2	H
	People	<ul style="list-style-type: none"> ■ Loss of power and communications facility will see an increase in crime. 	C	2	M
Major transportation Event	People	<ul style="list-style-type: none"> ■ Deteriorating road conditions will cause road accidents. 	B	2	H
	People	<ul style="list-style-type: none"> ■ Inappropriate driver behaviour will cause road accidents 	A	2	H
	People	<ul style="list-style-type: none"> ■ Accidents involving aircraft, trains, coaches or taxi vehicles will result in death or serious injury to a large number of people. 	A	3	E
	People	<ul style="list-style-type: none"> ■ The bad mechanical condition of vehicles traversing Municipality roads will cause road accidents. 	B	2	H
Water Contamination	People	<ul style="list-style-type: none"> ■ Contaminated water supplies will cause disease such as cholera and dysentery 	A	4	E
	Management	<ul style="list-style-type: none"> ■ Resultant epidemics will place a great strain on the municipality's health facilities 	A	3	E
	People	<ul style="list-style-type: none"> ■ Shortages of potable water supplies will aggravate the situation 	A	3	E

Further Actions Required

- Prioritisation of risks to facilitate the risk evaluation and treatment strategies

Risk Evaluation

Purpose of this Section

To rank the risks from highest to lowest so that a priority for treatment can be assigned.

Key Steps

1. Decide on risk acceptability utilising the risk rating and risk evaluation criteria

- This process has not been undertaken

2. Rank the risks in order of priority for treatment

- This process has not been undertaken

3. Document all unacceptable risk

- This process has not been undertaken

Further Action Required

All action related to the evaluation of risks should be undertaken in order to identify appropriate treatment options

RISK TREATMENT OPTIONS

Treating the Risks

Purpose of this Section

To select appropriate strategies for the treatment of existing, residual and future risk.

Key Steps

Existing Risks:

(1) Evaluate treatment options against unacceptable risks.

- Assess the treatment options on the basis of
 - Cost benefit analysis
 - The risk severity and potential for reducing the risk
 - The viability of the treatment option in respect to its enhancement of development
 - The sustainability of economic and social goals

(2) Select and prioritise appropriate treatments.

- Discuss the results of the evaluation of treatments until a single treatment or mix of treatments emerges as the most sensible, efficient and cost effective way of dealing with the identified risk
- A suggested way of selecting risk treatment options is to choose a mix of the following strategies:
 - must do
 - should do
 - could do.
- List possible treatments in order of priority

(3) Allocate responsibilities by matching treatment options with core business functions of local organisations

- List the treatment options and link them to an agency according to their core business function. This ensures that risk reduction is undertaken as part of day to day business.

(4) Identify and assess existing and proposed projects against treatment options (Gap Analysis)

- Once core functions have been identified, the respective agencies can then assess existing or proposed work programs to determine if risk treatments are already planned.
- Document gaps.

(5) Develop an implementation plan based on programming gaps

- This can be undertaken on a hazard-by-hazard or sector-by-sector basis.
- Ensure the timelines, linkages with other agencies and pre-requisites are identified so as to have a coordinated approach in the implementation of activities.
- Determine whether external assistance is required (i.e. technical and donors)

(6) Link with municipal and provincial partners and donor organisations

- Align external assistance requirements with other partner programs
- Liaise with and brief donors on programming gaps and strategies for meeting needs.

(7) Close the programming gap through new project proposals

- Identify treatments that cannot be met through national support programs
- Develop a project document that encompasses all treatments
- Liaise with donors for funding assistance.

(8) Coordinate and implement risk treatment plan.

- Coordinate and monitor the implementation of treatment strategies

Desired Outcomes

- An implementation plan based on priority treatment options
- Linkages with national and municipal partners established
- Strategies for closing the programming gaps developed.

Table 5.1: Future Actions

CHARM Component	Action Required	Responsible Agency
Establish the Context	<p>Establish guidelines such as Environmental Impact Assessment for minimising the level of future risk</p> <p>Professional development for key disaster management officials</p> <p>Strengthening of partnerships across agencies.</p>	<p>Municipality</p> <p>DMC/Province</p> <p>DMAF</p>
Hazard and Risk Analysis	<p><i>A more rigorous hazard analysis of the locality is required. This should include:</i></p> <ul style="list-style-type: none"> <li>▪ Identification of critical infrastructure <li>▪ Identification of vulnerable critical infrastructure <li>▪ Identification of vulnerable communities <li>▪ GIS-based mapping of possible flood levels <li>▪ Identification of areas susceptible to landslip <li>▪ Satellite and aerial photography <li>▪ Identification of areas susceptible to coastal erosion <li>▪ Identification of areas most susceptible to fire <li>▪ Updated population information (current information is from the 1996 census) <li>▪ Identification of riverine areas susceptible to flooding as a result of a dam failure (outside the locality) <li>▪ Consider climate change events and their potential to influence the impact of hazards 	<p>DMC/DMAF</p> <p>DMC/DMAF</p> <p>Municipality</p> <p>Municipality</p> <p>Municipality</p> <p>Municipality</p> <p>Municipality</p> <p>Municipality</p> <p>Municipality</p> <p>DMC/DMAF</p> <p>Municipality</p>

CHARM Component	Action Required	Responsible Agency
		Municipality
		DMC/DMAF
Risk Evaluation	Prioritisation of risks to facilitate the risk evaluation and treatment strategies	DMC/DMAF
Risk Treatment Options	Risk treatment options cannot be undertaken until all the preceding steps have been completed.	DMC

THE DISASTER MANAGEMENT SYSTEM IN OPERATION

Assistance to Responding Agencies

Should the operational event be one which can be readily dealt with by the responding agencies, using the resources normally available to them, then there will be no necessity to activate the disaster management system operationally.

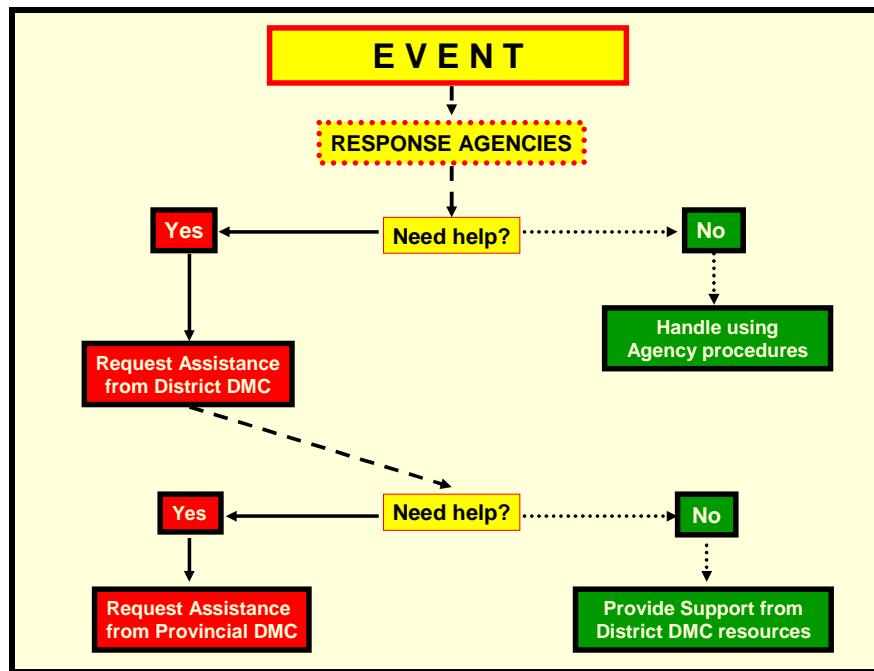
Activation of the disaster management system can occur when there is a need for:

- monitoring of potential threats or response operations;
- coordination of support to response operations being conducted by a response agency;
- coordination of resources in support of disaster response and recovery operations.

The disaster management system is designed in order that support can be provided from the lowest possible level. If the responding agencies need resource assistance, the disaster management system will provide it. A request from the lead responding agency will be made to the Disaster Management Centre (via a nominated telephone number) and it is the role of the Disaster Management Centre to access the resources required from within the resources available in the municipality.

Should the resources not be available in the municipality, the Disaster Management Centre will contact the Provincial Disaster Management Centre and request that they source the resources from within the Province, and likewise from the Provincial Disaster Management Centre to the National Disaster Management Centre.

At no stage will the line responsibility for the responding agencies be taken over by any level of the disaster management system – the system is there to provide support only.



Information and Support

This graphic depicts the support function of the disaster management system, and also the linkages from the responding agencies in the field to the National Disaster Management Centre.

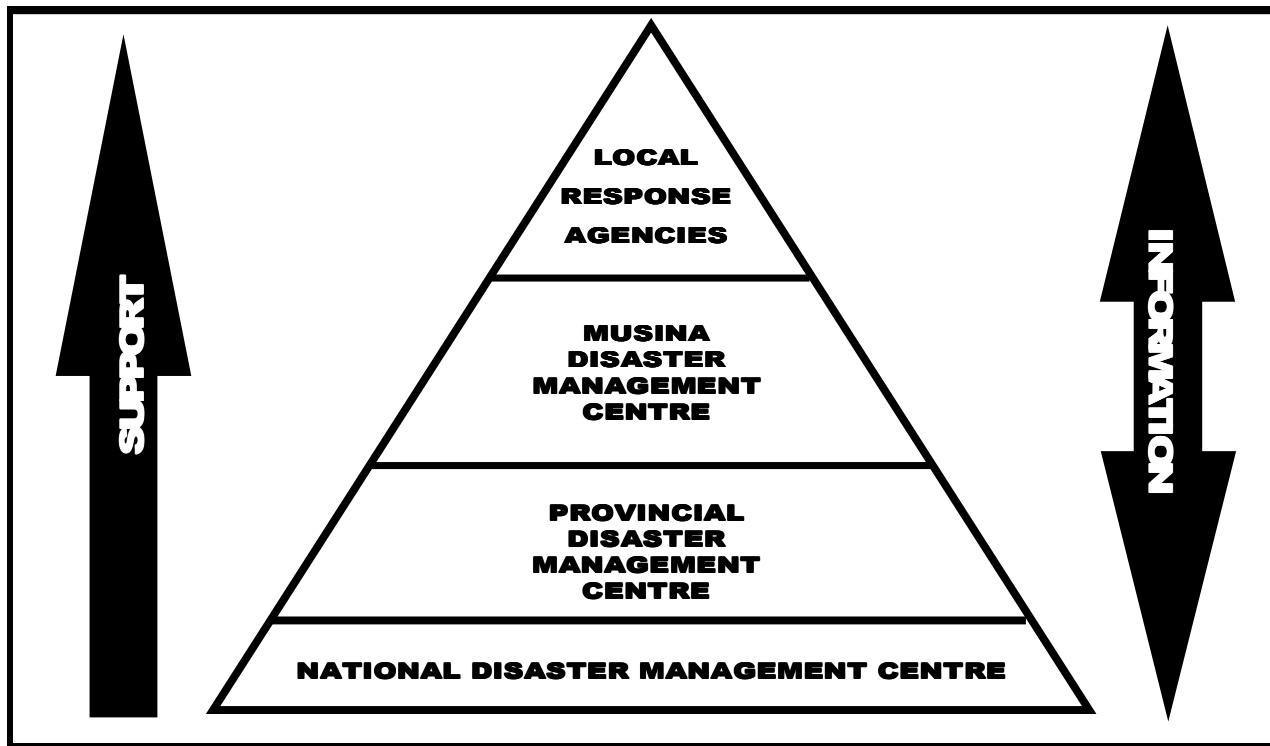
The graphic depicts “**support**” as being one-way – to the responding agencies.

It also depicts “**information**” as being a two-way process.

This is for two reasons:

1. If the responding agencies alert the Disaster Management Centre to the situation as it arises, the DMC can make preparatory plans to support the responding agencies. Similarly, the Disaster Management Centre will commence the information flow upwards through the system.

2. Disasters are political events. It is a political imperative that the elected representatives of the people are aware of situations happening in their area of responsibility. It is vital that *official* information be available at the earliest opportunity to both elected representatives and officials of all levels of government.



ROLES AND RESPONSIBILITIES OF PARTICIPATING AGENCIES

It is to be remembered that no organisation will be required to undertake any activity that is not part of that agency's core business. The roles and responsibilities enumerated in this section are seen as an extension of the normal day- to-day business of the agencies involved, and have been agreed to by the agencies concerned.

Co-ordination of disaster operations

The undermentioned organisations have agreed to assume the Lead Agency on scene co-ordinating role for the operational response to the following threat situations.

It is stressed that the role is one of co-ordination and not control.

<i>Event</i>	<i>Co-ordinating Agency</i>
<i>Animal Disease</i>	<i>Department of Agriculture</i>
<i>Fire</i>	<i>Fire Department,</i>

<i>Flood/Severe Storm or Rainfall Event/Landslip</i>	<i>Musina Local Municipality</i>
<i>Hazardous Material Event</i>	<i>Fire Department</i>
<i>Human Epidemic</i>	<i>Department of Health</i>
<i>Major Industrial Accident</i>	<i>Fire Department</i>
<i>Major Infrastructure Failure</i>	<i>Musina Local Municipality</i>
<i>Major Transportation Event</i>	<i>South Africa Police Service</i>
<i>Terrorist Activity</i>	<i>South Africa Police Service</i>
<i>Water Contamination</i>	<i>Musina Local Municipality</i>

Functional Planning Lead Agencies

<i>Disaster Support Function</i>	<i>Agency</i>
<i>Communications</i>	<i>Musina Local Municipality</i>
<i>Evacuation</i>	<i>South Africa Police Service</i>
<i>Evacuation Centre Management</i>	<i>Department of Welfare</i>
<i>Emergency Accommodation</i>	<i>Department of Welfare</i>
<i>Impact Assessment</i>	<i>Musina Local Municipality</i>
<i>Medical (Primary Health Care and Public Health)</i>	<i>Department of Health</i>
<i>Public Information</i>	<i>Musina Local Municipality</i>
<i>Public Works</i>	<i>Musina Local Municipality</i>
<i>Rescue</i>	<i>Fire Department, Musina Municipality</i>
<i>Transportation</i>	<i>Musina Local Municipality</i>
<i>Utilities</i>	<i>Musina Local Municipality</i>
<i>Warning</i>	<i>Musina Local Municipality</i>
<i>Welfare</i>	<i>Department of Welfare</i>

Capabilities, Roles and Responsibilities - General

Agency	Capabilities, Roles & Responsibilities
<i>Musina Local Municipality</i>	<ul style="list-style-type: none"> ▪ <i>Maintenance of the operational functioning of the Municipality (via Municipality Business Continuity Contingency Planning)</i> ▪ <i>Maintenance of normal Municipality services to the community</i> ▪ <i>Determination of a disaster management framework and associated disaster management policy for the Municipality</i> ▪ <i>Allocating infrastructure and resources including a dedicated staff member responsible for disaster management</i>
<i>Musina Local Municipality Disaster Management Centre</i>	<ul style="list-style-type: none"> ▪ Provision of disaster management policy and operational advice to stakeholders at all levels of the local disaster management system ▪ Development and maintenance of the comprehensive Municipality Disaster Management Strategies and the Disaster Management Plan ▪ Facilitation of a comprehensive approach to disaster management ▪ Co-ordination of disaster management training within the municipality ▪ <i>Design, maintenance and operation of Municipality Disaster Management Centre, including the training of sufficient personnel to operate the Centre</i> ▪ <i>Co-ordination of support to response agencies</i> ▪ <i>Co-ordination of reconnaissance and post-impact assessment</i> ▪ <i>Issuing of public information prior to, during and following disaster event impacts</i> ▪ <i>Design and maintenance of a public education/awareness program, including multi-lingual information</i>
<i>Local Municipalities</i>	<ul style="list-style-type: none"> ▪ Public Awareness Programs ▪ Empowerment of Municipality personnel ▪ Provision of community halls for temporary shelter and mass care ▪ Provision of water tankers ▪ Provision of transportation ▪ Provision of accurate operational information to the Disaster Management Centre ▪ Provision of a representative to the Disaster Management Advisory Forum

	<ul style="list-style-type: none"> ▪ Provision of senior representative at any operational Forward Command Post within the Local Municipality
<i>Elected Representatives of District and Local Municipalities</i>	<ul style="list-style-type: none"> ▪ Provision of the political link between the disaster management system and the community ▪ Promotion of disaster management by maintaining public awareness of the existence and role of the disaster management system ▪ Ensure smooth co-operation between the Municipality and others ▪ Attend the scene of any disaster event to foster community confidence in the Municipality
<i>South Africa Police Service</i>	<ul style="list-style-type: none"> ▪ Preservation of peace and good order ▪ Prevention of crime ▪ Provision of a Forward Command Post facility and the associated co-ordination function for certain disaster events as agreed to in the Disaster Management Plan ▪ Provision of senior representative at any operational Forward Command Post, other than as above ▪ Maintenance of any site as a possible crime scene ▪ Coronial investigation procedures ▪ Traffic control, including assistance with road closures and maintenance of road blocks ▪ Crowd control ▪ Co-ordination of rescue ▪ Co-ordination of evacuation ▪ Patrols of evacuated areas ▪ Tracing, or co-ordination of search for, missing members of the community ▪ <i>24-hour communications network</i> ▪ Provision of a representative to the Disaster Management Advisory Forum
<i>Traffic Police</i>	<ul style="list-style-type: none"> ▪ Traffic control, including assistance with road closures and

<p><i>(Provincial)</i></p>	<p>maintenance of road blocks</p> <ul style="list-style-type: none"> ▪ <i>Provision of rescue trailer</i> ▪ <i>Provision of alternative emergency power</i> ▪ Provision of a representative to the Disaster Management Advisory Forum ▪ Provision of senior representative at any operational Forward Command Post
<p><i>Traffic Police (Municipal)</i></p>	<ul style="list-style-type: none"> ▪ Traffic control, including assistance with road closures and maintenance of road blocks ▪ <i>Crowd control</i> ▪ Provision of a representative to the Disaster Management Advisory Forum ▪ Provision of senior representative at any operational Forward Command Post
<p><i>Fire Department,</i></p>	<ul style="list-style-type: none"> ▪ <i>General Rescue</i> ▪ <i>In-shore Marine Rescue</i> ▪ <i>Fire control</i> ▪ <i>Fire prevention</i> ▪ <i>Assist in pumping out of flooded buildings</i> ▪ <i>Assist in clean-up of flood affected buildings</i> ▪ <i>Management of hazardous material situations</i> ▪ <i>Provision of Material Safety Data Sheet information relative to hazardous materials</i> ▪ <i>advice relative to evacuation requirements as a result of a hazardous material incident</i> ▪ <i>Provision of 24-hour communications centre</i> ▪ <i>Provision of Mobile Forward Command Post capability</i> ▪ <i>Provision of disaster volunteer training</i> ▪ Provision of a representative to the Disaster Management Advisory Forum ▪ Provision of senior representative at any operational Forward Command Post

<p><i>Department of Health</i></p>	<ul style="list-style-type: none"> ▪ Co-ordination of medical resources. ▪ Provision and maintenance of hospital, clinic and health centre facilities ▪ Appropriate pre-hospital on-site medical and health response management for casualties ▪ Public health advice and warnings to participating agencies and the community ▪ Health education programs ▪ Immunisation programs ▪ Epidemiology/disease surveillance ▪ Collection/dissemination of health information ▪ Provision of statistical data ▪ Provision of GIS data ▪ Food and water testing capability ▪ Psychological and counseling services for disaster affected persons ▪ On going medical and health services required during the recovery period to preserve the general health of the community ▪ Provision of a representative to the Disaster Management Advisory Forum ▪ Provision of senior representative at any operational Forward Command Post
<p><i>Department of Health (Emergency Medical Rescue Services)</i></p>	<ul style="list-style-type: none"> ▪ <i>Assessment, treatment and transportation of injured persons</i> ▪ <i>Provision of aero-medical transportation service</i> ▪ <i>Advanced Life Support</i> ▪ <i>Rescue (advanced medical rescue)</i> ▪ <i>Assistance with evacuation</i> ▪ <i>Provision of advice regarding medical special needs sectors of the community</i> ▪ <i>24-hour communications network</i> ▪ Provision of a representative to the Disaster Management Advisory Forum ▪ Provision of senior representative at any operational Forward Command Post

<p><i>Department of Health (Veterinary Services)</i></p>	<ul style="list-style-type: none"> ▪ <i>Lead Agency role relative to any outbreak of emergency animal disease</i> ▪ <i>Control/containment of communicable diseases</i> ▪ <i>Provision of temporary pounds</i> ▪ <i>Advice relative to stock matters</i> ▪ <i>Destruction of stock as required</i> ▪ Provision of a representative to Disaster Management Advisory Forum
<p><i>Department of Welfare</i></p>	<ul style="list-style-type: none"> ▪ Co-ordination of NGO's and locally based community recovery services ▪ <i>Co-ordination of the provision of emergency accommodation</i> ▪ <i>Management of Evacuation/Mass Care Centres</i> ▪ Co-ordination of food vouchers and social relief payments to affected people ▪ Provision of social workers ▪ Co-ordination of Outreach Teams ▪ Public awareness ▪ Initiating poverty alleviation programs during the rehabilitation process. ▪ Provision of a senior representative to the Disaster Management Advisory Forum • Provision of representative at any operational Forward Command Post
<p><i>Department of Education</i></p>	<ul style="list-style-type: none"> ▪ Provision of schools for temporary shelter ▪ Disaster Awareness through subject inclusion in curriculum
<p><i>Department of Agriculture</i></p>	<ul style="list-style-type: none"> ▪ Public Awareness in rural communities ▪ Control/containment of plant diseases ▪ Import/export control ▪ Co-ordination of the provision of farm equipment to assist in

	<ul style="list-style-type: none"> operations as required ▪ Provision of water tankers ▪ Provision of water testing service ▪ Provision of soil testing service ▪ Hygiene training • Advise primary producers relative to disaster recovery processes
<i>South Africa National Defence Force</i>	<ul style="list-style-type: none"> ▪ Provision of manpower to assist in various roles ▪ Provision of specialised transportation ▪ Provision of water tankers ▪ Provision of a representative to the Disaster Management Advisory Forum ▪ Provision of senior representative at any operational Forward Command Post
<i>Department of Traditional and Local Government Affairs</i>	<ul style="list-style-type: none"> ▪ Community engagement ▪ Public awareness through linkages with traditional leaders ▪ Provision of buildings and secure compounds for use as temporary accommodation areas

REVIEW OF FUNCTIONAL AND RESPONSE PLANS

The Disaster Management Functional Support Plans should be reviewed by a working group appointed by the Co-ordinating Lead Agencies, as follows:-

April-July Working groups review and amend (as required) the supporting plans

September Draft amended plans submitted to full Disaster Management Advisory Forum for acceptance or further amendment

October Reviewed plans submitted to ExCo as part of the Main Plan

N.B. If at any time during the year, it becomes apparent that an urgent amendment to or review of the planning documentation is required for operational effectiveness, then such review or amendment shall be implemented expeditiously.

EXERCISES

Exercises are a key component of disaster management strategies:

- i) to practice coordination and liaison procedures between participating organisations in responding to a disaster event, and
- to identify and take steps to eradicate any serious procedural and functional weaknesses.

Disaster management exercises are to be conducted as follows: -

Disaster Coordination Centre Exercises

DMC in-house exercise to test the activation of the Disaster Coordination Centre, including staffing requirements, setting up of the facility, emergency power operation, communication links, etc. – **at least annually**.

Conduct exercise to practise the use of the Information Management System with all Council Staff who will work in the DCC when it is operational – **at least annually**.

Supporting Plans Exercise

To be conducted prior to the review of the Supporting Plans.

Functional Lead Agencies should prepare and conduct discussion exercises with members of the working groups to assist in the development of the functional planning process.

SECTION 1: WORKPLACE HIV/AIDS POLICY

1.1 INTRODUCTION

In response to the HIV/AIDS pandemic and its volatile and dynamic nature Musina Local Municipality has developed an HIV/AIDS workplace policy. This policy is developed as an integral part of the related notably to prevention of new infections, as well as to the provision of optimal care and support for the employees. That is, Musina Local Municipality acknowledges the seriousness of the HIV/AIDS epidemic and seeks to minimize the social, economic and developmental consequences to the municipality and commits itself to providing resources and leadership to implement both the workplace policy and response programme.

1.2 SCOPE OF APPLICATION

This policy shall be applicable to all employees and prospective employees of Musina Local Municipality.

1.3 LEGAL FRAMEWORK

The policy shall be read in conjunction with the Constitution of South Africa, Act No.108 of 1996 and all relevant Legislation which includes the following:

- Labour Relations Act, No. 66 of 1995;
- Occupational Health and Safety Act, No. 85 of 1993;
- Compensation for Occupational injuries and Disease Act, No.130 of 1993;
- Employment Equity Act, No. 55 of 1998
- Basic Condition of Employees Act, No. 75 of 1997;
- Medical schemes Act, No. 131 of 1998;
- Promotion of Equality and prevention of Unfair Discrimination Act, No.4 of 2000.

1.4 BASIC PRINCIPLES

The policy is based on the following key principles:

- 1.4.1. The creation of supportive environment and maintaining a safe working conditions for all.
- 1.4.2. HIV/AIDS status shall not constitute reason to preclude any person from employment;
- 1.4.3. Employees or prospective employees with HIV/AIDS shall have the same rights with regard to their HIV/AIDS status.
- 1.4.4. Employees living with HIV/AIDS have the same rights and obligation as all employees and will be treated in the same manner as with employees suffering from any other life-threatening disease.
- 1.4.5. Ensuring the rights and needs of women and children are addressed in all policies and programmes.
- 1.4.6. Consultation, inclusively and participation of all stakeholders in all policies and programmes.
- 1.4.7. Confidentiality will be maintained and no information regarding employee state of health will be divulged without the employees' consent.
- 1.4.8. Suitably qualified employees will conduct awareness programmes.
- 1.4.9. Awareness programmes will be evaluated, monitored and updated.
- 1.4.10. The elimination of discriminatory behavior will be proactively pursued.

1.5 POLICY OBJECTIVES

The policy aims to promote health awareness and set out implementation guidelines for the municipality to ensure that individuals affected by HIV/AIDS are not unfairly discriminated against. This includes provisions regarding:

- 1.5.1 Reducing unrealistic fears about contracting HIV/AIDS at the workplace;
- 1.5.2 Protecting the rights of employees at work who have HIV/AIDS;
- 1.5.3 Creating a non-discriminatory working environment;
- 1.5.4 Providing guidelines on managing employees or situations when questions on HIV/AIDS are raised;
- 1.5.5 Encouraging employees and employee representatives to convey sensitivity and understanding to employees affected with HIV/AIDS;
- 1.5.6 Dealing with HIV testing, confidentiality and disclosure;
- 1.5.7 Monitoring the process of the awareness programme, evaluate its effectiveness and efficiency and to ensure that qualitative standards of service are maintained throughout;
- 1.5.8 Developing strategies to assess and reduce the impact of the epidemic in the workplace;

1.6 POLICY DEVELOPMENT AND IMPLEMENTATION

As policy development and implementation is a dynamic process, this policy shall be:

- 1.6.1 Communicated to all stakeholders;
- 1.6.2 Monitored for its successful implementation and evaluated for its effectiveness;

1.7 KEY POLICY COMPONENTS

1.7.1 Recruitment and Job Access

1.7.1.1 Musina Municipality does not require applicants for employment to be tested for HIV/AIDS. Therefore there should be neither direct nor indirect pre-employment testing for HIV/AIDS nor any other medically examination.

1.7.1.2 A prospective employee is under no obligation to inform the municipality of his/her HIV/AIDS status;

1.7.1.3 Pre employees who wish to be tested for HIV/AIDS shall have access for counseling and referral to appropriate facilities.

1.7.2 HIV/AIDS testing and confidentiality

1.7.2.1 There should be no compulsory workplace testing HIV/AIDS. Voluntarily for HIV testing on the request of the employees should be done by a suitably qualified person in a health facility with informed consent of the employee in accordance with the normal medical rules and with pre- and post-test counseling.

1.7.2.2 Persons with HIV/AIDS should have the right to confidentiality about their HIV status in any aspect of their employment. An employee is under no obligation to inform an employer of her/his HIV/AIDS status within the workplace including:

- Where an employee chooses to voluntary disclose his/her HIV/AIDS status to the employer or to other employees, this information may not be disclosed to others without the employee's express written consent. Where written consent possible, steps must be taken to confirm that the employees wishes to disclose his/hers status.
- Encouraging persons openly living with HIV/AIDS to conduct or participate in education, prevention and awareness programmes;
- Encouraging the development of support groups for employees living with HIV/AIDS and

- Ensuring that persons who are open about their HIV/AIDS status are not unfairly discriminated against or stigmatized.

