

## **Annexure 1**

## Integrated Water Resource Development and Management

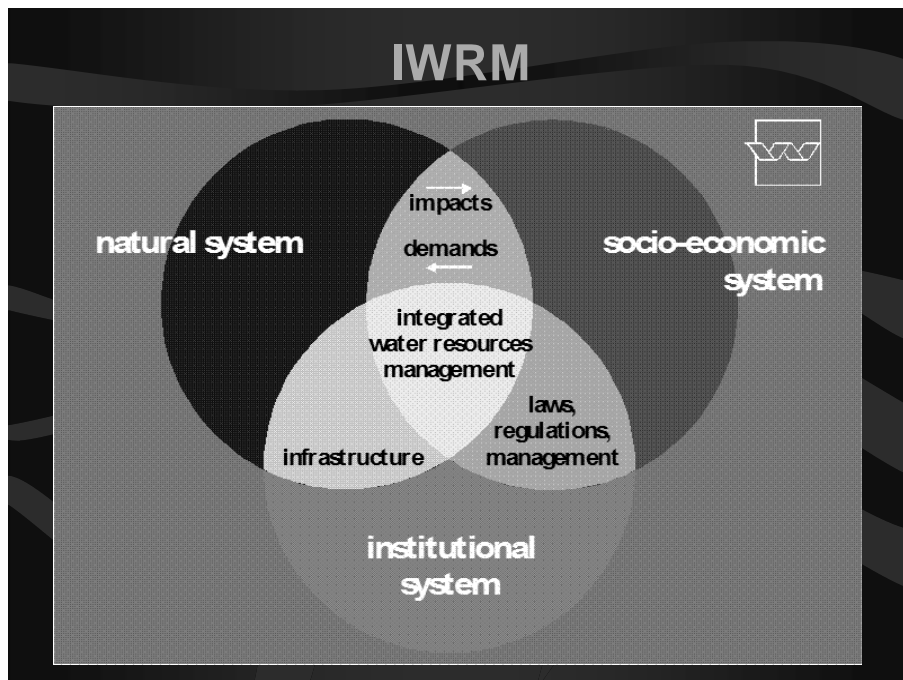
### PRESENTATION STRUCTURE

- Definition of IWRM
- Diagrams
- Namibia & IWRM
- Some examples
- Conclusions

### INTEGRATED WATER RESOURCE MANAGEMENT

*A process that promotes the co-ordinated development and management of water, land and related (natural) resources, in order to maximise the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems*

