



AFRICAN CENTRE FOR ADMINISTRATION MANAGEMENT DEVELOPMENT
RESEARCH AND TRAINING

FRAMEWORK FOR ACTION: NAMIBIA

REPORT PREPARED FOR THE NAMIBIA WATER PARTNERSHIP

October 2004

Report prepared for the Namibia Water Partnership
by ACAMDRet Namibia
P.O. Box 4825, Windhoek

TABLE OF CONTENTS

	GLOSSARY OF TERMS AND ACRONYMS	3
1.	INTRODUCTION AND BACKGROUND TO THE STUDY	4
2.	SOUTHERN AFRICA VISION	4
2.1	Sub-vision statements pertinent to Namibia	5
2.1.1	Equitable Access to Water of an Acceptable Quantity and Quality	5
2.1.2	Proper Sanitation and Safe Waste Disposal	5
2.1.3	Security from Natural Disasters (including floods and drought)	6
2.1.4	Integrated Water Resource Development and Management	6
3.	NAMIBIA WATER RESOURCE CONSTRAINTS AND CHALLENGES	6
3.1	Equitable Access to Water of an Acceptable Quantity and Quality	6
3.2	Proper Sanitation and Safe Waste Disposal	10
3.3	Security from Natural Disasters (including floods and drought)	12
3.4	Integrated Water Resource Development and Management	17
4.	FRAMEWORK FOR ACTION	19
5.	CONCLUSION	22
6.	BIBLIOGRAPHY	23

Glossary of Terms and Acronyms

SC-	Steering Committee
MAWRD-	Ministry of Agriculture, Water and Rural Development
NWRMR-	Namibia Water Resources Management Review
MRLGH-	Ministry of Regional and Local Government and Housing
MWTC	Ministry of Works, Transport and Communication
MLRR	Ministry of Lands, Resettlement and Rehabilitation
DRFN	Desert Research Foundation of Namibia
NWP	Namibia Water Partnership
GWP-SA	Global Water Partnership – Southern Africa
MET-	Ministry of Environment and Tourism
IWRM-	Integrated Water Resource Management
SADC-	Southern Africa Development Community
NamWater-	Namibia Water Corporation
DWA-	Department of Water Affairs
DRWS	Department of Rural Water Supply
LAs-	Local Authorities
CBM-	Community Based Management
RWS-	Rural Water Supply
NGO-	Non- Governmental Organisation
WASP-	Water and Sanitation Sector Policy
NDP -	National Development Plan
MOHSS-	Ministry of Health and Social Services
OPM-	Office of the Prime Minister
EMU-	Emergency management Unit
NEMC-	National Emergency Management Committee
WQ	Water Quality
mt	metric ton
CBO's	Community Based Organizations
CBM's	Community Based Management
FAO-	Food and Agriculture Organisation
DMC-	Drought Monitoring Centre
CCD-	Cold Cloud Density

1. INTRODUCTION AND BACKGROUND TO THE STUDY

In 2000, at The Hague (Holland) during the World Water Forum-2, the Southern African Vision for Water, Life and Environment was adopted. The time horizon for this vision was set for 2025. This SADC vision was adopted with 8 sub visions. Each country is requested to initiate consultations that will lead towards developing a “Framework for Action” (FFA) for achieving this vision. The outcomes of each country’s consultations will feed into the regional strategy, which has to be completed by December 2004. SADC requested the Global Water Partnership – Southern Africa (GWP SA) to facilitate the formulation of the Vision and the development of the FFA process.

Malawi, Mozambique and Tanzania were selected as pilot countries to hold in-depth consultations and to produce country FFA reports. The other SADC countries including Namibia were requested to hold non in-depth consultations from which the outcomes would contribute to the formulation of the regional FFA.

Namibia is an arid country. 22 per cent of Namibia can be classified as desert, having a mean annual rainfall of less than 100 mm. 33 per cent classified as arid, with a mean annual rainfall of between 100 and 300 mm. 37 per cent classified as semi-arid, with a mean annual rainfall of between 301 and 500 mm, and 8 per cent as sub-tropical, with a mean annual rainfall of between 501 and 700 mm. Associated with these low rainfall figures are high evaporation rates and a high degree of variation from year to year, including a few years of exceptionally high and low rainfall, as well as variable rainfall distribution patterns within a year¹.

Being the driest country in sub-Saharan Africa, Namibia’s water resources are extremely fragile. The problems associated with the resource base are compounded by the inheritance of water management regime designed in the pre-independence era to serve the political, economic and social priorities of those then in power, and underpinned by a Water Law suited to a water rich environment².

