



THE REPUBLIC OF UGANDA



INSTITUTIONAL AND MANAGEMENT ASPECTS
(DOC. 008)

MINISTRY OF NATURAL RESOURCES
DIRECTORATE OF WATER DEVELOPMENT

1995

~~LIBRARY~~
IRC International Water
and Sanitation Centre
Tel.: +31 70 30 689 60
Fax: +31 70 35 699 64

UGANDA WATER ACTION PLAN

WATER RESOURCES DEVELOPMENT AND MANAGEMENT

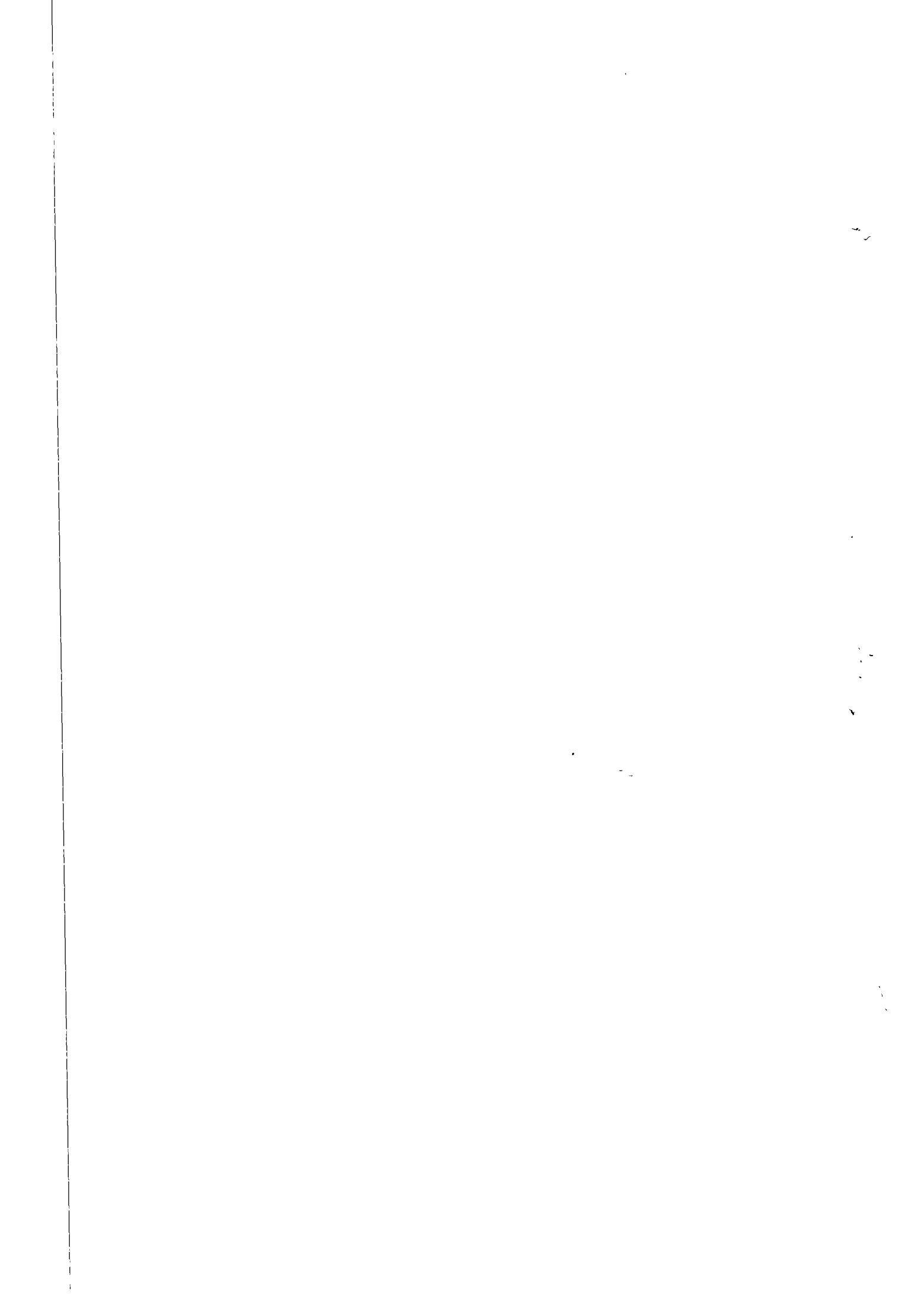
INSTITUTIONAL AND MANAGEMENT ASPECTS

(DOC. 008)

MINISTRY OF NATURAL RESOURCES
DIRECTORATE OF WATER DEVELOPMENT

1995

LIBRARY IRC
PO Box 93190, 2509 AD THE HAGUE
Tel.: +31 70 30 689 80
Fax: +31 70 35 899 64
BARCODE: 14162
LO: 824 UG 95



Uganda Water Action Plan

Directorate of Water Development

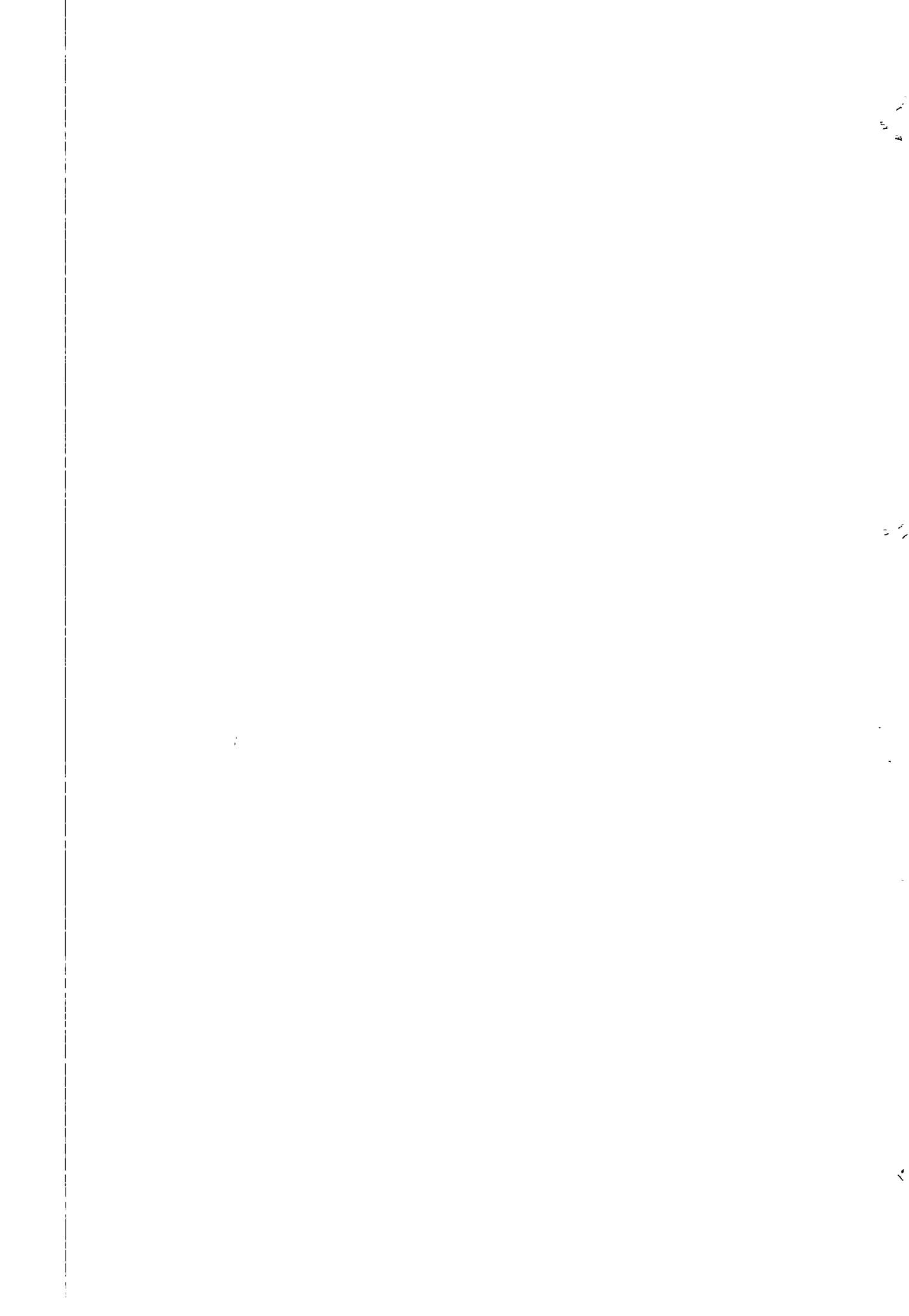
REPORT 4: INSTITUTIONAL AND MANAGEMENT ASPECTS

LIST OF CONTENTS

Abbreviations

0	SUMMARY	0.1
0.1	Long term water resources management functions	0.1
0.2	Management capacity	0.3
0.3	Short term management strategy	0.4
0.4	Management structures	0.4
0.5	Capacity building needs	0.5
0.6	Actions	0.6
1	INTRODUCTION	1.1
1.1	Background	1.1
2	EXISTING WATER RESOURCES MANAGEMENT MECHANISMS	2.1
2.1	Legal aspects	2.1
2.2	Ministerial restructuring	2.1
2.3	Decentralization	2.1
2.4	Ministry of Natural Resources	2.4
2.5	Ministry of Agriculture, Animal Industries and Fisheries	2.5
2.6	District and community level mechanisms	2.6
3	NECESSARY LONG TERM WATER RESOURCES MANAGEMENT FUNCTIONS	3.1
3.1	Preamble	3.1
3.2	International policy	3.2
3.3	Policy making, planning and coordination	3.2
3.4	Water extraction regulation	3.3
3.5	Wastewater discharge and pollution regulation	3.4
3.6	Monitoring	3.5
3.7	Enforcement	3.6
3.8	Mediation	3.6
3.9	Training and information	3.7
3.10	Rural and urban water supply	3.7