GWP& E. van Beek TU Delft

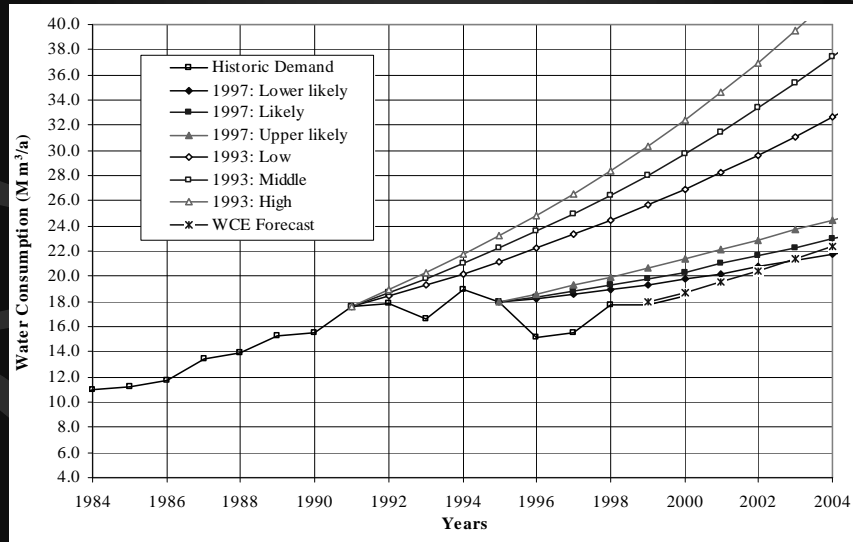




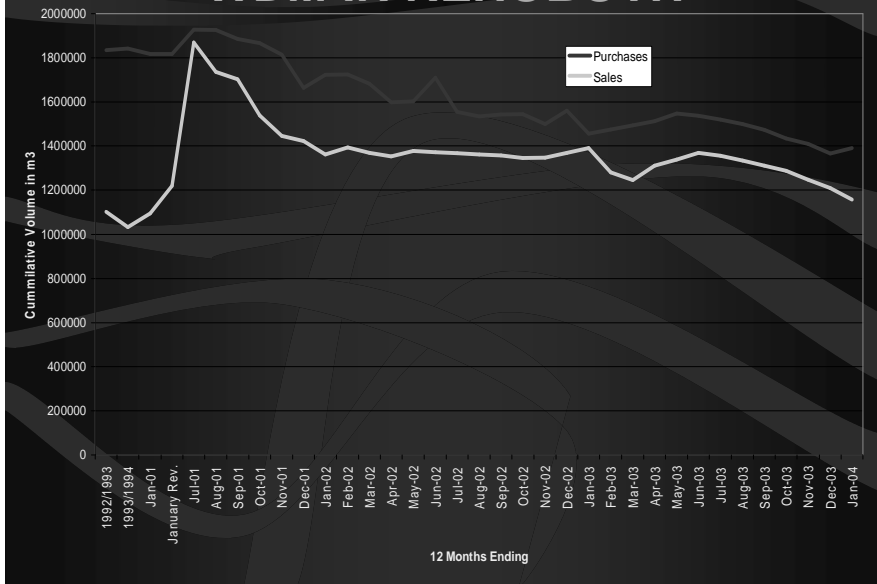
#### DEMAND VERSUS SUPPLY SIDE

- WDM (demand side measures): Windhoek, Rehoboth, Swakopmund & Walvis Bay
- Reuse does not impinge on primary resources: Windhoek, Swakopmund, Walvis Bay, Otjiwarongo
- Artificial recharge = efficiency improvement of existing source (Omdel & WINARS)

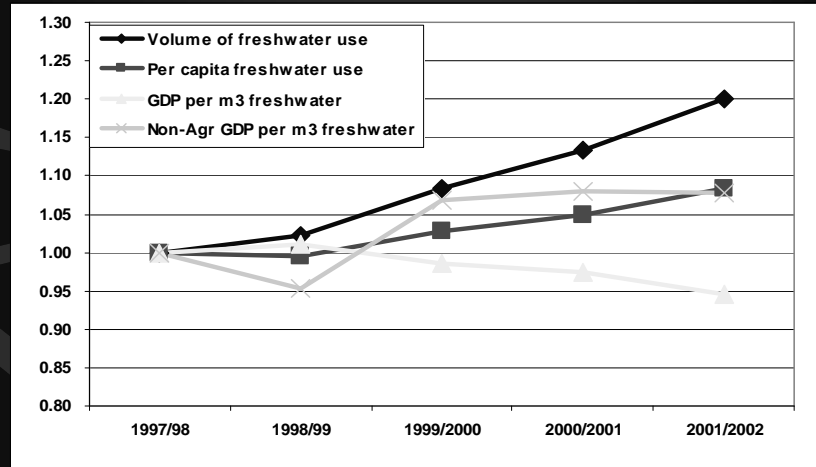
# WDM IN WINDHOEK



# WDM IN REHOBOTH



# NATIONAL RESOURCE ACCOUNTING



## CONCLUSION

- Integrate management of land & related resources
- Maximise economic output & benefits
- Equitable manner
- Without compromising sustainability of vital ecosystems

## **Annexure 2**

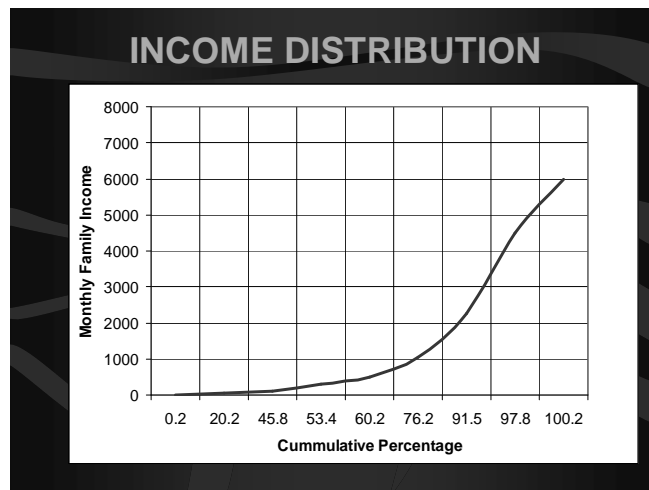
## EQUITABLE ACCESS IN URBAN AREAS OF NAMIBIA