1.7.3 Compensation for occupational acquired HIV/AIDS

1.7.3.1 An employee may be compensated if he or she becomes infected with HIV/AIDS as a result of occupational accident, in terms of the Compensation for Occupational Injuries and Diseases Act.

1.7.3.2 Musina Municipality shall take reasonable steps to assist employees with the application for benefits including:

1.7.3.2.1 Providing information to infected employees on compensation claim; and

1.7.3.3.2 Employees with HIV/AIDS shall not be unfairly discriminated against in allocation of employee benefits.

1.7.4 Dismissals

1.7.4.3.2 No employees should be dismissed merely on the basis of HIV status, nor should be entitled, without discrimination, to agreed existing sick leave provisions.

1.7.4.4.2 HIV infected employees should continue to work under normal conditions in their current employment for as long as they are medically fit to do so. When an employee becomes too ill to perform her/his agreed functions, standard procedures for termination of service for comparable life threatening conditions should apply without discrimination.

1.7.5 Protection against Victimization :

1.7.5.1 Persons affected by or believed to be affected by HIV or AIDS should be protected from stigmatization and discrimination by co-workers, employers or clients. Information and education are essential to maintain the climate of mutual understanding necessary to ensure this protection.

1.7.5.2 Where employers and employees agree that there has been adequate information and education provision for safe work, then disciplinary procedures should apply to persons who refuse to work with an employee with HIV/AIDS.

1.7.6 Grievance Handling

1.7.6.1 Any dispute between the Municipality and an employee in relation to or arising from the interpretation of this policy shall be subject to a standard grievance handling procedures in organizations, in labour and civil law.

1.7.6.2 Personnel dealing with HIV and AIDS related grievances should protect the confidentiality of the employee's medical information.

1.7.7 Infected employees

1.7.7.1 Infected employees should be treated emphatically and in exactly the same way as other terminally ill employees or other employees who have a serious injury or health problems.

1.7.7.2 The municipality has a duty nevertheless to ensure that productivity and morale is not disrupted.

1.7.7.3 Therefore management should take one of the following alternatives into consideration when it becomes clear that an employee is no longer able to carry out his/her present duties or where it would be insensitive to colleagues or customers to leave the employee in her/his present position:

1.7.7.4 Place an employee in an alternative position if he/she is unable to perform the function.

1.7.7.5 Adjust the salary and benefits in accordance with an alternative function offered to the employee

1.7.7.6 Consider adjusting the work schedule (hours) or place of work, to provide for more convenient circumstances for the employee

1.7.7.7 Consider alternative positions bearing in mind sound business practice.

1.7.7.8 Where alternative positions are not available, an application for ill health retirement benefits may be considered.

1.7.7.9 If an infected person is working in the kitchen or any department where there is a danger of being cut and blood subsequently contaminating food, then transfer of those employees to another department must be affected.

1.7.8 Sick Leave

1.7.8.1 Any employee suffering from HIV/AIDS shall be subject to the same conditions relating to sick leave as those applicable to any other employee. As stated in the related policies.

1.7.9 Responsibility

1.7.9.1 All employees shall be responsible and accountable for complying with this policy.

1.7.9.2 All Managers must ensure that all members of staff are aware of and understand the content of the Departmental Policy on HIV/AIDS in the workplace.

1.7.9.3 The Employer, Municipality and All Managers are responsible for implementing this policy, ensuring compliance with and knowledge of its terms, and for taking immediate and appropriate corrective action where necessary.

1.7.9.4 All Managers must open and maintain communication channels to raise awareness concerning HIV/AIDS.

1.7.10 Other employees Conduct

1.7.10.1 Should there be negative reactions from colleagues of infected employees each situation will be assessed and dealt with appropriately as it arises.

1.7.10.2 It may also be necessary to arrange for an informed professional to educate the employees.

1.7.10.3 It is necessary to be sensitive and responsive to colleagues concerns.

1.7.10.4 There is no risk to work with an HIV positive employee after reassurance, safety and health precautions have been taken.

1.7.10.5 Who remain unwilling to work with HIV positive colleague will be warned that such behavior is unreasonable and scientifically unjustified and that his/her own employment situation may be placed in jeopardy.

1.7.10.6 If an infected employee is being victimized or harassed at work, making life intolerable or impossible, the municipality has a duty to support employee in order that he/she may work without disruption or harassment from fellow workers.

1.7.10.8 All employees will be supplied from time to time with education and information about the modes of transmission of HIV, the means of preventing such transmission, the need for counseling and care, and the social impact of infection on those who are infected by HIV/AIDS, and those who are affected by HIV/AIDS.

1.7.12. Monitoring and Implementation

The Musina Local Municipality commits itself to the following:

1.7.12.1 Disseminate and communicate the HIV/AIDS policy to all its employees.

1.7.12.2 Implement, monitor and evaluate the impact of HIV/AIDS in the municipality.

1.7.12.3 Advise management regarding programmed implementation and progress.

1.7.12.4 Liaise with HIV/AIDS Service organizations and other resources in the community.

1.7.12.5 Promote a supportive and non-discriminatory working environment.

1.7.12.6 The municipality shall be responsible for the following:

1.7.12.6.1 Availability of condoms at strategic points within the municipality.

1.7.12.6.2 HIV/AIDS education; and

1.7.12.6.3 AIDS counseling.

SECTION 2 HIV/AIDS STRATEGY (RESPONSE)

2.1 INTRODUCTION

WHY A MUNICIPAL – BASED RESPONSE PLAN.

It must be noted that municipalities as a sphere of government closest to the people are ideally placed to play the coordinating and facilitating role of responding to the AIDS epidemic. That is, Musina Local Municipality needs a coherent strategy that brings together leaders of all sectors of the community e.g. local politicians, traditional leaders and healers, welfare organizations such as NGO's and CBO's, youth and women organizations to respond and provide care for people living with HIV/AIDS and their families. It should be pointed out, however that the support of provincial and national government is crucial to make such a strategy functional.

2.2 FACTORS IMPACTING ON HIV/AIDS PREVELANCE IN MUSINA

- Lack of appropriate and adequate health care
- Migration of people.
- Child development abuse of alcohol and drugs
- Poverty and malnutrition

2.3 STAKEHOLDERS WITHIN MUSINA TO ADDRESS THE EPIDEMIC

2.3.1. BASIC PRINCIPLES

- People living with HIV/AIDS shall be involved in all prevention, intervention and care strategies;
- People living with HIV/AIDS, their partners, families and friends shall not suffer from any form of discrimination.
- The vulnerable position of women in society shall be addressed to ensure that they do not suffer discrimination, nor remain unable to take effective measures to prevent infection
- Confidentiality and informed consent with regard to HIV/AIDS testing and test result shall be protected.
- Full community participation in prevention and care shall be facilitated and fostered
- All intervention and care strategies shall be subject to critical evaluation and assessment
- A holistic approach to education and care shall be developed and sustained.
- Capacity building will be emphasized to accelerate HIV/AIDS prevention and control measures
- Prevention and control shall be central elements in the response to HIV/AIDS

2.4 Key HIV/AIDS Interventions/Action Plans

2.4.1 The Primary goals of the action plan are

- To reduce the number of new HIV/AIDS infections (especially among youth) and
- To reduce the impact of HIV/AIDS on individuals, families and communities.

2.4.2 The following general strategies to implement the plan are

- An effective and culturally appropriate information, education and communications (IEC) strategy.
- Increase access and acceptability to Voluntary HIV/AIDS Counseling and Testing
- Improve management and the treatment of opportunistic infections and promote increased condom use to reduce HIV/AIDS transmission

- Improve the care and treatment of HIV/AIDS positive persons and persons living with AIDS to promote a better quality of life and limit the need for hospital care.

2.5 The action plan is structured according to the following prioritized areas

2.5.1 HIV/AIDS partnerships

2.5.2 Prevention

2.5.3 Treatment, care and support

2.5.4 Human and legal rights and

2.5.5 Monitoring, research and evaluation

In addition, the youth will be broadly targeted as a priority population group, especially for prevention efforts.

2.5.1 HIV/AIDS Partnerships

Objective	Actions
Multisectoral, comprehensive and holistic approach.	<p>Partnerships</p> <ul style="list-style-type: none"> • Form or participate in alliances and networks • Identify opportunities for community participation. <p>Support NGO/Community Projects with</p>

	<ul style="list-style-type: none"> • Funding • Technical assistance • Resources
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2.5.2 Prevention

Objective	Actions
To achieve behavioral change to prevent HIV transmission and prevalence.	<ul style="list-style-type: none"> • Disseminate HIV/AIDS related literature and materials • Conduct HIV/AIDS awareness campaigns • Conduct formal and informal prevention activities • Promote and distribute condoms • Assist and support initiatives for Musina HIV/AIDS centre of excellence • Promote voluntary HIV testing (with counseling) • Institute an infection control programme.

2.5.3 Treatment, Care and Support

Objective	Actions
To coordinate services and target all infected and affected by HIV/AIDS	<ul style="list-style-type: none">• Develop NGO's/CBO's database – define service levels and accreditation status if any• Encourage NGO's/CBO's coalition• Assist NGO's in establishing orphanage centres• Develop a computerized database to assist in resettlement of orphans through adoption, fostering and relative tracing mechanism.• Promote income generating activities to enable those with HIV/AIDS and their dependents to support themselves.• Provide adequate treatment, care and support services in communities and note the role of traditional healers and private sector experience and expertise

Objective	Actions
	<ul style="list-style-type: none"> • Provide treatment, care and support services in health facilities and link with public sector initiatives towards rollout of ARVs. • Facilitate access to HIV/AIDS treatment.

2.5.4 Human and legal rights

Objective	Actions
Develop policy and legislation relating to by HIV/AIDS and employment	<ul style="list-style-type: none"> • Create a culture of openness and acceptance around HIV/AIDS • Ensure that the rights of people living with aids are protected. • Support the development of workplace HIV/AIDS policies. • Facilitate access to HIV/AIDS treatment.

2.5.6 Research and Monitoring

Objective	Actions
To conduct policy research and regular monitoring	<ul style="list-style-type: none">• To conduct an investigation on sexual networks and behavior.• To ensure AIDS vaccine development and evaluation• To use participatory research to empower the community to cope with the epidemic and• To become part of the solution for reduction of HIV/AIDS and its impact• Need to highlight prevalence rate.

2.6 YOUTH AND WOMEN AS TARGET GROUP

As indicated earlier in this document, youth and women are a specific focus area in the fight against HIV/AIDS as people between the ages of 14 -35 are the most vulnerable to HIV/AIDS infection. In addition, the youth are an important target group to protect against future HIV/AIDS infection as they represent both the present and economic powerhouse of the country.

In this section, those strategies that relate to youth will be replicated to once again emphasize the need for all sectors of society to focus a significant amount of their resources and energies on this age group.

Objective:

- Promote improved health seeking behavior and adoption of safe sex practices.
- Produce and disseminate material and message to different stakeholders.
- Implement life skills education in all primary and secondary school

Objective

- Broaden responsibility for the prevention of HIV/AIDS to all sectors of the municipality and civil society
- Develop sector specific policies and plans for the prevention of HIV/AIDS, focusing specially on youth.

Objective

- Improve access to and use of male and female condoms especially amongst 15-25 year olds
- Expand condom distribution through non-traditional outlets
- Improve access to condoms in high transmission areas (e.g. truck stops, borders, mines and brothels)
- Increase acceptance, attitudes, perceptions, efficacy and use of condoms as a form of contraception among the youth.

Objective

- Increase access to youth friendly reproductive health services – including VCT rapid HIV/AIDS testing facilities.
- Make clinics “youth friendly”
- Make schools places where youth can access friendly and supportive counseling services.

Objective

- Increase the number of persons seeking Voluntary HIV/AIDS Counseling and Testing
- Promote access to VCT services, especially for the youth

Objective

- Develop and implement programmes to support the health and social needs of children affected by HIV/AIDS.
- Promote advocacy of all relevant issues that affect children
- Mobilize financial and material resources for orphans and child-headed households
- Investigate the legal protection of child-headed households
- Provide social welfare, legal and human rights support to protect educational and constitutional rights

Objective

- Ensure measures to facilitate adoption of AIDS orphans are in place
- Facilitate the receiving of welfare benefits to assist children and families living with HIV/AIDS
- Promote the adoption of AIDS orphans

Objective

- Conduct local monitoring HIV/AIDS and risk behaviors, especially among youth.
- Conduct behavioral sentinel surveys, with a focus on youth
- Conduct local HIV/AIDS infections surveillance in selected populations and groups, including youth.

2.7 IMPLEMENTATION PLAN

Implementing the HIV/AIDS and response plan is essential to ensure the achievement of the provincial goals. Broad principles for implementation include the requirement that activities and practices are appropriate and cost effective for Limpopo Province.

2.7.1 Key critical areas for effective delivery include

- Leadership – Authority and political will at all levels
- Structures – Delivery and implementation coordination
- Resources – Financial resources – Human resources – Technical resources
- Capacity – HIV/AIDS and understanding – management – monitoring and evaluation.

2.7.2 Effective implementation of the HIV/AIDS and response plan

To achieve this, the following issues will be addressed:

2.7.2.1 Approval of the HIV/AIDS and response plan by relevant bodies

2.7.2.2 Improve structures for delivery

2.7.2.3 This involves reviewing and developing structural resources links where necessary at all levels, from national to community.

2.7.2.4 The most important structures to consult in guiding the implementation of the response plan are:

- National Aids Council
- Provincial Council

- Interdepartmental committees on HIV/AIDS
- Local AIDS council and steering committee

2.7.2.5 Establish acceptable standards for Local Municipalities with respect to resources.

2.7.2.6 Financial resources; it is important to ensure adequate funding related activities include:

- Audit financial resources for HIV/AIDS activities within the Local Municipality over the preceding three years.
- Agree on standards or conditions by AIDS Committee and the Department of Health.
- Cost the HIV/AIDS and response plan and programmes.
- Commitment to “ring fence” funds for direct HIV/AIDS activities within Local Municipality.
- Commitment to distribute funds according to the HIV/AIDS response plan
- Commitment to spend over 80% of the funds in one financial year
- Commitment to roll out funds over into the new financial year without risk of penalty
- Commitment to prioritize the process of HIV/AIDS spending within the Local Municipality
- Commitment to ongoing communication between and among stakeholders
- Regular review of the implementation of HIV/AIDS Plans
- Establishment realistic goals and objectives that can be implemented within the municipality

2.7.2.7 Human resources: it is vital to the success of this response Plan that adequate human resources are available to ensure delivery.

It must be noted that, the constraints on action is arguably capacity and skills rather than funding.

2.7.2.8 Regularly review the implementation plan must be reviewed every 12 months at national and provincial levels. It therefore goes without say that Musina Local Municipality should be able to feed to the Provincial review report.

2.8 THE ROLE OF STAKEHOLDERS

The HIV/AIDS and Response Plan provides a broad framework for Musina Local Municipality and stakeholders which includes all sectors of society.

It is recommended that each stakeholder should develop more specific plans based on their role in society, activities and their specific strengths. These plans should be based on each sector's comparative advantage in implementing the planned activities. The recommended role of the sectors will be as follows.

- Identify determinants of the spread of HIV/AIDS to the sector
- Identify strengths and weaknesses with respect to HIV/AIDS
- Identify obstacles to the response within the sector
- Integrate HIV/AIDS activities in their yearly plans
- Formulate specific HIV/AIDS sectoral plans and budget for their implementation
- Mobilize resources for the interventions
- Document best practice within the sectors and share information

All stakeholders must be able to submit quarterly reports to the municipality on their HIV/AIDS activities.

2.9 MONITORING AND EVALUATION

The challenge around responding to the HIV/AIDS epidemic is not only to act but also to ensure that the actions taken are in fact having the desired impact. In a way all stakeholders must first agree on what they are trying to achieve, and then on how these are to be measured.

It must be noted that the municipality requires a mid-term report on activities spelled out in the IDP. Hence, the IDP becomes the basic evaluation and monitoring tool. However as the response to the epidemic is broader than the IDP, it means that the monitoring and evaluation must also be applied to all other activities. The challenge is to decide on joint indicators of progress so that the work of each stakeholder can be monitored.

2.10 WAY FORWARD

It must be pointed out that, we sincerely commend the municipality for embarking on the very important initiative that subscribes to the Government's principles of health service delivery improvement. It is, however crucial to immediately arrange a Municipal HIV/AIDS strategy design workshop.

The purpose of the municipal HIV/AIDS strategy design workshop will be to

2.10.1 Present findings of the review and assessment process

2.10.2 Obtain inputs and participation from key stakeholders.

2.10.3 Present the status quo on the workplace HIV/AIDS policy and response plan.

2.10.4 Review and design strategies and programmes to deal with the epidemic. Decide on:

- How the strategy will be deployed and how will be responsible for operationalising the strategy.
- How the institutional support structures within Musina Local Municipality should function.

- Private sector support structure in conjunction with other stakeholders.

It must be noted that the processes that will be followed include information sharing to and from stakeholders and receiving inputs and participation. Surely there is a need to conduct a workshop because the work done must be validated with stakeholders to enable the best design options.

In conclusion, Musina Local Municipality should continue to focus on its valiant efforts against the epidemic since more work is needed to expand the workplace policy and the response plan. Overcome the deep-seated stigma that surrounds HIV/AIDS, and to check that all efforts are in fact having appropriate impact.

PUBLIC PARTICIPATION PROCESS

Introduction

This section provides a summary of the inputs received during the Consultations/Interviews and Public Participation workshops conducted during the process of reviewing the following plans:

- Disaster Management Plan
- Integrated Waste Management Plan
- Strategic and Environmental Management Plan
- Tourism Plan
- Environmental Management Plan

The Public Participation Process (PPP) took a strong focus on direct and constructive involvement of the Interested and/or Affected Parties (I&AP's), as their inputs, ideas, concerns and visions for Musina Local Municipality will determine the future of the implementation process of the different plans being reviewed.

Approach & Methodology

The PPP has set the following **methodology to ensure involvement from all relevant stakeholders in the study area**:

- Study the existing database on the known structures and contact persons of various government and non-government structures liaising with Communications Manager's office.
- Confirm with officials and representatives to verify relevance of the existing databases (Nelly de Bruyn and others).
- Through proper site visits, telephonic surveys, informal discussions etc., establish a detailed list of any organization or representative structure that might have had interest in the Musina Local Municipality area or it's surroundings.
- Consultations with IDP representative structures and other planning forums if any other formal or informal structures exist that should form part of this process.
- With all the above information, draft a new IAP database for this process.

With this database in hand, the full PPP then commenced. In principle the **following PPP** was followed during this project:

I&AP Invitations & Public Awareness

The following methodology and approach was followed to inform all known I&AP's on the study and invites them to a series of public meetings (refer to Attachment):

- Newspaper articles and advertisement in the Sowetan – National News paper is attached in English;
- Advertisements and A3 leaflets were pasted at several strategic positions around the affected area, example at Post Offices, shopping centers, filling stations hospital etc.
- Telephonic, faxed and e-mail invitations to all key role players of all the known associations and formal structures that have an interest in Musina Local Municipality.
- They kindly forwarded the invitation to all of their members within the Musina Local Municipality area.

- Sending invitations to the Steering Committee members, the 30 representatives of the Disaster Management Committee and IDP Committee members.
- Invitation all ward councilors as advised by the office of the Community Services Manager.
- Commercial farmers in the area where communicated to during the telephonic interviews and they confirmed participation although no representation was experienced during the workshop.

CONSULTATIVE MEETINGS

- The first introductory phase was telephonic interviews which were scheduled and conducted by the different project managers responsible.

The first Stakeholder/Public Meeting was held on the 17th February 2005.

PROCESS

The public participation workshop was held at a central and well-known venue within the Nance field local community area, at date and time that suited most participants.

The programme for the workshop and the attendance register is attached.

All our meetings were conducted in the format consisting of structured and semi-structured group approach. The team explaining the following gave a presentation:

- Introduction of the professional team
- Explaining the purpose of the workshop and public participation process
- Clarifying the review process according to each plan
- Explain data and information collection processes

The floor was then opened for discussion in terms of the stakeholder's expectations from the process and an opportunity to list their issues, concerns, inputs, proposals etc. All comments were recorded in and noted by the different project consultant per area of interest and expertise. People were also given the opportunity to respond and list issues in writing.

At this meeting the public was made aware of the current plans being reviewed and it's aims, requesting their inputs and brainstorming some concepts with them.

The first round of meetings was extended to include areas forming part of the larger study area. It was therefore necessary to conclude the meeting by allocating responsibilities to some stakeholders and project leaders to conduct more research on certain issues not agreed upon in preparation for our next consultation.

After discussions and listing of issues, (as it will be tabled in the technical report), the way forward was clarified as follows: 4 days was allocated for issues not resolved to be communicated with the relevant specialists, an indication was given for the dates of second feedback session on the draft report.

An additional meeting was arranged with the IDP committee for further consultations regarding issues around further developments in this area for clarification.

On the basis of the above process, it is concluded that a proper information sharing process was conducted, commitment and interest has been demonstrated and the attendance register attached demonstrates the achievements.

The second Stakeholder/ Public Meeting was held on the 16th March 2005.

The second public participation workshop was held at a central venue the Mussina Local Municipality boardroom.

The objective was give feedback to the stakeholders and to demonstrate how the input they gave had been filtered into the report, and to make sure that all parties have been fairly represented.

**List of some of the concerns and suggestions raised by the I&AP's
Risk management – around disaster (Mr. Misabeni Khoza)**

How the disaster management committee can discuss the principles around Disaster Management and Spatial Development Framework

The question is that how do we manage hazards around the region of Musina. The potential that is likely to happen. And in this case the committee can consider building a centre that will deal with the following.

- Risk treatment
- Provide information
- Encourage farmers including the cattle farming
- Summaries and outline information

The other issue is the adversary forums to consider obtaining more people, realize the issues around disaster management = Training of communities around disaster related matters, by conducting community awareness campaigns, pamphlet distribution after training and educational programmes to be conducted on disaster awareness in schools.

Clear outline of role players during a disaster

There is a great need to ensure that key role players are regularly receiving updated information and meet regularly to ensure preparedness in case of disaster at all times.

e.g. traffic department, fire stations, the police, SAP Dog Unit, Transport representatives, First Aid entities and health department representatives and commercial farmers/agricultural and environmental representatives.

Issues that require more emphasis in the report (Ms. Hlengiwe Zulu)

Planning for cultural activities for youth development

- Identification of developmental projects inside the town to attract foreign investors.
- The Provincial Tourism Organization must come up with a plan for the area which can be tabled to the Municipality.
- To enforce local (around town) areas of accommodation to have general standards of service delivery in their areas of operation to attract tourists.

*****Historical Survey – to be elaborated in the report**

These are the area that needs to be taken into consideration.

- Bridge at the border.
- Blacks dorp
- Musina Nancifield

Market issues

The Cotton and Citrus fruit market must be created which can be sold nationally and internationally.

And the agricultural opportunities must be taken into consideration.

Musina won family farmers of the year award (this clearly outlines the competitive advantage the area has).

Issues that require more emphasis in the report – (IWMP Ms Hlabangwane)

Waste Management.

Health Care Waste and General Waste

- To have the existing Waste Information System for Musina Local Municipality linked with the one at Regional Office.
- It must also comply with all waste management rules and regulations.
- Ensure on-going training for people who are involved in waste management.
- Also confirmed that all the plans must be planned together with the district.
- So that together we can help each other on how we can deal with waste.

Land Use

- The Musina region has unclaimed or land that it's not clear who owns it.
- The dumping area in Malale which is not included in the plans
- An illegal dumping area in Beitbridge

Adjustments to the report: In table 3 it needs to be elaborated as to which of these gaps need to be closed or rather how they will be closed.

Section 20 Subsection 21

In should clarify direct responsibilities to be handled by department of Water Quality or Environmental Affairs.

Water Service Development plan

The report should clearly comment on sewerage management and water management
Show ways of improving levels of competence in this area

It was suggested that solid waste must be addressed as a separate topic on its own precisely because is one of the dangerous issues around.

Medical Waste.

Guidelines from government on how the Medical Waste can be management are required.

Defeat project running

Waste Management Bill is one of the most important aspects that needs to deliver how the gaps between the local municipality and the regional level.

Medical Waste is still a sensitive issue.

The Questions asked by participants are:

- Who is responsible for handling medical waste in our region

- We feel participants in this area need to go back to the drawing board and decide on what is best to do in line with legislation.
- Process of obtaining licences is not known, licencing for accelerator as well.

EIA (Environmental Impact Assessment)

The consultant further advised the public about the importance of EIA, precisely because for every project (e.g. construction) conducted by the municipality, an EIA is required. The public further requested that because municipality approves the projects, it should have that responsibility of requesting EIA's.

The third General Public Meeting was held on Saturday, 19th March 2005.

The General Meeting was held, the areas were split into smaller focus groups to ensure more effective involvement and interaction.

RURAL INVESTIGATION IN MALALE

- WATER

Our investigation was based on the usage of water and whether other areas have enough water. We found that in Malale area the community is complaining about water. In this community they have a number of taps on one street. In this regard the community requested that because there are some other taps in the store room, it can be very great if those taps can be inserted in the street that do not have the taps.

They use the machine to pump water. The difficulty they encounter is when the machine is stucked. From their information the machine can be stucked for the period of two weeks. During that time they receive water from a truck around the area. Which they are not quite sure of whether the water is clean or not.

No reported diseases in the area. The community requested that it must be the municipality taking responsibility when there is no water, precisely when the machine is broken.

- WASTE

In the area of Malale they are dumping their waste in Madimbo village.

There are also two holes which are used to dump waste. The holes are not fenced or protected and they are ± 100 m from the community. In this regard the hole is not licensed. And in their dumping site they do not separate the bottles, plastics and papers.

The dangerous thing we encountered during our inspection time is that, we found that there were kids playing around the dumping area.

TREES

Name of the tree

1. Marula (Mufula)
2. Mopani (Mashonjha)
3. Mudzhimiri (Mashonjha)
4. Mutanzwa (Mushonga)
5. Muvhuyu (Mushonga)
6. Tshikhafushi (Mushonga)
7. Munembenembe (Mushonga)
8. Munanga (Mushonga)
9. Mutwari (Mushonga)
10. Munyerenga (Mushonga)
11. Musosoto (Mushonga)
12. Mufhaladzamakole (Mushonga)
13. Mulivhadza
14. Musalamarubini (Mushonga)

THE INVESTIGATION IN MADIMBO

WASTE

The dumping site of this area is used by three villages which are Madimbo, Domboni and Malale. The dumping area is not licensed and also not protected. The distance from the dumping area to the community is ± 100 m. precisely because all these three villages are dumping in the same area; there is no one responsible for making sure that bottles, papers and plastics are separated.

Dumping areas around the streets. We find that there are some small areas of dumping around the street which they are creating smell and are very dangerous precisely kids are playing around the street.

WATER INFORMATION

Water in this village is supplied by the two departments. The department of water affairs and forestry and Musina Local Municipality.

Which during our investigation we found that the people who are supplied by the department of Water affairs they do not receive water in daily basis, the reason being that the person who is responsible for that section does not receive the necessary resources such as Diesel. While the people who are supplied by Musina local Municipality they receive water in daily basis. Currently we can say all of the village inhabitants they receive water very well. The reason being that all of the community members they travel less than 2 km to fetch water.

USAGE OF WATER.

Primarily this information is based on the usage of water from the taps. We found that the community does not take care of the resources that they have, the reason is because in 30 taps that we found, 16 taps we flowing with water for the distance of 25 m from the tap.

INVESTIGATION IN DOMBONI VILLAGE

WATER

Domboni is a village of less than ±50 houses. The water that they receive is from a tank which is in the middle of the village. Where some of the people have to travel more than 5 km to fetch water.

What the community requested is for the Municipality to insert taps on the street like what they did at Madimbo village.

SOCIAL ISSUES

From our investigation the community requested that even though the municipality could fail to deliver water as their request. It would be very grateful to them to receive resources such as school or clinic. The reason is because their children and pregnant woman travel for 18km to get to school and to the clinic. This has shown a great disadvantage to some of the children precisely because they wait until they are 10 or 11 years before they can travel to school. While in the case of education there are some parents employ people who completed their matric to teach their children and they pay them R20.00 monthly per person. Children at the age of 8 – 14 have been raped by the illegal immigrants when they travel to school.

One of the most important aspects which the community encounters is the means of transport. They do not have a transport in their area, precisely the one which can deliver them from their area to town. They have to travel for more than 7km to the tar road.

Burning Issues

- Electricity
- Water
- Schools
- Clinic

List of issues and concerns raised by the I&AP's

Issues, concerns and suggestions raised in the previous meetings and workshops were tabled in the Steering Committee held on the 22nd March 2005 meeting to seek clarity and alignment with the greater plan before being incorporated into the final report.