2. SOUTHERN AFRICA VISION

The SADC water vision is:

“Equitable and sustainable utilization of water for social and environmental justice, regional integration and economic benefits for present and future generations”

The sub-visions statements are:

1. Equitable and sustainable social and economic development in Southern Africa
2. Equitable access to water of an acceptable quantity and quality
3. Proper sanitation for all and safe waste disposal
4. Food security for all households
5. Energy security for all house holds
6. A sustainable environment
7. Security from natural disaster
8. Integrated water resource development and management

¹ National Drought Policy & Strategy, Windhoek, 1997

² National Water Policy White Paper, 2000

2.1 SUB – VISION STATEMENTS PERTINENT TO NAMIBIA

The SADC Vision is pertinent to Namibian Water, Wetland and Environmental assessment policies and the pending new water Act (herein also referred as the Water Resources Management Bill), particularly the fundamental principles. The water policy presents a “framework for equitable, efficient and sustainable water resources management and water services”. The water resource management bill provides for the management, development, protection, conservation and use of water resources in an equitable manner. While the environmental assessment policy specifically “acknowledges that Namibia is an arid country and that the scarcity of water and the country’s limited human and animal carrying capacity need to be taken into account prior to policy formulation and during all stages of planning.

All the sub-visions are pertinent to Namibia. However, through a consultative process Namibian stakeholders agreed to address four main areas:

- Equitable access to water of an acceptable quantity and quality
- Proper sanitation for all and safe waste disposal
- Security from natural disaster (including drought and floods)
- Integrated water resource development and management

2.1.1 Equitable access to water of an acceptable quantity and quality

The Namibian Water Vision is “to achieve equitable access to, and the sustainable development of, freshwater resources by all sections of the population especially the rural and urban poor, in order to promote long-term social and economic development”. The national vision is consistent with the SADC Vision. The challenges underlined by the national vision are realistic.

Equity is one of the fundamental principles in both the water policy where it says that all Namibians shall have the right to sufficient safe water for a healthy and productive life. The Water Resources Management Bill makes mention of equitable access to water resources by every citizen, in support of a healthy and productive life and of access by every citizen, within a reasonable distance from their place of abode, to a quantity of water sufficient to maintain life, health and productive activity.

Since independence, the government has continued developing water policies and regulations geared towards attainment of access to water of acceptable quantity and quality to all Namibians. This is an encouraging approach and the targets set are achievable.

2.1.2 Proper Sanitation for all and safe waste disposal

Rural sanitation, coupled with sound hygienic practices remain until today a challenge in Namibia. It is estimated that over 80% of Namibians in rural areas do not have access to acceptable means of sanitation thus exposing the rural poor to diseases such as typhoid, poliomyelitis, infective hepatitis A, food poisoning etc.

However, with urban sanitation, facilities have improved tremendously as compared to rural sanitation. There are several policies, strategies, regulations and by-laws, which have been adopted by local authorities, municipalities and village councils on issues pertaining to sanitation and safe waste disposal.

2.1.3 Security from natural disasters (including floods and drought)

National disaster is defined as “ a serious disruption of the functioning of a large segment of Namibia’s population caused by drought, flood or other natural or man made situations⁴. In 1998 the Government established the Emergency Management Unit whose objectives are to ensure that during times of disasters there are appropriate response mechanisms, procedures and resources to assist victims of such disasters. The 2004 flood disaster in the Caprivi region serves as a good example in which Government mobilized resources both nationally and internationally to assist the flood victims in that region. Namibia’s drought policy is concerned with developing an efficient, equitable and sustainable approach to drought management. The policy aims to shift responsibility for managing drought risk from government to the farmer, with financial assistance and food security interventions only being considered in the event of an extreme or disaster drought being declared.

-The thrust of the policy is a move away from regular financial assistance to large numbers of private tenure and communal tenure farmers to measures that support the on –farm management of risk

2.1.4 Integrated water resource development and management

For Namibia, a dry country, it is paramount to develop an integrated approach to developing and managing water as a finite resource. A national strategy towards this end should be seen as a road map to guide the changes needed to move from a fragmented to an integrated way of developing, managing and using our water resources in the most optimum way.

An integrated approach is one of fundamental principles of the Water Policy. Water resources form part of an inter-connected natural system on which society depends. Management and Planning of water resources shall be integrated across economic, environmental and social dimensions. Sound planning depends on a thorough knowledge of natural systems and the government is committed to the collection, analysis and management of information and ongoing research.

3. NAMIBIA WATER RESOURCE CONSTRAINTS AND CHALLENGES

3.1 Equitable access to water of an acceptable quantity and quality

The provision of enough water of acceptable quality for the whole of Namibia is a massive challenge to the Government. Soon after independence, the Government of Namibia embarked on changes geared towards changing the development and management of water resource. The overall objective of the government was to increase the supply of water in a sustainable way. In this regard, the Department of Rural Water

⁴ National Disaster Plan, 1998

Supply (DRWS) was established in 1993 to solely participate in supplying water to rural communities. In 1998 and in desirability of commercializing bulk water supply, NamWater was established. In the same year (1998), the Namibian Water Resources Management Review Team was constituted to carry out an assessment into the Namibian water sector. The outcome was the National Water Policy White Paper of the year 2000. Below is a situation analysis of both water quality and quantity.