Library
IRC International Water
and Sanitation Centre
Tel.: +31 70 30 689 80
Fax: +31 70 35 899 64

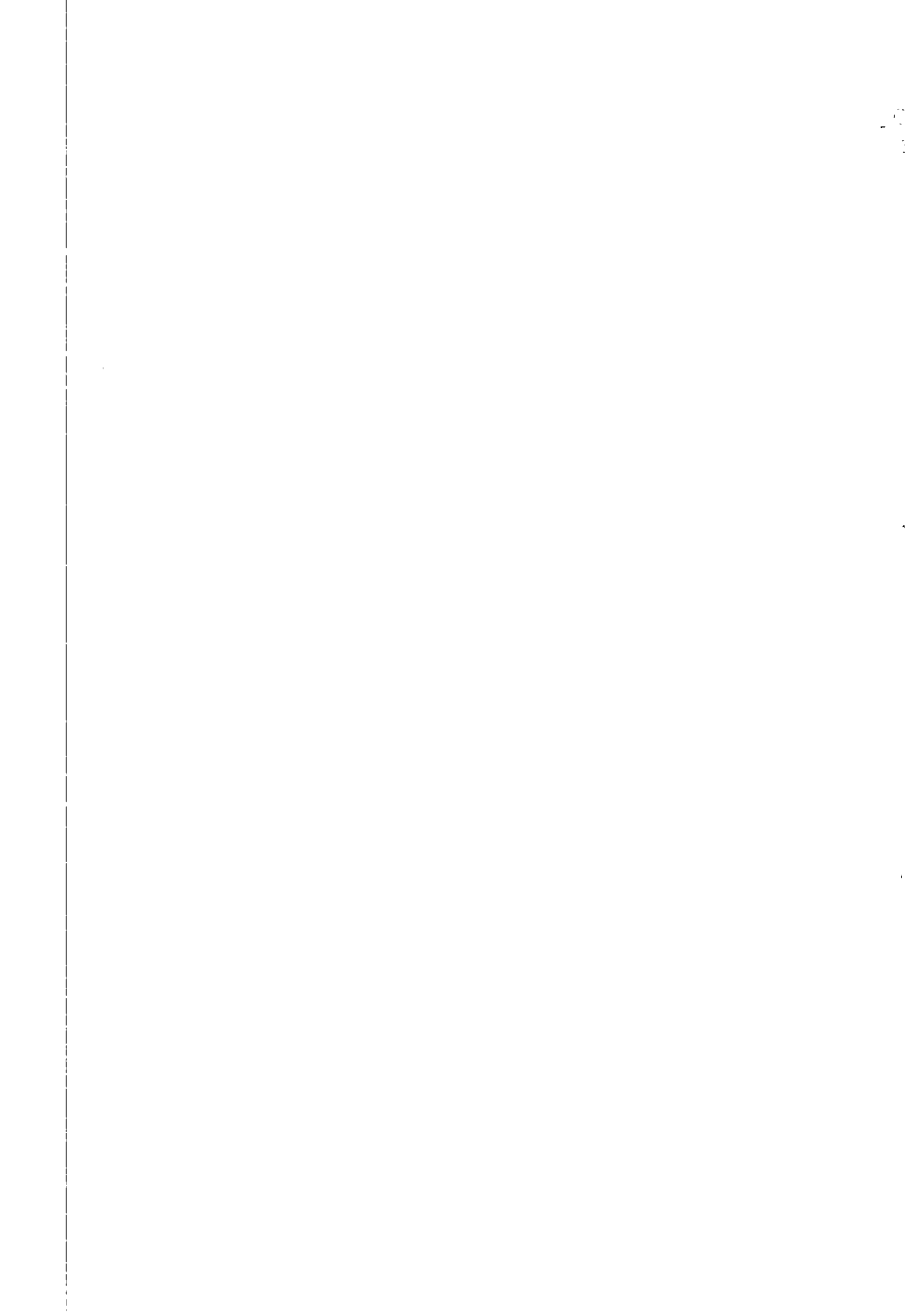


Uganda Water Action Plan

Directorate of Water Development

4	EXISTING MANAGEMENT CAPACITY	4.1
4.1	National level	4.1
4.2	District and community levels	4.3
5	SHORT TERM MANAGEMENT STRATEGY	5.1
5.1	Structures	5.1
5.2	Functions	5.2
5.3	Summary	5.6
5.4	Assumptions and risks	5.6
6	NATIONAL MANAGEMENT STRUCTURE	6.1
6.1	Legislation	6.1
6.2	Water Policy Committee	6.1
6.3	Directorate of Water Development	6.4
6.4	River/lake basin management	6.6
7	DISTRICT AND COMMUNITY LEVEL MANAGEMENT STRUCTURES	7.1
7.1	District committee and departmental structure	7.1
7.2	Community structures	7.3
7.3	Mediation structures	7.3
8	WATER RESOURCES MANAGEMENT TOOLS	8.1
8.1	Regulations, management procedures and by-laws	8.1
8.2	District management guidelines	8.1
8.3	Permits	8.2
8.4	Data management system	8.2
8.5	Budgets and finances	8.4
9	CAPACITY BUILDING NEEDS	9.1
9.1	National level	9.1
9.2	District level	9.5
9.3	Community level	9.9
10	ACTIONS	10.1
10.1	Organizational	10.1
10.2	Training	10.1