### PRESENTATION STRUCTURE

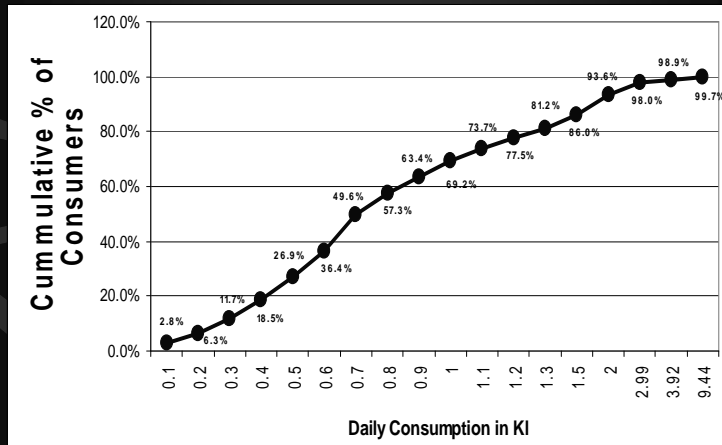
- Access according 2001 Census
- Level of access & Water Quality
- Social & economic issues

### ACCESS AND QUALITY

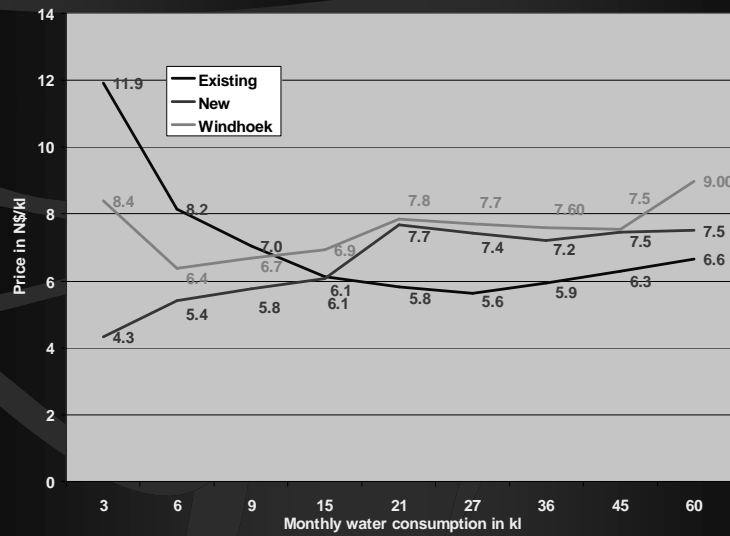
- Coverage in urban areas: 98%
- Onsite 80%
- Within 100 meters 14.1%
- Further than 100 meters: 3%
- Quality good except for rural settlements
- Namibia requires updated water quality guidelines
- Access in informal areas not satisfactory
- Windhoek: Different service levels with upgrading plans

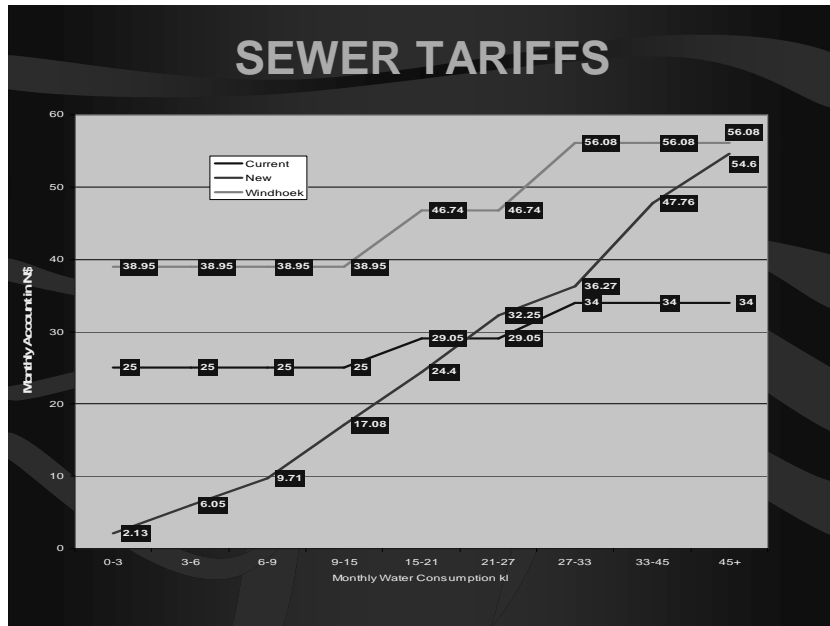


# CUSTOMER PROFILE



# WATER TARIFFS





### SOCIAL ASPECTS

- National Policy based on cost recovery
- No baseline water free of charge
- No social budget to subsidise
- Water Sector and users have a joint responsibility to make water available to the poor.

