

Lesotho

Second State of the Environment Report

2002

Authors:

Chaba Mokuku, Tsepo Lepono, Motlatsi Mokhothu Thabo Khasipe and Tsepo Mokuku

Reviewer:

Motebang Emmanuel Pomela

Published by

National Environment Secretariat

Ministry of Tourism, Environment & Culture
Government of Lesotho
P.O. Box 10993, Maseru 100, Lesotho

ISBN 99911-632-6-0

This document should be cited as Lesotho Second State of the Environment Report for 2002.

Copyright © 2004 National Environment Secretariat.

All rights reserved. No parts of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without prior permission of the publisher.

Design and production by **Pheko Mathibeli**, graphic designer, media practitioner & chartered public relations practitioner Set in Century Gothic, Premium True Type and Optima



Contents

List of Tables	8	Industrial Structure: Sectoral Composition	34
List of Figures	9	Industrial Structure: Growth Rates	36
List of Plates	10	Population Growth	37
Acknowledgements	11	Rural to Urban Migration	37
Foreword	12	Incidence of Poverty	38
Executive Summary	14	Inappropriate Technologies	38
		State and impacts: trends	38
Introduction	24	Human Development Trends	38
		Poverty and Income Distribution	44
Socio-Economic and Cultural Environment.	26	Agriculture and Food Security	45
People, Economy and Development		Ensuring Long and Healthy Lives	46
Socio-Economic Dimension	26	Ensuring Access to Basic Resources	??
Driving forces	26	The Macro-economy: Gross Domestic Expenditure/Product	60
The Macro-Economic Framework	26	The Macro-economy: Inflation Rate	65
Sustainable Human Development Policy: Poverty Alleviation	27	The Macro-economy: Balance of Payments	66
Socio-Economic Policies	28	Responses	67
Demographic Policies	29	Poverty Alleviation	67
Health Policies	30	Global Partnerships in Industrial Development	69
Crime and Safety	31	Industrial Development: Domestic Policy Reforms	70
Land Use Planning Policy Failures	33	Agricultural Sector: Policies and Strategies	71
Pressures	34	Agricultural Sector: Partnerships	72



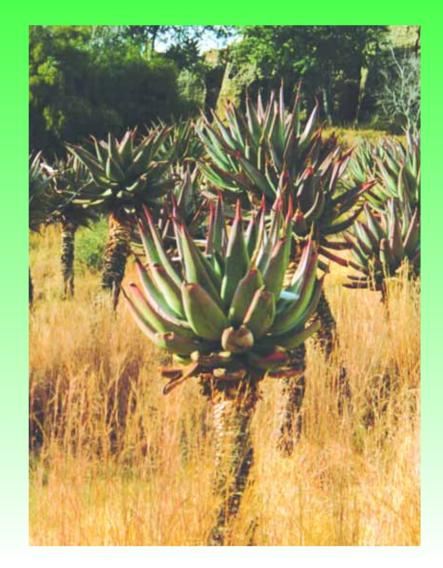
Agricultural Sector: Sustainable Farming Practices	72	States and Impacts: Trends	93
The HIV-AIDS Pandemic	74	Response	98
Deepening Democracy	74	Mining, Construction, Transport and Infrastructure	99
Cultural and Historical Heritage	76	Driving Forces	99
Introduction	76	Pressures	100
Driving Forces	76	State and Impacts: Trends	101
Pressures	78	Response	103
State and Impact: Trends	78		
Palaeontology	79	Water Resources	104
Archeology	79	Introduction	104
Rock Paintings	80	Driving Forces	107
Historic Buildings	80	Pressures	110
Historic Sites – Proclaimed National Monuments	81	Surface Water Pollution Sources	113
Museums and Archives	82	Groundwater Pollution Sources	114
National Parks/Nature Reserves	82	State and Impacts: Trends	115
Indigenous Knowledge Sytems	84	Institutions	118
Arts	87	Urban Water Supply	119
Cultural Heritage and Tourism	87	Sanitation	120
Responses: Legal Frameworks and Policies	89	Rural Water Supply	122
		Groundwater Resources	123
Land Use and Management	92	Responses	124
Introduction	92	Tariff Structure	125
Land Use	92	International Aspects	125
Driving Forces	92		
Pressures	93	Climate and the Atmosphere	126



Climate Change	126	Aquatic and Terrestrial Ecosystems	142
Ozone Layer Depletion	127	Introduction	142
Driving Forces	127	Driving Forces	142
Population Growth (People and Livestock)	127	Population Growth	142
Pressures	127	Population Mobility	143
Demand for Fuel	127	Natural Disturbances	144
Use of Ozone Depleting Substances (ODSs)	129	Poverty	145
Industry, Commerce, Government Buildings	130	Pressures	146
and Other Institutions		Exploitation of Natural Resources	146
Green House Gases	130	Conversion from Natural to Man-made Systems	147
Inventory of Green House Gases Emissions	130	Increased Productivity of Man-made Systems	148
State and Impacts: Trends	131	Alien Invasion Organisms	150
Temperature	132	Climate Change	151
Rainfall	133	State and Impacts: Trends	152
Droughts	134	Forestry	152
Winds	135	Grazing Areas vs Carrying Capacity	155
Climate Change Scenarios	136	Formal Conservation Areas	157
Vulnerable Sectors	137	Biodiversity	158
Response	138	Flora	159
Conventions and Protocols	138	Fauna	162
Zero Emission Research Initiative (ZERI)	139	Response	168
SADC Climate Technology Initiative	140	Completed and Operational Biodiversity Projects/Programmes	168
Planned Responses	140	SADC Regional Biodiversity Projects	169