APPENDIX 1.1 Document List

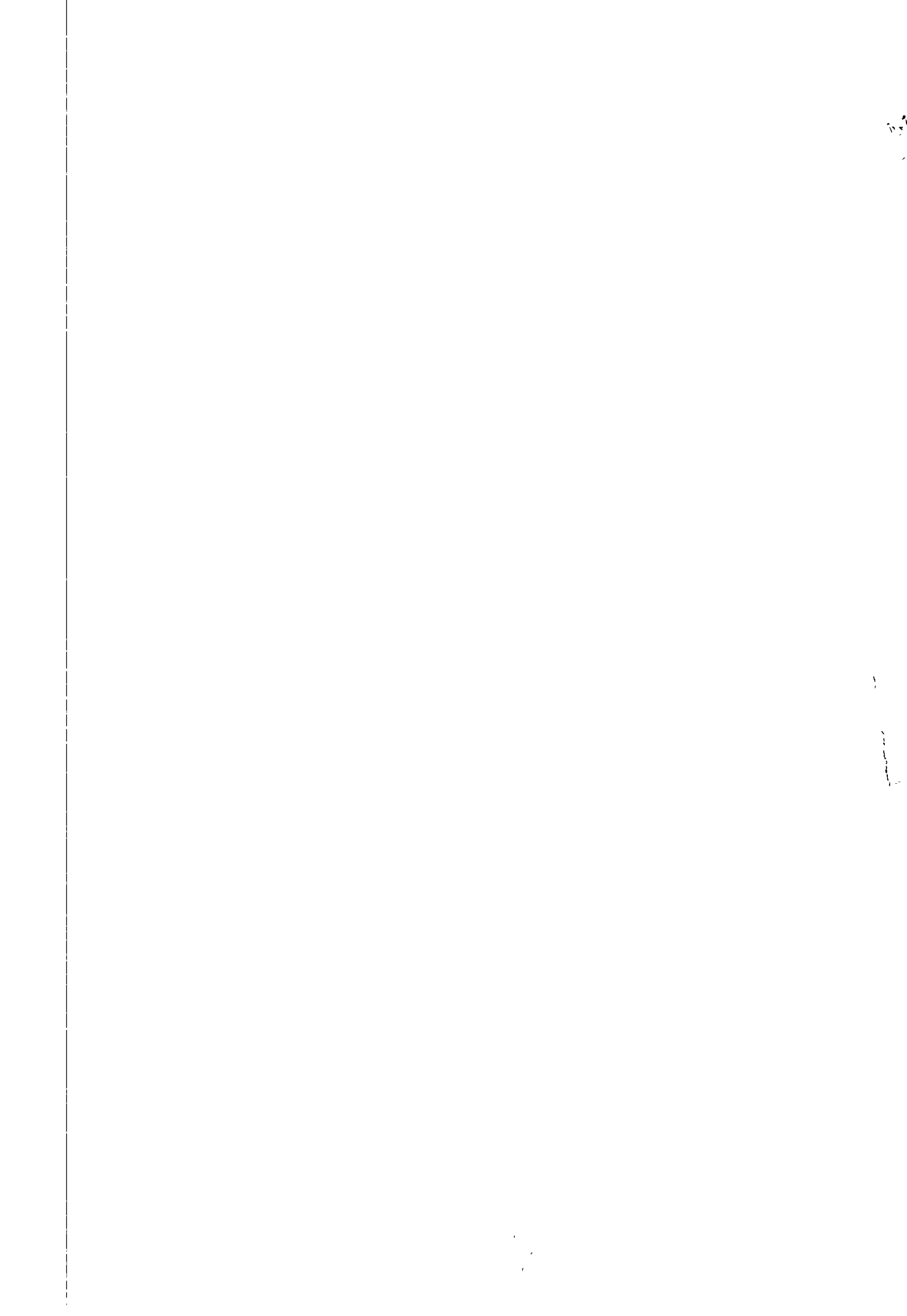


Uganda Water Action Plan

Directorate of Water Development

ABBREVIATIONS

DEO	District Environment Officer
DES	District Executive Secretary
DENRC	District Environment and Natural Resources Committee
DMOH	District Medical Officer of Health
DRC	District Resistance Council
DWD	Directorate of Water Development
DWO	District Water Officer
GEMS	Global and Environmental Monitoring System
HRD	Human Resource Development
HRDSU	Human Resource Development Unit
HYDROMET	Hydrological Survey of the Catchments of Lakes Victoria, Kyoga and Albert
NEMA	National Environment Management Authority
NGO	Non-Governmental Organisation
NWSC	National Water and Sewerage Corporation
QA	Quality assurance
RC	Resistance Council
TECCONILE	Technical Cooperation Committee of the Nile Basin
WAP	Water Action Plan
WDD	Water Development Department (Now DWD)
WPC	Water Policy Committee
WQ	Water quality



0 SUMMARY

This report reviews the existing water resources management context and mechanisms, and identifies the water resources management functions that are considered to be necessary in Uganda in the future. It looks at the present management capacity and concludes that it is not possible to undertake all the necessary functions in the immediate future. Therefore, a short term strategy is proposed that places some functions at the national level that later can be moved to district management. The outcome will be activities at all management levels - national, district and community - that start slowly and build up as capacity increases. The necessary management structures are detailed for all levels, and the manpower and capacity building needs are identified for the short term. The report concludes with a short list of actions necessary for the implementation of the proposals.

0.1 Long term water resources management functions

The identification of the key functions, and their appropriate management levels, takes into account the decentralization process in Uganda and the existing community management structures - as well as the requirements for overall environmental management through the National Environment Management Authority (NEMA). In addition, consideration is given to the management implications of water resources and possible wastewater discharges that cross district boundaries. An attempt is made to balance the need for sustainable management at the lowest appropriate level and the need for central monitoring and control.

The key functions are as follows:

International policy making

Uganda needs a coordinated policy and strategy regarding international water resources issues: in particular, the utilization of the Nile Basin waters and the water quality of Lake Victoria. This is a national level function.

Policy making, planning and coordination

The integrated management of water resources and land-related issues requires policies and plans to be made particularly at the national and district levels. At the national level, policies will be formulated, standards set and project activities in the sector coordinated. The districts will set local priorities, by-laws and annual action plans regarding the use of water resources such as wetlands, fish ponds, irrigated areas, livestock watering, and rural and urban domestic water supplies.

The existing extension staff in the districts - who work in several sectors - will be coordinated in order to promote integrated and uniform information regarding the sustainable use of water and land resources.

Local level groups, within the framework of national and district policies, can manage the use of resources such as wetlands, and they will plan their use through local decision making bodies such as the Village and Sub-county Resistance Committees.

Water extraction regulation

The administration of permits for water extraction will be determined by regulations that specify the types of uses that need to be regulated. In the long term, when the districts have the capacity to make assessments of the impact of extraction and surface works within their district boundaries, they will administer the application and permit procedures. The central level (DWD) will carry out assessment of cross-boundary sources and then distribute block allocations of water rights to the districts concerned - who will then administer a permit system for the allocated amounts.

Wastewater discharge regulation

The management of a wastewater discharge permit system will be a permanent national function because of the detailed technical expertise required, and because of the need to ensure adherence to international and national standards. The districts will comment on applications from their areas, organize public hearings and assist in monitoring that the rules governing permits are being followed.

Detailed management guidelines for water extraction and wastewater discharge regulation can be found in Annexes 15 and 16 in the WAP Annex Report - Volume 3.

Monitoring

DWD will retain a national level role in: baseline monitoring of water flows and water quality; managing surface water, groundwater and water quality databanks; and disseminating data on water resources to relevant agencies and users. A proposed project on the rehabilitation of assessment and monitoring services will build capacity in this regard.

The districts will check that by-laws, regulations and permits are being followed, monitor groundwater quality for domestic uses, and monitor groundwater extractions in relation to recharge.

Community groups and the local Resistance Committees will monitor activities having impact on water resources, such as wetlands, forests and dumping of wastes - and they will report to the districts through the RC system.

Enforcement

Enforcement of standards, regulations and by-laws will be undertaken by DWD and the district administrations through the imposition of stipulated penalties and use of the judicial system.

Mediation

The RC system, including the RC Courts, will be the first structures used for mediating disputes between individuals and groups regarding access to water resources and extractions that do not require permits. Village elders and the local government Chief system will also be used when appropriate. All of these structures already function as mediators. Appeals can be handled administratively by the district committee responsible for water and judicially by Magistrates Courts. At the national level, the Water Policy Committee will be the final administrative appeal possibility; while the judicial system will also have an appeal channel

Training and information

Continuous public information activities will have to take place in order to ensure sustainable management of water resources. DWD has a role to play through its Training Unit, and at the district level the integrated extension services will be trained and will spread information to the various users of water resources.

Rural and urban water supply

The districts, under the new Local Government (Resistance Councils) Statute 1993, will have responsibility for water supply services, but with supervision from DWD. User group management of point sources will be promoted in rural areas, and town councils or other institutions will manage urban supplies so that they will not be a burden on the district administration. DWD will supervise to the extent of ensuring that national standards and policies are kept, and in facilitating the implementation of government and donor financed projects.

0.2 Management capacity

At the national level, DWD has sufficient numbers of qualified engineers for the present level of activities and for management of water extraction and wastewater discharge permit systems. However, there are major constraints in terms of finances, equipment, transport and management procedures. Staff needs for the permit systems are not large in terms of numbers, as the systems are expected to deal with a limited number of permits in the short term. Projects have already been identified to strengthen monitoring and training activities in DWD.

There are many water staff at the district level, but the numbers vary widely from district to district. Most are employed on town waterworks. Most District Water Officers are diploma engineers, and although posts have been sanctioned for graduate engineers at district level it is doubtful that they can be recruited. The district staff have been almost exclusively concerned with water supply services, and have no recent experience of other water resources management functions. Like other parts of government, the districts suffer from severe financial constraints, and it is doubtful whether decentralization will result in significant increases in the overall funds available.

0.3 Short term management strategy

The short term strategy is based on a matching of the necessary water resources management functions and the capacity analysis. The short term is envisaged as roughly a five year period - during which time, capacity will be increased at all levels, through a variety of skill-development and institution-building projects. All the functions described in Section 0.1 above will also be carried out in the short term at the various levels. However, there will be differences in the scale of work that can be undertaken, and it is expected that many of the functions will have a slow start. This especially applies to the district level, which is currently adjusting to the provisions of decentralization in all fields.

The major difference between the long and short term strategies is in regard to water extraction permits. It is not considered feasible or necessary for the districts to make an administrative mechanism for the issuing of permits when in the short term it is expected that there will not be more than a few hundred permits required per year in the whole country. In the short term DWD will issue the permits, but the community and district levels will be able to comment on applications.

The risks inherent in the short term strategy are related to whether the district councils and administrations will have the understanding and motivation to undertake water resources and general environmental management. This risk can only be minimized by prolonged information and training activities.