### COMPARATIVE TARIFFS

Cons KI	WHK	OKA	KAR	OKAK	REHO
3	8.04	8.65	15.82	20.91	4.33
6	6.11	6.65	10.80	13.25	5.42
9	6.38	5.98	9.15	10.69	5.78
15	6.61	5.45	7.82	8.65	6.07
20	6.69	5.25	7.32	7.88	7.69

## CONCLUSION

- Access and quality acceptable
- Free baseline water
- Maximise economic output & benefits
- Equitable manner
- Without compromising sustainability of vital ecosystems

### **Annexure 3**

**EQUITABLE ACCESS TO WATER: RURAL WATER SUPPLY**  
***WATER IS LIFE, SANITATION IS DIGNITY***

**BACKGROUND**

- 75 % of the Namibian population live in the rural areas (1,2m)
- Most of the rural communities live far away from water sources
- Traditionally use to rely on rain water, wells, ponds
- Part of the country especially in the north East, ground water is blackish

**EQUITABLE ACCESS**

- Equity= equal access to water
- Rights are guaranteed in the Constitution
- Wasp
- Water policy
- Equity is the number one fundamental principle in the water bill

**INITIATIVES IN RURAL SUPPLY WATER SECTOR**

- WASP 1993
- A strategy for CBM 1997
- 75% of rural population now have access to clean water (safe?) by 1999
- Community institutions (water points committees have been established
- Training has taken place

**Is equitable access achieved?**

- Yes and No
- Yes, there is no more barriers to access
- Policy and legal framework
- No
- Water is not treated as human rights- mere recognition
- NDP2 is partially implemented
- CBM, has not been successful implemented
- Implementation was fast track
- Poverty
- Slow pace of decentralization
- Affordability and cost of water- lack of pricing policy
- Commercialization of Bulk water
- Proclamation of rural village into towns

## **QUANTITY and QUALITY**

- Quantity: Government has done a lot to ensure that water is available to rural communities since independence
- Access has improved from 43% to 80 %
- Policy is in place

## **QUALITY**

- Hot potato
- Fragmented institutions
- Guidelines for drinking water not yet published as stated in NDP2
- Monitoring not visible
- MHSS –not core
- Lack of water services policy

## **Final thought**

- Access to a tap and toilet is of no use if the water stops flowing or the toilet no longer works
- Sustainability means that services are affordable

## **Annexure 4**

## SECURITY FROM NATURAL DISASTERS

### Disasters

- natural disasters
  - weather hazards
    - \* lightning
    - \* hail
    - \* frost
    - \* droughts
    - \* floods

### Security

- reduce vulnerability
- mitigation

### Drought vs aridity:

- aridity refers to a low rainfall climate- it is a permanent feature of certain area, most of Namibia
- drought refers to a prolonged period of low/ no precipitation [or the effect thereof] – it is a temporary feature that occurs anywhere in the world

### Drought features:

> drought are non-events, beginning is deceiving

Types of droughts:

- Meteorological drought: below-normal rainfall for prolonged period – is the main cause of:
- Agricultural drought: below – normal crop yield [for agronomy] or biomass [for [pasture]
- Hydrological drought: below – normal [or zero] river flow for prolonged period
- Water resources drought: below – normal or critical reserves [in dams or aquifers]

### Objectives of Namibian drought policy

- Household food security
- Farmers' self-reliance
- Preservation of minimum herds
- Safe water supply
- Minimize natural resources degradation
- Support recovery
- Safeguard health conditions
- Efficient/ effective relief programmes

### **Key elements of Namibian drought policy**

- Objective disaster drought definition: on average once every fourteen years
- Limitation of role of Government to key objectives:
  - food and safe water security
  - short – and long –term assistance to farmers
  - planning and operational supervision
- responsibility of farmers for drought management
  - non – drought periods: operational and financial aspects
- well – defined assistance for disaster drought
  - avoid permanent hand-outs for poverty alleviation

### **Programmes of Namibian drought policy**

- **food security**
  - food distribution: vulnerable groups
  - food- and cash-for-work
  - school feeding and health programmes
- **livestock**
  - discontinuation of fodder subsidies
  - marketing of stock
- **crop**
  - communal tenure: seed voucher system
  - commercial tenure: crop subsidies