Summarized schedules of workshops as follows:

1st Phase – Telephonic Interviews and one on one interviews

Date	Time	Venue	Audiance
<i>11th to 15th FEBRUARY</i>	<i>At random pending on availability of participants</i>	<i>Telephonic Email and Physical interviews</i>	<i>All stakeholders who are interested and affected by the development of these plans</i>

2nd Phase

Date	Time	Venue	Audiance

<i>Thursday 17th FEBRUARY 2005</i>	<i>08h00 – 16h00 See programme of discussions</i>	<i>Nancefield Community Hall</i>	<i>Mussina Councillors Mussina IDP Committee members Mussina Disaster Management Committee Business Chamber DWARF Representatives Limpopo Valley Tourism Association and the Sport Sector Agricultural sector and Farmers reps Mining Sector Health and Housing developers Environmental Affairs representatives NGO's and Labour forums</i>
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3rd Phase – Feedback on final draft report

<i>Date</i>	<i>Time</i>	<i>Venue</i>	<i>Audiance</i>
<i>Wednesday, 16th MARCH 2005</i>	<i>08h00 – 16h00 Feedback and reconfirmation of the inclusion of all input as agreed in the first workshop. Take in further inputs which needed clarity from the Municipality officials</i>	<i>Musina Local Municipality meeting room</i>	<i>Mussina Councilors Mussina IDP Committee members Mussina Disaster Management Committee Business Chamber DWARF Representatives Limpopo Valley Tourism Association and the Sport Sector Agricultural sector and Farmers reps Mining Sector Health and Housing developers Environmental Affairs representatives NGO's and Labour forums Fire Station reps and SAPS</i>

4th Phase – General Public Meetings – based on final draft report

<i>Date</i>	<i>Time</i>	<i>Venue</i>	<i>Audiance</i>
<i>Saturday 19th MARCH 2005</i>	<i>08h00 – 16h00 Feedback and reconfirmation of the inclusion of all input as agreed in the first workshop. Take in further inputs</i>	<i>Musina Local Municipality meeting room</i>	<i>Local Communities with the representation of Clr Ramsushwana and Clr. Mussina Councilors Local communities in Madimbo. Local communities in Malale area The areas where represented by locals representing :</i>

	<i>which needed clarity from the Municipality officials</i>		<i>Church Leaders and Church elders Community Safety forum Women and Youth forums Disabled organisation</i>

Stakeholder Involvement

During the PPP all stakeholders were requested to raise their concerns and ideas at the meeting, but should they feel or gather different information later they would always be welcomed to make written submissions to the project team before the date of submission to the Municipality.

It could be generally accepted that the campaign of advertising this process and requesting involvement from the public was satisfactorily.

CONCLUSION

It is apparent from the outcome of the workshop that Musina communities, with proper communication channels enthusiasm and commitment can be realized.

The success rate of attendance based on the number of R.S.V.P received could be rated at 75% including the audience addressed during Public Meetings.

A Framework for Sustainable Waste Management in the Musina Municipality

June 2005

EXECUTIVE

Up to the present, waste management was not regarded to be a priority issue in South Africa. The waste management that did take place focussed mainly on waste disposal and was reactive, in that it generally addressed pressing urgent needs on an *ad hoc* basis. Holistic, integrated waste management planning was rarely, if ever, undertaken. The low priority accorded waste management has resulted in waste impacting detrimentally on the South African environment and human health.

Thus, waste legislation has previously been fragmented and the response to management thereof focussed on end of pipe solutions (disposal). The Constitution imposes greater responsibility on local government requiring that they lead, manage and plan for development. Together with the other levels of government, they are responsible for giving effect to the objectives of government, which includes poverty eradication, local economic development and environmental protection.

The Status Quo Analysis resulted in a report, which highlighted gaps in the current waste management practices in Musina. The gaps include, among others, issues related to the following: institutional and organizational issues, information systems, socio-economic issues, technical and operational issues, waste minimisation and recycling, medical waste, enforcement, education and awareness issues. On the basis of the findings of the [Status Quo Analysis](#), discussions were held with the municipal officials and key stakeholders. The results of these findings and meetings have resulted into this Waste Management Plan (IWMP), draft report.

In order for the municipality to implement its IWMP, it needs to understand where 'it is today' and 'where it wants to be in future'. No single 'one-fit solution' can be applied universally or across different waste streams. The implementation plan is a living document and a great deal of work remains to be done to fill in the details about how some specific actions will be implemented and who will take key roles to deliver the plan.

This IWMP outlines the key strategies for the integrated waste management systems for the Musina Municipality, identifies the strategic priorities, goals and objectives and targets for the implementation of the identified strategies, and it outlines the action plan for the implementation of strategic priorities and objectives. The Report is divided into 4 sections:

- *Section 1* is an introduction. This section, among other things gives an information background to the integrated waste management plan, outlines the objectives of the plan, key issues addressed in the plan and the waste management challenges for the Municipality.
- *Section 2* describes the key strategies and strategic priorities for the implementation of an integrated waste management approach.
- *Section 3* outlines the action plans for the strategic priorities.
- *Section 4* discusses the implementation, monitoring and reviewing mechanisms.

Regular reviews of both the IWMP and associated Implementation Plan will need to occur with ongoing fine-tuning as the impact of user behaviour is observed.

DEFINITIONS

AP	Action Plan
APIG	Action Plan Implementation Group
CEC	Committee for Environmental Co-ordination

CONNEPP	Consultative National Environmental Policy Process
DEAT	Department of Environmental Affairs and Tourism
Defined Industries	Those industries, including mines and power generators, that generate significant quantities of industrial waste, and dispose of that waste on their own and/or at dedicated waste disposal sites
DFA	Development Facilitation Act 67 of 1995
DME	Department of Minerals and Energy
DTL	Departmental task leader
DWAF	Department of Water Affairs and Forestry
ECA	Environment Conservation Act, Act No. 73 of 1989
IP&WM	Integrated Pollution and Waste Management
IWM	Integrated Waste Management
LDO	Land Development Objectives
LUPO	Land Use Planning Ordinance
LGTA	Local Government Transition Act 209 of 1993
LFA	Logical Framework Analysis
NEAF	National Environmental Advisory Forum
NEMA	National Environmental Management Act, Act No. 107 of 1998
NWMS	National Waste Management Strategy
OLGA	Organised Local Government Act 52 of 1997
PMG	Project Management Group
PPA	Physical Planning Act 125 of 1991
PSC	Project Steering Committee
DWAF	Department of Water Affairs and Forestry

MLM	Musina Local Municipality
WIS	Waste Information Systems

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1. INTRODUCTION

1.1 Background of the Musina Municipality

The municipality of Musina is home to an estimated population of 42 964 people, living in some 8421 households. Musina and surrounding areas under the Musina municipality is the gateway to South Africa from Zimbabwe. It has the potential to grow in socio-economic aspects. Tourism is a big income drawer to the region. It is envisaged that further development in this area will occur. The municipality however, has enormous challenges in meeting the economic, infrastructural and social needs of its citizens. 57 percent of the population is housed in urban areas, with about 46.3 percent of households living in either commercial farms, tribal authorities and unspecified dwellings. Service provision in terms of waste management is not up to standard. Only 57 percent of the population lives in urban areas and as such assumed to have access to waste removal provide by the municipality. Local authorities are legally obliged to provide waste management services to all communities residing within the municipal boundaries.

1.2 Principles of the Plan

The Municipality recognises the principle that for real long term sustainability, development must be socially, economically and environmentally viable, and that population growth (the population is expected to grow to 44 308 in 2008 (Pieterse, Du Toit & Associates CC. & BMR, 1996), economic growth and improved levels of production and consumption should also be accompanied by the responsible use of environmental resources and the promotion of environmental best practices. In addition, it seeks compliance which is based on international best practices. The Waste Management Plan also serves as a primer for linking the status quo report with the first generation Integrated Waste Management Plan (IWMP). The report identifies waste trends, existing infrastructure, deficiencies, service delivery, and waste challenges confronting the Municipality. The compilation of a first generation IWMP aims to respond to the physical challenges presented in the Musina Municipality by way of focussed action plans.

The Municipal Systems Act, 2000 requires both district and local municipalities to undertake integrated development planning. An integrated waste management plan will therefore fit into the Musina municipal IDP. Section 26 of the IDP states that: An integrated development plan must reflect;

- (a) The municipal council's vision for the long term development of the municipality with special emphasis on the municipality's most critical development and internal transformation needs;
- (b) An assessment of the existing level of development in the municipality, which must include an identification of communities which do not have access to basic municipal services.

Such municipal services include waste management; generation, collection/removal and disposal. The Musina Integrated Waste Management Plan (IWMP) therefore takes into account the relevant national and provincial government policies, legislation and strategies. The Musina Municipality in response to the Waste Management Policy and Waste Management By-laws, National Waste Management Strategy and Action Plans and the National Integrated Pollution and Waste Management Policy formed the basis for the formulation of this Integrated Waste Management Plan (IWMP).

The principles of Integrated Waste Management and the Waste Hierarchy have been considered in this WMP as indicated in Table1. The IWMP also suggests that the motivation of waste generators and regulators in the Musina Municipality be changed from their old practices to the proposed new integrated waste management practices in the IWMP.

Table 1: Waste Hierarchy extracted from the Integrated Waste Management (NWMS 2000)

WASTE HIERARCHY	
	Prevention

Cleaner Production	Minimisation
Collection and transport	Recovery
Recycling	Re-use
Treatment	Re-use
	Recovery
	Composting
	Physical
	Chemical
	Biological
	Destruction
Disposal	Landfill
	Incineration

1.3. Objectives of the Integrated Waste Management Plan

The Constitution of the Republic of South Africa (Act 108 of 1996) states that the people of South Africa have the right to an environment that is not detrimental to human health. The overarching objective of the Integrated Waste Management Plan is to reduce the generation of waste and the environmental impact of all forms of waste and thereby ensure that the socio-economic development of the Musina Municipality, the health of the people and the quality of its environmental resources are no longer adversely affected by uncontrolled and uncoordinated waste management. The plan thus, crystallises the first attempt at setting out a strategy for future waste management in the Musina Municipality.

The primary objective of the plan is to integrate, improve and optimise waste management in order to maximise efficiency by providing an adequate service to residents and businesses and, minimise the associated environmental impacts and

financial costs to improve the quality of life of all people in the Musina Municipality. A workable Integrated Waste Management Plan should be very practical and sustainable.

The waste disposal in the Musina Municipality should cover all the people in the area and should not rely only on disposal to land as the only option. The present system of waste disposal should change to one that fits into the regional Waste Management Plan and should focus on preventing long term pollution and loss of valuable resources (renewable and non-renewable). The breakdown of objectives of the Musina Municipality Waste Management Plan, derived from the Musina Municipality IDP, the Integrated Pollution and Waste Management Strategy [White Paper](#) and the National Waste Management Strategy include:

- i. To promote strategic waste interventions which promotes waste avoidance, minimisation, recycling and re-use (waste hierarchy)
- ii. To provide an integrated waste management strategy combining all methods of waste management with regard to the waste hierarchy.
- iii. To progressively reduce the amount of waste disposed of at landfill sites.
- iv. To treat and dispose of all the waste within the Musina Municipality.
- v. Minimize adverse social and environmental impacts related to waste management and thereby improve the quality of life for all the people under the jurisdiction of the Musina Municipality.
- vi. To phase in specific integrated waste management strategies and approaches that will improve basic services relating to the collection, treatment, transportation and disposal of household waste and environmentally responsible diversion of hazardous wastes.

2. APPROACH AND METHODOLOGY

2.1 Gathering of Background Information

Existing information from the IDP, previous reports and studies were reviewed. Identification of all stakeholders, role players, interested and affected parties was undertaken. One to one interviews and telephonic discussions were held with various officials from different departments within the municipality including regulating authorities such as the Department of Water Affairs and forestry, Environmental Affairs, Health and Welfare officials and various role players including refuse collectors, recyclers, private contractors and councillors working within the municipality.

Site visits of the Musina area and existing landfill sites were carried out. Workshops were conducted with stakeholders, interested and affected parties. Once the information was collected and collated, it was possible to undertake a situational analysis.

2.2. Situational analysis

Situational analysis was done to determine where Musina, as an area, was in terms of waste management. The analysis had to reflect the actual state of waste management as it is, including waste types, characteristics, quantities,

strategies and practices. In many cases, policies and directives have been put in place, but for a variety of reasons they just do not work properly or meet with expectations of the community. The situational analysis was therefore aimed at showing, as objectively as possible, what is really occurring in the Musina area with regards to waste management.

2.2.1 Defining Waste Quantities and Characteristics

Information on waste types, characteristics and quantities of waste generated in the Musina area was obtained from the municipality records and surveys conducted in the area. It is important to have information on who are the waste generators, quantity of waste generated and the types of waste generated.

The quantities of waste generated in Musina were determined by the amount of waste disposed at the Municipal waste disposal site located in Nancefield. These quantities include waste collected from the South African Military Base, transfer station in Madimbo, as well as other private sites in Musina. The waste types recorded include domestic, business, industrial (non hazardous), garden and builder's rubble.

The following waste types were considered during the study:

- **General waste** - DWAF minimum requirements has defined general waste as waste that, because of its composition and characteristics, does not pose a significant threat to the public health or the environment if properly managed. Examples include domestic, commercial, certain industrial waste, builder's rubble and garden waste. General waste may have insignificant quantities of hazardous substances dispersed within it, for example, batteries, insecticides, weed-killers and medical waste discarded on domestic and commercial premises.

- ❑ **Hazardous waste** – Hazardous waste has been defined as waste which can, even in low concentrations, have a significant adverse effect on public health and/or environment. This would be because of its inherent chemical and physical characteristics, such as toxic, ignitable, corrosive, carcinogenic or other properties.
- ❑ **Domestic waste** – means waste generated on premises used solely for residential purposes and purposes of public worship including halls or other buildings used for religious purposes but shall not include building and garden.
- ❑ **Garden waste** - means waste generated as a result of normal domestic gardening activities, including grass cuttings, leaves, plants, flowers and other similar small and light organic matter, but shall not include very thick branches or builders rubble.
- ❑ **Building waste** - includes all waste types produced during the construction, alteration, repair or demolition of any structure of premises, and includes building rubble, earth, and rock displaced during such construction, alteration, repair or demolition.
- ❑ **Business waste** – means general waste which is generated on premises used for commercial, retail and wholesale purposes.
- ❑ **Industrial waste** – means waste generated as a result of manufacturing, maintenance, fabricating, processing and dismantling activities. Industrial waste is a representative of the type of industry that produces it.

2.2.2 Defining and describing existing Waste Management Systems and Practices.

In order for any waste management system to be successful, it is important that an integrated approach be followed and an evaluation of the waste management systems be approached in a holistic manner. Having identified the potential sources of both hazardous and non-hazardous waste generation, the investigation started off by focusing on the source of

generation. The type and number of storage containers used at each waste generation point have a direct impact on the efficiency of waste collection and also on the type of waste collection vehicles to be used.

The system required for the cost effective, yet environmentally sound operation of the waste disposal facilities, was determined by the amount of waste to be disposed on site per day. In-house service provision versus outsourcing of services was only but one of the variables that was considered in deciding on the most appropriate waste management system for the Musina area. Throughout all of this, existing infrastructures were evaluated with the intention of making use of existing equipment and facilities wherever possible, whilst the possibility of multi functionality of equipment was investigated for further improvement of the overall effectiveness of the system.

Based on the investigations done on various individual components of the existing waste management system, a broader perspective was obtained that was important information used in the development of a proposed waste management system.

Traditionally, waste management was undertaken on an *ad hoc* basis to meet immediate needs. Prior to the development of DWAF's "Minimum Requirements for Waste Disposal by Landfill", the siting of landfills was generally haphazard, without adequate planning and design; the management and operation was, and still is in some cases, poor; and the control of waste types disposed at the landfills was inadequate. A number of waste disposal sites were located on previously undeveloped land, without any consideration for the possible expansion of nearby communities. This resulted from a lack of integrated planning and inadequate enforcement of proper buffer zones.

Local authorities had neither sufficient funding, nor adequately trained staff, to effectively plan and execute their waste management functions. Communities were not involved in the siting of waste disposal sites, and consequently resisted their development. The level of services varied between different areas and many people, particularly the previously disadvantaged, were left without proper waste management services.

Waste Management Planning within local authorities was primarily focused on waste disposal. Some regional authorities initiated waste management planning projects for the location of transfer stations and landfill sites, as well as the establishment of regional landfill sites, which could be shared by different local authorities, which reduce the costs of developing new landfill sites. However, this type of waste management planning was, and still is, not commonly practiced.

The lack of capacity within all tiers of government, due to insufficient funding, as well as the low priority previously accorded to waste management were the main factors contributing to inadequate waste management planning. However, the development of the DWAF Minimum Requirements documents promoted a change within the waste management sector. Planning of landfill sites, proper site location, buffer zones, public participation and proper operating procedures led to an improvement in the disposal component of waste management.

Further change was initiated by the development of policy documents such as the Environmental Management Policy and the draft White Paper on IP&WM. These documents introduced concepts such as 'cradle-to-grave' management and the waste management hierarchy, and placed an emphasis on waste minimization. The development of the National Waste Management Strategy was developed from the IP&WM policy and further emphasized planning as a critical element of environmentally sound integrated waste management.

2.2.3 Legal compliance framework

One of the key aims of integrated waste management is to bring conformity, consistency and compliance to legal instruments that are used to govern waste and its management. This was used as a starting point to create a framework for where the Musina municipality actually is required to be by law. A survey of all by-laws was undertaken to determine where there were inconsistencies with the provincial and national government regulations and also to determine on where there were gaps that could be exploited.

2.2.4 Gap analysis

Gap analysis was conducted in order to compare the information that had been collected in the situational analysis to that data that had been collected in the review of existing available information from the IDP, previous reports, legal compliance framework and the inputs from public participation information sessions. Gap analysis was also used to get the level of understanding of the people of Musina and what is their level of involvement as far as waste management is concerned.

3. RESULTS OF THE STUDY

3.1 a Available information

The main role players in waste management in Musina were identified and questioned on the waste situation in the area. The following table is a list of the various people that were involved during the compilation of information relating to waste and its management.

(Table 2) Organisations and people met during the course of waste study

Organisation/Title	Representative
MLM, Chief Health Officer	Mr Phillip Rossouw
MLM, Technical Manager	Mr Jakkie Du Toit

MLM, Community Services Manager	Mr Pedron Nndwa
Musina Poverty Alleviation	Mr Simon Ndhlovu
Customs	Mr S Coetzee
Environmental Health Officer	Mr Shane Baloyi
Owner, Recycling Company	Mr Jopie Venter
Contractor, Refuse Collection	Mr Piet Mulule
Supervisor, Recyclers on site	Ms Martha

3.1bPublic Survey

A random public survey was taken to determine the efficiency of services delivered by the municipality and the public's attitudes towards waste management.

Approach

A selection of households both formal and informal dwellings were approached for the study. In the survey the income levels were considered and the following were the areas of focus:

Waste collection

- Most of the residents were happy hit the collection intervals and it seems the municipality is consistent in the collection.
- Almost all the residents interviewed do have municipal waste bins except for a few who use plastic bags.
- Municipality collects all types of waste including garden waste in the same rounds.

Recycling

- When asked about recycling and waste separation at source none of the participants was willing to take that effort.

Tariffs

- When asked about the knowledge of the tariffs charged by the municipality they all seemed to know what they are paying.
- The participants also gave the amount they are willing to pay for the services which ranged from R3.00 to R11.00.

Queries about the services

- Municipality informs them well in advance if there will be any changes in the collection dates due to holidays.
- Only one of the participant has ever complaint to municipality about waste dumped illegally in front of their house.

3.1.1 List of Documents Reviewed

Musina Local Municipality: *Integrated Development Planning: 2004/2005*

Department of Environmental Affairs and Tourism and the Department of Water Affairs and Forestry: *National Waste Management Strategy: 1999*

Department of Water Affairs and Forestry: *Waste Generation in South Africa: Baseline studies.*

Khayalami Metropolitan Council: *Development of an Integrated Pollution Control and Waste Management Master Plan: 1999: SRK Consulting*

Department of Water Affairs and Forestry: *Minimum Requirements for Waste Disposal by Landfill: 1998*

Department of Water Affairs and Forestry: *Minimum Requirements for the Handling, Classification, and Disposal of Hazardous Waste: 1998*

Department of Finance and Economic Development: *Limpopo Environmental Management Act: 2004*

Department of Water Affairs and Forestry: *Disposal sites for Hazardous and General Waste in South Africa: Baseline studies: 1998*

Department of Water Affairs and Forestry: *National Water Act, Act 36 of 1998*

Department of Environmental Affairs and Tourism: *Environmental Conservation Act, 73 of 1989*

3.2 Situation Analysis

3.2.1 Estimated Population Data

Table 3: Estimated population data from Musina IDP

MLM: Settlements	1998	2000	2001
Harper (Nancefield X6)	980	1003	
Malale	945	97	
Madimbo	1389	1263	
Musina	5728	6076	
Mopane	128	132	
Nancefield	26384	27990	
Weipe	630	652	
Farming areas (rest)	--	--	

TOTAL	36184	37213	40836
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3.2.2 Socio – economics

In theory, high population density within an area implies that there will be a high waste generation. The quantity of waste generated is directly linked to the population of an area. However, the relationship is not simple because the socio-economic status of an individual within the community determines the waste composition and quantities that are generated for that person.

Observations made during site visits in Musina indicated a vast difference in the amount of waste generated in low income communities than the amount generated in more affluent communities. A difference was also observed in community involvement in waste management and disposal. It was found that waste generated from Madimbo, Malale and Domboni areas was 50% less than Musina and Nancefied town waste generation.

3.2.3 Waste Generators

The main solid waste generators in Musina are as follows:

- Nancefield, Musina, Madimbo, Malale and Domboni residents
- South African Military Base
- The Beit bridge and customs
- Government complexes
- Informal settlements and squatter camps
- Business and industries operating in the area
- The MLM infrastructure services such as sewerage

- Building contractors
- Private clinics, doctors and the hospital
- Farmers
- Mines

With reference to the above list, no one has been excluded from being a waste generator in Musina.

3.2.4 Solid Waste Generation and Classification.

According to the figures obtained from the municipality, $\pm 40\ 000\text{m}^3$ of waste per annum is generated in the whole of Musina area. This figure includes all waste generated by waste generators listed in the above list but excludes hazardous and Health Care Waste.

Department of Water Affairs and Forestry Minimum Requirements for Waste Disposal by Landfill and Minimum Requirements for the Handling, Classification, and Disposal of Hazardous Waste documents were used as guidelines for the classification of waste in MLM. General waste including builder's rubble and garden waste was the only waste classified during site visits made in Musina. However, all types of waste including hazardous and Health Care Waste are generated in Musina.

3.2.5 Waste Management Systems and Information Data

The following are currently the five main systems that are generally used for handling of waste in the MLM area:

- Majority of waste collection, transfer, transport from all residents and disposal is done by the Municipality.

- A small quantity of waste from the Beit bridge is handled by a private contractor who collects, transport and disposes on site.
- Other waste generators from the military base, industrial, etc. are responsible for collecting and transportation of waste to the disposal site.
- Hazardous waste generators are responsible for their waste storage, transfer and disposal.
- Health Care Waste generated by both private and public sectors are incinerated at the local hospital, However, when the incinerator is overloaded, waste is then transferred Salom hospital in Ndzhelele.

The existing waste information data is insufficient.

3.2.6 Solid Waste Collection and Methods

The Municipality provide waste collection services to the residential and business areas listed below:

Musina

Nancefield

Madimbo

Domboni

Malale

Harper and Weipe

Waste collection is done on daily basis at Nancefield and Musina and once per week from the other villages. The private contractor, Mr Mulule collects waste from the border three times a week.

Bins and refuse bags are used for collecting waste from residential areas and blue containers have been placed in all streets of the business centre in town. Nothing has been provided for public areas such as bus and taxi ranks which results in people littering due to lack of these refuse collection facilities.

A contracted bakkie, tractors and trailers are used for transportation of waste to the site.

3.2.7 Transfer stations, Waste Minimisation and Recycling

The waste transfer stations contribute to a reduction in illegal, weekend and after – hours dumping. Currently, there are no transfer stations in Musina, however, there are existing waste minimisations and recycling activities taking place at the Nancefield waste disposal site.

A private contractor is currently collecting bottles, plastics, cans, papers and cardboards on site for recycling. Waste separation is done on site but some cardboards and papers are collected directly from the business areas. The contractor has appointed 9 labourers to separate waste on site.



A truck carrying bottles collected at Nancefield landfill site for recycling

3.2.8 Landfill Operation and Management

Three landfill sites have been identified in the whole of Musina except for sites that are privately owned like the Venicia mine waste disposal site. These sites are:

The Nancefield site, the new Madimbo site and the one at the border

The three sites have been classified as General disposal sites, class **GCB-**, because only general waste is allowed on the sites, amount of waste disposed per day is less than 25 tons and there is insignificant leachate production. All sites are not operating according to the Department of Water Affairs and Forestry Minimum Requirement for Waste Disposal by Landfill and are not authorised.

Most of waste material in Madimbo site is burned and the rest is transferred to the Nancefield site once per month. The site is well fenced and access to the site is controlled.

The Nancefield site is not fenced, however access to the site is uncontrollable due to the lack of fencing and all waste taken to the site is checked before disposal except for those who do not use the formal entrance. Waste compaction and covering is done when necessary and the lifespan is 15 years.

The one at the border is mainly used by the customs. The site is not fenced, no access control, no recycling activities and waste is covered on disposal.

3.2.9 Legal compliance framework

Currently, Musina Local Municipality has a great challenge of ensuring compliance legal waste management requirements.

3.2.10 Gaps and Need Analysis

The following gaps and needs were identified during the initial studies (Refer to table 4 and table 5 below)

Table 4: Summary of Gaps in the Musina Waste Management System

AREAS OF CONCERN	GAPS IDENTIFIED
<u>Waste Collection Services/ dumping sites</u>	<ul style="list-style-type: none">• Different waste dumping sites for different groups in the area, e.g. The main one operated by the council, military base and another at the border• No appropriate waste collection systems for 46.3% of households for low income and farming areas• Inflexibility of current waste collection systems to allow waste separation at source for recycling• Poor cost recovery system• Illegal dumping (unauthorised dumping sites)• Poor maintenance of service infrastructure• Fragmented regulatory approach• Easy access by scavengers• Street cleansing not in place or inadequate.
Disposal	<ul style="list-style-type: none">• Inefficiency of current facilities• Insufficient disposal facilities• Disposal of general hazardous waste, green and garden waste with domestic waste (no separation/categorisation)• Disposal of Construction and Demolition waste (rubble)• Existing landfill sites have not been operated and managed in accordance with DWAF requirements

	<ul style="list-style-type: none"> • Unofficial dumpsites • Inefficient handling and disposal of medical waste • No proper records kept on the type of waste entering the disposal sites. (This leads to hazardous material being illegally dumped on site.)
Garden Waste and Composting	<ul style="list-style-type: none"> • Disposal of garden waste on landfill sites • Lack of capacity and insufficient infrastructure in this area • Lack of collection services for green and garden waste
Medical Waste	<ul style="list-style-type: none"> • Insufficient medical waste disposal facilities • Minor incidences of medical waste combined with other wastes
Waste Information System (WIS)	<ul style="list-style-type: none"> • Insufficient information on waste generators • Lack of information on waste generation rates in other areas apart from those presently serviced by the municipality • No education on billing systems; types of services provided and logging of complaints • Lack of a Waste Management Information Decision Support System • No information links with the National WIS (if available) • Lack of Waste information collection, capturing and recording systems, reporting requirements, information management and dissemination systems • Lack of Information from the private sector
Education, capacity building and awareness needs	<ul style="list-style-type: none"> • Lack of sufficient educational facilities and resources in the Municipality for Waste Management Education • Shortage of skills and expertise in council • Inadequate education and awareness on waste management issues • Little public education on waste minimisation and recycling • Public has sees no incentive to recycle

Table 5: Summary of Waste Management Needs in the Musina

Gap	Needs
<u>Waste Collection Services/ dumping sites</u>	<ul style="list-style-type: none"> • Separation at source - organised waste separation at source should be encouraged thus improving the rate of recycling and similarly; • Reducing the volumes of waste to landfill. • A need to have a waste minimisation program which will reduce the cost of transportation to the landfills • Quality, affordable and sustainable waste management systems • Collection services for 43% of the population in informal settlements or commercial farms • Strategies to deal with illegal dumping & scavenging
Disposal	<ul style="list-style-type: none"> • Disposal capacity • Proper compaction of waste to prolong the lifespan of the disposal site (Appropriate equipment to be utilised) • Garden waste needs attention since it takes a lot of airspace on the landfill. • Waste diversion programs • Waste treatment and processing technologies and facilities • Maintenance & Rehabilitation plans for existing sites • Appropriate and efficient management of landfill sites • Identify and close unofficial dumpsites • General hazardous waste facilities
Garden Waste and Composting	<ul style="list-style-type: none"> • Education on garden waste • Collection services for garden waste • Composting facilities & capacity • Treatment and disposal facilities for garden waste
Medical Waste	<ul style="list-style-type: none"> • Provision of medical waste disposal facilities • Separation of Medical waste from general waste
Waste Information System (WIS)	<ul style="list-style-type: none"> • Sufficient information on waste generators • Information on waste generation rates

	<ul style="list-style-type: none"> • Education on billing systems; types of services provided and logging of complaints • Establishment & implementation of a Waste Management Information Decision Support System • Information links with the regional /national WIS • Waste information collection, capturing and recording systems • Legislated reporting requirements
Education, capacity building and awareness needs	<ul style="list-style-type: none"> • Educational facilities, programs and resources in the Municipality for Waste Management • Skills and expertise in council • Education and awareness creation
Waste minimisation and recycling	<ul style="list-style-type: none"> • Incentives for use of green & re-useable materials • Education and awareness programs • Waste Minimisation and Recycling Program • Recycling infrastructure • Markets for recycled goods
Institutional/Organizational	<ul style="list-style-type: none"> • Environmental Management System at Municipal management level • Institutional and organisation Capacity • Waste management sub directorate • Education and awareness within the Municipality
Policies	<ul style="list-style-type: none"> • Cradle to grave • Prevention of littering • Polluter Pays • Reduction of trans-boundary waste • Proximity of hazardous waste to disposal site
Implementation & Enforcement	
Communication	<ul style="list-style-type: none"> • Both internal and external is necessary to avoid duplication and to provide services in cost effective manner • Effective communication between the Municipality and its private contractors is necessary for effective service delivery
Performance Indicators and performance	<ul style="list-style-type: none"> • The municipality needs reliable key performance indicators to measure effectiveness of its services for purposes of improvement where necessary

monitoring	• Procedures to monitor performance at all levels
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3.3. The Waste Management Challenges for the Musina Municipality

The following analysis was based on the gaps identified in the Waste Status Quo Report for the Musina Municipality. The following needs were identified: Cost recovery system, waste minimisation and waste diversion, provision of waste collection and disposal services to the PDI's in the waste management sense, resource recovery infrastructure, capacity building, education and awareness and waste information management systems.