0.4 Management structures

National level

A Water Policy Committee (WPC), placed under the Ministry of Natural Resources, will have overall responsibility for setting national policies, standards and priorities, including coordinating revisions to legislation and regulations, and coordinating sector ministries' plans and projects affecting water resources. In addition, it will coordinate the formulation of an international water resources policy. It will have a close link to the National Environment Management Authority with regard to policies and standards, especially concerning wastewater discharge. NEMA will have liaison officers in related ministries, who will also function as liaison officers to the WPC.

Members of the WPC will come from relevant government ministries and departments, and the committee will include representatives from district administrations, research organizations and NGOs. The Chairman will be the Permanent Secretary of the Ministry of Natural Resources, and the Secretary will be the Director of Water Development. DWD will provide a Secretariat for the WPC. DWD, and its four restructured departments, will have overall responsibility for water resources management, but it will move towards supervisory and advisory roles and away from direct implementation of projects. It will continue to have a direct role in water resources monitoring, wastewater discharge permits and water extraction permits.

District level

The District Resistance Councils are recommended to form a District Environment and Natural Resources Committee and a department with the same name comprising water, environment and forestry officers. This structure should ensure coordinated environmental management. There will be no need to establish water resources extension staff if the districts coordinate existing extension staff in other departments such as community development, health, agriculture, fisheries and livestock - to ensure that water resources and environmental aspects form part of an integrated extension strategy.

Community level

Village water user groups will manage, operate and maintain point water sources. Community groups can also be formed for the purpose of managing resources such as a wetland, fish ponds or an irrigation scheme. The existing Resistance Councils will play a role in setting local priorities, monitoring and mediating.

River/lake basin level

In the present Ugandan context, it has not been found necessary to create river or lake basin management authorities.

0.5 Capacity building needs

In order to carry out the functions described in the short term strategy there will be a need for various training, education and information activities at the national, district and community levels. These will be in addition to various projects and actions that will provide management and financial support to specific activities, such as monitoring. The activities have been identified as follows:

- orientation programmes for those politicians, officials and public representatives who become members of policy making and planning committees related to water resources management
- re-orientation programmes for staff in DWD and in other key sector ministries, and for district-based staff, who have responsibility for carrying out water resources management functions
- in-service programmes on water resources management issues for members of the training section in DWD who are designing training activities and information materials for staff within the water and sanitation sector and for the general public
- in-service programmes for those extension workers who have a responsibility for giving information and facilitating discussion about water resources problems and issues

awareness programmes on water resources management issues addressed to the general public, but particularly to members of Rcs and members of water and sanitation committees operative within local communities.

0.6 Actions

The following are actions that will have to be taken to implement the proposals contained in this chapter. They do not reflect all the activities that are needed; they would be the key initiatives in any start-up phase.

Organizational

1. Establishing the Secretariat of the Water Policy Committee with staff, offices and equipment.
2. Establishing the Environment and Natural Resources Committees in the districts - and the departments concerned with water resources management.
3. Defining the operational roles between DWD and the district administrations, in accordance with regulations and the provisions of the Water Action Plan.
4. Establishing the unit within DWD that will administer the processing of applications and issuing of permits for water extraction and wastewater discharge.

Training

1. Providing orientation seminars and workshops for the Water Policy Committee, for senior staff of key sector ministries and particularly DWD, regarding roles and responsibilities.
2. Facilitating the staff of the Human Resource Development Support Unit within DWD in their design of training programmes and information materials related to water resources management.
3. Assisting environmental sector training institutions in curriculum development in relation to water resources management.
4. Designing and providing orientation training at the district level for policy makers, administrators, extension staff and RC committee members: about roles and responsibilities in relation to water resources management.

1 INTRODUCTION

1.1 Background

1.1.1 Water Action Plan development

Project documents entitled "Water Action Plan for Water Resources Development and Management (WAP)", dated January 1993 and October 1993, were agreed between the Government of Uganda and the Government of Denmark (acting through the Ministry of Foreign Affairs - Danida).

The project documents describe two phases of a planning process aiming to develop a Water Action Plan for Uganda.

CONTENTS OF WAP PHASE I	
-	a rapid assessment of the water resources situation in the physical and management context
-	a preliminary proposal for the establishment of an enabling environment for flexible water resources management with linkages between land and water resources, and including suggestions for management roles and functions at various levels, and suitable institutional structures
-	a preliminary outline of a national water resources policy
-	preparation of detailed project proposals for specific projects in the water resources sector

CONTENTS OF WAP PHASE I I

- a draft national water resources policy accompanied by target descriptions and brief guidelines
- an outline proposal for appropriate local water resources management levels based on district studies
- an outline proposal for management procedures providing the administrative machinery at national and district levels with guidelines for sustainable water resources management
- a design of a groundwater database and a plan/guidelines for interaction between the various existing and future computerized systems relevant to water resources management
- support to the preparation of regulations supporting the Water Resource Statute regarding surface water and groundwater abstraction as well as wastewater discharge
- an outline of training and capacity building activities supporting the appropriate sectors in water resources management
- a project catalogue with proposed priorities for projects identified during the Water Action Plan Phases I & II
- a draft Water Action Plan synthesizing the activities carried out in a coherent presentation
- implementation and monitoring guidelines for the subsequent Water Action Plan implementation
- a National Seminar for discussion of the draft Water Action Plan by concerned parties

The implementing agency in Uganda is the Directorate of Water Development (DWD) within the Ministry of Natural Resources. A team of Danish consultants has been engaged by Danida to work within the DWD in the execution of the project. The consultant team has been composed of staff members from the VKI Water Quality Institute (leading partner), COWIconsult, Nordic Consulting Group and the Danish Hydraulic Institute.

1.1.2 Guiding principles for the Water Action Plan

The Uganda Water Action Plan is intended to provide a framework for the protection and development of Uganda's water resources. It will provide a flexible and dynamic framework for development and management of the water resources of the country, rather than a traditional prescriptive master plan.

The Water Action Plan deals with aspects of integrated water resources development and management, recognizing the guiding principles emerging from discussions at international conferences, consultations and workshops in Copenhagen (November 1991), Dublin (January 1992) and Rio (UN Conference on Environment and Development, UNCED, June 1992).

GUIDING PRINCIPLES FOR THE WATER ACTION PLAN	
-	fresh water is a finite and vulnerable resource, essential to sustain life, development and the environment
-	land and water resources should be managed at the lowest appropriate levels
-	the government has an essential role as an enabler in a participatory, demand-driven approach to development
-	water should be considered as a social and economic good, with a value reflecting its most valuable potential use
-	water and land use management should be integrated
-	women play a central part in the provision, management and safeguarding of water
-	the private sector has an important role in water management

1.1.3 Documentation

During the background studies and drafting of the Water Action Plan a number of working documents have been prepared in draft, and comments to these have been obtained from various relevant parties. In concert with the developments in the Water Action Plan process, parts of these documents have become obsolete after having served their purpose of raising points for discussion and explaining status and contents of the work.

The experience and consensus obtained from those drafts have thus been carried over into a number final documents. These are also drawing heavily on excerpts from the working papers and the draft reports from WAP Phase I and Consolidation Phase I. The resulting list of final documents is given in Appendix 1.1. The set of documents constituting the core of the Water Action Plan are nos. 005 to 014.

1.1.4 Report on institutional and management aspects

This document focuses on the institutional structures, regulatory machinery, administrative procedures, and the related training programmes that are needed for effective management of water resources in Uganda.

Chapter 2 establishes the context by analysing the current structural changes within government that will affect the management of water resources - and it reviews the main institutions that are involved. Chapter 3 identifies the key management functions that will have to be performed at the national, district and community levels. This is a long-term perspective: without considering current capacities, and anticipating the growth in local resources and capabilities that should follow the decentralization of political and administrative powers.

The analysis of existing management capacities is carried out in Chapter 4, and it is based on current plans for the restructured DWD - and on the material collected during the district studies made during Phase 2 of the Water Action Plan. The analysis shows that at present there is not sufficient management and financial capacity to carry out all the envisaged management functions at the appropriate levels. Therefore, a short term strategy has been devised, which places some functions at the national level that can later be undertaken by district management. This short term strategy is presented in Chapter 5.

Chapters 6 and 7 describe the management structures that will be needed for all three operational levels - national, district and community; whereas Chapter 8 identifies the managed tools (regulations, procedures, by-laws, guidelines, data management system, budget and finances) that will be required to administer the management functions within the structures described in the preceding chapters.

Chapter 9 presents the wide range of capacity building initiatives that will be needed, whether in the long or short term - and at all three operational levels. Finally, in Chapter 10, there is a list of actions necessary for the effective implementation of the proposals.

2 EXISTING WATER RESOURCES MANAGEMENT MECHANISMS

An examination of the present situation regarding structural changes within government that will affect future management mechanisms for water resources, and the key institutions that are or will be involved.