Water quality

Situation analysis:

Namibian water quality standards are classified as A, B, C and D with quality A being the best quality and D the least in quality. With the absence of a water quality policy in Namibia, water quality guidelines are used to ascertain water quality. [And] although NamWater supplies water of equal standard with that of South Africa, the NamWater Act does not provide for a regulatory body that deals with matters relating to tariff setting, water quality and the reliability of water supply⁵.

These water quality standards are outdated and do not take into account, for example, the formation of geosmin and trihalomethanes as a result of high levels of dissolved organic carbon.

The current Water Resources Bill provides for development and maintenance of the capacity to test, monitor and verify the quality of the water supply. This is a welcome shift in water quality practice.

Waterborne diseases occur and endanger the lives of those who abstract surface water.

Additionally levels of salinity of underground water are a point of concern because salinity compromises the quality of water.

Water demand management is being practiced in Windhoek and at the coast and some few other local authorities. Water uses need to be prioritized all over the country so that water conservation can be attained.

There is the issue of lack of regulation to prevent adverse environmental impacts or health but pollution continues in the absence of lack of pollution control. For instance, a major textile company in the city has been singled out as a polluter of surface and underground water systems. The regulations are in place but they are simply disregarded or “exceptions/ exemptions” are made.

The new law will clamp down strongly on water pollution and prescribes that permits be issued for any discharge of effluent to water resources or that which may contaminate groundwater e.g. it does not allow the construction of any effluent treatment or water disposal works above underground aquifers.

The permit system to disposing harmful and contaminating waste and penalties needs to be reviewed and penalties beefed up so as to act as effective deterrent.

⁵ Legislative and Regulatory Framework Theme Report, NWRMR, 2000

What needs to be done

- Water regulation and legislation should be harmonized in line with the new Water Resources Management Bill, the Environmental Assessment Policy and the draft Environmental Legislation of the Ministry of Environment and Tourism to ensure that water quality is standardized and that it meets the standards that are the benchmark for water quality. The pending water Bill is a good start in setting targets for legislation of water quality standards.
- A thorough policy against polluters needs to be in place. Enforcement against potential polluters needs strengthening as cases against polluters rarely reach the courts.
- Penalties should be reviewed as to be effective against polluters.

Who should be the actors

The Ministry of Health and Social Services (MOHSS)
Namibia Water Corporation (NamWater)
Municipalities/Local Authorities
Department of Rural Water Supply (DRWS)
Department of Water Affairs (DWA)

When this can be achieved

- With the promulgation of the pending new Water Bill.
- Development of regulations setting appropriate standards and guidelines for water quality as well as setting out strict penalties for not meeting these standards or causing pollution.

Water Quantity

Situation analysis:

The status of water coverage in rural areas is at 80% while that of the urban areas is at 98%.

In Namibia the set standard minimum water supply is 15 litres per person per day⁶. This target is set to be achieved in the year 2006. However, since water is a basic human right, there is need to increase the standard minimum water supply to 25 litres per person per day.

The billing system currently being used by some Local Authorities is outdated and affects the supply of water. It does not provide meaningful management of information and has contributed to poor water revenue collection. This means consumers may either end up not paying or paying more or not getting serviced. A case in point is the Okakarara town where NamWater stopped water services because residents were unable to pay.

⁶ Second National Development Plan (NDP2), NPC 2001/2002 – 2005/2006

NamWater should look at charging reasonable prices for bulk water while maintaining an acceptable quality of services at all time. Research carried out by Van de Merwe in 1999 has indicated that... “The incentives that exist for local authorities to supply water in a productively efficient manner are questionable. There are several manifestations of inefficient behavior in local authorities”.

With the rural communities, the user-pay system is not favorable to their economic condition. Rural communities need to be subsidized if the expected water quantity levels are to be attained for both rural and urban Namibians. However, transferring ownership and control to rural communities is to be commended.

There is a challenge to the Community Based Management (CBMs) Committees. Legal status and authority ought to be accorded to all the Water Point Committees (WPC's) so that they can have more control in levying charges.

Drilling of water in the water control areas is subject to a permit system. Outside the water control areas no permit is required. This has the potential for the proliferation of groundwater abstraction without the resource manager's control⁷. This affects the conservation and management of water sources and may eventually end up affecting the very water quantity.

There is need for a partnership between government service providers (e.g. DRWS), private service providers such as NamWater, consultants and rural communities⁸ to be spelt out. The idea is to have 90% water coverage by the year 2010.

There are the water requirements of the environment too. The water policy includes a fundamental principle on ecosystem values and sustainability where the management of water resources needs to harmonize human and environmental requirements, recognizing the role of water in supporting the ecosystem.