### **Water supply before Namibian drought policy**

- no or too late action
- rushed emergency water supply schemes
  - overstretching/ misdirection of RWS
    - systematic neglect of normal planning
    - substandard quality schemes
- emergency schemes too late operational
- not- sustainable use of seasonal grazing areas
- misuse by wealthy officials [sitting and fencing off of boreholes]
- expensive tanker services

### **Namibian drought policy on water supply**

- procedures involving stakeholders
  - water point committees
  - regional water committees

- regional councils
- pro-active planning and design of emergency schemes
- long-term water supply schemes as part of drought relief where applicable
- speedy availability of financing in case of disaster drought

### **Reducing long-term vulnerability in Namibian drought policy**

- drought mitigation technologies and practices
  - crop/ fodder diversification
  - sustainable rangeland management
  - diversification of income sources
  - improved food/ nutrition practices
  - water supply and demand management
- enabling environment
  - land use rights
  - poverty reduction
  - decentralization
  - tax and marketing provisions
  - research, extension and training

### **Implementation issues in Namibian drought policy**

- “very good” policy
- “very poor” implementation
- stakeholders issues and perceptions?
- Legal/ institutional/ resources environment?
- National drought fund
  - Government contributions?
  - Stakeholders/ farmers contributions???

### **Floods:**

- interior of country: built –up/ irrigation areas in floodplains – occasional
  - Hardap/ Mariental
  - Windhoek and other cities
- border areas: agricultural areas in seasonal floodplains- each year
  - Cuvelai basin – “efundja”
  - Caprivi floodplains – Zambezi River
  - Kavango and Orange rivers

## **Annexure 5**

## PROPER SANITATION FOR ALL AND SAFE WASTE DISPOSAL

Rural Sanitation as a sector was transferred from the Ministry of Agriculture Water & Rural Development to the Ministry of Health and Social Services following Cabinet decision in 1996

- The Ministry of Health and Social Services through the Directorate of Primary Health Care Services is responsible for Rural Sanitation Programme Management and implementation in Namibia
- The Regional Management Teams (RMT) and District Health Coordinating Committee implement the programme at community level
- Environmental Health Office is the Focal Point
- Partners (Ministries, Offices, Agencies, NGO's and Private companies)

**Below is a table ranking the 8 of the lowest toilet facilities covered regions, including their populations and households**

Region	Sanitation Coverage (%)	Population	No. of households	Av. HH Size
Caprivi	3.7	79 852	16 846	4.7
Ohangwena	5.2	227 728	35 993	6.3
Omusati	16.0	228 364	38 486	5.9
Omaheke	22.3	67 496	12 530	5.3
Kavango	23.1	201 093	30 359	6.5
Oshikoto	33.5	160 788	28 417	5.6
Kunene	38.8	68 224	12 555	5.3
Oshana	47.6	161 977	30 616	5.2

## **MAIN TASK**

- To facilitate the construction of VIP latrines and improve personal, household and environmental hygiene at family level

## **ACTIVITIES**

- Community Sensitization/Mobilization
- Financial Resources
- Institutional Capacity and Human Resource Development
- Technological Options
- Project Proposals and Strategic Plans
- Inter-sectoral collaboration

## **Problems**

- Insufficient funds (development)
- Shortage of Environmental Health Staff (EHO & EHA)

## **ACHIEVEMENTS**

- Rural Sanitation coverage improved from 16% in 1992 to about 18.9% in 2000 (NDHS 2000).
- National Environmental Health Policy (2002)
- National Strategy for Rural Sanitation (2004)
- Health Bill in advanced stage to replace the Public health Act: Act No: 36 of 1919

## **Annexure 6**

## **Introducing the Framework for Action (FFA) consultations in Namibia**

### **Developing a FFA to achieve the Southern African Vision for Water Life and Environment**

#### **Background**

- Development of Southern Africa Vision facilitated by GWP SA on behalf of SADC
- Vision adopted by SADC Ministers of Water in December 1999
- Vision presented at the WWF-2 at The Hague in March 2000
- Need for a Framework for Action (FFA)

#### **Why the FFA process?**

- To give effect to the Vision (by 2025)
- To get country's inputs (for the region and for their own needs)
- Take into account existing initiatives
- A living process!