2.1 Legal aspects

The existing laws governing water management have been concerned with water supply and not water resources management as a whole. They are under a process of revision which is nearly complete.

A Water Legislation Study, completed in June 1993, contained three draft statutes for Water Resources, Water Supply and Sanitation, and the National Water and Sewerage Corporation. The draft Water Resources Statute, in particular, covers water resources management, and it includes the role of the Uganda Water Action Plan. By April 1994, the statutes were still in the process of legal drafting in the Ministry of Justice. A consultancy in mid-1994 will be making draft Regulations to support the statutes.

A similar process is taking place regarding environmental management, and a draft environment statute will soon be submitted to parliament (the National Resistance Council). This will cover many aspects of land management, as well as overall coordination of environmental management aspects including water resources.

2.2 Ministerial restructuring

A ministerial restructuring exercise is taking place in Uganda as part of the civil service reform programme. It has resulted in a reduction in the number of ministries, in the number of departments within ministries, and in the retrenchment of staff. The restructuring exercise is continuing together with the decentralization programme, and it is expected that there will be further changes at the central level when the district departmental structures and staffing needs have been determined as part of the decentralization activities.

2.3 Decentralization

2.3.1 Progress and implications

The Government of Uganda has been promoting a decentralization policy for three years. Its objectives are to move decision-making closer to the citizens so that government becomes more responsive and accountable to the people, and to reduce the role of the central government in matters which can best be administered at lower levels.

The decentralization process reached a milestone in December 1993 with the enactment of the Local Government (Resistance Councils) Statute. This law has the effect of shifting power over government district activities from central ministries and agencies to the elected politicians sitting in the District Resistance Councils.

All the district civil servants, apart from the District Executive Secretary (DES) and the Deputy District Executive Secretary, will be appointed by a District Service Committee. They will be responsible to the District Resistance Council (DRC) through the DES. In terms of water supply activities, it means that the Directorate of Water Development will no longer have the administrative control of staff it had previously in the districts. The districts will be able to decide on how many staff they wish to employ based on their own priorities.

Decentralization will be financed primarily through the transfer of funds from the central level. In the 1994/95 financial year, it is planned that 27 districts will for the first time receive block grants from the Ministry of Finance, for which they will budget, according to their own priorities within the framework of national laws and policies. The block grants will replace transfers that came through various ministries in the past and will include what was formerly paid in salaries and allowances from central authorities. The exact size and modalities of the block grants system are not yet known.

2.3.2 Water resources

The Local Government (Resistance Councils) Statute in the 2nd Schedule has designated "water resources" as being one of the functions and services exclusively reserved for the central government. This can be interpreted narrowly to mean that all resource management functions must be carried out by the central government. However, the spirit of the Statute is that management should take place at the lowest appropriate level. The Statute is an enabling law creating flexibility and provision for future transfer of authority.

It appears that the provision in the 2nd Schedule can be interpreted to mean that the central government will continue to have overall responsibility for water resources, including the setting of policies, standards and management regulations; while lower levels of government can have responsibility for local decision-making and management within the framework of national policies. Administratively, it may be expected that staff working exclusively on water resources management, based at a number of centres covering a number of districts, will continue to be employed by DWD.

2.3.3 Water services

In the 6th Schedule of the Statute, "water services" have been designated as one of the powers, functions and services to be performed and exercised by District and Urban Councils.

Water services is defined as:

"Provision and maintenance of water supplies outside the NWSC subject to international obligation and to the approval and supervision of the Government"

This means that the districts are responsible for both rural and small urban domestic water supplies and for any other facility such as a waterworks, dam or borehole which is managed by the council. It is expected that urban piped water systems will become the responsibility of municipal and town councils.

The phrase "subject to ... the approval and supervision of the Government" needs to be defined in terms of operational procedures. The definition can be made in the regulations that are to be drafted in regard to the Water Supply and Sewerage Statute. In terms of the Water Action Plan it would be appropriate for the definition to be broad, and, in essence, one which confines the central role to ensuring that national policies and standards are being adhered to by the districts. It would not be appropriate, nor affordable, for the central level to create a close and intense supervision of district activities regarding water supplies.

2.3.4 Reorganization of district departments

The Ministry of Public Service, together with the Decentralization Secretariat, carried out reviews of the departmental structures of the first 13 districts to be decentralized. This resulted in a proposal to reduce the number of technical departments from over 20 to 5 - through combining functions. Recommendations were also made on staffing levels for each department and its units, which in sum will mean a reduction of staff.

The new departments correspond to five mandatory committees which the districts should form in conformity with the Local Government Statute 1993. The departments are: Production and Marketing; Health; Education; Land, Construction and Public Works; and Community Based Services. The names are not fixed and may vary from district to district.

The Ministry of Public Service has proposed that water supply should be put under Health or Public Works; while maintenance of water sources is under Community Services. The management of water resources is not mentioned. Environmental management is placed under Production and Marketing. Such arrangements are not appropriate for effective water and land management at the district level, and alternative structures will have to be made. A proposal is found in Section 7.1.

The District Resistance Councils have to approve the structure, and can modify it as they see fit in the future.

2.4 Ministry of Natural Resources

The ministerial restructuring exercise resulted in the Ministry of Natural Resources having three directorates: Directorate of Water Development; Directorate of Environment Protection, which includes Forestry and Meteorology; and Directorate of Energy and Minerals. The first two are directly concerned with water and land management, and are examined below.

2.4.1 Directorate of Water Development

The restructuring exercise has resulted in the Directorate of Water Development having four departments: Water Resources Management, Urban and Institutional Water Development, Rural Water Development, and Inspection and Support Services. Regional offices have been abolished; all districts have offices, and provision has been made for county water offices in the future. A number of staff have been retrenched.

Before decentralization, DWD was responsible for all aspects of water resources management and water supply (apart from the towns managed by the National Water and Sewerage Corporation). Decentralization will mean a reduction in its role. The functions of DWD after decentralization are described in Chapter 6 below.

2.4.2 Directorate of Environment Protection

The Directorate includes the Environment Protection Department, the Forestry Department and the Meteorology Department. The Environment Protection Department includes a Wetlands Management and Conservation Programme. Linked to the Environment Department is the National Environment Management Authority (NEMA). The NEMA structure was approved by the Cabinet in December 1993. This development may lead to a combining of the Environment Protection Department with NEMA, as their designated functions are virtually the same.

2.4.3 National Environment Management Authority

The overall goal of NEMA is: coordinating and advising government on matters pertaining to sound management of environmental resources. This will mainly involve monitoring the state of the environment; advising government on environmental policy and legislation; coordinating and harmonizing sectoral interests; promoting the integration of environmental standards in development planning; overseeing compliance with environmental laws; conducting impact assessments and setting standards; promoting environmental education and awareness.

NEMA has four technical divisions: Environmental Policy, Planning and Information; Environmental Law and International Cooperation; Environmental Monitoring and Control; Human Resource Development and Outreach.

At the national level, NEMA is a semi-autonomous body established under the Ministry of Natural Resources. The governing body is the Policy Committee of the Environment (or Cabinet Steering Committee) consisting of relevant ministers.

Technical Committees are to be established, including: the Technical Committee on Licensing of Pollution, and the Technical Committee on Environmental Restoration Orders and Easements.

Functional linkages to ministries will be through small environmental liaison units within the ministries, and Environmental Liaison Officers will be trained to staff them. Functional linkages to districts are planned to be through District and Local Environmental Committees, and District Environment Officers (DEO) will be trained. The DEO post may not be a new creation, but it may be filled by one of the existing officers from the Ministry of Natural Resources, such as the Forestry Officer or the Water Officer. This position may be called the "District Natural Resources Officer".

The NEMA strategy is to encourage local participation in environmental management through:

- strengthening the districts' ability to disseminate environmental information
- building local environmental planning capacity to enable local people to sustainably manage their own environment.

To this end, NEMA is planning a District Environmental Capacity Building Project in two pilot districts of Kabale and Tororo. Capacity will be built at the district level and in one sub-county of each district. One of the components of the project is Hydrology and Water Development.

2.5 Ministry of Agriculture, Animal Industries and Fisheries

This ministry includes three directorates (Agriculture, Veterinary Services, and Fisheries) whose activities affect water resources management: agriculture through irrigation and land use practices in relation to soil erosion; veterinary services through run-off of chemicals from cattle dips; and fisheries through the intake and discharge of fish ponds.

All three directorates have extension staff in the districts; the lowest level at which they are posted being the sub-county.

2.6 District and community level mechanisms

Existing water-related management in the districts is generally a matter of water supply and sanitation only. The dominating activities are related to rural water supplies based on boreholes and springs. Small urban supply systems are managed by DWD, but are generally in a poor shape. International donors and NGOs finance most (80%) of water development activities, both rural and small urban. Financial constraints in government mean that DWD has very limited government funds for development activities, but it is responsible for utilizing donor funds.