The water policy also has a provision on environmental water reserve which legislation provides for determining an environmental water reserve for freshwater sources before they can be used to supply any other demand than domestic and subsistence livestock watering. This requirement should be enforceable for any large-scale water withdrawal.

What needs to be done

- Development of infrastructure so that the 2006 targets set on NDP2 are met.
- Increase the minimum supply of water per person to 25 litres at the least cost.
- Ensure water is affordable to all consumers.
- Cost recovery
- Determination of environmental water reserves for all water resources and implementation of this.

Who are the key actors

⁷ Legislative and Regulatory Framework Theme Report, NWRMR, 2000

⁸ Digest of the Water Supply and Sanitation Sector Policy (WASP), 1993

DWA
DRWS
NamWater
Municipalities/Local Authorities
NGOs

When this can be achieved

-By 2006- an increase in water provision from 75% of the rural population to 80%⁹. Achievement of this target will result to a maximum walking distance of about 2.5 km.
-By 2010- ensure by this time that all urban population is within 0.5km of a safe water supply point.

3.2 PROPER SANITATION AND SAFE WASTE DISPOSAL

Sanitation: Situation analysis

Management of rural sanitation shifted from the MAWRD to MoHSS in 1996, and is expected to further shift to Regional Councils due to decentralization while urban sanitation remained the responsibility of the MRLGH.

There has been slow development that hampered progress towards attainment of the NDP1 targets of universal coverage by 2006.

Emphasis for rural sanitation is still on “bricks and mortar” approach.

More than 80% of rural communities, especially in Northern regions are without sanitation facilities such as latrines, while in urban areas the coverage is satisfactory.

To date 28% coverage for rural sanitation has been attained, while 92% coverage in urban areas has been achieved. However the NDP2 is contradictory on the recorded % coverage of rural sanitation because in its targets, it suggests increasing rural household access to adequate sanitation from 18.9% to 50% by 2006.

The MoHSS has good strategies in place on how to plan and implement rural sanitation measures, but little is being done to achieve those objectives.

Legislations, regulations, strategies and standards exist but most originate from pre-independence era.

Inter-sectoral coordination between MoHSS and other government sectors and NGO's is currently weak.

Community participation in planning and implementation is almost non-existent.

Training institutions for Environmental Health staff is non-existent in Namibia and can only be undertaken outside the country.

⁹ NDP2

Lack of awareness on sanitation issues in rural areas is a concern.

The problem relating to cultural values and beliefs is one of the set backs for planning and implementation of the ministry's planned projects.

Achievements to date

- In terms of the Namibia Demographic Health Survey of 2000 preliminary reports indicates that sanitary coverage in rural areas slightly improved from 16% in 1992 to about 18.9% in 2000. This represents a mere 3.9% growth during 8 years.
- But, the Second National Development Plan, Chapter 23 indicates an average of 28% coverage in rural sanitation having been achieved to date.
- 92% coverage in urban areas has also been achieved to date.

What needs to be done

- Increase % of rural households with access to adequate sanitation from 18.9% to 50% by 2006 by focusing on promoting and facilitating availability of affordable sanitation options, and promoting hygienic behavioural change at household level, while ensuring the protection of ground water sources.
- Increase school coverage with adequate sanitation facilities from 55% to 100% with the Ministry of Basic Education, Sports and Culture.
- Develop and implement an education and awareness hygiene programme for targeted areas.
- There is need for research on appropriate disposal methods
- Government should increase budget on sanitation
- The MoHSS should establish regulatory mechanisms
- The MoHSS should provide appropriate incentives to those who adhere to regulations
- The MoHSS should adopt the polluter-pays principle
- There is need to review policies and strategies that are in existence.
- The implementing agency should establish and empower community -based institutions for sanitation
- Introduction and acceptance of latrine culture

Who are the key actors

MoHSS

DWA/MAWRD

Ministry of Regional, Local Government and Housing (MRLGH)

Municipalities/Local authorities

Private sector

NGOs

Safe Waste Disposal: Situation Analysis

Local authorities in urban areas are responsible for collection and disposal of waste on cost recovery basis.

In many cases the disposal of hazardous and medical waste at general dumping sites continues.

A number of the newly-established towns and villages are experiencing problems with solid waste collection, particularly in informal settlements.

There is no integrated planning and control system to deal with the environmental and health hazards and impacts from waste collection and disposal.

There are limited financial resources to undertake such activities especially on local government level.