The principal issues, which will influence future waste management in the Musina include the following:

- An Integrated Waste Management Plan
- Implementation of integrated waste management principles promoting prevention, minimisation and recycling.
- Provision of basic waste management services to all residents of the Musina Municipality.
- Prevention of health risks and environmental pollution from waste management activities and facilities.
- Implementation of a waste information system.
- Institutional strengthening and capacity building.
- Public awareness raising regarding environmental and waste management issues.
- Formalisation and legalisation of existing waste sites
- Separation at source - organised waste separation and enforcement

3.4. Strategic Priorities of the Musina Municipality

The formulation of the strategies to be included in the Draft IWMP is being undertaken as follows:

The findings of the Assessment report, which was informed by the Status Quo and Gap Analysis report and work-shopped with the municipality officials and key stakeholders. The evaluation was done in terms of environmental, social and economic impacts of the different interventions on the waste streams. Summary of the strategies or interventions are outlined in Table 5.

Table 6: Strategy, Objectives and priorities of the IWMP

STRATEGY	OBJECTIVES	STRATEGIC PRIORITIES
Decision Support system and capacity building	To prevent the generation of waste	Capacity building, education and awareness Information management
Waste avoidance, Reduction and minimization	To reduce the amount of waste generated and disposed off at landfills	Recycling Composting Waste minimisation
Resource recovery and recycling	To management residual waste in an environmentally sound manner	Collection services Treatment and disposal

3.5 Commitment to Integrated Waste Management Approach

- The Musina Municipality will take all reasonable and practical actions within its control to facilitate the achievement of the National Government adopted targets of 50% reduction of generation of waste and 25% reduction in the amount of waste disposed of in South Africa by the end of the year 2012 or as practical a time frame as can reasonably be achieved.
- The Municipality subscribes to the principles of the waste hierarchy, waste avoidance and minimisation, ecologically sustainable development, efficiency and economy of scale.
- The Municipality will pursue the reduction of waste for its area within its parameters of control in the most appropriate sustainable and expeditious way and time frame.
- There will be a reliance on integration, supporting facilities and infrastructure together with partnership and co-operation with the provincial and national government.
- The process will be open and transparent to all parties including government, business and the community at large with a focus on consultation and consensus.
- National, Regional and local legislations and policies will be enforced.

3.6 Strategic Outcomes

The Musina Municipality seeks to achieve the following outcomes (Refer to table 7 below) through its Waste Management Plan:

Table 7: Summary of strategic outcomes

Regulatory and Co-regulatory Policy Instruments	Socio-economic & Environmental Incentives	WIS (information) Education and Awareness	Infrastructure Provision	Co-operation and Partnership initiatives
Setting targets: a key element of most successful policy efforts to reduce and promote recycling is the setting of demanding yet achievable targets	Pay as you throw household charges in which house holds pay per waste disposed. Polluter pays principle will apply	Waste information systems: at local and provincial/regional level, filled with data necessary to inform effective policy making and practical decision making on waste minimisation and recycling opportunities	Increase availability and access to transfer stations, sorting and waste recovery sites, garden composting sites, collection points and industrial recycling is greatly facilitated by ready access to clean waste recovery/sorting/disposal facilities	Poverty alleviation community projects: various innovative initiatives for waste management and economic development, e.g. waste for food/transport exchange programme
Zero waste policy: This centres on the commitment to generate no waste	Land ill tax: in which a tax is levied e.g. per tonne of waste to be disposed to landfill. This will act as incentives to reduce the generation of waste	Awareness-raising campaigns for households, consumers, retailers and producers on benefits and opportunities of waste minimisation or recycling	Provide separate waste collection facilities, e.g. increase door to door collection of individual waste streams from households.	Business partnerships: potential for stimulating greater engagement in private sector programmes relating to waste minimization
Mandatory waste separation: businesses can be obliged to separate waste into various recyclable streams Environmental procurement to stimulate market	Product tax: charge levied on products causing problem waste with the aim of changing consumption patterns Penalties and other disincentives required to control bad attitude	Public reporting from municipality on performance ratings against stated waste management targets: Public participation processes soliciting feedback on	Collection and composting schemes for biodegradable waste to reduce landfill waste Waste exchange: establish forum to facilitate the exchange	Volunteer initiatives and development of volunteer database, e.g. school and community groups Learnership and internships: identify academic internship

demand for recyclable products	of individuals towards waste management issues	performance and input into policy development	of waste to those that can use this waste as raw material input	and learnerships
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3.7. Evaluation

As the WMP provides the planning context for waste management development over a 5 year planning period, the WMP should be reviewed in full at least every two years. Review will be necessary to take account of changed circumstances, and to maintain a clear effective framework for waste management and decision making in the future.

4. STRATEGIES AND PRIORITIES FOR AN INTEGRATED WASTE MANAGEMENT

This section sets out the strategies, strategic priorities and, objectives for achieving the waste management policy vision for integrated waste management. These strategies and priorities chart the direction the Municipality will follow in implementing the waste management policy. The key performance areas and objectives detailed in the municipal strategies in the IDP need to be considered when strategic priorities for waste management are stipulated.

The Musina Municipality waste management policy sets out objectives and targets that will have to be achieved in the short, medium and long term. These policy objectives and targets direct the waste strategy that the Musina Municipality will adopt in response to the waste challenges within the area. The policy objectives are:

- Prevention of waste generation and reduction of waste requiring landfilling
- Divert up to 40% of all general paper, plastic, cans and glass for purposes of recycling.
- Divert up to 30% of all organic wastes from landfill sites to composting facilities
- Develop resource recovery infrastructure

- Promote waste minimisation and recycling
- Collect accurate waste information and develop waste information management systems
- Develop and enforce waste management by-laws
- Develop waste management education and awareness programmes

4.1 Achieving the Policy Objectives

The main goal of the IDP is to ensure that waste is managed in an environmentally sound manner and in an integrated way so as to prevent harm to the health the people and the environment. The intention is to also provide waste services for the population in the commercial farms and the other townships outside Musina who did not have access to the waste services provided by the Musina Municipality. The idea is to embrace the waste management hierarchy (i.e avoidance, minimisation, re-use, recover, recycle and dispose).

4.2 Strategies and Priorities for an Integrated Waste Management Approach

The IDP identified some specific villages that need to be serviced in terms of waste management as a priority. The strategies and the priorities represent broad deliverables of the IDP and other Municipal policies, vis-à-vis issues pertaining to sustainable and integrated waste management.

4.2.1 Main Drivers/Strategies

The main drivers or strategies are therefore:

Strategy 1: Provision for all in the Municipal Waste Grid and Capacity Building

Strategy 2: Waste Avoidance and Minimization/Reduction

Strategy 3: Resource Recovery and Recycling

4.2.1.1 Provision for all in the Municipal Waste Grid and Capacity Building

Different waste dumping sites and collection services as well as sorting of waste at source will not be achieved if the villages and informal settlements are allowed to depend on their own ineffective and environmental unfriendly ways of disposing of their waste. The municipality will need to build capacity in both infrastructure and manpower to be able to contain and manage the waste streams outside Musina Town. Infrastructural capacity includes the ability to sort out the different waste streams and dispose of the different categories efficiently and in environmentally acceptable manner. Human health should also be considered when the different streams of waste are disposed of. One area of concern is Medical Waste which should be catered for in all the areas under the jurisdiction of the Musina Municipality. The capacity building also includes the collection of an appropriate waste and a waste information management systems (WIS), which are needed to co-ordinate the different aspects of waste management in the Municipality and the region as a whole. The WIS will contribute to sustainable and efficient collection services, education and awareness programmes. This strategy therefore seeks to minimize or eliminate the risk of any significant adverse effects associated with the management of waste streams and the operation of waste treatment and disposal facilities.

4.2.1.2 Waste Avoidance and Minimisation/Reduction Strategy

The best system/strategy of waste management is prevention of waste or Waste avoidance. This strategy is the most cost effective. This strategy is a source directed measure. Waste avoidance conserves natural resources, reduces the amount

of waste requiring disposal to landfill thereby increasing the airspace capacity. Avoiding generation of waste also reduce energy consumption and different forms of pollution and is fundamental to sustainable development.

4.2.1.3 Resource Recovery and Recycling

The whole idea of resource recovery is aimed at using the waste that will be generated in one process in another way. Thus, the waste recovered may serve as a starting or raw material for another production process. By so doing, the amount of waste produced will be reduced to the barest minimum. If this is achieved, the over-reliance on landfill will be reduced; energy consumption will be reduced; cost of waste disposal will be reduced. This system will also create different forms of employment in the waste and the general production industry. Conservation of resources will be achieved as waste will be reused in place of new resources. Waste separation at source becomes a necessity. In terms of the resource recovery strategy wherever waste cannot be avoided, resources should be recovered through the most efficient downstream reprocessing or beneficial reuse option. The goal is to maximise the resources economic value and to reduce the need for expensive treatment and disposal management options.

4.2.2 Strategic Priorities, Goals, Objectives and Targets

Within the framework of the core strategies, strategic priorities, goals, objectives and targets have been developed.

4.2.2.1 Provision for all in the Municipal Waste Grid

Goal

To provide structures for all forms of waste for all the inhabitants of the Musina Municipality

Objectives

- To build infrastructural capacity for the different areas under the control of the Musina Municipality
- To ensure that skilled personnel are employed or existing staff are capacitated to handle the different waste streams
- To provide waste management services for all the inhabitants of the Musina Municipality
- To ensure that the health of the environment and human beings are not affected adversely by way of awareness and education of staff and community
- To ensure that landfill sites are authorised and operated efficiently as per regulation
- To extend access to quality and sustainable waste management services.
- Initiate and implement appropriate waste collection services to these areas, particularly commercial farms and Traditional lands
- To create awareness about waste management issues within the community and thereby empower communities to take responsibility for the cleanliness of their surrounding environment.

Target

80% of all households in the Musina Municipal area will be serviced in terms of all forms of waste management by the year 2008. A more rudimentary service will have to be provided to the outlying villages.

4.2.2.2 Waste Avoidance and Minimisation/reduction Strategy

Goal

To implement reduction of total amount of waste produced in the Musina Municipal Area.

Objectives

- To motivate waste minimisation.
- To promote cleaner production.
- Reduce waste quantities disposed of at landfill sites by reuse of waste.
- Create sustainable employment through local entrepreneur development in waste recycling partnerships.
- To comply with government policies, strategies and legislation related to waste management and recycling.

Target

To reduce 40% domestic and commercial waste streams disposed to landfill by 2007.

4.2.2.3 Resource recovery and recycling

Goal

To reduce the physical amount of waste and promote recycling

Objectives

- To ensure that waste minimisation and recycling procedures and practices are adopted by all sectors of society.
- To provide job opportunities and promote entrepreneurship
- To reduce the total amount of waste going to landfill sites

- To reduce the cost of transporting waste to the landfill.
- To reduce the impact on the environment
- To promote and support waste minimisation and recycling initiatives through user-friendly recycling facilities

Target

To provide recycling facilities in Musina and surrounding villages to serve the purpose of waste collection and recycling by the end of 2009

4.2.2.4 Medical Waste

Goal

To ensure that medical waste are disposed in an acceptable manner

Objectives

- To provide infrastructure for medical waste disposal
- To educate the community on medical waste issues

Target

To provide an appropriate medical waste storage facilities and incinerator in Musina by 2008

4.2.2.5 Waste Disposal

Goal

The goal of the disposal strategic priority is to ensure sufficient long-term waste disposal capacity that is environmentally and publicly acceptable, and also to ensure that the landfills are progressively rehabilitated in such a manner so as to minimize the impact on the environment.

Objectives

- To develop a plan for the progressive rehabilitation of current (and future) landfill sites to obtain authorisation
- Upgrade the operating landfill sites to meet DWAF Minimum Requirements.
- To address the potential impact and possible rehabilitation of all of the closed historical dump sites within the Musina municipal area.
- Identify options to meet future waste disposal needs and develop and optimum strategy for implementation accordingly.

Targets

- Obtain authourisation of landfill sites from relevant authorities by 2006 and
- Closure and rehabilitation of the illegal dumping sites by 2007.

4.2.2.6 Garden Waste and Composting

Goal

To separate garden waste from the general waste stream to divert to composting facilities/sites

Objectives

- To develop an incentive based integrated garden waste and composting plan
- To develop an incentive based integrated garden waste and composting plan.
- To develop incentive based integrated garden waste composting plan, quality and marketability of the garden waste sites and the final compost product.
- To investigate ways of collecting garden waste at domestic waste stream.
- To encourage the participation of the public in achieving the goal and the key objectives, through education and awareness and also by creating an incentive-based composting strategy.

Targets

- To separate garden waste from general waste, and generate compost from such waste, for use or sale within, and/or outside the municipal area by 2008.
- To encourage people (40%) of population to use their garden waste effectively by composting by 2008.
- To encourage the municipal parks and recreation division to utilise organic compost and cut the cost of fertilizers.

4.2.2.7 Waste Information Management

Goal

To establish and implement a Waste Information Decision Support System that will contribute towards effective waste management.

Objectives

- To build capacity in the WIS applications
- To develop information systems to capture relevant data for current operation and future planning for optimum waste management and budgeting.
- Establish appropriate mechanisms to collect the information required for the development of an integrated waste management plan.
- To establish a monitoring and information system to track waste generation, collection, re-use, recycling, reprocessing and disposal in terms of waste flow and facilitate waste exchange
- To assist in the delivery of information on waste services.
- To have a WIS that is compatible to the regional/national system

Target

To have a fully operational Waste Information Decision Support System in place by the end of 2008.

4.2.2.8 Waste Management Education and Awareness

Goal

That the public/community of the Musina Municipality are informed and made aware of waste management issues in general and of the integrated waste management system and that all Council staff involved with waste management and related issues are capacitated to implement the plan successfully.

Objectives

- To identify a workable system to convey information to the public/community
- Develop and implement such a programme to educate and empower the community on waste management issues – raise awareness
- To build capacity and raise the skill profiles of Council staff.
- To have a relatively high level of commitment and understanding from the public and from industry to strive for a clean environment.
- To have a number of successful awareness raising and information campaigns established within the Municipality.

Targets

- That all municipal staff in the waste department will be educated on waste management issues by the end of 2005.
- That 30% of community in the Musina Municipality will be exposed to information and be made aware of waste management and waste management planning issues by the end of 2008.

4.2.2.9 Organizational, Institutional and Regulatory

Goal

Effective and efficient implementation of the IWMP; evaluated the municipal staff and review the IWMP with regards to targeted goals.

Objectives

- To ensure and effective system of monitoring progress and evaluation of council staff in the waste department
- Enforcement efforts that is efficient, well coordinated, and effective.
- To ensure that activities of all relevant council staff and departments are in line with set objectives
- That there is sufficient capacity and capability in the Council for planning, management, and monitoring/enforcement.
- To have an organisational structure in line with all waste management planning requirements.

Targets

- To establish effective monitoring and enforcement system by the end of 2006.
- To implement service level agreements between departments and staff members in the waste department.

5. STRATEGIC GOALS AND ACTION PLANS

The Musina Municipality has set as its primary priority to develop and implement measures and programmes that will promote integrated pollution and waste management in the area under its control.

This section describes the strategies and action plans relating to all the strategic priorities identified above. The action plans outlines the strategic goals, activities, outcomes, time frames and implementation requirements. The activities proposed in this section are short (2006-2008), medium (2008-2010) and long term (2010-2015) term.

5.1 Provision for all in the Municipal Waste Grid and Capacity Building

5.1.1 Strategy

The municipal strategy to provide waste services for all and build capacity in this regard, include;

- a. Empowerment
- b. The areas without services need to be mapped out and a strategy to properly design a system that will encompass:
 - Incorporating all areas into the municipal waste grid
 - Staff members training needs
 - Provide infrastructure for sorting different types of waste and disposing the various waste
- c. Provide for all forms of waste
- d. Waste Information System
- e. Corporate accountability

Although the planning of waste management infrastructure is difficult when the classification, characterization and quantities of waste are unknown, scenario planning linked to the expected type of industries should be put in place.

Action Plan

To achieve effective empowerment and capacity building in the municipality's ambition, the following action plan has been designed:

STRATEGIC INITIATIVES	ACTIVITIES	TARGET	RESPONSIBLE AUTHORITY
Legislative and Regulatory	Set targets for implementation of adopted legislation and by-laws	July 2006	MM, DEAT,
	The preparation and provision of waste education programmes directed at communities to transform the current notion of waste disposal and adopt integrated waste management	January 2007	MM, PS
	Investigate the feasibility of medical waste structures at selected sites (include EIA)	Completion of EIA process by September 2006	MM, PS
Economic Instruments	Investigate the feasibility of introducing economic instruments	Study to Commence by June 2006	MM, PS
	Identify ways of incentivising change of behaviours in waste generation	Completion of investigation by June 2006	MM, PS
Information / Communication	Give contract for the development of WIS	Information Dissemination program developed by September 2006	MM, PS
	Develop and display public information sheets	Information sheets developed by June 2006	MM, PS, Schools
	Provide information on proposed studies and adopted legislation and by-laws	Information available by October 2006	MM, PS
	Develop and implement a promotional campaign	Campaign to start in February 2006	MM, PS

5.1.2 Waste Avoidance and Minimisation/Reduction

The Municipality strategy for waste minimisation is based on the waste hierarchy approach, which include:

- Cleaner production (Waste Prevention, Waste Minimisation)
- Treatment (Physical, thermal and chemical destruction)
- Disposal (Landfilling)

The use of National, Provincial and local legislation will be upheld, e.g. The National Environmental Management Act in 1998 introduced the “polluter pays” principle, which recognizes that the costs for rectifying environmental damage should be born by the polluter. The service sector and consumers will reduce waste through the selection of products, the appropriate use of products and the conservation of energy. Industries need to introduce compliance monitoring, where waste contractors are regularly audited.

The solution to effective waste management in the industrial sector is multifaceted and needs to be addressed in a variety of ways. Waste Minimisation Clubs can be encouraged. A waste minimisation club is a voluntary partnership formed to promote the exchange of experience and information in the development of waste minimisation measures between geographically close manufacturers. The clubs can either be based on the same type of industry or consist of a composition of neighbouring firms. The focus of these clubs is the reduction of waste at source.

Education is the key to long-term improvement in waste management in South Africa.

5.1.3 Action Plan

In order to ensure the effective implementation of the Waste Minimisation and Recycling strategic priorities an action plan has been developed. The action plan identifies strategic objectives and key activities that need to be undertaken to achieve these goals. The action plan is discussed in detail below.

Table 8: Action Plan

STRATEGIC INITIATIVES	ACTIVITIES	TARGET	RESPONSIBLE AUTHORITY
Legislative and Regulatory	Set targets for implementation of adopted legislation and by-laws	July 2005	MM, PS
	Amend by-laws to include provision for requirement of industry waste minimisation plans	By laws amended by November 2005	MM, PS
	Introduce a policy to require separation at source	By Dec 2006	MM
	Develop appropriate legal framework for waste minimisation and recycling	Waste minimisation and recycling provisions incorporated into by laws by November 2005	MM, PS
	Provide skips/drums at strategic location for public usage.	All municipal areas catered for by June 2006	MM
	Make waste minimisation an integral part of licensing procedures for industrial activities	System introduced in September 2005	MM, DEAT, DWAF
Economic Instruments	Investigate the feasibility of introducing economic instruments	Study to Commence by August 2005	MM, DBSA, PS
Information / Communication	Develop information and communication programs for civil society and private sector	Information Dissemination program developed by October 2005	
	Develop and display public information sheets	Information sheets developed by September 2005	
	Development or adoption of a suitable waste information system	Information available by February 2006	

	Develop Council waste minimisation and recycling system	Commence in December 2005	MM, PS, DBSA	
	Provide educational programmes for residents with respect to littering	The first campaign to begin in November 2005	MM, DBSA, PS, Schools	
	Implement a procurement policy that sets requirements for purchase and acquisition of green products	Policies implementation by December 2006	MM, PS	
	Develop Green procurement guide for the Municipality	Guidelines developed by November 2005	MM, DBSA, PS	
	Produce a regular waste newsletter	First issue by June 2004	MM	

5.1.4 Resource recovery and recycling

The strategies that will be implemented by the Municipality include:

- Encouraging the use of certain waste products in the production process (recycled to recover raw material) for further use in industrial processes.
- Post-consumption products are reused or recycled for resource recovery

- Ensuring that the transporters and disposers of waste have adequate insurance and the appropriate certification to carry out their duties.
- In addition, recycling has the potential for job creation, by promoting entrepreneurs to establish community collection systems and recycling centres.
- Motivating or promoting recycling which is a viable alternative to informal salvaging at landfills.

Action Plan

<u>STRATEGIC INITIATIVES</u>	ACTIVITIES	TARGET	RESPONSIBLE AUTHORITY	FINANCIAL REQUIREMENTS
Recycling Infrastructure Development	Promote separation at source	Separation at source to commence September 2005	MM, PS	
	Develop and implement a pilot project for collection of recyclables	Pilot projects established at identified sites by July 2005	MM, DBSA, PS	
	Licence all landfill sites and disposal facilities	Legalisation by November 2005	MM, DWAF, DEAT, PS	
	Establish new recycling programs	Recycling programs established at each region by end of 2005	MM, PS	
	Establish waste minimisation clubs	Clubs active by September 2005	MM, PS, Schools	
	Establish composting facilities	Composting facilities established at identified sites by 2006	MM, DBSA, PS	
	Research alternative / appropriate technologies for recycling	Research completed by 2005	MM, DBSA, PS, Schools	
	Establish a private public partnership for the collection of recyclables and management of recycling facilities	Partnership established by may October 2005	MM, DBSA, PS	
Waste minimisation and recycling education and Awareness programmes	Develop and deliver a five year education program	First draft by August 2005	MM, DBSA, PS, Schools	
	Privatise refuse collection in the rural areas (Public Private Partnerships)	Completion date of contract – September 2005	MM	
	Design specific school programmes directed at the youth to instil environmental stewardship and encouraging a positive attitude towards responsible waste management	First programme developed by September 2005	MM, DBSA, PS, Schools	

	Develop economic instruments that favour recycling industries and protection of natural resources	Instruments ready for implementation by November 2005	MM, DBSA, PS, Schools	
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6. IMPLEMENTATION, MONITORING AND REVIEW

6.1 Implementation Instruments and Policies

6.1.1 Introduction

The implementation of IWMP will be secured by the actions of Musina Municipality, both operationally and through the planning system. The development of the Municipality's Strategy for waste disposal contract and the eventual letting of that contract will be a major element. Similarly, the municipality's collection and recycling contracts and their recycling plans will further these objectives. In the private sector the Musina Municipality can influence the way in which companies operate by the guidance in these documents and also through the development control process. The overall objective will be to have an integrated waste management strategy which delivers a cost effective and environmentally acceptable outcome for the Musina Municipal Area. Stakeholders have for the most part accepted a number of initiatives that require urgent attention. Of these initiatives, implementation of integrated waste management planning, provision of general waste collection services to previously unserviced areas and the development and implementation of the Waste Information System were identified as high priority. The Municipality recognizes the importance of strategic planning in laying the foundation for its future progress. It also realizes that a practical implementation plan is vital to the success of the municipality in meeting its strategic goals. This *Strategic Plan* provides a foundation for tactical planning efforts throughout the IWMP - programs and key processes. Therefore, the immediate next step in this process is to develop a detailed plan for implementing the municipality's *Strategic Plan*. The implementation plan will identify the tasks, programs and activities to implement the plan's strategies through the development of

individual action plans, which will identify specific responsibilities and timeframes for delivery. Action Plans have therefore been developed for Integrated Waste Management Planning, General Waste Collection, and the Waste Information System, as well as a project plan for the implementing instruments for each initiative. During the development of this draft Action Plan, due cognisance was taken of all stakeholder comments compiled in the Analysis Report.

The implementation of the IWMP has been grouped into action plans:

Action Plans I: Those that need a short-term high priority strategic initiatives namely, Integrated Waste Management Planning, the Waste Information System, General Waste Collection, and their respective Implementing Instruments.

Action Plans II: Those Action Plans for the remaining elements of integrated waste management, namely Waste Minimisation, Recycling, Hazardous Waste Collection, Treatment, Waste Disposal and Capacity Building, which will be developed over medium to long-term periods.

The implementation instruments and desired state (IWM) is summarized in Figure 1.

Council will manage its waste activities within an overall integrated waste reduction service framework.

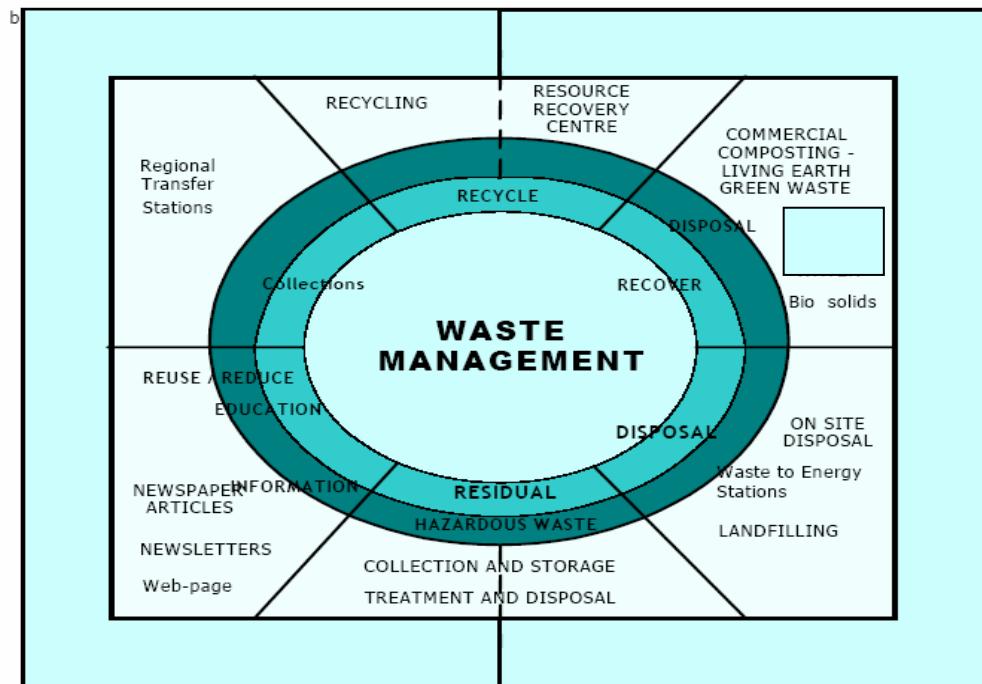


Figure 1:

Waste Hierarchy

The waste hierarchy established under the SWMP is to ensure that resource management options are considered against the following priorities:

Avoidance - including action to reduce the amount of waste generated by households, industry and all levels of government.