No formal water resources management functions are carried out at district level. There is generally no coordination or planning of water extractions/diversions or wastewater discharges - due to numerous constraints. Among the most prominent of these constraints are that the water quantities abstracted or discharged are not known, measured or regulated to any significant extent - and that water quality is very poorly documented. Further, there is very little knowledge of the water resources in terms of quantity, quality, spatial and temporal variations.

There are, however, mechanisms in place that have the potential to manage water resources at the district and community levels. The political, administrative and judicial structures are fairly well developed. The RC system at levels from 1 to 5 (village to district) with its hierarchy of councils is a well established political institution and designed for local policy making - and the system could be effectively used for the making of local water resources policies. District officers are in place, and there are extension staff in fields such as health, community development, agriculture and fisheries; which means that water related environmental information can be disseminated at the village level. The RC Courts and the Magistrates Courts are functioning and they can deal with those disputes and conflicts that cannot be resolved through intervention by Elders or the Chiefs.

3 NECESSARY LONG TERM WATER RESOURCES MANAGEMENT FUNCTIONS

3.1 Preamble

The purpose of this chapter is to identify the key functions that will have to be performed in order to achieve effective water management at all levels - one which, as envisaged in Uganda's Draft Constitution, will "prevent or minimize damage and destruction to water resources", and one which will "promote public awareness of the need to manage water resources in a balanced and sustainable manner".

These management functions have been described assuming an optimal situation - without taking into account current capacities at the three operative levels: national, district and community. That capacity analysis can be found in Chapter 4. This chapter, then, takes a long term perspective: anticipating the growth in local resources and capabilities that should follow decentralization of political and administrative powers. An appropriate short term strategy is developed in Chapter 5.

In keeping with the goals of decentralization, the identification of functions is also true to the principle that the management of water resources should take place at the lowest appropriate level; in other words, decisions on any issue should be taken by those who are affected by it. So, as with the management of water supplies, there is a concern to promote demand-driven and participatory approaches - and ones which involve those, particularly women who, though they are most affected by water supply-related decisions, are often excluded from the decision-making.

Since its establishment in 1986, the RC system has proved effective in stimulating debate on social issues - from community to national levels - in mobilising community action, and in generating a sense of community discipline. The aim is to build on the achievements and anticipate the potentials of these social and political structures. Moreover, the decentralisation processes now in train offer opportunities for the kinds of regulatory, monitoring and mediation functions that are crucial for good water resources management.

But since so many problems of water pollution or degradation can have a wide geographical impact and require a high degree of technical expertise, a significant number of management functions will continue to be carried out at the national level. Here, the concern should be to strengthen the Directorate of Water Development, so that it can be more effective in carrying out its inspection and supervision responsibilities.

In general, a balance is attempted between community participation and formal, centralized control systems in regard to water resources management. In the short term, because of resource problems, the balance is tipped towards central systems; while in the long term the balance shifts over to more localised management.

Finally, although this analysis concentrates on water resources, it is made in recognition that these functions should be carried out within an integrated strategy for environmental management. In this respect, strong communication links will be made with the newly established National Environment Management Authority (NEMA), which, although it does not have operational roles, has important monitoring, standard setting and advisory ones. NEMA will rely on line ministries to implement its recommendations.

3.2 International policy

One of the key functions of the Water Policy Committee, to be established as set out in the Water Resources Statute, will be to act as the coordinating body for formulating policies with regard to international water resources issues. There is a pressing need, for example, for a clear policy on how to address the water quality problems of Lake Victoria, in cooperation with upstream riparian states.

It will also be necessary to decide how international institutions should be promoted to deal effectively with the management aspects of the Nile Basin - and, from Uganda's perspective, to establish an articulated strategy in relation to both the upstream and downstream countries in the Nile Basin. The Water Policy Committee will provide information and advice to the Ministry of Foreign Affairs in any negotiations over cross-border water issues.

For a detailed exploration of the background for an international policy on water resources management, see WAP Doc. 009 - International Aspects.

3.3 Policy making, planning and coordination

Cross-sectoral coordination involves the integrated management of water and land resources through a harmonisation of the policies, plans and actions of various institutions concerned with agriculture, fisheries, forestry, energy and industry - as well as water.

The main functions of formulating the national priorities for the use of water and land resources, reviewing the plans and projects of the various ministries that affect the protection and utilization of water resources, setting national water quality standards, mediating on water resources issues that cannot be resolved at the district level - all these will be carried out by the Water Policy Committee.

A detailed description of the membership, role and functions of the Water Policy Committee is given in Section 6.2.

At the district and community levels, coordination across sectors will involve the making of by-laws, regulations and sanctions that cover a variety of issues that are related to the protection of the natural environment and which affect water resources.

Among these issues are: the use of wetlands, soil erosion, livestock watering, use of agricultural chemicals, fishponds and irrigation. District-level policy making and coordination will be through the proposed Environment and Natural Resources Committee, which will debate water resource matters and report on them to the District Resistance Council (RC 5). It is essential that a capability to carry out environmental impact assessments is developed at the district level, in order that cross-sectoral coordination can be guided by rational judgements.

One crucial coordination activity will be to ensure that the extension services of the district actually convey the same information regarding natural resources management, including land and water management - and that the various extension programmes are planned so that they are coordinated at the service delivery point.

In fact, it is first and foremost at the community level that sectoral programmes should be integrated rather than merely coordinated. None of the new environmentally oriented approaches, including afforestation and forest protection, soil and water conservation, wetlands management and conservation, or water resources management, has a chance of succeeding unless it is incorporated into normal community level activities. Most often, such resources have been utilised for a long time by local communities - and they will be subject to long-established rights and responsibilities. It will thus be difficult to introduce changes enhancing conservation and resource protection.

This means that the district extension services should work as closely as possible with the established institutions and should support the RCs in introducing sub-county and village by-laws on those environmental issues that are seen as especially important to particular communities.

Often, the sustainable use of resources such as forests and wetlands (that have a direct influence on the water resources) can be managed by the communities themselves; within the framework of national and district regulations. User groups, or other community institutions, can be made responsible for granting access to, overseeing the use of, maintaining and protecting resources - in their own long term interests.

3.4 Water extraction regulation

Permits will be needed for the following activities:

- surface water extraction installations capable of extracting more than 5-litres per second, or
- installation of power-driven pumps allowing water to be automatically drawn from a groundwater source

In the long term, districts will receive from the central authority (DWD) permission to allocate a specified volume of water from streams or rivers. The permission will be based on existing use, hydrological criteria, and on an assessment of possible environmental impacts. Then the districts will decide how the permitted volume of water will be divided among competing users, including what surface works can be constructed, and they will issue the extraction permits. DWD will carry out assessments to determine the uses of cross-boundary sources, taking into account any international implications.

The districts will carry out assessments of the impact of extraction and surface works within their district boundaries - the result of which will be used in deciding the allocation of permits. Where watersheds are common with other districts, coordinated planning will be necessary.

A short term management strategy for regulating water extraction can be found in Sub-section 5.2.3.

In line with the analysis of community responsibilities outlined in Section 3.3 above, preference should be given to allotting a community, or specifically a user group, a common permit to cultivate in a wetland and divert water through furrows for regulation of the water regime, within certain conditions, rather than giving permits for large scale commercial exploitation of the resource. The same principle could apply to forests. Thus, it would be in a community's own interest to guard against encroachment by commercial enterprises.

3.5 Wastewater discharge and pollution regulation

Issuing wastewater discharge permits should be a permanent national function in order to ensure that national and international standards and considerations are taken into account. Evaluating and assessing applications for discharge permits requires a fairly high level of knowledge within the fields of wastewater, chemistry, biology and aquatic ecology; such expertise is not expected to exist in the districts even in the long-term.

The district role will be to comment on applications in relation to district development planning before forwarding them to the national authority (DWD), organise public hearings and assist in monitoring that the permitted waste discharge levels are adhered to.

The local communities, through their RC and various water and sanitation committees or user groups, can assist in the monitoring activities by reporting any new wastewater discharges.

Apart from major industrial and urban pollution, a common water quality issue in rural areas is the multiple use of the same resource or faecal contamination from latrines and animals in the catchment of springs and wells. The most important agent to do something about such problems will continue to be the communities themselves.

The district public health services will disseminate information on national standards and support local efforts to segregate uses; as, for example, combining valley dams with shallow wells. But only the communities, through their RC committees, will have the capacity effectively to impose and enforce local rules and maintain structures to avoid contamination of sources of domestic water.

However, different users have different priorities. In certain areas, for example, women may well afford higher priority to the accessibility and quality of domestic water supply; whereas men might put more emphasis on cattle watering and grazing. Therefore, given the likely power-relationship between men and women in such areas, it will be important that the extension services recognise this fact and place emphasis on giving support to women.