What needs to be done

- Expand recycling options;
- Enhance mechanisms to collect solid waste from outside the municipal boundaries;
- Ensure that hazardous waste, including medical waste from health facilities, is separated at source and safely disposed of;
- Strengthen awareness activities for solid waste disposal, littering and recycling;
- There is also need for research on appropriate disposal methods;
- The implementing agencies should look at establishing uniform regulatory mechanisms;
- Implementing agencies should constantly review policies and strategies

Who are the key actors

MRLGH
MoHSS
MET
Local authorities
DWA

3.3 SECURITY FROM NATURAL DISASTERS (INCLUDING FLOOD AND DROUGHT)

FLOOD: SITUATION ANALYSIS

Floods are most prevalent in Caprivi, the Cuvelai, Kunene and Kavango regions, and to a lesser extent in Hardap and Khomas regions.

In the case of Mariental in Hardap, the factors that have contributed to the severity of floods is their vulnerable location.

Heavy rainfall has caused occasional floods and considerable damage to lives and property in Caprivi, Kavango, Kunene, Hardap and Khomas regions.

Damage and disruption of agricultural activities, either stock or crop farming are dependent on the magnitude and duration of floods, and it is difficult for the population to develop stable living patterns.

Better flood monitoring and warning are of assistance in reducing the drainage, especially the risk for human life, caused by flood.

In the case of the Caprivi flood disaster in 2004, it was discovered that the SADC Drought Monitoring Center in Harare, Zimbabwe, could not provide adequate information of the high rainfall storms that led to the disaster.

There is no radar coverage and the Cold Cloud Density images apparently did not provide adequate warning for the Caprivi floods.

Direct coverage by rainfall stations reporting in real time is virtually weak and unreliable.

Namibia's Wetland Draft Policy Vision (Namibia's Draft Wetland Policy, April 2004) is to manage national and shared wetlands wisely by protecting their vital ecological functions, life support systems and biodiversity for the current and future benefit of people's welfare, livelihoods and socio-economic development.

The following are the objectives of this draft policy:

- protect and conserve wetland diversity and ecosystem to support basic human needs;
- provide a framework for sustainable utilization of wetland resources;
- promote the integration of wetland management into other sectoral policies;
- recognize and fulfill Namibia's international and regional commitments concerning shared wetlands and wetland of international importance.

The Ministry of Environment and Tourism is in a process of developing a Draft Wetland Policy, which is in its final stages and it is hoped that it will soon be approved. The policy describes wetlands as inclusive of a large variety of highly productive habitat types including rivers, lakes, floodplains, shallow pans and marshes. They are areas that have acquired special characteristics from being wet on a permanent or temporary basis.

This policy recognizes the following categories and types of wetlands in Namibia based on the International Convention of Wetlands:

- Coastal wetlands including acturaries, deltas, river mouths, tidal lagoons and the rocky shoreline to a depth of 6m.
- Perennial, ephemeral and seasonal wetlands along rivers and streams
- Freshwater, saltwater, perennial, seasonal and ephemeral lakes and pans, including subterranean karst lakes (e.g Lakes Otjikoto and Guinas)
- Marshes, swamps and vleis
- Artificial wetlands (salt evaporation pans, State impoundments, farm dams, reservoirs, sewerage treatment ponds, aquaculture ponds, constructed wetlands for wastewater treatment and mine drainage).

What needs to be done

- Design a disaster mitigation plan;

- Determine the vulnerability of communities to natural disasters;
- Proof communities against disasters;
- Forecasting extreme natural climatic events must be reliable and constantly monitored;
- Response mechanisms to forecasts of extreme events must be effective;
- Incorporate these strategies and mechanisms into the SADC protocol on Shared Water Systems.
- Better flood monitoring and warning systems.
- Provision of emergency rescue equipment.

- People of Caprivi for instance living in the flood plains and some river systems maintain that their forefathers lived in these areas and experienced the same floods and therefore it will be absurd for them to move permanently to other areas for fear of floods. However, flooding is a natural occurrence and it is important to maintain the overall health and productivity of these floodplain systems and avoid building or other permanent settlement within floodplain areas!

- With regard to wetlands, the following are challenges that needs action:
 - escalating water scarcity is regarded as the greatest challenge to sustainable development in Namibia for instance, because of its aridity;
 - human demand for water in Namibia is expected to increase at least 250% between 2003 and 2030¹⁰. While the water demand for domestic, livestock, mining and industry is expected to increase only slightly over this period, the water demand for irrigation is likely to continue to increase considerably¹¹.
 - although access to clean drinking water and adequate sanitation has improved since independence, meeting national goals in this regard is challenged by the population growth rate.
 - during the past three decades yields of plant foods, fish and mammals associated with wetlands have declined noticeably in Namibia, as elsewhere in southern Africa¹².
 - catchments run-off carries nutrients, salts, sediments and pollutants into waterways and eventually wetlands, where they settle. As populations grow and become more industrialized, they will have to cope with greater volumes of polluting waste and more dangerous polluting substances accumulating in wetlands and contaminating water supplies.
 - other challenges that needs to be guarded against relate to wetland degradation caused by:
 - over exploitation of resources
 - over abstraction of surface and ground water
 - lack of adequate ecological protection
 - declining water quality
 - altered hydrology
 - introduction of invasive species
 - aquaculture

¹⁰ NPC, 2001

¹¹ The National Agricultural Policy aims for a five fold increase in irrigation

¹² Barnard 1998, Turpie *et al* 1999, Hay 2000

- climate change

Who are the key actors?