Resource Recovery - including reuse, reprocessing, recycling and energy recovery, consistent with the most efficient use of the recovered resources.

Disposal - including management of or co-ordinating all disposal options in the most environmentally responsible manner.

As the highest priority, *Avoidance* encourages the community to reduce the amount of waste it generates and to be more efficient in its use of resources.

Resource Recovery maximises the options for reuse, reprocessing, recycling and energy recovery at the highest net value of the recovered material. This encourages the efficient use

Each specific strategic priority needs a diverse set of resources and capabilities for effective implementation. The implementation instruments that are required to ensure successful implementation include:

Organizational/Institutional instruments: instruments implemented at organizational and institutional levels to ensure that Council has sufficient appropriate staffing and institutional capacity to effect the requirements of the waste management plan.

Legislative instruments: instruments that influence the range of alternatives by means of prohibition, restrictions or obligations.

Economic instruments: instruments which affect the market conditions under which people and firms make their decisions, without directly reducing the decision space available to them.

Communicative instruments: instruments aimed at public information and education campaigns and the voluntary adaptations of individual and group behaviour in a more environmentally friendly (recycling enhancing) direction. This also includes capacity building of Council staff and politicians.

6.1.2 Organisational/Institutional Instruments

6.1.2.1 Institutional Capacity

For the successful implementation of the plan appropriate institutional capacity for training and human resources development for waste management within the Council should be established at the central and regional level. All staff should have appropriate training in waste management, and as this is currently not the case, skills and training will have to be provided. The first step in ensuring the implementation of the plan is setting up an implementation committee by the municipality. The committee will be responsible for guiding the overall implementation plan.

Private sector involvement in waste management implies a shift in the role of the Municipal institutions from service provision to contract management and regulation.

6.1.2.2 Legislative Instruments

The *over-arching goal* of the WMP is to move from a previously fragmented situation of uncoordinated waste management to that of integrated waste management. By-laws will be developed to define the obligations of the waste generator, the private waste collectors and the waste disposers. Bylaws will also be introduced requiring separation at source. The Waste management by-laws will provide a legal foundation for regulating the behaviour of individuals and legal entities, thus ensuring the legislative basis for implementing the waste management plan, maintaining waste collection and disposal systems, and providing the basis for enforcement and sanctions.

6.1.2.3 Recycling

The Musina Municipality is responsible for coordinating recovery initiatives proposed in this IWMP with a view to consistency and complementarity. More specifically, it will:

- help set up industrial residuals recovery and reclamation agencies accredited by the municipality and monitor agreements entered into with the municipality
- develop and manage a knowledge system for tracking the achievement of sectoral and overall residual materials recovery goals
- administer any financial assistance program upon request
- foster the development of markets for secondary materials in partnership with the industries concerned;
- advise regional private sector/businesses, management boards or any other body mandated by the municipality on the establishment of residual materials management plans.

If by-laws are implemented for recycling, it is necessary to provide a “level playing field” for all recyclable commodities to ensure the effectiveness of the objectives. The Municipality can regulate recovery of recyclable material through legal contracts that would define the quantities and type of waste delivered and the charging system to be applied.

The licensing of businesses could be linked to the requirement to separate and recycle specified waste materials. Industrial estates should be encouraged to form waste minimisation and recycling groups within the estate. This would require the preparation of instructions for waste minimisation, separation at source, recycling and proper disposal.

The municipality will need to come up with incentive programs for the industrialists to start separation at source. One way will be giving tariff reductions to those participating in separation at source.

6.1.2.4 Enforcement

Enforcement is critical to the success of the plan. The need for WIS will help in the overall enforcement of waste policies, regulations and, or bylaws.

6.1.3 Economic Instruments

Economic instruments can be used to ensure that the costs of providing waste management services are recovered, as well as to influence the behaviour of waste generators and to ensure the preferred direction of the waste stream, i.e. disposal or recycling. Economic instruments may therefore promote optimal utilisation of services and provide incentives to reduce waste production. It is generally thought that economic instruments for environmental protection can generate the same level of waste reduction at a lower cost than via the more conventional regulatory approach. The economic instruments discussed below relate specifically to the type of instruments that can be implemented by the municipality.

Businesses must be made responsible for the products they market and which become residual materials once used. That is why the municipality will adopt a regulation requiring of industrial or commercial businesses which manufacture or market or otherwise distribute in the Musina Municipality, packaging or print material that they assume the major portion of the costs of selective waste collection. The regulation will set recovery targets, require businesses to report on their progress in meeting targets and provide for fines and sanctions in the event of non-compliance.

To meet this requirement, businesses targeted will have the choice of setting up their own recovery system or delegating an organization, accredited by the relevant office of the Musina Municipality, to represent them and support financially selective municipal collection. Those businesses that attain the reduction and recovery targets established with the Musina Municipality will receive official recognition from the government, which they may use to promote their product(s) on domestic and export markets.

According to the National Waste Management Strategy, in the case of local government, funding will come from the introduction of appropriate cost recovery mechanisms for services delivered. The potential for utilising the Municipal Infrastructure Investment Fund to assist with the establishment of facilities will be investigated.

Putrescible material is most likely to cause major contamination in landfills. When composted, it can be used to improve the quality of soils. It is therefore important to progressively recover this material in as great a quantity as possible. Municipalities will be subject to the regulatory obligation to recover surplus grass clippings and leaves.

Currently, the majority of recycling is dependent upon market forces, which dictate the level of recycling that is economically viable. It is unlikely however, that those initiatives that rely on market forces only, will be sustainable in the long-term in the absence of economic instruments to support and promote recycling.

6.1.4 Communicative instruments

Effective communication is vital to the ultimate success and sustainability of the plan.

6.1.4.1 Information

The presence of knowledge and understanding of the waste system is of vital importance in order to enable the parties involved in waste-management to co-operate and act as intended. The transfer of information has therefore become essential in modern waste management. Information provision can be done in different forms, e.g. the form of a campaign project like "*Race against waste*" as being practised in the USA. Some of the items proposed in such campaigns include the following:

- A stand alone guide on the management of (hazardous) waste by business
 - It could be legislative and the duty of care or cradle-to-grave
 - Dealing with contractors
 - Transport and export and
 - What to do if things go wrong
- Information on collection services available to households, including
 - Advice on waste segregation
- Basic information on what is and what is not hazardous waste
- Guidance on Tran frontier shipment classifications
- Information on record keeping obligations for generators of waste.

Such education campaigns will highlight issues relating to legislative requirements, benefits to the private and commercial sector, waste management requirements and the different waste information systems.

Environmental awareness officers are central to the success of the awareness and education campaign. Trips to areas or countries performing better in this regard will be encouraged.

6.1.4.2 Capacity building

Implementing, controlling and enforcing national legislation and governmental policies require a certain administrative capability at all administrative levels. This means that each administrative level should have a sufficient number of staff with the appropriate professional knowledge to administrate the regulation and to inform and supervise the public.

The current waste management planning process represents in various aspects a new concept for many officials of the public administration and thus new challenges. New elements include especially the political procedures, the integrated approach, utility/private sector participation, and the public participation.

The future involvement and increased possibilities for more collaboration between the public and private sectors in implementing the waste management plan need to be examined. These initiatives call for a need to provide more open, effective and participative local government in mobilizing community, commercial and organizational resources to create a better environment for the population of Musina.

6.1.5 Tasks to be undertaken by the Council

Implementation of new legislation and requirements regarding waste management takes into account a review of the management and organization of waste management in the Municipality. The Musina Municipality must meet the needs of waste management while also meeting the social and economic aspirations of the municipality

6.1.5.1 Regulation

The Musina Municipality commits to making waste audits and reduction plans part of its regular management activities. It will also strengthen the environmental content of its procurement policy by giving priority to products that are better for the environment, such as recycled paint and oil, and construction, renovation and demolition debris, so as to support the markets for these secondary materials.

Dry materials disposal sites will be subject to more stringent safety standards. The new regulation respecting residual materials disposal will require site owners to monitor groundwater and surface water quality, among other things. The enforcement of waste management regulations presents a major challenge to the Council in terms of resources and management systems. Implementation of local regulations (by-laws) requires ongoing review and compliance monitoring. Such review would cover:

- Waste collection schemes, market conditions and controls;
- Recycling centres, buy-back centres, composting plants, disposal sites, etc. would be subject to annual reviews, regular spot checks and compliance with operational plans;
- Collection of information about waste quantities and types reported and analysis of this data;
- Illegal dumping

The Musina Municipality is responsible for coordinating recovery initiatives proposed in this policy with a view to consistency and complementarity. More specifically, it will:

- help set up industrial residuals recovery and reclamation agencies accredited by the Minister and monitor agreements entered into with the Minister;

- develop and manage a knowledge system for tracking the achievement of sectoral and overall residual materials recovery goals;
- administer any financial assistance program upon request of the Minister or the government;
- foster the development of markets for secondary materials in partnership with the industries concerned;
- advise regional municipalities, management boards or any other body mandated by the municipalities on the establishment of residual materials management plans.

The Council should assess compliance with regulations and by-laws on the basis of these inspections and assessments. Actions resulting from the supervisory role could include:

- Follow up inspections of waste generators, collectors, transporters and disposers where irregularities in waste type or quantity are indicated in spot tests, and fines can be imposed accordingly. Repeat offences, which result in environmentally irresponsible handling of waste can be dealt with by revoking their licences or through legal remedy.
- Fines and/or imprisonment of offenders who illegally dump their waste.

6.1.5.2 Monitoring and control

The whole idea of monitoring is “taking stock and moving forward”. The municipality will undertake the following:

- Monitor the implementation, by the relevant sectors, of the Waste Management Plan
- Promote overall co-ordination of waste management initiatives
- Consider and make recommendations to the relevant departments/sectors regarding public awareness requirements
- Monitor and evaluate new research data, trends in waste production and waste management

- Prepare and conduct competitive tendering processes for involving the private sector in waste collection, waste recycling, and treatment, etc.
- Undertake contract negotiations, administration, control and monitoring of contracts, performance management.
- Compliance monitoring of license holders.
- Monitoring of the implementation of the IWM Plan.
- determine their efficiency of operation.
- Disseminate information on best practises
- Maintain ongoing liaison with the implementation committee of the waste management programme

The Musina Municipal Council will exercise its duties with regard to the control of waste management facilities with the following objectives:-

- to encourage sensitive waste management site working practices in order to preserve or enhance the overall quality of the environment and minimise risks to human health;
- to minimise any adverse environmental impact arising from the handling, processing, transport and disposal of waste from the waste management facility;

The water-monitoring plan should be drawn and must provide a complete description of a system capable of monitoring the performance of the design of the site, including monitoring of groundwater to detect the release of pollutants or contaminants from the landfill unit to the waters of the state.

1. The plan must show compliance with NWA 36 of 1998, and must:
 - a. Identify the location and construction of monitoring points.
 - b. Specify monitoring parameters and the frequency of monitoring those parameters.
 - c. Specify procedures for quality assurance for all field and laboratory work.
 - d. Provide for the semiannual submittal of monitoring data to the Solid Waste Management Authority.
 - e. Establish procedures which must be used if monitoring provides evidence of leachate migration.
2. The Solid Waste Management Authority may suspend groundwater-monitoring requirements if the owner or operator demonstrates that there is no potential for migration of pollutants or contaminants from the landfill unit to waters of the state during the active life of the unit and during the post-closure period. This demonstration must:
 - a. Be certified by a qualified groundwater scientist.
 - b. Be approved by the Solid Waste Management Authority.
 - c. Be based on:
 - (1) Site-specific field collected measurements, sampling, and analysis of physical, chemical, and biological processes affecting contaminant fate and transport.
 - (2) Contaminant fate and transport predictions that consider the maximum rate of contaminant migration and impacts on human health and the environment.

Operating Plan

1. *Include a description of the equipment and positions necessary to operate the site.*

2. *Provide for adequate fire control methods.*
3. Provide for the prevention of scattering of papers and other lightweight debris by portable litter fences or other suitable devices.
4. Provide for the disposal of any special wastes specifically permitted by the Solid Waste Management Authority in the sites permit.
5. *Demonstrate how the site will comply with the requirements in NEMA and related legislations.*
6. *Include the steps to be taken in the event of unforeseen circumstances that may occur at the facility. The steps shall provide for an organized, planned and coordinated, technically and financially feasible course of action to be taken, and must address:*
 - a. A fire at the facility.
 - b. Personnel and user safety (incl. first aid training and emergency medical services).
 - c. Facility shutdown due to natural events.
 - d. Equipment breakdown.
 - e. Release of hazardous or toxic materials.
 - f. Presence of leachate in collection structures and storage tanks or surface impoundment leaks or spills.

Closure Plan : The following is advised

1. A description of the steps necessary to close all municipal solid waste landfill units at any point of Municipal Solid Waste Disposal Site Permit Application during their active life.
2. A description of the final cover consistent with the requirements of NEMA and related information
- 3. An estimate of the largest area of the municipal solid waste landfill unit that would require final cover at any time during the active life of the landfill should the site be closed.**
4. An estimate of the maximum inventory of wastes ever onsite over the active life of the landfill facility.

5. Identification of equipment and structure removal, decommissioning, and decontamination.
6. Placement and installation of water, vadose zone, and landfill gas monitoring devices, and landfill gas control devices, as needed.
7. A schedule for completing all closure construction activities necessary to satisfy closure requirements.

Post-closure Maintenance Plan

1. A post-closure maintenance plan specifies how the municipal solid waste landfill unit will be maintained and monitored
2. An inspection and maintenance program for the final cover, drainage and flood protection structures, and landfill gas monitoring and control system.
3. Name, address, and telephone number of the person or office to contact about the facility during the post-closure period.
4. A description of the planned uses of the property during the post-closure period.

The post closure monitoring will be undertaken by order of the municipality, and under the authorizations it issues in compliance with the environmental impact assessment and review procedure, operators are required to establish financial guarantees in the form of a trust fund for the post-closure monitoring of disposal sites (if businesses want to have their own landfill sites). This requirement will be extended to existing disposal sites designated by regulation.

6.1.6 Implementation Requirements

6.1.6.1 Human Resources

An estimated number of personnel (man power) and responsible positions needed to be filled in the IWMP has been suggested. A substantial increase in human resources and other corporate resources within the Musina Municipality will be required to effectively implement the waste management plan. In terms of additional staff resources, the new Waste Management Section shall be organised to fulfil its new functions to ensure compliance with relevant legislation. Implementation of the WM Plan will require considerable efforts to plan and initiate projects, provide overall guidance and supervision of various projects and activities, and to co-ordinate the efforts of the municipality and other stakeholders. The WM Plan cannot be effectively implemented if the planning process is not properly institutionalised, and if additional personnel resources are not mobilised. The following staff allocations are suggested:

FUNCTION	POSITION	PROPOSED COUNCIL STRUCTURE	MIN. NO. OF STAFF SUGGESTED	MAX. NO OF STAFF SUGGESTED
Regulation	Manager, Inspectors (illegal dumping, monitoring of service, etc., field assistants, admin officers)	1	2	4
Planning	Specialist team (technical, environmental, developmental work, community contract specialist, data capturers, admin officers)	2	3	5
Public Service	Complaints officers, education officers / public information officers, waste minimisation and recycling officers	1	2	2
Monitoring and Control	Environmental officers, inspectors, manager	1	3	5
TOTAL		5	10	16

6.1.6.2 Financial Implications

The IWMP requires investment in new infrastructure as well as the provision of services for the following primary categories:

- Data/information gathering and the Decision Support System
- Waste collection facilities (villages)
- Recycling facilities (drop-off facilities, buy-back centres) and separated waste collection.
- Composting facilities
- Landfill development (e.g. Musina and villages)
- Medical waste disposal facilities

Because of the unknown regarding capital investment to be considered by the Council, the Table below lists projects where capital investment will be required for the implementation of the WMP. This list is not restricted to Council, but gives an outline for all sectors of society.

To ensure the success and sustainability of the projects which will come out of the WMP, each project will require detailed financial planning and budgeting. This will include the mechanisms used to demonstrate financial assurance; must ensure that the funds necessary to meet the costs of closure, post-closure care, and corrective action for known releases will be available whenever they are needed.

6.1.6.3 Types of Financing Sources

Financing sources for projects arising from the IWMP are discussed below. The focus is on financing sources which could potentially be accessed by the private sector. A number of sources have been identified as potential financiers of the projects emanating from Musina IWMP.

They include, Provincial and National government, and international funding from Denmark (DANIDA), Norway (NORAD), Japan (JICA), Sweden (SIDA), among others.

Local Sources

The Municipal Infrastructure Investment Unit (MIIU), a source for support for municipalities which are committed to investigating Municipal Service Partnerships.

- The Development Bank of Southern Africa (DBSA, was cited as a potential financial source for most of the projects identified in the Municipal IDP.
- Consolidated Municipal Infrastructure Programme (CMIP).
- The Industrial Development Corporation (IDC), publicly committed to funding infrastructure projects.
- Capital Expenditure Programme (CAPEX), which finances capital projects such as the development of buy-back centres.
- The South Africa Infrastructure Funds, which is composed of numerous insurance and pension fund members, with an interest in funding infrastructure projects in South Africa.
- Black Empowerment Groups (investment groups).
- Companies with international affiliations, which may have access to greater and/or lower cost capital through their international partners.
- Department of Trade and Industry / Department of Transport, through the Spatial Development Initiative, may provide support to initiatives which can encourage direct foreign investment.

6.2 Monitoring and Review

6.2.1 Introduction

This IWMP identifies operational practices that could potentially result in environmental impacts and describes operational procedures for eliminating or minimising environmental impacts. It addresses environmental issues in accordance with the criteria set out in relevant legislations and include;

- Site overview;
- Landfill structure and operations;
- Discharges of pollutants to waters;
- Emissions of pollutants to atmosphere;
- Land management and conservation;
- Prevention of hazard and loss of amenity;
- Handling and disposal of waste at the facility;
- Limitations in the classes of wastes accepted;

- Requirements for incentives for the segregation of wastes;
- Monitoring and reporting of incidents; and
- Environment protection activities and site remediation.

Monitoring the plan's implementation is necessary to make sure it provides a relevant, cost effective, sustainable and flexible framework to guide waste development and that if required adjustments can be made to the plan. As the development of the plan in some cases has been based on certain assumptions, it would be best to verify these by monitoring so that the IWMP, and its various projects can be reviewed and refined with time.

6.2.2 Monitoring

Monitoring and tracking system will support the Implementation Committee in its ongoing strategic management process which focuses and aligns resources and diverse programs and initiatives to achieve optimal results. The *Strategic Plan* identifies various performance measures which must be supported by an accurate, ongoing data collection and reporting system.

The Municipality (Implementation Committee) relies on various data sources essential for measuring performance and evaluating its programs. These systems include but are not limited to the following:

- Workplans Information System
- Waste Information Systems
- Training Information System
- Waste Generation Database
- Planning Annual Report Information System
- Buy Recycled Campaign System

These key data collection systems, among others, will enable the Implementation Committee to capture data essential for the ongoing monitoring and tracking of performance.

Performance reports will be prepared within the appropriate programs and submitted to the responsible authority for review quarterly. Also quarterly, the Minister will be responsible for analyzing the actual program performance achieved and assessing it against the performance goals set out in the Strategic Plan. The outcomes of this performance measurement will be presented to the Municipal Board every four months. Finally, so that the Strategic Plan continues to be responsive to a changing environment, an annual review and update will also be conducted and the results presented to the Municipal Board.

An effective monitoring programme is essential to provide information against which the plan's performance is measured. For example monitoring waste information over time can indicate the extent of change in the community's behaviour and this in turn will provide an indication of waste generation in the future.

6.2.2.1 Monitoring Activities

Monitoring of activities will be managed through:

- The Municipal Board (MB), the Implementation Action Committee (IAC) and stakeholder consultation forums; fully established and functioning.
- Established functioning communication channels between tiers of management structures.
- Established review committees in provincial/local environmental departments.
- Situation Analysis and Needs Assessment Report for hazardous, general and industrial waste published.
- Participation of stakeholders throughout the process.
- Public awareness campaign material developed and distributed.

- Public awareness campaigns implemented.

In order to ensure effective implementation of this Action Plan, ongoing liaison and information transfer between national, provincial and local government is essential. Monitoring should focus on the short-term objectives of the WM planning process to assess current problems and hurdles and to re-evaluate the implementation programme for the short, medium and long terms. Monitoring of activities will therefore determine to what extent targets are being met. Overall monitoring activities would include:

6.2.2.1 Solid Waste

- A regulatory programme for solid waste management compliance and permitting activities.
- Processes permit applications for solid waste facilities such as resources recovery facilities, transfer stations, recycling and composting facilities, landfills, ash monofills sites, biomedical waste treatment facilities, incinerators, other volume reduction facilities, and special waste facilities.
- Reviews and approves plans for the operation of solid waste facilities, landfill closure plans, and remediation of improper solid waste management practices.
- Reviews and tracks permit compliance monitoring data.
- Conducts compliance inspections of solid waste facilities and investigates complaints.
- Initiates enforcement actions in response to violations of solid waste laws, regulations, and permits.
- Works with regulated community to ensure permit compliance.
- Monitors biomedical reporting and tracking programs.
- Processes registrations for general permits.
- Volumes of waste generated, recycled and disposed
- Recycling and composting initiatives
- Illegal dumping and littering.

- Effectiveness of legislation, regulations, ordinances and/or by-laws.
- Complaints received regarding poor waste management.
- Finances, such as expenditure and income, payment for services, and recovery of costs

6.2.2.1.2 Hazardous Waste

- Process permit applications for the treatment, storage and disposal of hazardous wastes
- Conducts inspections to determine compliance at hazardous waste generators, treatment, storage, and disposal facilities.
- Initiates enforcement actions in response to violation of hazardous waste laws, regulations, and permits.
- Oversee facility closure construction and post closure care at facilities where all the contamination has not been removed.
- Review and approves corrective action plans which address contamination caused by historic waste disposal practices treatment, storage, and disposal facilities.
- Issue temporary identification numbers for hazardous waste facilities and generators.
- Processes hazardous waste generator reports and status changes.
- Administrators hazardous waste reporting.
- Authorizes disposal of special waste other than asbestos waste.

6.2.2.1.3 Fiscal and Administrative Management

- Prepares the municipal capital and operating budgets; grant applications; and fiscal plans.
- Oversees the municipal waste operating budget.
- Coordinates human resources development.
- Directs Solid Waste Program grant funds for solid waste facilities.

- Directs Cost Recovery Program to ensure costs incurred to mitigate spills/pollution are recovered.
- Administers contracts and grants for special municipal projects.
- Provides administrative support for municipal divisions.

6.2.2.1.4 Facility Training and Certification

- Develops and conducts training courses for landfill, transfer station, resources recovery, and recycling facility operators.
- Assesses operator qualifications.
- Certifies solid waste facility operators.

Performance indicators or monitoring indicators and feedback mechanisms are required so that the effectiveness of waste management projects can be assessed and corrective action may be taken if performance does not meet expectations.

The Musina Municipality will produce an Annual Monitoring Report on implementation of the IWMP for the municipality. This will be forwarded to both the Municipal Board as well as Limpopo DACEL for evaluation as part of their information requirements on the success of implementation and sustainability of the IWMP. All aspects of the plan, which have been implemented, should be monitored and evaluated according to its success rate.

6.2.3 Evaluation

The WMP has mainly focused on the short-term period and is intended to cover the period from 2005 to the end of 2007. The medium (2007-2011) and the long terms (2011-2015) have been looked at in broader terms as the activities and strategies, which need to be developed in these periods, are dependent on the outcome of the short-term period. After completion of the implementation of this Action Plan for integrated waste management planning in the year 2007, the plan

will be evaluated by Musina Municipality, in consultation with the IAC, the provincial environmental departments, local government and other stakeholders through consultative forums. An evaluation report on the achievement of the immediate objectives and delivery of all outputs within the specified timeframes will be prepared by relevant body appointed by the municipality. The evaluation report will include conclusions and recommendations for the next four-year Action Plan (medium-term), which will be discussed with stakeholders.

Based on the results achieved by the short-term Action Plans, the medium and long-term plans of the NWMS will be reviewed and revised, if necessary. On this basis, municipality will prepare a new generation of Action Plans in order to achieve the medium and long-term objectives of the Musian Waste Management Plan.

A performance review should be undertaken to determine the level of success of the implementation of the plan. The reason for reviewing the plan and its implementation on a regular basis is to ensure its practicality, suitability and usability. The level of performance can only be determined and reviewed by monitoring. It is proposed that the plan be reviewed on a two-year cycle.

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ENVIRONMENTAL MANAGEMENT PLAN

The section serves to develop guidelines, processes and procedures that ensure that the environment is not detrimentally affected by development.

EMP is described as a plan or programme that seeks to achieve a required end state and describes how activities that have or could have an adverse impact on the environment, will be mitigated, controlled, and monitored.

The EMP will address the environmental impacts during the design, construction and operational phases of a project. In order to achieve a number of environmental specifications/recommendations are made. These are aimed at ensuring that the contractor maintains adequate control over the project in order to:

- Minimise the extent of impact during construction.
- Ensure appropriate restoration of areas affected by construction.
- Prevent long term environmental degradation.

Strategic objectives have been formulated as a means to managing and minimizing the impact of development on the environment. The approach used included formulating management criteria that would retain the environmental opportunities as well as setting requirements to ensure that environmental constraints are identified early in the development cycle. Management requirements follow best practice approaches and minimum requirements from a legal compliance point of view.

Action plans are provided that will ensure that the strategic objective is implemented that was set as a tool to reach the Desired State of Environment.

Indicators serve to track performance in relation to the specific strategic objectives and are important for:

- Keeping people informed on progress;
- Monitoring the implementation of specific targets and measures that emerge from the strategies;
- Enable comparison and benchmarking⁷.

Various sustainability indicators⁸ are provided for the purpose of assessing environmental performance. These provide a first list of potentially suitable indicators that should be refined and applied according to the resources in the relevant authorities. It is not practical at this point to set neither the precise indicators nor the responsible authority without first evaluating the existing systems and resources that are in place.

A useful procedure for selecting relevant indicators⁹ is as follows:

- They are clearly linked to the strategic objective;
- They are useful for decision making;
- They are meaningful to staff;
- They can be used in stakeholder communication;
- They are cost effective to implement, making use of existing data wherever possible;
- They are suitable for intra industry comparison;
- They are consistent across sites and over time;
- They are quantifiable when possible;
- They are few in number.

It should be noted that the purpose of environmental indicators is to track management efforts and responses to changes or trends in the landscape. The selection and delegation of responsibility for implementation and checking relevant indicators rests with the appropriate authorities. This has not been specified as the roles and responsibilities between relevant departments span many levels and areas. Co-operative governance and a joint agreed upon proposal and strategy to monitor performance indicators will therefore be necessary.

GEOLOGY

Objectives

- Geotechnical investigation and related studies should be undertaken in the area where development will occur in order to determine the specific measures necessary to mitigate impacts such as blasting, cracking, collapse, etc.
- Only development that is suitable to the site should be supported.

SOILS

Objectives

- No soil loss from exposed or disturbed areas should occur. Erosion control techniques must be implemented in areas likely to erode including exposed surfaces, channel banks, sloping areas, un-vegetated areas, and areas that have been degraded or disturbed.
- Development on these soils must be suited to overcome the constraints of the site. This will require the use of suitable foundations, adequate drainage, appropriate service (i.e. sewage) provision, etc.
- The original soil profile should be replaced during construction activities or where other forms of excavation occur.
- Topsoil shall be removed from all areas where physical disturbance of the surface would occur and shall be stored and adequately protected.
- The contractor shall provide for the stripping and stockpiling of topsoil from the site for later re-use.
- The Contractor shall ensure that minimal amounts of topsoil lost due to erosion, either by wind or water be replaced by unused garbage.
- Areas to be topsoiled and grassed shall be done so systematically to allow for quick cover and reduction in the chance of heavy topsoil losses due to unusual weather patterns.