3.6 Monitoring

DWD will retain the responsibility for:

- baseline monitoring of water flows and water quality on a national scale
- managing surface water, groundwater and water quality databanks
- disseminating data on water resources to relevant users

A proposed project, "Rehabilitation of Water Resources Monitoring and Assessment Services in Uganda" will include the creation of national capacity for monitoring of surface water quantity and quality at selected locations. Four district offices will be strengthened so that they can carry out these functions on an area basis that covers the whole country. This project includes upgrading of laboratory facilities in Entebbe, and it should be designed to cover the creation of capacity for wastewater discharge monitoring and control on a national scale.

The district-based staff and committees should be able to assist DWD in monitoring both the quantity and quality of surface water:

- checking on the performance of permit holders
- seeing whether they adhere to by-laws and regulations.

So the following functions will need to be carried out at the district level:

- groundwater quantity: checking that extraction levels do not exceed estimated recharge
- groundwater quality: in cases of contamination, checking will normally be done by district-based Health Inspectors
- by-laws and regulations: checking that these rules are being kept

The community-based water and sanitation, or user groups, should be able to monitor activities having impacts on water resources: such as the cultivation of wetlands, and the dumping of waste. Any problems noticed, any misuse of facilities or infringement of permits and regulations, should be reported to the district authorities through the RC committee system.

3.7 Enforcement

DWD will be responsible for the enforcement of wastewater standards and regulations through a permit system which will be supported by penalties stipulated in the regulations. In relevant cases, legal and/or administrative action will be initiated by DWD.

At the district level, in cases where monitoring reveals that permits, by-laws or regulations are not being followed, the district authorities will need to enforce sanctions administratively or through the RC and Magistrates Courts.

However, district staff will not have the capacity to monitor all aspects of water resources management, so individuals should be encouraged to report environmental problems and possible user infringements through the RC system to the district level.

3.8 Mediation

The Elders and the village RC courts will be the first instances of mediation of disputes over water resources involving individuals. The Chiefs system could also be activated at various levels when required. These agents will be especially important for all water extractions which do not require a permit - and for questions of access to water resources.

Disputes between groups within a community (between, say, female vegetable growers, male rice growers, pastoralists and fishermen over the use of a seasonal swamp - or between women and pastoralists over water supply development priorities) - such disputes will normally continue to be decided upon through the RC system.

Although many disputes will be settled by the Elders, Chiefs or RC courts, some will require an appeal possibility at the district level. These might be handled by the District Environment and Natural Resources Committee or by an independent body constituted for mediating such disputes. Any disputes involving the district administration must be handled by an independent body or by a Magistrates Court.

The Water Policy Committee, or a body it appoints for the purpose, can be the final administrative appeal possibility for water disputes and for settling institutional disputes.

3.9 Training and information dissemination

In order to help ensure public acceptance and adherence to policies, regulations and by-laws regarding water resource management, it will be necessary to carry out public education on a continuous basis. This can be done through a district's network of extension agents from various departments who should spread common environmental information as part of their duties.

In this awareness-raising activity, DWD will have an important role, through its Training Section, in promoting in-service workshops for the district extension staff and developing training and information materials - which focus on water resource management issues and their relationship to other environmental, economic and health concerns.

The RC system ensures a high degree of community participation - in the discussion of issues and decision making. But, given that water supply issues are likely to rank as a much higher priority in the minds of most people, there is a need for integrating - or at least coordinating - the district extension services so that they can give harmonised information and facilitate discussions on water resources management issues. This implies an urgent training initiative directed towards extension staff in such fields as agriculture, community development, forestry, fisheries and health. Also, in the longer term, water resources management topics should be included in the curriculum of the relevant professional training institutions. (See Chapter 9, Sub-sections 9.1.5 and 9.2.3.)

3.10 Rural and urban water supply

In addition to the above water resource management functions, the districts will have responsibility for water supply services. These functions are likely to use the major part of the available time and resources of the district water department.

For rural water supply and sanitation, district-based staff will promote demand-driven, community managed point source developments - including sanitation and health education.

The municipal and town councils will continue to be responsible for the operation and maintenance of town water supplies - and for the setting of tariffs.

DWD will "approve and supervise" the districts in these activities. The definition of this role should be specified in the subsidiary regulations to the Water Supply and Sewerage Statute, and should be of a limited nature - such as ensuring that national policies and standards are kept. DWD will also have a role in facilitating the implementation of national and donor assisted projects in the field of water supply and sanitation.

However, communities are playing an increasing role in planning, implementing and managing water supply projects: for domestic, livestock, and other uses. As donors and districts are giving more emphasis to a demand-driven approach, communities will be required to present their priorities and to put some of their own resources corresponding to the level and type of service they want.

Table 3.1 - Water resource management functions and levels

Functions	National level	District level	Community level
Formulation of international policies	Through the Water Policy Committee: Defining Uganda's position with regard to cross-border issues of water quantity and quality. Providing information for negotiations with upstream and downstream countries of the Nile Basin on these issues.		
Policy making, planning and coordination	Through the Water Policy Committee: Formulating national priorities for water and land resources. Ensuring that the plans and projects of related Ministries conform to national water resources policies, standards and guidelines. Setting water quality standards. Mediating on water resource issues.	Framing and upkeeping by-laws, standards and guidelines with regard to such matters as: - use of wetland - soil erosion - watering livestock - use of agricultural chemicals - fishponds - irrigation schemes. Establishing a database on the above matters. Coordinating extension programmes that carry water resources management information.	Through county and sub-county level Rcs: Framing by-laws on water-related issues of direct concern to local communities. Managing the use of, eg. wetlands and forests.
Water extraction regulation	Through DWD: Conducting impact assessments of cross-boundary and cross-border uses of water. Specification of water volumes for which districts can allocate extraction permits.	Through district water officers: Conducting impact assessments. Processing applications and issuing drilling and extraction permits.	
Wastewater discharge and pollution regulation	Through DWD: Processing wastewater discharge applications and issuing discharge permits.	Through district water officers: Commenting on applications in relation to district development planning. Organising public hearings. Assisting in monitoring that permitted levels are adhered to. Through public health authorities: Disseminating information on national standards.	Through water and sanitation committees and water user groups: Assisting in the monitoring of potentially harmful discharges. Framing and enforcing local rules and maintaining structures to avoid contamination of domestic water sources.

Functions	National level	District level	Community level
Monitoring	Through DWD: Monitoring water flows and water quality. Managing surface water, groundwater and water quality data banks. Disseminating water resources data to relevant users.	Through district-based staff concerned with natural resources and health: Checking that permit holders act in accordance with their permits. Assisting DWD in monitoring wastewater discharges are according to permitted levels. Checking that extraction levels do not exceed estimated recharge. Checking groundwater for possible contamination. Checking that by-laws and rules are being kept.	Through water and sanitation committees and user groups: Monitoring the condition and use of water resources and facilities. Reporting misuse and infringement of regulations.
Enforcement	Through DWD: Enforcing wastewater standards and regulations through a permit system. Initiating legal or administrative actions.	Through relevant administrative machinery, or RC and Magistrates Courts: enforcing sanctions when permits, by-laws or regulations are not being followed.	
Mediation	Through Water Policy Committee: Acting as final administrative mediation for water disputes and for settling institutional disputes.	Through Environment and Natural Resources Committee, another independent body, or Magistrates Courts: Mediating disputes that may involve individuals, institutions, and the district administration over water rights and uses.	Through Elders, Chiefs and village RC courts: Mediating water resource disputes concerning individuals. Through RC system: Mediating disputes between groups.
Training and information dissemination	Through DWD Training Unit: Developing water resource management training workshops and materials, directed to extension staff in agriculture, community development, forestry, fisheries and health. Developing materials suitable for public information on water resources management issues.	Through staff of proposed Environment and Natural Resources Department: Conducting workshops for extension workers on water resources management issues - relevant to particular districts. Conducting educational activities on water resources management, for the general public - and particularly for members of water and sanitation committees and user groups	

4 EXISTING MANAGEMENT CAPACITY

Since neither DWD nor the district administrations have yet developed a means of systematically collecting data on staffing, equipment or accounting, it is not possible to give a precise description of current capacities - at national, district and community levels - to carry out the necessary long term water resource management functions described in Chapter 3. This analysis is based on preliminary plans for the restructured DWD and on the district studies carried out during Phase 2 of the Water Action Plan.

4.1 National level

At the national level, the context for formulating water resources management strategies is the ongoing restructuring of government, including decentralisation, the national environmental management programme, and civil service reform. (See Chapter 2).