MAWRD
EMU
MWTC
MRLGH
MET
NGO's
The Private Sector
NNFU/ FA's/ NAU
Local Communities

DROUGHT: SITUATION ANALYSIS

Water is always a problem, either its scarcity or abundance. Its variable conditions manifest itself into either drought or floods. Namibia being a dry country has faced droughts over the years leading to loss of lives, livestock and poor crop production.

The country had to rely on the distribution of food aid to the affected areas in order to preserve life. This led to the establishment of the Emergency Management Unit in the Office of the Prime Minister in 1998.

The rural areas and agricultural sector are in general most affected by the incidence of drought in Namibia.

The frequent involvement of Government in drought scenarios led to perception amongst the populace that the government bears the responsibility for risk management.

In turn this has discouraged farmers for instance from adopting risk minimizing practices and as such led to the potentially unsustainable use of water both within and between sectors.

The Namibia National Drought Policy and Strategy of 1997 identifies four main shortcomings of previous government policy towards drought:

- Lack of adequate definition of drought;
- The government has borne responsibility for risk management thus discouraging the private sector;
- A number of drought programmes have led to unsustainable farming practices, for example fodder subsidy; and
- Food distribution programmes have been inefficient, costly targeted and of limited impact on household food security.

Adopt the following measures in order to combat drought efficiently and effectively:

- self reliance,

- preparedness
- coping using tried and tested indigenous methods to survive dry periods

What has been achieved

- The Drought Policy is not being implemented except handouts being given to vulnerable groups by the EMU, such as:
 - i) The current programme on the distribution of food aid to orphans and other vulnerable children in six regions of Caprivi, Kavango, Oshikoto, Oshana, Omusati and Ohangwena.
 - ii) The programme on the distribution of the 500 metric tones of rice donated by the People's Republic of India for the needy people in Otjozondjupa and other regions.
 - iii) The programme on the distribution of the 2000 mt of yellow maize donated by the People's Republic of China and 5000 mt of millet donated by the People's Republic of India for the needy nationwide is a success.
 - iv) The distribution of crop seeds to those affected by floods in Caprivi in cooperation with FAO for purposes of cultivation is also a huge success.

What needs to be done

- Where drought incidences are common, alternative methods of crop production should be investigated.
- Adoption of risk minimizing practices by the private sector
- Minimize reliance on drought food programme through increased household food security.
- Encourage and support farmers to adopt self- reliant approaches to drought risk;
- Ensure adequate reproductive capacity in livestock herds in affected areas during drought periods;
- Ensure the continuous supply of potable water to communities, and particularly to their livestock, their schools and their clinics;
- Minimize the degradation of the natural resource base during drought;
- Enable rural inhabitants and the agricultural sector to recover quickly following drought;
- Ensure that the health status of all Namibians is not threatened by the effects of drought;
- Finance drought relief programmes efficiently and effectively by establishing an independent and permanent National Drought Fund.

Who are the key actors

MAWRD/DWA & RWS
 EMU/ REMU's
 MLRR
 MRLGH
 NGO's
 Private Sector
 MET
 NNFU/FA's/ NAU

3.4 INTEGRATED WATER RESOURCE DEVELOPMENT AND MANAGEMENT

SITUATION ANALYSIS

The concept of integrated water resource development and management is a noble concept that must take integrated planning as its core. All sectors should take into consideration water availability before development can take place. Integrated planning will ensure water development and management from source to the end user involves all stakeholders. It is an approach that will encourage partnerships and strong multi-stakeholders groups and individual users due to its cross-cutting nature.

Although this approach has not been quite practiced in Namibia, there has been substantial development of water infrastructure and water resources since independence. The call is to ensure integrated management approach between the Government Ministries, NGO's, the private sector and all water users. The development of legislation since WASP in 1993 and subsequent regulations has been encouraging too. Additionally there have been the MRLGH's Model Water Supply Regulations of 1996, the Namibia Water Resource Management Review (2000) and the Water Policy (2000) all of which have contributed significantly to water sector reform.

The policies and regulations in place have identified areas of priority. The challenge is to establish a consensus and common understanding among stakeholders. At the moment there is need for more infrastructure development if the targets and indicators set are to be achieved.

For this to be realized there is need to have a new water Act in place. The Water Resources Management Bill needs to be promulgated sooner.