- The Contractor's programme shall clearly show the proposed rate of progress of the application of topsoil and re-vegetation (should re-vegetation be necessary). The Contractor shall be held responsible for the replacement, at his own cost, for any unnecessary loss of topsoil due to his failure to work according to the progress plan approved by the Environmental control officer (ECO).
- The Contractor's responsibility shall also extend to the clearing of drainage or water systems that may have been affected by such negligence within and beyond the boundaries of the construction sites.
- Top soil should be stockpiled separately to sub-soils to allow for this process.
- Suitable infrastructure and appropriate agricultural practices should be encouraged (e.g. cultivation of maize, cotton and sunflower) that is to say proposed development should be compatible with the type of soil that is present at the particular area.
- Where development activities are proposed on the Arcadia soil type, then a detailed geotechnical assessment must be undertaken by the developer. This assessment must indicate the development area affected by the soil type, the mitigation measures to prevent collapse and cracking (i.e. foundation designs) and measures to safeguard the installation and integrity of the services.
- Development on the Mispah soil must be limited by the presence of rock and shallow soils. Blasting activities will therefore be required and these impacts will need to be managed and mitigated. Similarly, owing to the shallowness of the soil and the often steep slopes upon which this soil occurs, it will be necessary to ensure adequate and appropriate storm water control to limit erosion.
- Where blasting activities are required for development purposes then a detailed EMP must be compiled by the developer. This must specify how the blasting is to be controlled, when it is proposed to occur, equipment that will be used and the potential impact on the surrounding property owners and members of the public.
- A storm water management plan should be drawn up for all development sites.
- The local authority must be notified of the date and times when the blasting activities are to occur.

TOPOGRAPHY

Objectives

Significant cut and fill should be discouraged unless it can be adequately mitigated

- Cut and fill slopes shall be shaped and trimmed to approximate the natural condition and contours as closely as possible and, where possible, be undulating.
- Levels incongruous to the surrounding landscape shall be reshaped using a grader and other earthmoving equipment.
- All cut and fill slopes shall be left as rough as possible, and shall contain ledges to facilitate the accumulation of topsoil. The ledges shall be dug at random to appear natural.
- Linear impacts (i.e. pipelines, power lines, gas pipes, roads, and railway lines) should be discouraged in the sensitive areas and adequate mitigation to minimize their impact must be implemented.
- Protect the existing demarcation of the Protected Natural Environment. Low impact development activities should be supported within this demarcation. This would include for instance compliance to the regulations published under Administrator's Notice 127 (4 May 1994) of Section 16(2) of the Environment Conservation Act (73 of 1989).
- The development of ridges should be prevented. This should prevent activities from breaking the skyline, becoming visually obtrusive or occurring on steep slopes.
- Development activities should not be supported on slopes greater or equal to 8° .
- Development on ridges should be visually unobtrusive and include lighting that is focused downward (i.e. not dispersive lighting).
- Activities that generate significant noise should not be encouraged on ridges that would create nuisance noise in down slope areas.
- The gradient of the midslope should be used to determine the appropriate type of development.

- Development should be encouraged on the undulating plains around Musina, but this will need to take into consideration the existing constraints.
- River floodplain should be retained as a natural corridor within the 1:100 year flood line level. Development activities outside this zone should be compatible with the surrounding area. The floodplain should be rehabilitated in order to improve the quality of the area. The habitat integrity within the entire River course should be maintained.
- Remove all exotic species growing within the River Floodplain.
- Limit further development activities until adequate and suitable service provision is made available.
- Encourage the planting of indigenous trees and shrubs.
- Construction of bulk infrastructure across rivers should compile a complete EMP.
- The natural stream and stream tributary flood plains should be retained in their existing state. Efforts to remove exotic species should be encouraged. Erosion protection and storm water control should be implemented in areas where localised flooding and erosion occur.
- Floodplains of stream and tributaries that have already been altered by development activities should be rehabilitated. This should include the use of retention ponds, gabions, planting indigenous trees & shrubs, etc.
- Development that occurs on the fringes of such areas should be green.
- An adequate “buffer area” should separate the floodplain from developments.
- Remove all exotic woody species and invader plants.
- Insert storm water control points such as gabions, retention ponds, and riffle beds in appropriate positions to limit the impact of peak flows.
- Prevent planting of Kikuyu as lawns on properties adjacent to streams and rivers.
- Control erosion and siltation.

- Ensure that development activities do not obstruct or significantly undermine the ambience of the area.

HYDROLOGY

Objectives

- No alteration of stream or river courses should be made (including damming/water impoundments) without approval from the relevant authorities (DWAF).
- Pollution control should be identified for all development areas. Pollution control in these areas should be regularly enforced by the relevant authorities.
- Point and non-point pollution sources must be addressed in an effort to improve water quality.
- Measures that are necessary should be taken to control siltation on an on site basis so that impacts further downstream can be mitigated.
- Storm water management plan for the study area should be compiled.
- Storm water management plans for development areas should be compiled.
- Gabions, retention ponds must be constructed to limit the impact of peak flows in areas prone to erosion (steep slopes, vertic soils).
- Soil erosion and siltation on development sites and within the study area should be controlled.
- Exotic and invader species within the floodplains of the streams should be removed.
- Storm water management plan for the study area as well as storm water management for development areas must be compiled.
- Gabions or riffle beds, retention ponds must be constructed in order to limit the impact of peak flows.

- An integrated catchment management plan, involving the participation of communities and civil society in the planning and management of river systems via forums, should be developed. This should culminate in the development of relevant by laws for the control and management of storm water, water quality, runoff, flooding, etc.

WATER QUALITY

Objectives

- The quality of the water in the streams, rivers and dams must be improved such that it is potable.
- All water resources should comply to the minimum requirements as set by the Department of Water Affairs & Forestry Target Water Quality Guidelines for domestic use.
- Development activities should further include controls on the management of sewage and waste in the upper reaches of the catchment in order to circumvent cumulative impacts on the River.
- Control needs to be exercised on the inadequate provision of services (especially sewage treatment) that influences the River. The sewage works north of the study area is incapable of dealing with the demand and the impact of peak flow during heavy thundershower events. This sewage works station must be upgraded.
- It is necessary that control be exercised on the use of fertilizers in the study area, especially along the banks of the Rivers and Dams that are found at the study area.
- Ground water quantity and quality must be protected for the use as potable water supply in the agricultural sections of the study area.
- Control of land use must be exercised to mitigate the impact of sewage contamination in these areas, until adequate services are in place.
- The uncontrolled abstraction of ground water from the aquifer must be prevented.

- Borehole use must be registered and appropriate studies by professional parties must be undertaken to motivate the need and assess the impact of ground water abstraction.
- Residential development should not be facilitated without formal water services. Informal settlements should be avoided.
- All development proposed in non-serviced areas must submit water requirements and water availability figures.

ECOLOGICAL SYSTEMS

Objectives

- Core areas should be used for the purpose of environmental awareness.
- The ecological integrity of these areas must be maintained by means of preventing degradation, erosion, loss of biodiversity, accumulation of waste, inappropriate development, etc.
- Compile a detailed inventory of all the core areas.
- Establish a management framework for the protection and utilization of these areas.
- Public Private initiatives should be considered to retain these areas.
- Connector areas must be protected against developmental damage and disturbed areas must be rehabilitated. Riverine vegetation must be conserved and sufficient buffer areas must be maintained between the connector and the surrounding development.
- Retain connector areas free from development except passive recreation development.
- Rehabilitate all areas within the connector areas that have been degraded and disturbed.
- Compile a detailed inventory of all the connector areas.
- Establish a management framework for the protection and utilization of these areas.

- Intermediate areas should be conserved as open space in the natural landscape with limited recreation orientated development where the connectivity function of the areas is not compromised. The role of intermediate areas in the open space system must be re-assessed should development be proposed in these areas.
- The ecological integrity of these areas must be maintained by means of preventing degradation, erosion, loss of biodiversity, accumulation of waste, inappropriate development, etc.

FAUNA

Objectives

- The habitats and potential occurrence of sensitive bird species should be assessed before development is approved. Suitable habitats should be conserved where possible or mitigation measures provided to decrease impacts.
- Conservation of sensitive bird species can be conveyed to the public by developing educational bird outings and volunteer ‘watch dog’ organisations.
- A list of Red Data avifauna policy for the study area must be compiled. This should list those species under threat, reasons for their demise and measures that must be taken to ensure for their continued existence, including access to adequate and appropriate areas of suitable habitat condition.
- Areas that serve as habitat for sensitive avifauna must be protected.
- The habitats and potential occurrence of sensitive herpetofaunal and lepidoptera species should be assessed before development is approved. Suitable habitats should be conserved where possible or mitigation measures provided to decrease impacts.
- Assessments to determine the significance of impacts on the Herpetofauna must be conducted at the suitable time of year.
- The introduction of exotic faunal species into the area should follow the correct legislated procedures.

- A list of Red Data herpetofauna policy for the study area must be compiled. This should list those species under threat, reasons for their demise and measures that must be taken to ensure for their continued existence, including access to adequate and appropriate areas of suitable habitat condition.
- Development applications that are proposed in areas containing sensitive herpetofauna habitat must include a specialist investigation detailing the potential impact and relevant mitigation measures.
- Areas that serve as habitat for sensitive herpetofauna should be protected.
- The habitats and potential occurrence of butterfly and sensitive butterfly species should be assessed before development is approved. Suitable habitats should be conserved where possible or mitigation measures provided to decrease impacts.
- Assessments to determine the significance of impacts on the Lepidoptera must be conducted at the suitable time of year.
- The habitats and potential occurrence of sensitive invertebrate species should be assessed before development is approved. Suitable habitats should be conserved where possible or mitigation measures provided to decrease impacts.
- Assessments to determine the significance of impacts on the other invertebrates must be conducted at the suitable time of year.
- The habitats and potential occurrence of mammals and sensitive mammal species should be assessed before development is approved. Suitable habitats should be conserved where possible or mitigation measures provided to decrease impacts.
- Assessments to determine the significance of impacts on the mammals must be conducted at the suitable time of year.

FLORA

Objectives

- Areas that are disturbed and devoid of natural vegetation should be rehabilitated with indigenous species. A basal cover of 60% should be established on the rehabilitated site within a year.

- Alien/invasive species should be removed, either mechanically or chemically, from sites. National programmes such as the Department of Water Affairs & Forestry Working for Water programme should be used to assist in this.
- Individual landowners should be encouraged to remove exotic species from their properties.
- A fire management system is required in areas subject to frequent fires.
- A vegetation assessment including a Red Data scan should be completed if development is proposed in the bushveld vegetation type.
- Natural elements of this vegetation types should be included in the township layout.
- Mature indigenous trees should be included in the layout plans.
- Red Data species potentially or actually occurring on site should be listed.
- An assessment of the site for potential Red Data and other sensitive species should be undertaken.
- *Bushveld trees should be maintained as far as possible.*
- Habitat connectivity between properties should be maintained.
- A vegetation scan and Red Data scan can be considered if the site has severely been affected by agricultural or development related activities.
- Drainage lines, floodlines and water quality should be protected.
- *Natural savanna (trees and grassland) should be maintained as natural features.*
- A Vegetation Assessment including a Red Data scan should be completed if development is proposed in this vegetation type.
- A Vegetation Scan and Red Data Scan can be considered if the site has severely been affected by agricultural activities.
- Mature indigenous trees should be included in the layout plans.

- Red Data species potentially or actually occurring on site should be listed.
- An assessment of the site for potential Red Data and other sensitive species should be undertaken.
- Appropriate mitigation measures that protect suitable sensitive species habitat must be derived.
- Wetlands should be maintained and incorporated into development where possible.
- *Wetlands should not be drained for agricultural purposes.*
- *Mining of wetlands for peat should follow the correct legislated procedures.*
- *Diversion and damming of streams/rivers should follow the correct legislated procedures.*
- Exotic vegetation should be removed and controlled as per the guidelines provided in the Status Quo report.
- Mature indigenous trees should be included in the layout plans.
- Red Data species potentially or actually occurring on site should be listed.
- An assessment of the site for potential Red Data and other sensitive species should be undertaken.
- Appropriate mitigation measures that protect suitable sensitive species habitat must be derived.
- *Development should not be allowed to encroach upon pans. A buffer area should be determined to protect the pan from surrounding land uses and activities. Pans should not be drained or used for storm water runoff collection points.*
- Educate and inform the public of the legislated guidelines and status of the various exotic species in order to regulate the already existing ones and their spread.
- Red Data species should be protected *in situ*. The habitat of Red Data species should be preserved without degradation.

- Protected Plant (sensitive and/or Red Data and Medicinal plants) species should be protected *in situ*. Alternatively protected plants may be relocated to a similar habitat in the site (in the open space areas) or to a natural area in close proximity to the site. The guidance of a botanist and/or horticulturist should be obtained for this purpose.
- *Medicinal Plant Species should be protected in situ. Alternatively protected plants may be relocated to a similar habitat in the site (in the open space areas) or to a natural area in close proximity to the site. The guidance of a botanist and/or horticulturist should be obtained for this purpose.*
- A protective natural buffer area, to be determined by a professional botanist, should be maintained around plant populations in order to protect the plant from human related activities associated with development.
- An assessment of the site for potential Red Data and other sensitive species should be undertaken.
- *Appropriate mitigation measures that protect suitable sensitive species habitat must be derived.*
- *Appropriate mitigation measures, in association with a botanical expert, should be obtained when the species are to be impacted upon.*
- *The study area should be assessed with regards to the most popular medicinal plants that may potentially become Red Data plants in the foreseeable future. A management strategy in association with the users as well as nurseries should be established to maintain sustainable utilization patterns.*
- A medicinal plant policy should be compiled for species in the study area. This should include measures to manage the occurrence, collection, impact and relocation of such species to suitable habitat or areas for protection or use.

CULTURAL / HISTORIC FEATURES

Objectives

- The cultural / historic features of the area should be retained in their current form and / or rehabilitated to ensure for their preservation. Efforts to better integrate development with the occurrence of these features should be encouraged.

- Compile an inventory of all the cultural historic sites in the study area.
- Determine the significance of each site.
- Formulate strategies for managing the rehabilitation and utilisation of this national asset.
- Encourage private sector involvement in promoting access and management of the resource.
- Move the appropriate cultural historic features to sites where they can be viewed and accessed (i.e. museums).

SOCIAL FEATURES

Objectives

- Create opportunities for employment.
- Provide adequate infrastructure
- Encourage recycling of waste
- Prevent litter accumulation by educating the community on waste management issues.
- Provide housing of suitable standard.
- Provide the appropriate services.
- Prevent crime and illegal activities.
- Retain open spaces in the urban areas so as to promote a healthy living environment.
- Promote environmental education.
- Implement greening of urban and residential area initiatives.

AIR QUALITY

Objectives

- The air quality of Musina should be maintained according to the requirements of the relevant authorities.
- Industries in Musina must adhere to the National Air Quality Guidelines.
- The Local Authority in association with Limpopo DFED and Limpopo DME must ensure compliance.
- No biomass burning shall be permitted without a permit.
- Exposed surfaces must be wetted or kept wet during windy periods to reduce dust.
- Soil that is transported must be suitably covered to prevent dust escape.
- Veld fires and the burning of fossil fuels for domestic purposes should be controlled and minimized by means of providing electrical power.
- Encourage the transformation and reliance of fossil fuels to energy sources such as solar heating, wind power and the like. This should be made available in housing developments.

The key actions to managing the air quality environment should include¹⁰:

- Determining population exposure and assessing health impacts;
 - Informing the public about air quality and raising awareness;
 - Identifying threats to natural ecosystems;
 - Determining compliance with national and international standards;
 - Source apportionment and identification;
 - Assessing point or area source impacts;
-

- Trend qualification, to identify future problems or progress against Management/ control targets.
- More accurate and up-to-date information on the baseline characteristics of the air quality in the study area is required.
- Pollutant levels within the study area should be compared to the World Health Organisation standards and standards of the Department.
- A strategy to control pollutants within the study area should be developed. Areas and activities for which pollution control is necessary include:
 - Emissions from stoves and camps associated with construction sites;
 - Emissions from the hospital;
 - Dust generated from vehicle activity on sand roads;
 - Emissions from point sources outside the study area (mining areas north east of the study area);
 - Vehicle movement within the industrial areas;
 - Emissions from the industrial areas;
 - Vehicle emissions.
- Appropriate mitigation measures include:
 - Preventing open fires such as frequent veld fires, ignition of waste”;
 - Providing electrical services to settlement areas;
 - Materials handling and processing;
 - Dust entrainment;
 - Dust abatement;
 - Storage of materials by means of wetting (i.e. soil stockpiles);;
 - Wetting exposed areas to reduce emissions from open areas;
 - Road cleaning and maintenance.
- Regular reports concerning the state and flux of the air quality of Musina should be available.
- Dust control is necessary including the creation of applicable regulations, limitations to biomass burning and emission control.

EVALUATION AND REPORTING SYSTEMS

A list of some common approaches is provided below that can be used to assess environmental performance:

- Monthly reporting of the various environmental attributes in the area (water quality, air quality, loss of agricultural land, etc.);
- Monthly assessment of the nature and type of development applications (i.e. EIA's, Scoping Reports, Exemption Applications);
- Monthly records on the progress of applications and problems experienced;
- Monthly records on the nature of environmental problems in the study area;
- Monthly records of non-compliance;
- Regular (quarterly) meetings with representative organizations that are affected by development planning;
- Provision of information quarterly reports on all of the above.

It will be necessary that the relevant authorities and Musina Local Council agree on the roles and responsibilities for collecting, analyzing and reporting functions as described above.

GENERIC IMPACTS AND ASSOCIATED MITIGATION MEASURES

This section provides a brief description of the most common impacts resulting from most projects and developments and a description of the associated mitigation measures (Table 3.1).

These list of impacts and mitigation measures are not exhaustive but are provided as a guide to assist the Municipality and those involved in activities and projects that may likely impact on the environment, developing or reviewing an Environmental Management Plan to understand which issues should be addressed as minimum requirement.

Table 3.1: Generic impacts and associated mitigation measures

Impact	Project phase	Mitigation measures	Performance specifications
Soil: Loss of top soil: (the essential substrate for plant growth and hence rehabilitation); Erosion; Compaction and crusting; Changes in soil properties (e.g. acidification and salinisation); Chemical contamination; Invasion of exotic biota.	Pre-construction; Construction; Operation	<ul style="list-style-type: none"> a) Prior to earthing operations all topsoil (top 300mm as a minimum) must be stripped and stockpiled separately from subsoil and rocky material. Soil must be stripped in a phased manner so as to retain vegetation cover for as long as possible. b) Stockpiled topsoil should not be compacted and should be replaced as the final soil layer. No vehicles may be allowed access onto the stockpiles after they have been placed. c) Stockpiled soil must be protected by erosion-control berms if exposed for a period of greater than 14 days during the wet season. d) To prevent topsoil from being spread out or mixed with the other spoil during the construction, soil stockpiles must not take the form of windrows. e) Topsoil stripped from different sites must be stockpiled separately and clearly identified as such. f) Topsoil stockpiles must not be contaminated with oil, diesel, petrol, waste or any other foreign matter, which may inhibit the later growth of vegetation and micro-organisms in the soil. g) Soil must not be stockpiled on drainage lines or near watercourses. h) Topsoil obtained from sites with different soil types 	Site establishment; Access roads; Combat erosion; Vegetation clearance; Topsoil; Erosion control; Slope protection; Storage facilities; Pollution prevention;
Impact	Project phase	Mitigation measures	Performance specifications

Impact	Project phase	<p>Mitigation measures</p> <ul style="list-style-type: none"> i) Soil must be exposed for the minimum time possible once cleared of invasive vegetation. The timing of clearing and grubbing should be co-ordinated as much as possible to avoid prolonged exposure of soils to wind and water erosion. j) Stockpiled topsoil must be either vegetated with indigenous grasses or covered with a suitable fabric to prevent erosion and invasion by weeds. k) All cut and fill surfaces need to be stabilized with appropriate material or measures when major civil works are complete. l) Erosion and Donga crossings must be dealt with as river crossings. Appropriate soil erosion and control procedures must be applied to all embankments that are disturbed and destabilized. m) Only limited vehicular access is allowed across rocky outcrops and ridges. n) All equipments must be inspected daily for oil or fuel leaks before it operated. Leakages must be repaired on mobile equipment or containment trays placed underneath immobile equipment until such leakage has been repaired. o) Soil contaminated with oil must: be dug up to 30cm below the saturated oil mark; or disposed at a permitted landfill site; or the soil can be 	Performance specifications
		<p>a) Adequate sedimentation control measures must be instituted at the any river crossings when</p>	Site establishment;

Impact	Project phase	<p>Mitigation measures</p> <p>excavations or disturbance of drainage lines of wetland may take place.</p> <p>b) Adequate sedimentation control measures must be instituted at the any river crossings when excavations or disturbance of riverbeds takes place.</p> <p>c) The batching plant must be positioned away from drainage lines, and measures to ensure that no polluted water enters a natural stream, i.e. more than 20m from the nearest stream/ river channel.</p> <p>d) All runoff from batching areas must be strictly controlled.</p> <p>e) Cement contaminated water must be collected, stored and disposed of at a site approved by Site Engineer.</p> <p>f) Waste concrete and cement sludge must be scraped off the site of batching plant daily and removed to an approved landfill site.</p> <p>g) Concrete shall not be mixed directly on the ground. Plastic liners or mixing trays are to be used.</p> <p>h) All fuel, chemical, oil, etc spills must be confined to areas where the drainage of water can be controlled. Use appropriate structures and</p>	<p>Vegetation clearance;</p> <p>Erosion control;</p> <p>Water quality monitoring;</p> <p>Offices & other structures;</p> <p>Storage facilities;</p> <p>Pollution prevention;</p> <p>Performance specifications</p>
<p>Invasion of alien invasive plants – reduction in quality and quantity of water;</p> <p>Invasion of alien invasive animals</p>		<p>methods to confine spillages such as the construction of berms and pans, or through the application of surface treatments that neutralise the toxic effects prior to the entry into a water course.</p> <p>i) Vehicle traffic across wetland areas must be avoided.</p> <p>j) No dumping of foreign material in streams, rivers and/or wetland areas is allowed.</p>	

Impact	Project phase	Mitigation measures	Performance specifications
		<p>k) Oil absorbent fibres must be used to contain oil split in water.</p> <p>l) A wetland area and/or river must not be drained, filled or altered in any way including alteration of a bed and/or, banks, without prior consent from DWAF and the relevant DEAT office. The necessary licenses must be obtained fro DWAF in terms Section 21 and 22 of the National Water Act, (Act 36 of 1998).</p> <p>m) No fires or open flames are allowed in the vicinity of the wetland, especially during the dry season.</p> <p>n) No swimming, washing (including vehicles and equipment), fishing or related activity is permitted in a wetland or a river without written permission from Environmental officer.</p> <p>o) The contractor must install and maintain mobile toilets at work sites.</p> <p>p) Maintain soil erosion structures such as stone pitching, gabions, etc to enable effectiveness.</p>	

Impact	Project phase	Mitigation measures	Performance specifications
<p>Flora:</p> <p>Loss of individuals of rare or endangered species;</p> <p>Damage to the integrity of the ecosystem functioning:</p>	Construction	<p>a) All rare flora and seeds must be rescued and removed from the site.</p> <p>b) Protected plants must not be cut or damaged in any way.</p> <p>c) The felling and/or cutting of trees and clearing of bush must be minimized.</p> <p>d) Any incident of unauthorized removal of plant material, as well as accidental damage to priority plants, must be documented.</p> <p>e) Transplanting of indigenous plants must be encouraged at all times. Trees and shrubs must be planted so that their stems or trunks are at the same depth as in the original location.</p> <p>f) Transplanted plants must be watered once a week for 5 weeks and therefore once every 2 weeks.</p>	<p>Site establishment;</p> <p>Access roads;</p> <p>Vegetation clearance;</p> <p>Planting;</p> <p>Fencing & gates;</p> <p>Destumping;</p> <p>Landscape rehabilitation;</p>
<p>Heavier utilization of medicinal and/or protected plants;</p> <p>Invasion of alien vegetation.</p>		<p>g) If any protected tree, identified in the site specific study, is felled, cut, pruned and/or, in the opinion of the environmental officer, is unduly damaged by the contractor, the contractor will pay a penalty (amount stipulated by DEAT) per tree.</p> <p>h) Trees selected for preservation in the site-specific study within or adjacent to the works areas must be fenced around their drip line. The fence must be clearly marked with danger tape. No open fires may be lit within this fenced area.</p>	
<p>Fauna:</p> <p>Loss of individuals of rare or endangered</p>	Construction; Operation	<p>a) No species of animal may be poached, snared, hunted, captured or willfully damaged or destroyed.</p> <p>b) Fishing is only allowed with the written consent</p>	<p>Site establishment;</p> <p>Protection of fauna;</p>

Impact		<p>species;</p> <p>Disturbance of fauna (e.g disrupted breeding of fish in dammed areas, and disturbed bird nesting areas);</p>	
		<p>Mitigation measures</p> <p>c) of the landowner and only when anglers are in possession of a Provincial Fishing License.</p> <p>c) Snakes and other reptiles that may be encountered on the construction site must not be killed unless the animal endangers the life of the employee.</p> <p>d) Anthills that occur must not be disturbed unless it is unavoidable for construction purposes.</p> <p>e) Any incidents of poaching willfully disturbance</p> <p>or damage to wild animals, as well as accidental damage to or death of wild animals must be recorded by the CR and made available to the EA on a weekly basis.</p> <p>f) Nesting sites of birds must not be disturbed.</p> <p>g) The contractor's representatives and environmental officer must ensure compliance with the relevant Nature Conservation Ordinances.</p> <p>h) The contractor's representative must ensure that domestic and native animals belonging to the Local Community are kept away from unprotected works.</p> <p>i) All animals injured on account of construction activities must be taken to the local SPCA. Dead animals must be disposed at a permitted landfill site.</p> <p>j) No pesticides must be used unless approved by the environmental officer, and may only be applied by an approved specialist.</p> <p>k) If water is dammed, an ichthyologist must be consulted, during the site-specific study, to</p>	Performance specifications

		<p>establish the impact on breeding patterns of the affected fish species. The environmental officer must ensure compliance with the findings of the investigation.</p> <p>l) Particular care must be taken to avoid nesting, breeding and roaming sites of animals in or adjacent to wetlands areas.</p>	
Impact	Project phase	Mitigation measures	Performance specifications
Dust: Odours –exhaust fumes; waste material; smoke.	Construction; Operation	<p>a) Speed limits must be enforced in all areas, including public roads and private property to limit the levels of dust pollution.</p> <p>b) Dust must be suppressed on access roads and construction sites during dry periods by the regular applications of water or a biodegradable soil stabilization agent. Water used for this purpose must be used in quantities that will not result in the generation of run-off.</p> <p>c) Suitable screening and containment measures must be in place prevent wind blown contamination.</p> <p>d) The site-specific investigation must quantify the impact of dust on nearby wetlands, rivers and dams in terms of sedimentation. All mitigation measures identified during the site specific study must be implemented.</p> <p>e) The environmental officer must notify all people living within 50m of the construction site of the proposed activities.</p> <p>f) In the event of serious levels of dust pollution, the implementation of constant dust monitoring</p>	

Impact	Project phase	Mitigation measures	Performance specifications
		<p>by qualified consultants must be undertaken.</p> <p>g) Waste must be allowed to stand on site to decay, resulting in malodours and attracting vermin. Waste must be disposed of at a municipal transfer station, skip or on a permitted landfill site.</p> <p>h) The contractors must stick to normal working hours between 07h00 and 17h00 Monday to Friday.</p> <p>i) The contractors must inform all adjacent landowners of any after-hour construction activities and any other activity that could cause nuisance e.g. the application of chemicals to the work surface</p> <p>j) The environmental officer or contractors representative must ensure that all vehicles comply with the SABS 0181 standards. Vehicles used on, or entering, the site must be serviced regularly to ensure that they do not emit smoke or fumes.</p>	
Noise:	Construction	<p>a) Noise control measures must be implemented. All noise level must be controlled at the source. If the noise level at the boundaries of the site exceed 7Db above ambient levels, the local health authorities must be informed.</p> <p>b) All employees must be given the necessary ear protection gear.</p>	<p>Noise control; Blasting</p> <p>Performance</p>

Impact	Project phase	Mitigation measures	specifications
		<p>c) Affected parties must be informed of the excessive noise factors.</p> <p>d) Pumps must be housed in a brick building to help reduce any noises when the pump is in operation.</p> <p>e) Affected livestock farmers must be informed of excessive noisy activities a month in advance. This will enable them to take appropriate steps to prevent disturbance and possible injury to livestock e.g. moving the livestock to distant camps.</p> <p>f) The relevant by-laws and regulations must be adhered to. These laws include: Environmental Conservation Act, 73 of 1989, Occupational Health and Safety Act, 85 of 1983 and Provincial and local by-laws. These laws regulate noise control.</p> <p>g) Soft explosives and/or noise mufflers must be used during blasting to minimize the impact on humans and animals.</p> <p>h) No loud music is allowed on site and in construction camps.</p>	
Impact	Project phase	Mitigation measures	Performance specifications

Aesthetics: Reduced sense of place and tourism potential of the area; Reduced visual integrity	Construction; Operation	<ul style="list-style-type: none"> a) Damage to the natural environment must be minimized b) Trees and tall woody shrubs must be protected from damage to provide a natural visual shield. Excavated material must not be placed on such plants and movement across them must not be allowed. c) The clearing of sites must be kept to a minimum and surrounding vegetation must be left intact as a natural shield. d) At construction sites in densely vegetated areas, the vegetation must be cut at angles of 45 degrees from the bottom to minimize any visual impact. e) Marking for surveying and other purposes must only be done with pegs and beacons. Painting and marking of natural features must not be allowed. f) All waste concrete/cement shall be removed together with contaminated soil after the completion of the project. g) Where existing access routes and borrow pits have been overgrown with vegetation such surfaces must not be graded. h) Borrow pits must be shaped to have undulating slopes and surfaces such that they blend into the natural landscape as much as possible. 	Access roads; Combat erosion; Vegetation clearance; Slope protection; Shaping and trimming; Aesthetics; Offices & other structures; Blasting; Landscape rehabilitation;
Impact	Project phase	Mitigation measures	Performance specifications
		<ul style="list-style-type: none"> i) Blasted areas and cut and fill slopes must be as rough as possible such that the natural surroundings are emulated as far as possible and that the jagged ledges facilitate the accumulation of soil and the subsequent establishment of vegetation. 	