Wetland Conservation Projects	170
Proposed Biodiversity Projects	172
Biodiversity Treaties, Conventions and Protocols	172
Biodiversity Country Study and National Biodiversity Strategy	172
Biosafety	173
Range Management and Agriculture	173
Policy and Legislation	175
Environmental Governance	178
Introduction	178
What is the State of the Environment?	179
Capacity Building in Environment Management	179
Number of EIA Applications	179
Environmental Standards and Guidelines	179
Committees	181
Number of Staff Recruited by NES	181
Summary of Responses	181
Scenarios	182
Scenario I (Business as usual)	182
Scenario II (NEPAD Scenario)	182
References	182
Glossary	188





Tables

2.1 Current	Population Indicators and Targets for 2010	30	5.2 Production of ODS in Lesotho	129
2.2 Health I	ndicators and Targets	31	5.3 Emissions from Waste (Gg)	131
2.3 Human	Development Statistics within SADC	40	5.4 Total GHG Emissions in Lesotho (Gg)	132
2.4 Compara	ative Statistics within SADC countries on Human Development variables	43	5.5 Droughts Occurrence from 1975 to 1996	135
2.5 Agricultu	ural Indicators and Targets for Lesotho (2010)	74	5.6 Impacts of Whirlwinds in 1999 and 2001	136
2.6. Legal ins	struments and Special Events as a Driving Force for environmental change	77	6.1 Number of fields by district and type of pesticides used	136
2.7 Medical	Uses of Lesotho Flora	85	6.2 Rehabilitation contribution by National Environment Youth Corps	149
2.8 Some pr	ojects/activities addressing marginilisation of traditional practitioners	86	6.3 Trees planted by National Environmental Youth Corps	154
2.9 Some siç	gnificant projects by the Department of Tourism	88	6.4 Vegetation types in Lesotho	154
3.1 Populati	on Density per Km²	96	6.5 Percent distribution of Livestock in four Agro-ecological zone	155
3.2 Land co	ver/use in Lesotho	96	6.6 Biological diversity in Lesotho	159
3.3 Soil Reso	ources of Lesotho by Productivity Group	97	6.7 Number of known Lesotho plant taxa	160
4.1 Precipita	ation, runoff and streamflow measurements of four river system	104	6.8 Mammals which are found in Lesotho's checklist	163
4.2 Bilogica	l and physio-chemical characteristics of instream flow	113	6.9 Red data book checklist of bird species occurring in Lesotho	164
4.3 Water re	elated diseases (%) by type of sanitation facility	115	6.10 Checklist of Lesotho's reptiles	165
4.4 River Ga	auging Stations Maintained by DWA	116	6.11 Checklist of Lesotho's amphibians	166
4.5 River Ga	auging Stations Processed by LHDA in the Senqu Basin	117	6.12 Checklist of Lesotho's fish	166
5.1 Estimate	d Biomass Consumption in Lesotho in 1991 and 2001	129	7.1 Courses in environmental management offered in 2000 to 2001	180



Figures

2.1 Crime trends - Offences against property	32	2.20 Cellular Phones vs Fixed Telephone Lines
2.2 Numbers of accidents by time during 1999 and 2000	33	2.21 The evolution of GDE : 1980 to 1999
2.3 The contribution of the three Sectors into the economy	34	2.22 GDP growth : 1981 to 2000
2.4 Performance of Wholesale and retail trade and education tertiary sub-sectors	35	2.23 Inflation Trend : 1981(i) - 2002(i)
2.5 GDP three major sectors : Annual Growth Rates	37	2.24 Trend in Foreign Reserves : 1991 - 2000
2.6 Cumulative AIDS cases in Lesotho 1986-2000	39	2.25 Mine Migrant Workers in RSA: 1984 - 20
2.7 Lesotho Population Distribution by District and Gender	41	3.1 Gully widths at Maliele on South facing sl
2.8 The trend in the Human Development Index : Lesotho 1975 to 1999	44	3.2 Lengths of gullies at Maliele on South faci
2.9. National area planted and production of major crops	48	3.3 Lengths of earth roads constructed by civil
2.10 Total population of cattle, sheep and goats by agricultural year	49	4.1 Numbers of customers supplies by WASA
2.11 Critical Health Indicators : SADC Comparison	50	4.2 Amount of water billed (in m³) from 1998/
2.12 % of One Year Olds Immunized Against TB and Measles	51	4.3 Free chlorine and total bacterial counts in
2.13 % of Adults (15-49) Living with HIV in 1999 : SADC Comparison	52	4.4 Projected urban water consumption rates
2.14 Oral Rehydration Use Rate (%) SADC Comparison	53	4.5 % Distribution of sanitary facilities by dist
2.15 Total Number of People with interstinal Parasites by Age Groups : 1996-2000	54	4.6 Percentage distribution of households by r
2.16 Physicians per 1,000 of Population : SADC Comparison	55	4.7 Percentage distribution of people covered
2.17 % Population using improved Water Sources : SADC Comparison	56	4.8 Average spring yield (I/s) by district
2.18 % Population using Adequate Sanitation Facilities : SADC Comparison	57	5.1 Lesotho Petrolium Products Consumption
2.19 Main Lines per 100 of population	59	5.2 Long-term Mean Maximum Temperatures
		5.3 Long-term Mean Monthly Rainfall for Oxb



https://www.yunbaogao.cn/report/index/report?reportId=5_11945