Development in water management has also been encouraging. The first important step (in the pending new Water Bill) was the dealing away with the riparian principle, which made a distinction between 'private' and 'public' water. However, the new bill provides for the legal recognition of community-based rural water supply management institutions, to encourage and enhance community ownership of water supply infrastructure and accelerate the process of cost recovery

There have been tremendous efforts to develop the essence of community ownership and management of water resource. The pending Bill grants for the establishment of Basin Management Committees for the purpose of better managing the water resources. This will allow for community participation in use, protection, development, conservation, management and control of water resources.

The Bill also allows for the formation of Water Point Committees, Water Point Users' Associations and Water User Associations. This is to ensure both the management and decision-making is delegated down to the communities as the end users.

The need for Water Demand Management (WDM) is crucial to optimal use of water. It is estimated that 50% of all local authorities have WDM measures in place¹³.

¹³ NDP2, Chapter 12 (p222)

The permit system to water drilling and abstraction needs also need to be investigated for this might end up affecting the water resource conservation and management. Control need to be maintained. The new bill introduces a comprehensive licensing system for the extraction and use of water as well as for the discharge of waste- water.

There is need to manage water resources in an equitable manner with due consideration to the environment. The intention was to have monitoring strategy plans finalized for all water management basins in Namibia by 2003.

Since Namibia shares all its perennial rivers with other countries it is vital to participate with neighboring riparian states in development of a common agenda regarding shared watercourses.

An integrated approach to water development and management requires capacity building among all stakeholders.

What needs to be done

- Promulgation of a new Water Act
- Involve all stakeholders
- Ensure adequate cost recovery
- Encourage Community ownership and management of resource
- Capacity building to members of rural communities in water management
- Coordinate/integrate planning
- Promote conservation measures and reduce wastage

Who are the key actors

MAWRD
MLRR
MET
Local Authorities
NGOs
Individual users

When this can be achieved

With the Promulgation of the new Water Act and development of pertinent regulations to support the implementation of this act.

4. FRAMEWORK FOR ACTION

SUB VISION	CHALLENGES	ACTIVITIES	RESPONSIBLE	INDICATORS
<p>Equitable access to water of an acceptable quantity and quality</p>	<ul style="list-style-type: none"> -need for Namibia water service guidelines -need to increase coverage in line with population growth and distribution -need to develop regulations for new bill -delayed enactment of the new water bill to repeal the old Act -training for CBM personnel -need for cost recovery -monitoring the quality of artificially and naturally stored water -billing and tariffs 	<ul style="list-style-type: none"> -collect existing guidelines (Namwater RWS) -formulate water quality and service policy -consult to discuss guidelines (but are already available) -review of coverage & accessibility -implement study on coverage & accessibility -compile regulations -initiate new administrative system to implement new law -initiate pricing and tribunal regulator (statutory body) -initiate billing guidelines for rural communities -initiate national consultative workshop -focus on water infrastructure development -continue community water supply management support programmes -implement decentralization -begin public awareness and information campaign -regulate/harmonize public water utilities (NamWater, Municipalities/Local Authorities) -outsource non-core activities e.g maintenance -determine environmental flow requirements of major water resource - develop appropriate WQ regulations to protect surface and groundwater for pollution and other threats - have wetland policy finalized and promulgated 	<ul style="list-style-type: none"> -DWA -DRWS -MoHSS -NamWater -Municipalities/ Local Authorities -NGOs -Communities -All other stakeholders 	<ul style="list-style-type: none"> -guidelines developed and published by 2006 -approval and implementation of guidelines

<p>Proper Sanitation for all and safe waste disposal</p>	<ul style="list-style-type: none"> -strengthen inter-sectoral coordination e.g government, NGOs, private sector -training Institution for Environmental Health Officers -create awareness on sanitation issues in rural areas (management of municipal, industrial and health care risk) -create awareness on issues of hazardous and medical waste at general dumping sites -resource mobilization -lack of sanitation infrastructure -to review/update (when necessary) and harmonize existing policies and monitoring 	<ul style="list-style-type: none"> -establish an inter-sectoral review committee -establish a monitoring plan -create awareness education programmes on hygiene -increase municipal and government budget on sanitation -construct sanitation systems for communities - foster latrine culture in communities - conduct feasibility study on waste management (municipal, industrial and health care) 	<p>Communities DWA/MAWRD MRLGH MoHSS NGOs Municipalities/Local authorities Private Sector REMU UNDP MWTC, Meteorological Centre</p>	<ul style="list-style-type: none"> -number of incidents of illegal dumping -percentage of waste management property -permission to turn informal settlements into permanent residence -percentage increase in sanitation coverage
<p>Security from natural disaster (including drought and floods)</p>	<ul style="list-style-type: none"> - to develop understanding of natural variability and capacity to adjust timeously - to prepare in advance- a pro-active approach - how to involve local people affected by floods and drought - impact on economic value of floods and drought/ livelihood impacts - co-ordination among emergency services -co-ordination/integration amongst natural resources – line 	<ul style="list-style-type: none"> -collect and integrate local/ indigenous and scientific knowledge of floods and drought in include these in school curriculum -involve Farmers' Associations (FAs) in planning for floods and drought -include communal farmers in risk minimization -include floods and drought information in town planning and land use planning -ensure that early warning information is available at local level -apply regulations concerning floods and 	<p>MAWRD EMU MLRR MRLGH MWTC NGO's Private Sector ALAN MET CBO's NNFU/ FA's/NAU Media Local Authorities (Municipalities, Towns and Villages) Regional Councils</p>	<ul style="list-style-type: none"> -appropriate media coverage -committed leadership who provide appropriate information on floods and drought -school curriculum that includes information about drought and floods -risk minimization a national priority and on agendas at national and regional level -presence of appropriate