Impact	Project phase	Mitigation measures	Performance specifications
		o) Contaminated soil must be treated and disposed at a permitted waste disposal site, or be removed and the area rehabilitated immediately.	
Disturbance of archaeological areas	Construction	a) Work in areas where artifacts are found must cease immediately. The environmental Officer must be notified immediately and Global Positions System reading must be taken. b) The excavation must be examined by an archaeologist as soon as possible. The EA will	

Impact	Project phase	<p>advise the Contractor of necessary actions to be taken after receiving advice from the archaeologist. All necessary actions to ensure that delays are minimized must be taken.</p> <p>c) Under no circumstances must the contractor, his employees, his sub-contractor's employee remove, remove, destroy or interfere with archaeological artifacts. Any person who causes intentional damage to archaeological or historical sites or artifacts could be penalized or legally prosecuted in terms of the National Heritage Resources Act (Act 25 of 1999).</p> <p>d) All known and identified archaeological and historical sites must be left untouched. No stones or rocks must be removed from such sites.</p> <p>e) The contractor's representative must ensure</p>	Performance specifications
		<p>that employees do not gain access to any archaeological areas (whether fenced or unfenced), expect when authorized to do so by the environmental officer.</p>	
Relocation of homesteads or community due to project	Planning; Construction	<p>a) Owners of Land to be expropriated must receive compensation in terms of Expropriation Act, Act 63 of 1975;</p> <p>b) An extensive public participation must be undertaken allowing a decision making process that is based on rights and risks culminating in negotiation to benefit sharing, resettlement and compensation;</p> <p>c) Project must be planned in consultation with the local community leaders.</p> <p>d) Resettlement action plan and development programmes for the displaced must be planned</p>	Site establishment

Impact	Project phase	<p>in advance. This must be done in accordance with the S&ES standards Resettlement Action Plan;</p> <p>e) If required, provision of temporary accommodation must be planned in advance.</p> <p>f) Ongoing liaison with community leaders/representatives must be maintained in order to tract any problems with the relocations.</p> <p>g) Affected people must be empowered to participate effectively in the process.</p>	Performance specifications
Direct or indirect loss of essential resources	Construction; Operation	<p>a) The amount of essential resources lost must be minimized through alternative project design</p> <p>b) Damaged to crops or other food resources must be compensated for.</p>	Site establishment
Disturbance of graves	Planning; Construction	<p>a) Any graves situated in the construction site or area of inundation in case of dams must be dealt with according to the Exhumation Laws of the Provincial Government and with the bye-laws of the Local Municipality Authority.</p> <p>b) If a graveyard is discovered, the Environmental Officer (EO) must be contacted immediately. The relatives of the deceased must be contacted immediately. The local chief, SAHRA and local Authority must also be informed of the situation.</p> <p>c) The relatives must be informed should a grave need to be moved. The exhumation of bodies must be executed in the local traditional manner and affected families allowed sufficient time to perform any traditional rituals.</p> <p>d) All finds of human remains must be reported to the</p>	Site establishment

Impact	Project phase	Mitigation measures	Performance specifications
Disruption of services	Construction;	<ul style="list-style-type: none"> a) Where service disruption is inevitable, the contractor must advise the Project Manager at least 7 days in advance, allowing enough time to inform affected parties. b) A complaints register must be maintained on site and must include contact details for complaints by the public in accordance with details provided by the Engineer. c) Updated information boards must be maintained on site and must include contact details for complaints by the public in accordance with details provided by Engineer. 	Site establishment
Employment prospects	Planning; Construction; Operation	<ul style="list-style-type: none"> a) The project must be planned in consultation with local authorities and aligned with local plans such as IDPs. b) Labour intensive method must be used where feasible, cost effective and not time constraining. c) Local labour must be employed as far as possible. d) Training of the unskilled labour must be undertaken. e) Local suppliers must be used, as far as possible. 	Site establishment

4 IMPLEMENTATION STRATEGIES

Below are given a list of items that require implementation in order to ensure that the EMP has effect in the study area

Steps necessary for implementing:

- EMP must be adopted by local Department of Finance and Economics (Environment section) for the purpose of reviewing development applications and managing the environment for sustainable development;
- The Musina Local Municipality must adopt the EMP for use in spatial planning and environmental management for sustainable development;
- The EMP must form part of the tender requirement for a new Development;
- The EMP must be included into future revisions of the IDP;
- An environmental management framework, that sets more precise management, monitoring and reporting systems, must be formulated for the study area. These EMF's must incorporate the principles of the EMP;
- Commence programmes to collect, measure, assess and validate key environmental performance indicators;
- Municipality to facilitate consultation with the relevant authorities and organizations for the purpose of implementing the recommendations in the EMP;
- Revision of the decision making process and management requirement of local development facilitation and economic development to be undertaken;
- Information documents to be made available to I&AP's for use and application. This can include access to the GIS Viewer application via a web site;
- To research and confirm a data base of all farms and properties on which Red Data Species occur or are likely to occur;
- Limpopo Spatial Development Initiative be used to provide information on the occurrence and diversity of biota;
- SAHRA to determine and confirm the status and occurrence of cultural historic sites in the study area;
- SAHRA to examine the opportunity and requirements for establishing a Musina Ramble of archaeological sites, historic sites, natural history sites and areas of ecological value;
- Develop a work plan detailing key activities, anticipated completion dates and responsibilities;
- Organize a project team to guide the process of EMP implementation;
- Assess the success of implementing the EMP;
- Public Private partnerships to be considered for the creation of core and intermediate areas, cultural historic sites as well ways to upgrade and provide services in the study area.

5 ROLES AND RESPONSIBILITIES

To ensure efficient and effective Environmental Plan implementation, roles and responsibilities should be clearly assigned to all EMP, including:

- Musina officials,
- environmental Health Practitioners,
- environmental Officers,
- environmental Consultants,
- relevant Environmental Authorities,
- consulting Engineers,
- contractors, and
- The public.

5.1 Implementing Agent

The implementing agent, which is a person or organization that will implement the project, is responsible for the implementation of the EMP, however, the liability of non-compliance rests with Musina Municipality.

The Municipal environmental officials should be given specific projects to handle as environmental advisors for the duration of the project. The contractor is answerable to the environmental advisor for non-compliance with the requirements of the EMP.

5.2 Project Manager

The project manager must ensure that the scope of work of the project includes environmental supervision. The implementing agent is answerable to the project manager for all environmental issues associated with the project and Environmental Advisor must give direct feedback to the project manager regarding all environmental issues.

5.3 Environmental Consultant

An independent Environmental consultant s may be appointed for certain projects and would be responsible for the following:

- Ensuring compliance with the EIA regulations for listed activities, conditions of the Record of Decision and requirements of the EMP,
- Reporting all environmental incidences to the environmental advisors
- Completing the Environmental Compliance Checklist for listed activities

- Giving site instructions to the contractor, when it is stated in the record of decision that the contractor should be monitored, and
- liaison with the environmental advisor.

5.4 Consulting Engineer

For many projects, consulting engineers may be appointed. Consulting engineers are involved with the planning and design phase of the project and must ensure that the requirements of the EMP are enforced during these phases. The engineer should also ensure constant consultation with the in depended environmental consultant and environmental advisor.

5.5 Operations and maintenance manager

Operations and maintenance manager, his/her representative is responsible for the on-site implementation of the EMP during the operational phase of the project and is answerable to the environmental advisor for non-compliance.

5.6 Contractor or his/her representative

The contractor or his/her representative is responsible for the following:

- Ensure transparent and open communication for reporting significant environmental incidents to the relevant authorities and environmental advisor within 24 hours of occurrence and maintain a photographic record where necessary,
- ensure that all complaints and concerns from the public, interested and affected parties are resolved and addressed immediately,
- ensure continues auditing of the project for adherence to the document, identification of problem areas and provision of action plans to avoid costly stoppages and further environmental damages,
- Conduct regular site audits during the construction phase and subsequent phases,
- Submit compliance reports to the environmental advisor at the stipulated frequency and
- Ensure that the development site is cleared and rehabilitation is done according to the specifications as set out in this document.

5.7 Environmental officer/advisor

The environmental officer will liaise with the municipality, engineer, environmental consultant, contractor, commissioners, decommissioners operations and laitance managers on all environmental concerns.

The advisor is responsible for monitoring the performance of the contractors, issuing of site instructions and assisting in the resolution of conflicts.

The officer will compile a monitoring and auditing plan to ensure that the environmental management measures are implemented and are effective.

6 CONCLUSION

The Status Quo Assessment for Musina Municipal Area has indicated an environment in a rapid state of change. Development pressures are exerting a number of impacts on the biophysical as well as socio-economic environment in the form of decreased air reduced water quality, loss of natural land, loss of agricultural land, increased traffic and congestion, increase in the number of illegal activities, noise pollution, litter and illegal waste dumps, inadequate service supply and delivery, lack of enforcement and several other impacts.

The pressure of farming and development in the study area are likely to increase in the short term and it is therefore imperative that systems be put in place to manage and mitigate these impacts.

The EMP thus presents the requirements, processes and procedures necessary to ensure that the environment is not detrimentally affected by development and that such development can be environmentally sustainable over the long term.

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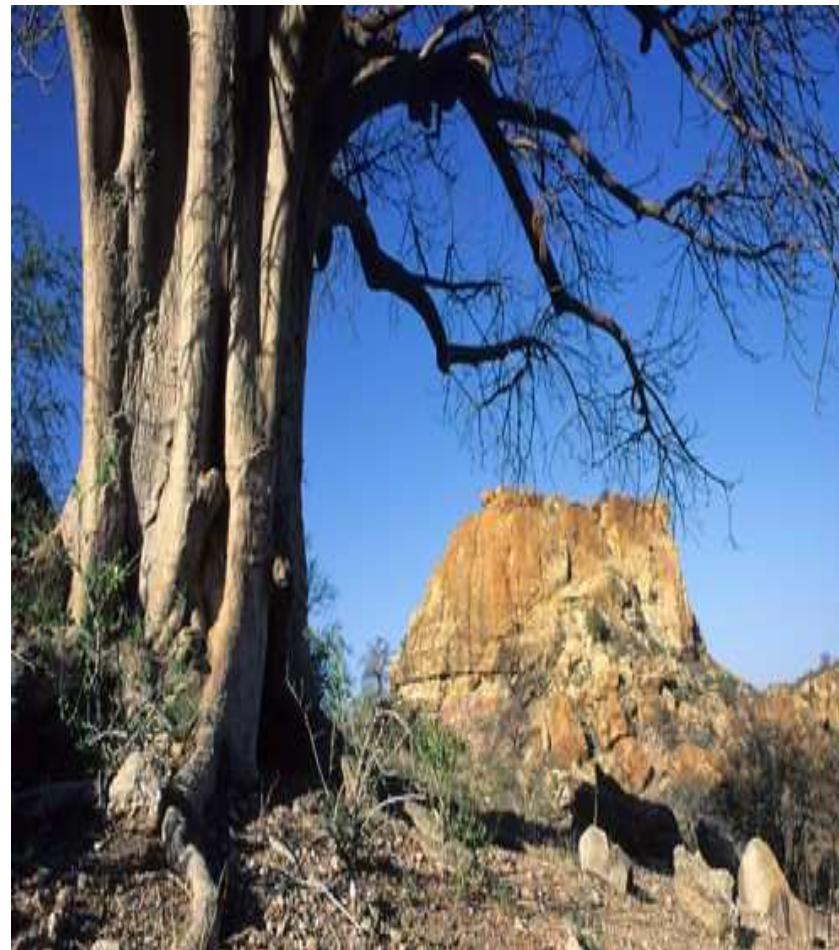
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TOURISM PLAN FOR MUSINA MUNICIPALITY

OUTLINE



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1. Introduction

Tourism still plays a relatively small role in the South African economy and it has a long way to go if it is to fulfill its potential to significantly contribute to national income. Tourism can provide very good skills development opportunities for local communities. In relation to Agenda 21 of Sustainable Development by the World Bank, tourism plays an important role in all faculties of development such as Social responsibility, economic responsibility and environmental responsibility.

Musina Local Municipality in partnership with the Development Bank of Southern Africa is developing its Tourism due to tourism demands in the Musina area. Musina has a wide range of tourism attraction spots like Vhembe Dongola National Park, Mapungubwe Rout, Beit Bridge, and just its beautiful nature surroundings. In the area there are numbers of game farms, conservancies, national parks, nature reserves, and resorts that have been established and developed, and significant initiatives concerning tourism and conservation in or affecting the area are in progress.

This document serves to line up a work plan for Musina's tourism functions. It is also composed of directives from IDP, Musina's profile, and all the relevant Acts such as Tourism Act, and Environmental Management Acts for the purpose of a qualitative work plan.

2. Background and Scope

In 1994/1995 the Local Authority Committee for Nancefield and the Town Council of Messina amalgamated and became the Greater Messina Transitional Local Council, and after the election in December 2000 the municipality was established as the Messina Local Municipality. In 2002 the name of the town was changed to Musina and the Municipality is known as the Musina Local Municipality.

Musina is situated in the Northern area of the Limpopo Province and within the Magisterial District of Musina. The municipality is situated approximately 15 km to the south of the Limpopo River close to the international border post of Beit Bridge and situated 540 m above sea level in the midst of the well known Limpopo Valley, on the N1 close to Beit Bridge.

Since the new demarcation of municipal areas in 2000, the municipal area of Musina stretches from Beitbridge to about 30 km south (Huntley's Farm) and from Malale (close to the Pafuri gate in the south east to just before All days in the north west). An area of 7578, 29 vk kilometers.

The name is derived from the Musina tribe the Chieftainship of Dopokobotha who discovered and mined the copper deposits. This area forms part of the Golden Horseshoe of tourism in the Limpopo Province.

Musina in Limpopo province is regarded as one of the richest areas in tourism in terms of its scenery and cultural composition. To detail and effectively utilize these riches, a multi-disciplinary research effort has started its initial stage.

Musina by nature is a world's tourism attraction spot. It has endorsed its historic tourism nature in a number of ways mentioned above. On the 4 December 2002, at 8H18 Musina and large parts of Limpopo valley were shrouded in total darkness when a total eclipse of the sun took place. This awesome natural event attracted a massive number of tourists nationally and all over the world. This was when experiences of a tourism development gap highlighted the area in term of tourism sociability. Tourism infrastructure development such as B&Bs, heritage sites and museums still appear the main priority in the areas tourism development. It is by no doubt that Musina's tourism naturally has a measure impact on the areas economy.



Purposes and Objectives

The purpose of this Tourism Plan is to outline research findings, public consultation input, and recommendations in order to meet Musina Municipality's vision in relation to the Municipal Systems Act and according to the Tourism Act 2000. According to the Tourism White Paper in 1996 tourism development in South Africa has basically been an overlooked opportunity and the purpose of this document is to provide measures to minimize that situation.

One of the objectives of this document is to identify in substantiation with the White Paper, a range of opportunities for historically disadvantaged groups ranging from small guest houses, shebeens, and restaurants with local cuisine, through community tour guiding, music, dance, and story-telling, arts and crafts, traditional hunting and medicine to laundry,

gardening and specialty agriculture. And to satisfy the objectives of the municipality to develop a Municipal Tourism Plan by the end of 2004.

To ensure the sustainable growth of the tourism sector in the period of 2005-2010; striving to increase international arrival from 10% - 15% each year, exceeding the growth set in the Limpopo Tourism Growth Strategy in the period of 2004 – 2010 that in Musina by the year 2006 international arrivals will reach 6 - 8 thousands, domestic visitors will reach 10 – 20 thousands, 5% percent increase per year on average. By the year 2010, social income from tourism will double the year 2002, dealing with 10 000 directly employment and 20 000 indirectly ones in Musina. Creating some distinctive tourism products of Musina with high competition and attracting tourists, raising expenditure and the length of stay of arrivals on the bases of upgrading and investing in new tourism resorts, and exploiting great potentials of Musina tourism.

To raise the image of Musina in general and determining the position of Musina tourism particularly on international arena on the basis of enhancing tourism promotion and raising the social awareness of tourism.

3. Methodological Framework and Scope of the Tourism Plan

As stipulated in the IDP Phase 2, an individual work plan is used as an action plan to ensure accountability in tourism management as follows:

OUTPUTS	MEASUREMENTS	TARGETS	TIME FRAMES
To Develop Municipality Tourism Plan	<ol style="list-style-type: none">1. Identify Tourism impacts and establish management of these impacts (social, economic and environmental impacts)2. Review policies and Acts concerning Tourism and its environment	<ul style="list-style-type: none">• Conduct a site visit.• Interview stakeholders and the municipality.• Interpret and appraise the status quo of the Municipality's implementation of the Tourism Acts and related policies	2 days 1 day 1 day

	<p>3. Identify aspects of Tourism opportunities and identify equitable business opportunities including for the rural people</p> <p>4. Develop Municipality Tourism Plan Report</p>	<ul style="list-style-type: none"> Conduct a community workshop Conduct stakeholder workshops that will encompass conservation agencies, private sector organizations, and women organizations, Collect data from the municipality, and verify in stakeholder and community workshops Produce an Tourism Plan report for the municipality 	<p>1 day 3 day</p> <p>14 days</p>
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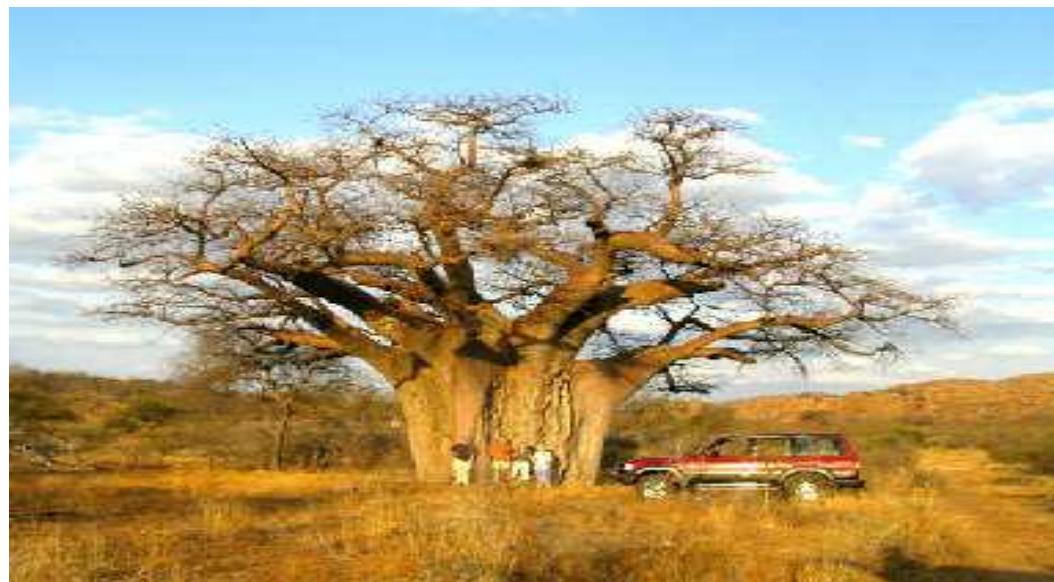
This framework includes but not least integration of environmental management, such as infrastructure development, which includes water, light, road construction, etc. It includes waste management in a way to avoid over-consumption of water, electricity, fuels, etc. It also includes maintenance of biodiversity as a strategy to encourage visitor behavior, invest in species conservation and avoid pollution by using environmentally friendly chemicals.

In terms of the tourism research, the following research agenda has been identified and followed in-order to serve the purposes of community based tourism in the Musina area:

4.1 An evaluation of the status quo of the cultural tourism

- Cultural tourism in Musina has a major impact to the area's economy and naturally Musina's culture is tourism based.
- Aventura, Tshipise youth center and old army Arton have been identified as part of cultural tourism that specifically accommodates the local people and enhances their tourism knowledge.
- Mapungubwe Heritage Cultural Landscape has been identified as the tourism based site that specializes in conserving and protecting the ecologically viable areas of Mapungubwe's biodiversity.
- Limpopo River has been identified as a historical site that represents the natural landscapes of Limpopo.

- Botanical highlights of the region include fine specimens of baobab trees and impala lilies, which are both protected species. Agricultural products include citrus, mangoes, tomatoes and dates.
- Musina Municipality's entity called Letsema has recently embarked on tourism projects under Local Economic Development initiative, projects such as; growing Spirulina plant for the purposes of manufacturing food supplement pills, running Singelele camp promoting hunting and tourism, producing Date Liquor from the plant "date tree", and farming Lucerne (an animal fauna eaten by cows and horses than bought by farmers).
- Musina has a number of tourism related attractions and developments such as, Ngoanezhe game lodge, DeBeers game farm, Musina nature reserve, crocodile farm, Mapungubwe heritage cultural landscape, the Beit bridge, Limpopo river, Iron ore mine, Musina copper mine, DeBeers Venetia diamond mine, Spirulina Plant, Nwanedi, Tshipise village,



4.2 An assessment of the possible impacts of cultural dynamics on community based tourism

- The tourism industry of Musina has a potential growth in due course by welcoming more the local community to participate in tourism related ventures and initiatives.
- The community is not aware of the positive impacts it contributes to the economy of the area. The local young people need to be exposed to local tourism development through training for them to be involved in income generating activities.
- The local farmers and local business people still need to be aware of how to involve and treat the local people in their initiatives, in matters concerning salary and employer-employee behavior in general.

4.3 Planning for cultural tourism

- Musina has a very rich cultural situation. The stakeholder – community workshops as part of planning process brought forward suggestion for tourism development such as; refurbishment of Musina Copper mine, development of the museum, reviving recreational park, planting more Baobab trees, development of cultural villages, building accommodation facilities at the border, and enlargement of the information center.
- The development of Musina copper mine. This will impact positively on tourists, but there are historical politics in this type of development. National Economic Development and Environmental Affairs and Tourism Department, local municipality, and Limpopo Tourism board and association will be required to manage this development.
- The development of a Museum. This will impact positively to both tourists and local community through display of the area's history and through creation of jobs. The Museum is the heart of tourism in Musina since it engrosses and displays information of all the historic experiences of Musina, its cultural dynamics, and its rich nature to local people more especially the young community, local tourists and international tourists.
- Development of Recreational Park. This has a positive high value impact on the community, mostly on the young people. And it will bring a lot of job creation through flea markets.
- Plantation of Baobab trees. This is an environmental entry that impacts positively toward biodiversity management of the area, and impacts positively on tourism by enhancing the area with greenness and uniqueness of its soil produce.
- Development of cultural villages. This development will bring back the industrial theme of the Musina area and will have a positive impact on job creation and community development.
- Development of more accommodation facilities to benefit the tourists, business people, and people on the move (passer-by).
- Development of route to Kruger National Park via Musina from Mapungubwe National Park. This will create a tourism short cut, since Musina is located in between both parks. And this on its own highlights Musina's as an area with a massive advantage on tourism.
- Expanding the Information Centre. Musina as one of the most interesting and attractive South Africa's tourism area has a high need of an attractive and spacious tourism information centre. This will impact positively on the reception of tourists flooding the area.

4.4 A historical survey of the Musina's heritage with reference to sites that can be utilized for tourism

- Musina is well known for its mineral production and its world heritage site Mapungubwe. It's also known for its biodiversity and heritage attraction and affluence that is protected and conserved more in the Mapungubwe National Park.
- There are more sites in Musina that can be utilized for tourism such as, Limpopo river, the pump station near Limpopo river, the bridge, Blikkies dorp which is now declared an industrial site, Musina Nancefield 4 way stop

(buildings which have been renovated for small businesses), Iron Ore mine, Musina mine, Baptist and Methodist church, Dutch reformed church, Muslim Mosque, Singelele and Dongola range (Dongola Kop within the range).



4.5 The role played by people in trade during historical times

- In history, a man called Makushu was copper tilling and selling ornaments to Zimbabwe and to the rest of Southern Africa.
- Natural harvests like Mopani worms (Masonja / gold-dust) spawned from butterflies, very rich in protein, were and still are sold nationally and internationally by local people.
- Cotton, cream-of-tata from the baobab tree, citrus, tomatoes, cabbages, mielies, potatoes and onions, are agricultural harvests of Musina that generate income nationally and internationally by local people.
- Diamond, iron ore and copper as some of underground products of Musina generate a lot of income in places across Africa and across the sea. Venetia-Diamond Mine is still in operation and impacts positively on economic growth.

4.6 Training

- The local municipality officials, councilors and all the municipality workers require tourism awareness training and economic development workshop to be updated with the demands of this tourism plan.
- The local community requires regular tourism awareness workshops, as this will enhance the community's understanding of Musina's economy at large. Workshops within tourism business people will also play an important role to the tourism society by enhancing its economy with local knowledge, interest and creativity that will rise within them.

4. A Scope of the Tourism Plan

This section provides an overview of the basic elements of the proposed tourism planning process and the key outputs. The fundamental components of the process are:

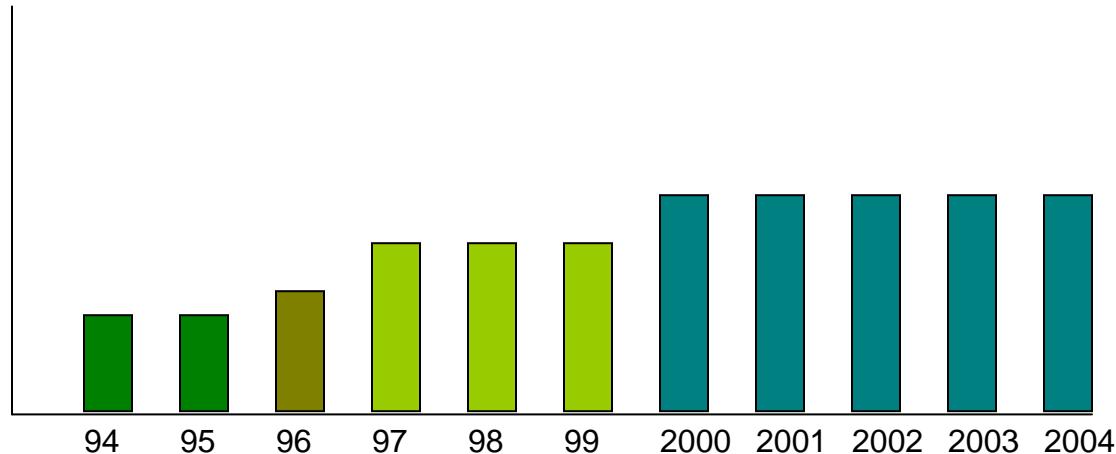
5.1 The context – The context of this performance strategy is the high-level Musina Tourism Plan. This is the first tourism plan developed in Musina, under the mandate of the Limpopo Economic Development Department in regards to the Tourism Gross Strategy of the whole Limpopo Province. As such it represents a shared vision for tourism in this municipality.

5.2 Inputs – Consistent with the above mentioned methodology the tourism plan is informed by the following critical analysis

- Economic Analysis – this section requires integration and the alignment of the market analysis component with the economic, tourism resource, environmental and social analysis components of the project.