#### **GWP – a reminder**

Mission:

To support countries in the sustainable management of their water resources through IWRM

GWP has no mandate if it does not support SADC and government programmes

Goal:

Equitable & sustainable utilisation of water in southern Africa

#### **The Southern African Vision for Water, Life and Environment**

*“Equitable and sustainable utilisation of water for social and environmental justice, regional integration and economic benefit for present and future generations.”*

Target date: 2025

### **8 Sub-vision statements**

- Equitable and sustainable social and economic development in Southern Africa
- Equitable access to water of an acceptable quantity and quality
- Proper sanitation for all and safe waste disposal
- Food security for all households
- Energy security for all households
- A sustainable environment
- Security from natural disasters
- Integrated Water Resources Development and Management

### **So what?**

- The Vision is a relevant one
- There is an urgent need for a Framework for Action to translate it into reality

### **3 activities in the FFA work plan**

- Information Dissemination
- Development of a Regional FFA
- Development of Country FFAs

### **Information Dissemination**

- Vision documents
- Vision posters
- Vision videos (English, French, Portuguese)
- Vision CD (new)

## **Development of a Regional FFA: Supporting studies**

Review of initiatives

- Social,
- Environmental,
- Institutional

### **A Regional Desktop Study**

#### **Development of a Regional FFA: Other supporting studies**

In agreement with SADC:

- Review of initiatives on policy and strategy
- Cross sectoral review of policies related to water (given the nature of the 8 sub vision statements)

#### **Country Coordinators workshop (27/28 January 2003, St George Hotel, Pretoria)**

- 11 countries with:
- WRTC members (as government officials)
- Representatives from NGOs
- Representatives from Private Sector

#### **Findings of Regional Desktop Study (as discussed at C/C workshop)**

□ Key issues identified for the FFA:

- Policy & institutional arrangements for effective implementation of IWRM
- Effective stakeholder participation
- Effective & reliable information system for the region
- Indicators and targets to achieve the Vision (*MDGs are a milestone...*)
- Understanding the economic value of water
- Regional strategy to recognise ecological and social issues
- Regional cooperation & management of shared watercourses

### **Agreed way forward**

- Three countries, (Malawi, Mozambique & Tanzania) to serve as pilot cases with review of initiatives and in-depth consultations
- Other countries to hold (not in depth) consultations
- Country lessons to inform the regional FFA

### **Facts in short: at regional level**

- Supporting studies completed and being edited for printing
- Second regional FFA workshop held back to back with regional water policy workshop (April 2004)
- Next: finalise FFA report

### **Emerging lessons – enabling environment**

- Country Water Partnerships have provided an enabling environment
- Commitment of Government Departments has been crucial – *it is their process after all*
- Ownership of FFA process at country level takes commitment and resources. It is also a process on its own!

### **Emerging lessons – opportunities**

- The Vision is very relevant
- There are other initiatives going on (need for a comprehensive audit!)
- Scope of activities to address the Vision is unlimited if we really mean business

### **Pointers towards the future: achieving current programme**

- Complete Regional FFA report (drafting under way)
- Complete consultations in all SADC countries
- Complete three national FFAs as planned
- Disseminate FFA material (reports)

## Activities to year-end

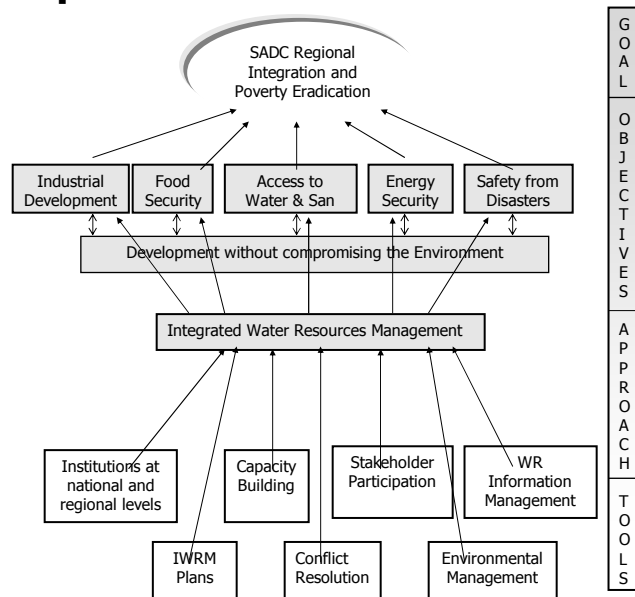
- Complete country consultations
- Regional workshop to discuss draft regional FFA report (28/29 October 2004)
- Finalise Regional FFA report
- Finalise country FFA reports (3 countries)