	<ul style="list-style-type: none"> ministries to help people cope with normal aridity -provide better flood monitoring and warning system -provide emergency equipments and machinery -ensure increased household food security -ensure measures to combat drought are efficient 	<ul style="list-style-type: none"> drought for building -implement the drought policy and strategy -investigate alternative methods of crop production should e.g. irrigation, plant drought resistant crops, etc. -apply drought policy -adopt risk minimizing practices by the private sector, and communal farmers e.g. within conservancies especially commercial farming -ensure early warning systems are in place 		<ul style="list-style-type: none"> regulations for town development -Frequency of the amount spent on ongoing drought relief is reducing -extent to which drought strategies are reflected in natural resources- line ministries
Integrated water resource development and management	<ul style="list-style-type: none"> -involving all stakeholders at appropriate level -commitments -implementation of IWRM -confirmation of the decentralization policy -monitoring and evaluation -ownership and accountability at all levels -finances to more water infrastructure development -empowering and training of CBM committees -continuing the decentralization policy -implementing gender policy and its recommendation by 2006 	<ul style="list-style-type: none"> -raise awareness -ensure sustainability in demand & management -strengthen community capacity to demand service providers -identify key champion (OPM, statutory body) -ensure legal framework -have a strategy document -establish basin management committees (BMC) for all basins e.g. kuiseb, cuvelai, etc. -have scheme management on e.g. waste, land, etc. -privatize coordination of projects -speed up applied research and use of appropriate technology -have obligations on shared water -increase data collection and monitoring of water resources -promote water demand management 	<ul style="list-style-type: none"> -MAWRD -MLRR -MET -unicipalities/Local Authorities -NGOs -Individual users -MoHSS -MME -NPC -Regional Councils -Town and Land Use Planners -MLLR -NWP -NGO's 	<ul style="list-style-type: none"> -Number of activities of IWRM. Mechanisms increased -Annual report -Sectoral indication e.g. quality, access, health -NDP evaluation, vision 2015-2025 -state of environmental report

5. CONCLUSION

In developing a national Framework For Action (FFA), Namibia needs to move quickly to establish a New Water Act that recognizes that since independence there has been a substantial growth in population and that water use priorities have changed.

There is need to enhance the development of appropriate regulations to support the New Water Act, the determination of environmental flow requirements, the protection of water courses from alien invasive plants, recognition of our obligations on shared water courses, instilling a “latrine” culture in rural areas to improve sanitation, applying the drought policy in the spirit that is intended and recognizing the values and natural process of floodplains and not building in them, promoting the wetland policy to protect our precious water resources and increasing the penalties for water pollution and wastage offences and the introduction of block tariffs for water to allow cross subsidization for poor people.

With the government creating an enabling environment through legislation and decentralization, water sector reforms will ensure improved access to water for all. As the major key stakeholders, water, agriculture and land sectors should be at the center of formulating an integrated approach to water resource development and management. However, networking and views of all stakeholders should be encouraged for a national framework for action to be attained and therefore contribute meaningfully towards the regional framework for action.

6. BIBLIOGRAPHY

1. Water Act, Act No. 54, of 1956, Ministry of Agriculture, Water and Rural Development (MAWRD)
2. Second National Development Plan (2001-2002- 2005/2006) National Planning Commission, 2003
3. Water Resources Management Bill: Final Draft, 2000
4. National Water Policy White Paper, 2000
5. A Digest of the Water Supply and Sanitation Sector Policy of the Government of Namibia, 1993
6. Bethune S., Defining the Legal Framework for the Okavango River Basin, 2004
7. Legislative and Regulatory Frameworks: Theme Report, Namibia Water Resource Management Review, 2000
8. Decentralization in Namibia: Policy, its Development and Implementation, Ministry of Regional, Local Government and Housing, 1998
9. National Strategy on Sanitation: Ministry of Health and Social Services, 1998
10. National Drought Policy & Strategy, National Drought Task Force, 1997
11. City of Windhoek: Disaster Management Plan, 2002
12. National Disaster Plan, 1998
13. Namibia's Draft Wetlands Policy: MET, 2004