Figure 1 provides an overview of the tourism market growth in the period of 10 years of democracy in a municipality with the absence of a Tourism Plan.

Tourism Market



- Social Analysis – this section has been conducted telephonically and through workshops in line with the aspirations of the local community, their values that they want to see conserved and enhanced, the inter-relationship between visitors, and the private sector/service providers.
- Environmental Analysis – This analysis includes the evaluation of the environmental values of Musina, it involves the conservation status of the area, the environmental awareness of the community, and the environmental threats from potential tourism development. An environmental risk index is used to measure relatively environmental values to environmental threats of this area.

<i>Overall Project Environmental Risk Rating</i>	<i>Risk Rating Points</i>	<i>Risk Spread</i>	<i>Risk Rating Class</i>
High	0	Unacceptable	HIGH
High \ Medium	3	Doubtful	
High \ Low	5	Weak	
Medium\ High	9	Vulnerable	MEDIUM
Medium	11	Acceptable	

Medium\ Low	13	Satisfactory	LOW
Low \ High	15	Good	
Low\ Medium	17	Very Good	
Low	20	Excellent	

- Resource analysis – This analysis assesses the supply section of tourism. It includes a general landscape analysis to help identify priority tourism areas, such as river developments, road developments, agriculture, and nature conservation in relation with tourism policy priorities.
- Manageability analysis – This section is based on the managerial capacity of the municipality in collaboration with its community to manage tourism. This analysis has been conducted in many forms of research such as telephonic, community-stakeholder workshop, written information and general overviews. Constraints and pressures of the future growth towards community and on infrastructure have been identified and have been dealt with in the community-stakeholders workshop for verification and brainstorming.

Alignment of Inputs

Inputs will be aligned in a form of a table below. This will intend to integrate and align each of the analysis components according to capacity quantity of the municipality and the community.

Analysis Components	Alignment Rating		
	Low Capacity	Medium Capacity	High Capacity
Economic Analysis		***	
Social Analysis	***		
Environmental Analysis		***	
Resource Analysis		***	
Manageability Analysis		***	

5.3 Consultation – the above analysis has been presented to the community to both inform discussion and to verify the findings with local knowledge. The public consultation with the local community of Musina and the stakeholders has provided a lot of information regarding tourism development and its heritage

5.4 Core Output – this tourism plan will require that changes be recommended according to Limpopo Tourism Gross Strategy to reflect the vision, objectives, opportunities, and management for tourism.

5.5 Implementation strategy – This will ensure that the plan achieves its intended objectives. This strategy will therefore recommend how municipality and community capacity can be built and how recommendations can be resourced. This section will also include the identification of how a positive investment environment could be created.

5. A Review of Policy

- In the 1996 Tourism White Paper, the majority of South Africans and historically disadvantaged groups have never been meaningfully exposed to the tourism sector, the national government's objective is to ensure that all citizens have equal access to tourism services as consumers and providers. Communities need to be involved in planning, decision-making and the development of tourism; and in all operational aspects of the industry as tourists, employees, and entrepreneurs.
- In the Protected Areas Act 2004 section 50 permits commercial activities to be carried out within a protected area with an aim to raise revenue; it also permits community to use resources within these areas in a sustainable manner. This practice provides opportunity to improve the economy of Musina and the economy well being of its people through the Mapungubwe National Parks.
- According to the National Environmental Management Act Chapter 5 section 23 (b) it is important that the process of this Tourism Plan identifies, predicts and evaluates the actual and potential impact on the environment, socio-economic condition and cultural heritage, the risks and consequences and alternatives and options for mitigation of activities, with a view to minimizing impacts, and maximizing benefits.

6. A Review of Sectoral Issues and Programmes

- An Integrated Development Plan for Musina Municipality emphasizes the implementation of the above policies.
- At a local government level, environmental planning and land use, product development, marketing and promotion are further supported.
- The private sector has and will continue to play a critical important role in the further development and promotion of tourism.
- Many communities and previously neglected groups, particularly those in rural areas that have not actively participated in the tourism industry pose significant tourism resources.

- The employment of women can be a fundamental determinant of the development impacts of the tourism industry.
- National and provincial conservation agencies play an important role in developing and managing state conservation land for tourism purposes.

7. A Review and Draft Plans for Subsectors in terms of Strategic / Broad Level Objectives

COMMITMENT /OBJECTIVES	OVERVIEW ACHIEVEMENT MADE
<ul style="list-style-type: none"> • To make a holistic assessment of the tourism potential of the area; • To identify the position of the area in the provincial, national and Southern African tourism context; • To zone the tourism potential of the area in order to optimise its potential; • To identify and propose the potential role of each tourism “hot spot” in the context of the whole area; • To identify tourism assets/areas as priorities for protection; • To identify priorities for development; • To recommend short and longer term actions to kick-start 	<p>According to all the objectives of the Municipality in 2001 the tourists' hot spots have been identified as follows:</p> <ul style="list-style-type: none"> • Greater Nwanedi /Kuduland/Tshipise complex: • Messina Nature Reserve to Limpopo valley: • Mapungubwe/Vhembe/Dongola (Venetia/Langjan reserves): • Makuya/Mashakhatini/Pafuri/Thulamela complex: <p>International tourists coming to South Africa are attracted - in order of priority – by the following features:</p> <ul style="list-style-type: none"> • Natural scenery • Wild Life • Climate • African Culture • Value for money • New South Africa • Diversity of attractions

development.

8. Implementation Plan

Foreword

This implementation plan for tourism is based on the assumption that if the outcomes of the Tourism Growth Strategy of Limpopo are to be achieved, all sectors of the industry must be involved in its implementation.

This will require not only joint partners Musina Municipality and Development Bank of Southern Africa to show leadership in the implementation, but also the industry organizations such as the local tourism bodies and provincial tourism associations to adopt a higher profile and hands on role, and individual tourism operators to recognize what they must do to be part of the new tourism plan.

A critical part of this is the growth and adoption of a ‘networks’ approach to convey information and working together, particularly with the concepts of product bundling and distribution. All operators can be part of this approach regardless of scale – it is a matter of recognizing where opportunities lie and with whom networks need to be established to get the product to market.

The plan is also the means by which the performance of industry and Government through Musina Tourism Association and Limpopo Tourism Authority can be measured.

Implementation Plan’s Objectives

To set a powerful and sustainable development step for Musina tourism, affirming the role of a spearhead economic sector of Musina by the year 2010.

Striving by the year 2010, Musina will become a developed country in the region with symmetrical physical and technical facilities, unique tourism products with Musina’s cultural identity, turning Musina into an attractive destination of the global tourism.

Implementation Action Plan

Strategy	Action	Result
Know our customers, their holiday needs and desires	<ul style="list-style-type: none"> • Musina's Municipality has to implement a program linking market research and industry intelligence to draw a clear picture of customer holiday needs and the triggers for conversion including monitoring and evaluating our most likely customers, market trends, seasonal supply, demand and the competitive environment. • Souttansberg and Capricorn/Provincial Limpopo Tourism & Parks Board has to develop an integrated customer feedback database from various information sources held by Tourism Board Associations across the province, licensing boards and where possible airlines, other wholesalers and individual operators. • MM has to provide potential investors and other interested parties (Provincial and local Govt), with statewide and locality based supply / demand analysis as an aid to decision making. • MM and Capricorn/Provincial Tourism Office has to develop monthly 'industry health report' linking national, state and local indicators. • All industries need to focus on the development of holiday 	<p>Industry information needs being met. Tools to be used include Access Economics and specific market research.</p> <p>Linking existing feedback databases and systems within government and industry, and where feasible with the systems of individual operators – will maximize our knowledge of customer views on their Musina holidays.</p> <p>Will provide a tool for better understanding development opportunities for use by investors, Limpopo Tourism Authority, Limpopo EDEAT, etc.</p> <p>Provide information via a network approach to stakeholders and industry with particular emphasis on operators; also website options.</p> <p>Industry focused on bundling activities to form experiences</p>
Create holiday experience to match our customer's needs		

<p>Connect with and convert our customers to visit Musina now</p>	<p>experiences</p> <ul style="list-style-type: none"> • Promote bundling and packaging of commercially sustainable holiday experiences in keeping with Musina brand values and seasonal themes. • Promote integration between tourism and other industries in product development and the application of Musina brand. • MM and Capricorn/Provincial Tourism Office has to promote a concept of Tourism Development Framework with commonwealth/Provincial Govts to foster appropriate planning environments and provision of supporting infrastructure. • Limpopo EDEAT and Capricorn/Provincial Tourism Office have to investigate options for investment in new development and refurbishment. • MM has to develop core strategies covering nature based tourism and event tourism over the next two years. • MM has to identify and research potential changes to SA government regulation which could encourage the development of a customer focused service culture. • MM has to work in partnership with the travel trade, curriers, operators and stakeholders to; 	<p>via the trade, and individual operators. Use wholesale & retail programmes to facilitate.</p> <p>Concepts of clusters / hubs and touring routes form the basis of the strategic approach to tourism development within government and industry.</p> <p>Investment capability enhanced.</p> <p>New strategies to maximize our core values in terms of tourism products available in market place.</p> <p>On-going research and lobbying program.</p> <p>Focus on developing wholesale, retail networks, and customer service centre.</p>
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Satisfy our customers with exceptional holiday experiences	<ul style="list-style-type: none"> ◦ Ensure marketing and distribution channels are relevant to emerging customer needs and booking behavior; ◦ Deliver messages to potential customers that address their holiday experience needs; ◦ Focus on new technology and the changing ways in which customers wish to transact business. • Industry to focus on enhancing repeat visitation, customer referrals and word of mouth advertising through further development of MM customer database / customer service centre and industry systems. • MM has to monitor performance of marketing tools used by all stakeholders. • MM has to continue to enhance its website, holiday planner, and other mediums for marketing and selling. • MM and Capricorn/Provincial Tourism Office has to develop and implement a Customer Service strategy and continue to develop accreditation. • MM and Capricorn/Provincial Tourism Office has to facilitate the availability of programs that improve the skills and expertise of tourism operators to deliver 	<p>Maximize our ability to leverage off current visitation through customer relationship management programs.</p> <p>Marketing tools focus on needs of customers.</p> <p>Review all market place material to ensure customer needs being addressed.</p> <p>Customer service standards improved overtime.</p> <p>Training courses available matching customer services delivery and needs of operators.</p>
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<p>Commitment to Brand Musina, Partnerships and Performance</p>	<ul style="list-style-type: none"> products and services to customers in a quality manner. MM and Capricorn/Provincial Tourism Office has to develop and implement community tourism awareness programs designed to improve community responses to visitors. Capricorn/Provincial Tourism Office and MM has to develop a kit to give clear understanding of Musina brand values for industry use. Tourism Protocol Agreement with Government and Industry to be reviewed and updated. All partnership programs to be reviewed to ensure contribution to new strategic approach and best use of resources. Capricorn/Provincial Tourism Office has to develop local and provincial communication networks. Tourism Plan has to be communicated to industry and stakeholders; MM board to manage . Monitor results and evaluate performance against agreed benchmarks 	<p>Community awareness programs in place to grow wider understanding of benefits from tourism.</p> <p>Operators can identify with Musina Brand and use in own business.</p> <p>Protocol clearly outlining industry – govt relationship; industry have clear access to Premier and Minister.</p> <p>Partnerships relevant to new focus on customers and conversion.</p> <p>Industry and stakeholders aware of new directions and role all must play in implementation.</p> <p>Plan managed by Executive of Boards.</p> <p>Results being measured and programs being modified as needed.</p>
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ANNEXURE C : ORGANISATIONAL STRUCTURE (ATTACHED)**ANNEXURE D : SECTOR DEPARTMENTS PLANS****DEPARTMENT OF SAFETY, SECURITY AND LIAISON**

Project Name	Project Leader	Institutional Delivery	Location	Budget	Progress to date	Gaps and Intervention s
Five(5) Speak to your MEC Campaigns are planned for 2006/2007	Ms Mathotsi M	Safety, Security and Liaison	District – Wide: Informed by the crime startistics	R360 000 per annum over five years		
Development of six(6) school safety plans are planned for 2006/2007	Mr Bopape K M	Safety, Security and Liaison	District – wide: Informed by the crime startistics	R50 000 per annum over five years		
Municipal Social Crime Prevention Programme	Mr Bopape	Safety, Security and Liaison	Thulamela Musina Mutale	R320 000 for this financial year 2006/2007		

INFRASTRUCTURE CAPITAL WORKS PROJECTS – BUILDING OF POLICE STATIONS

STATION	WCS	DESCRIPTION	REMARKS
Musina	041561	Construction of police station, cells, married and single quarters.	Contractor on site busy with the preparation of the site
Mutale	021427	Project five star of the cells	Contractor on site

DEPARTMENT OF ROADS AND TRANSPORT

Project Name	Project Leader	Institutional Delivery	Location	Budget	Progress to date	Gaps and Interventions
Airport Development (Mphephu Airport)	HH Lumadi	Roads and Transport	Thulamela	R9 m	Refurbishment and Constructions	
Institutional Development (Transport Forums)	MML Maesela	Roads and Transport	Makhado Thulamela Musina Mutale	R18 750 R18 750 R18 750 R18 750	Formation of Forums	
Animal Drawn Carts	S Nkanyani	Roads and Transport	Makhado Thulamela Musina Mutale	R70 000 R70 000 R70 000 R70 000	Implementation	
Bicycle Project	T Semenya	Roads and Transport	Makhado Thulamela Musina Mutale	R1m R1m R1m R1m	Implementation	
Scholar Transport	T Semenya	Roads and Transport	Makhado Thulamela Musina Mutale	R2.5m R2.5m R2.5m R2.5m	Implementation	
Preparation of Transport Plans	W Raidani	Roads and Transport	Makhado Thulamela Musina Mutale	R600 000 R600 000 R600 000 R600 000	Implementation	
Taxi Recapitalization	S Mahada	Roads and Transport	Makhado Thulamela Musina Mutale	R750 000 R750 000 R750 000 R750 000	Implementation	
Bus Subsidies	HPS De Beer	Roads and Transport	Makhado Thulamela	750 000 R6 750 000	Implementation	

			a Musina Mutale	R6 750 000 R6 750 000		
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SPORT, ARTS AND CULTURE

Project Name	Project Leader	Institutional Delivery	Location	Budget	Progress to date	Gaps and Interventions
Rural Sport Programme	I.S Ramusi	Sport Development	Vhembe	R 90 000	<ul style="list-style-type: none"> The programme was held in two nodal areas, that is Sekhukhune and Bohlabela 	Insufficient funds to implement the programme in all districts
Youth Development	I.S Ramusi	Sport Development	Vhembe	R 90 000	<ul style="list-style-type: none"> The youths participated in all the sport programmes 	Insufficient funds
Premiers Half Marathon	I.S Ramusi	Sport Development	Provincial event	R1 320 000.00	<ul style="list-style-type: none"> The event was held in July 2005 	<ul style="list-style-type: none"> None
Sport Decoration Gala	I.S Ramusi	Sport Development	Provincial	R 450 000	<ul style="list-style-type: none"> The function was on the 15th July 2005 	<ul style="list-style-type: none"> None
Women in Sport	I.S Ramusi	Sport Development	Vhembe	R80 000	Women in Sport forums are in place	<ul style="list-style-type: none"> Insufficient budget
Sport Indaba	I.S	Sport	Provincial	R 350 000	<ul style="list-style-type: none"> The event 	<ul style="list-style-type: none"> Sport

	Ramusi	Development	I		was held on the 16 th July 2005	officials not part of the commissions • All sport officials form part of the deliberations
O.R Tambo Games	I.S Ramusi	Sport Development	Vhembe	R80 000	• Hosted in February 2005	• Budgetary constraints
2010 FIFA Soccer World Cup	I.S Ramusi	Sport Development	Provincia l	R 500 000	• Inter-Ministerial Committee was established	• Establishment of the LOC • Construction of Peter Mokaba and practice stadia
Mayor's Half Marathon	I.S Ramusi	Sport Development	Vhembe	R 90 000	• Only three Districts have organized the programme	• The remaining district should be part of the programme
Sport Facilities	I.S Ramusi	Sport Development	Vhembe	R150 000	• The municipalities are upgrading their sport infrastructure	• The capacity of the municipalities to implem

							<ul style="list-style-type: none">• Financial constraints
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EDUCATION

INFRASTRUCTURE PROVISIONING		FOR VHEMBE DISTRICT				
Implementation of all infrastructure projects is done by Department of Public Works.						
Donor partners implement their projects but in collaboration with Department of Public Works.						
1. Off shoot schools						
No.	Name of school	Local Municipality	No of classroom	Financial Years	2006/2007	2007/2008
1	Jilongo Secondary	Thula mela	12	5041000	5288000	5061000
2	Muratho Primary	Thula mela	12	5571000	5704000	5433000
3	Nkandziyi Primary	Thula mela	16		4031000	4836000
	TOTAL		40	10612000	15023000	15330000
2. Circuit Offices						

No.	Name of Circuit Office	Local	Municipality	Financial Years			
				2006/2007	2007/2008		
1	Malamulele Central			100000	6000000		
2	Malamulele East			100000	6000000		
3	Malamulele North			100000	6000000		
4	Malamulele West			100000	6000000		
5	Vhumberdi			100000	6000000		
6	Makonde	Mutale		100000		7000000	
7	Niani	Mutale		100000		7000000	
8	Sambando						
9	u	Mutale		100000		7000000	
10	Tshilamba	Mutale		100000		7000000	
11	Tshitale	Mutale		100000		7000000	
12	Nzhelele East	Makha do		100000		7000000	
13	Nzhelele West	Makha do		100000		7000000	
14	Soutpansberg East	Makha do		100000		7000000	
15	Soutpan North	Makha do		100000		7000000	
16	Soutpan West	Makha do		100000		7000000	
17	Luvuvhu	Makha do		100000		7000000	
18	Mutshindudzi	Thula mela		100000	6000000		
19	Sibasa 1	Thula mela		100000	6000000		
20	Sibasa 2	Thula mela		100000	6000000		
21	Makonde	Thula mela		100000	6000000		
22	Dzindi	Thula mela		100000	6000000		
22	Dzondo	Thula		100000		7000000	

		mela				
23	Vhuronga 1	Thula mela	100000		7000000	
24	Vhuronga 2	Thula mela	100000		7000000	
	TOTALS		2400000	60000000	0	98000000

3. New schools/building

No.	Name of school	Local	Municipalit y	No of classroo ms	Financial Years		
					2006/2007	2007/2008	2008/2009
1	Thengwe Secondary		Mutale	34	15000000		
2	Maluleke Primary			12		1845000	1845000
3	Altein/Fumani Secondary			16		2460000	2460000
	TOTAL				15000000	4305000	4305000

4. Storm Damaged Schools

No.	Name of school	Local	Municipalit y	Clssrms & toilets	Financial Years		
					2006/2007	2007/2008	2008/2009
1	Khavhamb Primary			8	1230000	1230000	
2	Madhavhila Primary			8	1230000	1230000	
3	Makuleke Primary			12	1845000	1845000	
4	Makondeni Primary			4	615000	615000	

	Adzimmam				4	615000	615000	
5	bePrimary							
	Makhapule				8	1230000	1230000	
6	Primary							
	Lotsha				8	1230000	1230000	
7	Primary							
	Gateway				4	615000	615000	
8	Primary							
	Mahonisi				12	1845000	1845000	
9	Primary							
	Tshipako				4	615000	615000	
10	Primary							
	Ladzani				4	615000	615000	
11	Primary							
	Luvhone				4	615000	615000	
12	Primary							
	Takalani				8	1230000	1230000	
	Nyawedzen							
13	i Primary							
	Karel				12	1845000	1845000	
	Ngidigeni							
14	Primary							
	Masisi				8	1230000	1230000	
15	Primary							
	Masala				4	615000	615000	
16	Primary							
	Tshidzivhe				4	615000	615000	
17	Primary							
	Nxanguits				8	1230000	1230000	
	hwa							
18	Primary							
	Tshamani				4	615000	615000	
19	Primary							
	Madadzhi				4	615000	615000	
20	Primary							
	Muwaweni				8	1230000	1230000	
21	Primary							
	Edzisani				8	1230000	1230000	
22	Primary							
	Thonzwe				4	615000	615000	
23	Primary							
	Muila				8	1230000	1230000	
24	Primary							
	Mahematsh				8	1230000	1230000	
25								

	ena						
	Primary						
26	Mpheni				8	1230000	1230000
27	Tshitavhadu				12	1845000	1845000
28	Primary				8	1230000	1230000
29	Tshanzhe				8	1230000	1230000
30	Primary				8	1230000	1230000
31	Tshipise				8	1230000	1230000
32	Primary				4	615000	615000
33	Fhembeledzani				4	615000	615000
34	Primary				8	1230000	1230000
35	Bonwaudi				8	1230000	1230000
36	Phinimini				8	1230000	1230000
37	Primary				12	1845000	1845000
38	Caledon				12	1845000	1845000
39	Riverplaats				12	1845000	1845000
40	Primary				4	615000	615000
41	Madobi				4	615000	615000
42	Primary				12	1845000	1845000
43	Tshikhudini				12	1845000	1845000
44	Tshivhunan				12	1845000	1845000
45	Primary				4	615000	615000
	Tshivhambane				8	1230000	1230000
	Primary				8	1230000	1230000
	Ramahantsa				8	1230000	1230000
	Primary				4	615000	615000
	Gilbert				4	615000	615000
	Molondo				4	615000	615000
	Primary				4	615000	615000
	Milaboni				4	615000	615000
	Primary				4	615000	615000
	Tshiavha				4	615000	615000
	Primary				8	1230000	1230000
	Thononda				8	1230000	1230000
	Primary				8	1230000	1230000

46	Mudzinga Primary				8	1230000	1230000	
47	Makumbwi Primary				8	1230000	1230000	
48	Tshithuthun Primary				8	1230000	1230000	
49	Dzanani Primary				4	615000	615000	
50	Nweli Primary				4	615000	615000	
51	Mangwele Primary				4	615000	615000	
52	Tshabvuma Primary				4	615000	615000	
53	Malema Primary				4	615000	615000	
54	Mutuwafhetu Primary				8	1230000	1230000	
55	Luvhalani Secondary				4	615000	615000	
56	Shirilele Secondary				4	615000	615000	
57	Shinguwa Secondary				12	1845000	1845000	
58	Hanyani Nkuzani Secondary				12	1845000	1845000	
59	Frank Ravhele Secondary				12	1845000	1845000	
60	Mphalaleni Secondary				12	1845000	1845000	
61	Shingwedzi Secondary				12	1845000	1845000	
62	Rivubye Secondary				12	1845000	1845000	
63	Jim Yingwani Secondary				8	1230000	1230000	
64	Govhu Secondary				4	615000	615000	
65	Thathe Secondary				8	1230000	1230000	
66	Guyuni				8	1230000	1230000	

	Secondary						
67	Dyelamana vha Secondary			8	1230000	1230000	
68	Nwanati Secondary			12	1845000	1845000	
69	Mavhungu Andries Secondary			12	1845000	1845000	
70	Mulima Secondary			12	1845000	1845000	
71	Tshikunda malema Secondary			8	1230000	1230000	
72	Maligana Wilson Secondary			8	1230000	1230000	
73	Tshipakoni Secondary			8	1230000	1230000	
74	Ramauba Secondary			12	1845000	1845000	
75	Hluvuka Secondary			8	1230000	1230000	
76	Ndweleni Secondary			12	1845000	1845000	
77	Tshifhena Secondary			12	1845000	1845000	
78	Tshilongoni Secondary			8	1230000	1230000	
79	Nndavhele seni Secondary			4	615000	615000	
80	Velelambe u Secondary			8	1230000	1230000	
81	Mpfarisene Secondary			4	615000	615000	
82	Thusalusaka Secondary			4	615000	615000	
83	Mugoldwa Secondary			12	1845000	1845000	
	TOTAL				97170000	97170000	

FET 5 Colleges						
No.	Name of school	Local	No of	Financial Years		
		Municipalit y	classroo ms	2006/2007	2007/2008	2008/2009
1	Vhembe FET College					
1.1	East Campus			2800000	3000000	2000000
1.2	Central Campus				3000000	2000000
1.3	South Campus				3000000	2000000
1.4	Lemana Campus				3000000	2000000
	TOTAL			2800000	12000000	8000000
Water to 6 Schools						
				Financial Years		
				2006/2007	2007/2008	2008/2009
	Allowance of Water to schools					
				2000000	5000000	7000000
Electrification of 7 Schools						
				Financial Years		
				2006/2007	2007/2008	2008/2009
	Allowance for Electrification to Schools					
				2000000	5000000	7000000

	Mobile Classroom 8s			No of classroo ms	Financial Years		
					2006/2007	2007/2008	2008/2009
	Allowance for Mobile Classroom s			10	1200000	2500000	4000000
	Learners under trees and 9 in shacks						
	Tenders have already been awarded						
No.	Name of school		Local	Municipalit y	No of classroo ms	Financial Years	
						2006/2007	2007/2008
	Ganyane 1 Primary				4	615000	
	Hangalaka 2 Primary				8	1170000	
	Ketlani 3 Primary				4	615000	
	Madodong 4a Primary				8	1170000	
	Mahuntsi 5 Primary				8	1170000	
	Mapapila 6 Primary				4	615000	
	Mbhahela 7 Primary				4	615000	

	Mphathele				12	1725000		
8	Primary							
	Mulangaph				4	615000		
9	uma							
	Muvimbi				8	1170000		
10	Primary							
	Nandoni				4	615000		
11	Primary							
	Nkandziy				16	2280000		
12	Primary							
	Shilume				8	1170000		
13	Primary							
	Thomani				8	1170000		
14	Primary							
	Frans				8	1170000		
15	Sombhani							
	Secondary							
	George				8	1170000		
16	Mbulaheni							
	Secondary							
	Jonathan				8	1170000		
17	Mushaatha							
	ma Secon							
	Makhwanth				12	1725000		
18	edi							
	Secondary							
	Miriayhav				12	1725000		
19	ha							
	Technical							
	19	Secondary						
	Mtiti				8	1170000		
20	Secondary							
	Mulenga				16	2280000		
21	Secondary							
	MD				8	1170000		
	Ramabulan							
22	a							
	Secondary							
	Ozias				12	1725000		
23	Duvhana							
	Secondary							
	Ratshisase				12	1725000		
24	Secondary							

Mobile Classroom 13s						
No.	Name of school	Local Municipality	No of classrooms	Financial Years		
				2006/2007	2007/2008	2008/2009
1	<i>Mukondeni Primary</i>	Mutale	3			
2	<i>Adzimmam be</i>	Makhado	3			
3	<i>Mphalaleni Sec</i>	Thulamela	6			
4	<i>Shingwedzi Sec</i>	Thulamela	6			
5	<i>Gateway Primary</i>	Musina	2			
6	<i>Rivubye Secondary</i>	Makhado	6			
7	<i>Jim Yingwani Sec</i>	Thulamela	5			
8	<i>Mahonisi Primary</i>	Thulamela	5			
9	<i>Mtiti Secondary</i>	Thulamela	3			
10	<i>Nkandziyi Primary</i>	Thulamela	3			
11	<i>Hangalaka ni Prim</i>	Thulamela	1			
12	<i>Govhu Secondary</i>	Thulamela	1			
13	<i>Tshipako Primary</i>	Thulamela ?	2			

14	Sec	Thinashaka							
15	Primary	Ladzani		Thulamela	4				
16	Primary	Luvhone		Mutale	2				
17	Primary	Dovho		Mutale	3				
18	Primary	Ratshikwek wete		Thulamela	4				

LOCAL GOVERNMENT AND HOUSING

DISTRICT MUNICIPALITY	LOCAL MUNICIPALITY	RURAL HOUSING PROGRAM	PHP	UPGRADING	Total Units	Rural Housing	PHP	UPGRADING	Total Budget
Vhembe	Musina	200	150	0	350				12,289,000.00
	Thulamela	500	100	200	800				27,982,900.00
	Mutale	350	0	0	350				11,917,150.00
	Makhado	450	100	300	850				29,933,250.00
Sub-Total		1500	350	500	2350				82,122,300.00

ECONOMIC DEVELOPMENT, ENVIRONMENT AND TOURISM
LIMPOPO TOURISM & PARKS BOARD

PARKS DIVISION

PROJECT NAME	LOCAL MUNICIPALITY	PROJECT DETAILS	PROJECT DURATION		PROJECT STATUS	BUDGET
			START DATE	END DATE		
Makuya	Mutale	Infrastructure Upgrade	07 March 2006	September 2006	Infrastructure Audit (Engineers on site)	R 4 525 000,00
Nwanedi	Mutale	Infrastructure Upgrade	07 March 2006	August 2006	Infrastructure Audit (Engineers on site)	R 3 720 000,00