## Recent developments

- WWF 2 - 2000
- Millenium Development Goals (MDGs) – 2000
- WSSD Resolutions (IWRM/WR Plans) – 2002
- FFA process – 2003/2004
- WWF3- 2003
- Regional Water Policy – 2003/2004
- IWRM Plans development - 2004 onwards
- Mid Term Review of RSAP – 2004
- Regional Water Strategy - 2004



## Conceptual Framework for the Policy



### **Food for thought!**

- The Vision has defined the objectives of the Regional Water Policy
- The Regional FFA will feed into the Regional Water Strategy (just like other processes or programmes such as the RSAP)

Vision

Regional Water Policy

Regional Water Strategy

Framework for Action

IWRM Plans (at country to catchment scale)

### **In conclusion**

- These consultations will assist Namibia in assessing where it is and where it wants to be.
- The outcome should be used as an input into the IWRM Plan development process for Namibia
- They should highlight the role that Lesotho can play on the regional water scene.
- May these deliberations be fruitful ones...

## **Annexure 7**

## **Annexure 8**

## 8. Group work results

Equitable Access to Water of Acceptable Quality and Quantity			
Challenges	Activities	Responsible	Indicators
<p>Need for Namibia Water service guidelines</p> <p>- Need to increase coverage in line with population growth and distribution</p> <p>-Need to develop regulations for new bill</p> <p>- Billing and Tariff system</p> <p>-Training/Capacity building</p>	<p>-collection of existing guidelines (NamWater, RWS)</p> <p>-Formulation of water quality and service policy</p> <p>-consultation to discuss guidelines (but are already available)</p> <p>-review of coverage and accessibility</p> <p>-independent study on coverage and accessibility</p> <p>-compilation of regulations</p> <p>-new administrative system to implement new bill</p> <p>-independent pricing and tariff tribunal (billing guideline) (especially rural communities)</p> <p>-training overhauling (CBM training)</p> <p>-need for HR plan</p>	<p>-DWA</p> <p>-Consultation with all stakeholders</p> <p>- DWA in consultation with all stakeholders (NWP)</p> <p>-CWP in consultation with stakeholders</p> <p>-DWA in consultations with all stakeholders</p> <p>-DWA</p> <p>-CBM</p> <p>-LA (Regional Councils)</p> <p>-RWS</p> <p>-RWS</p>	<p>-Guidelines developed, consulted and published by 2006</p> <p>-approval and implementation of guidelines</p> <p>-new training modules</p>

**Group issues raised:**

- water quality- guidelines should be provided for fishing industry, tannery etc.,.
- how can we prove that equitable water is achieved?
- need for permits for water use
- include environment

<b>Proper Sanitation and Waste Disposal</b>			
<b>Challenges</b>	<b>Activities</b>	<b>Responsible</b>	<b>Indicators</b>
<ul style="list-style-type: none"> <li>-strengthen inter-sectoral coordination e.g government, NGOs, private sector</li> <li>-training Institution for Environmental Health Officers</li> <li>-create awareness on sanitation issues in rural areas (management of municipal, industrial and health care risk)</li> <li>-create awareness on issues of hazardous and medical waste at general dumping sites</li> <li>-resource mobilization</li> <li>-lack of sanitation infrastructure</li> <li>-to review/update (when necessary) and harmonize existing policies and monitoring.</li> </ul>	<ul style="list-style-type: none"> <li>-establish an inter-sectoral review committee</li> <li>-establish a monitoring plan</li> <li>-create awareness education programmes on hygiene</li> <li>-increase municipal and government budget on sanitation</li> <li>-construct sanitation systems for communities</li> <li>- foster latrine culture in communities</li> <li>- conduct feasibility study on waste management (municipal, industrial and health care</li> </ul>	<ul style="list-style-type: none"> <li>Communities</li> <li>DWA/MAWRD</li> <li>MRLGH</li> <li>MoHSS</li> <li>NGOs</li> <li>Municipalities/Local authorities</li> <li>Private Sector</li> <li>REMU</li> <li>UNDP</li> <li>MWTC,</li> <li>Meteorological Centre</li> </ul>	<ul style="list-style-type: none"> <li>-number of incidents of illegal dumping</li> <li>-percentage of waste management property</li> <li>-permission to turn informal settlements into permanent residence</li> <li>-percentage increase in sanitation coverage</li> </ul>

**Group issues raised:**

- empower people to take control of their technical and development situation
- the issue of waterborne diseases such as cholera to be reconsidered
- when do we recognize an occurrence as a disaster?

<b>Security from Natural Disasters (Including drought and Floods)</b>			
<b>Challenges</b>	<b>Activities</b>	<b>Responsible</b>	<b>Indicators</b>
<ul style="list-style-type: none"> <li>- to develop understanding of natural variability and capacity to adjust timeously</li> <li>- to prepare in advance- a pro-active approach</li> <li>- how to involve local people affected by floods and drought</li> <li>- impact on economic value of floods and drought/ livelihood impacts</li> <li>- co-ordination among emergency services</li> <li>-co-ordination/integration amongst natural resources</li> <li>- line ministries to help people cope with normal aridity</li> <li>-provide better flood monitoring and warning system</li> <li>-provide emergency equipments and machinery</li> <li>-ensure increased household food security</li> <li>-ensure measures to combat drought are efficient</li> </ul>	<ul style="list-style-type: none"> <li>- collect and integrate local/ indigenous and scientific knowledge of floods and drought</li> <li>in include these in school curriculum</li> <li>-involve Farmers' Associations (FAs) in planning for floods and drought</li> <li>-include communal farmers in risk minimization</li> <li>-include floods and drought information in town planning and land use planning</li> <li>-ensure that early warning information is available at local level</li> <li>-application of regulations concerning floods and drought for building</li> <li>-implement the drought policy and strategy</li> <li>-investigate alternative methods of crop production should e.g. irrigation, plant drought resistant crops, etc.</li> <li>-apply drought policy</li> <li>-adopt risk minimizing</li> </ul>	<ul style="list-style-type: none"> <li>MAWRD</li> <li>EMU</li> <li>MLRR</li> <li>MRLGH</li> <li>MWTC</li> <li>NGO's</li> <li>Private Sector</li> <li>ALAN</li> <li>MET</li> <li>CBO's</li> <li>NNFU/</li> <li>FA's/NAU</li> <li>Media</li> <li>Local Authorities (Municipalities, Towns and Villages)</li> <li>Regional Councils</li> </ul>	<ul style="list-style-type: none"> <li>-appropriate media coverage</li> <li>-committed leadership who provide appropriate information on floods and drought</li> <li>-school curriculum that includes information about drought and floods</li> <li>-risk minimization a national priority and on agendas at national and regional level</li> <li>-presence of appropriate regulations for town development</li> <li>-Frequency of the amount spent on ongoing drought relief is reducing</li> <li>-extent to which drought strategies are reflected in natural resources- line ministry</li> </ul>

	practices by the private sector, and communal farmers e.g. within conservancies especially commercial farming -ensure early warning systems are in place		
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**Group issues raised:**

- placement, effective and coordination of Emergency Management Unit (EMU) in the Office of the Prime Minister (OPM)
- include Regional Authorities
- disasters: include veld fires, locusts
  - promote fire fighting system in affected areas
  - this responsibility be handled by the Department of Forestry
- Regional Emergency Management Units (REMUs) be in charge of coordinating
- Disaster plans are supposed to be pro-active rather than reactive

<b>Integrated Water Resource Development and Management</b>			
<b>Challenges</b>	<b>Activities</b>	<b>Responsible</b>	<b>Indicators</b>
-involving all stakeholders -at appropriate levels -commitment	-raise awareness -sustainability, demand and management scarcity	-MAWRD -MET -MRLGH -MOHSS -MME -NPC -Regional Councils -Town and Land use Planners -MLLR -NWP -NGOs	-number of active IWRM mechanism increased -annual report -sectoral indicators e.g. quality, access, health -NDP evaluation, vision 2015 and 2025 -state of environment report
<b>Implementation of IWRM</b>  -confirmation of the decentralization policy  -monitoring and evaluation -ownership and accountability at all levels	-strengthening community capacity to demand service providers -identifying key champions (OPM, statutory body) -legal framework -pass bill -strategy document  -basin management committee (BMC) all basins in e.g. Kuiseb, Cuvelai  -scheme management -waste -land -prioritisation and coordination of projects		

**Group issues raised:**

- add NGOs
- prioritise and coordinate accordingly (in reference to budget cuts)
- infrastructure is important to access for unaccounted water loss
- gender policy should not be taken out of challenges
- implementation of water policy- a slow process due to low commitment of top management at MAWRD
- link people with policies and environment
- Basin management committees should identify infrastructural needs
- Namibian Water partnership is important in influencing activities listed