4.1.1 Directorate of Water Development

DWD is the main national institution in the management of water resources. In general terms, the Directorate is well staffed with competent officers. After restructuring, it has established posts for 46 senior engineers and engineers. At present, there are 43 such staff employed. Of these, 31 are based at DWD headquarters, many of them working on donor-funded projects; only 12 engineers are posted in the districts. This leaves little scope for deploying a greater number of engineers at the district level. Which means that a number of water officer posts will continue to be staffed by diploma-holding engineering assistants and technicians.

With regard to water resource monitoring, there is a proposal for the establishment of 6 inspection centres under DWD, based at a district water office but covering a number of districts. The centres would be: Arua, Entebbe, Gulu, Masindi, Mbale and Mbarara. The minimum envisaged staffing for each one would be: 1 hydrologist, 1 hydro inspector and 1 water technician. Currently, DWD has only 3 hydrologists available for these posts.

In common with the rest of government, DWD is working under severe financial constraints. There is virtually no money available from national sources for development activities. All major projects are funded by donors. Finances available for recurrent expenditures are also severely limited. Also in common with the rest of government, salary levels are so low that employees are forced to supplement their income through activities other than their official duties - or by securing allowances through being attached to the donor-funded projects.

When seen in the light of the modest staff needs, as detailed below, it can be concluded that competent staff could be made available for water resources management functions at the national level, if sufficient finances were made available.

Estimates of staff needed for the national-level resources management functions, are as follows:

International and national policy-making, planning and coordination

To fulfil these functions, apart from DWD staff in the WPC Secretariat, it will be necessary to draw on outside experience. At the present time, there may well be sufficient expertise available within government and academic institutions to formulate international and national water policies for Uganda. DWD has the responsibility for advising government on this matter. However, there is no structural mechanism whereby the various institutional interests can be brought together to discuss and agree common policies. The proposed Water Policy Committee, with an International Sub-committee, will be able to meet the first of these needs. Also, to integrate national water resources with more general environmental management, it will be important to establish purposeful linkages with NEMA. The special staffing required within DWD to assist with these international and national policy-making functions is estimated to be two graduates (one Senior Engineer and one Economist) and supporting staff to administer the Water Policy Committee Secretariat.

Water extraction and wastewater discharge regulation

A Senior Engineer and an Engineer, plus supporting staff, will be needed to administer a unit within the Water Resources Department which is concerned with the processing of applications and the issuing of permits. The tasks of this unit would include the necessary enforcement functions described in Section 3.7.

Monitoring

The monitoring activity described in Section 3.6 will be strengthened through the project, "Rehabilitation of Water Resources Monitoring and Assessment Services in Uganda". The necessary staffing levels at stations outside the headquarters are mentioned in Sub-section 4.1.1.

Training and information

Currently, the Training Section of DWD has a role of processing applications for scholarships for overseas study, securing for individuals and cadres training opportunities provided by outside agencies, and conducting in-house training seminars. It is staffed by only one professional - a senior engineer.

However, a number of Human Resource Development studies have recommended an expansion of the section, so that it could play a more active role in designing, delivering training programmes and producing training materials. The Small Towns Water and Sanitation Programme, now in its preparatory phase, has as one of its objectives the strengthening of the Training Section. Also, a recently submitted DWD project proposal, "Strengthening of HRD Activities in the Water Supply and Sanitation Sector" seeks to build on reports which have recommended the setting up of a Human Resource Development Support Unit (HRDSU) within the Section. Staffing requirements will be detailed in the forthcoming project document for the HRDSU.

If this expansion and capacity-building occurs, then DWD will have a facility which will enable it more effectively to perform its advisory and supervisory roles - and, in relation to water resources management, to take a leading part in designing and implementing the kinds of orientation workshops and in-service training programmes that are described in Chapter 9.

Rural and urban water supply

DWD has sufficient manpower and expertise in its Rural Water Development Department and the Urban and Institutional Water Development Department for advising and supervising the districts, with regard to water supply services and for implementing national and donor-funded projects.

4.2 District and community levels

The District Studies conducted during the framing of the Water Action Plan revealed that the five case study districts (Arua, Mbale, Mbarara, Moroto and Mukono) shared the problem of meagre resources, in terms of materials and finances. There is no reason to believe that the situation is markedly different in the other districts across the whole country.

4.2.1 Personnel

All but 5 districts have a District Water Officer - most of them being diploma engineering assistants. The present staffing situation varies from district to district. Where there was previously a WDD (now DWD) regional office, there are a large number of staff. For example, Mbarara, which has a total of 73. Whereas for a district which was not a regional office, the staff complement varies from 20 to 30. For example, Hoima has 26. Typically, the staff complement is made up of the District Water Officer, with perhaps an engineering assistant, plus a number of artisans and borehole technicians - supported by clerical staff and drivers. There are normally two diploma engineers assigned to a district. In most districts, there will be at least one town with a piped water supply run by DWD, and, normally, more than half the staff will be employed in the town's waterworks.

Table 4.1 below shows the number of DWD staff deployed in the districts, as at April 1994.

Table 4.1 - DWD staff at district stations

STATION	Established staff	Group staff
Gulu	8	26
Kitgum	4	19
Apac	2	17
Lira	6	22

STATION	Established staff	Group staff
Mukono	3	19
Mpigi	5	5
Luwero	1	16
Mubende	3	25
Mbarara/Rukungiri	20	53
Bushenyi	2	49
Ngora	0	9
Kabale	7	46
Kisoro	3	19
Kasese	4	16
Kabarole	3	31
Bundibugyo	1	4
Masaka/Rakai	4	26
Kalisizo	0	0
Jinza	5	26
Iganga	4	40
Kamuli	1	20
Mbale	7	34
Tororo	1	22
Pallisa	2	19
Soroti	4	63
Kumi	4	12
Kapchorwa	1	24
Moroto	3	25
Kotido	1	6
Arua	6	22
Nebbi	1	14
Moyo	1	16
Masindi	8	42
Hoima	5	21
Busia	0	12
Kiboga	0	6

Source: Personnel Unit, DWD

The formal duties of the DWO are as follows:

- identifying water projects
- making demand forecasts
- collecting hydrological data
- siting and drilling boreholes
- protecting springs
- promoting an extension service related to operation and maintenance
- collecting and analysing data on water quality
- preparing a district water budget
- supervising the implementation of water schemes (with or without consultants or contractors)
- supervising NGO water programmes
- monitoring and evaluating water programmes

It is clear that such duties at a district unit require a major work effort, with full logistical and financial back-up.

All the DWD staff are based at the district headquarters and there are no DWD extension workers based at lower levels. The Restructuring Report of what is now the Ministry of Natural Resources has proposed that Water Officers be posted to each county. But it is not known whether the district administrations will see the need for, and can afford, these positions. The district departments which have extension staff are Health, Community Development, Agriculture, Livestock, Forestry and Fisheries. Through the monitoring responsibilities and activities of the Health Inspectors and Health Assistants, the Health Department is involved in spring protection, water quality control and public education about water use and sanitation - right through the levels of county, sub-county and parish.

While it might appear that there are a reasonable number of DWD staff in the districts, most are employed in urban water works (which in the future will be a responsibility of the town and municipal councils rather than the districts). The remaining staff have very few resources from DWD to carry out their duties, and they are often mainly engaged in assisting donor-funded projects in water supply and sanitation.

4.2.2 Materials

The office accommodation and equipment for district-based DWD staff is rudimentary. They have access to telephones, but the typing, reprographic and filing facilities are scarce. There are no computers in the DWOs' offices. The stationery supplies are very poor. Most DWOs have very few operational vehicles, and they have very limited funds for the operation and maintenance of them.

District offices are not stocked with equipment for the monitoring of water resources. The comprehensive hydrological data collection that was carried out under the HYDROMET project and WDD was disrupted during the times of civil unrest, and the river gauging stations, field instruments and stores were vandalized and looted. At present, only a very small part of the previous network has been partially rehabilitated.

4.2.3 Finances

As for budget allocations, the story is quite bleak. The District Studies showed that:

- Moroto District, for example, had a total district budget of only UShs 100 million in 1993, with no allocation for water
- Mukono spent UShs 842,600 on the water sector in 1992/93, and has an estimate of UShs 1.5m in 1993/94 out of a total district budget of UShs 4.2 billion
- Arua, in 1993, made no allocations to water activities - even for areas of critical demand
- Mbarara has an annual budget of UShs 5 billion, but only UShs 13 million is allocated to the water sector
- Mbale's budget is also approx UShs 5 billion and UShs 17 million is allocated to water
- Hoima had a 1992/93 district budget of UShs 350 million, with UShs 500,000 being allocated to water

District budgets, however, do not reflect actual income and expenditure. Budgets tend to be unrealistically high. What little money is available for water is spent exclusively on water supply activities. No money is allocated to other water resource management functions.

4.2.5 Assessment of current capacity

It must be clear from the above analysis that the districts cannot be expected to carry out the full range of tasks necessary for effective water resources management. Currently, they have some staff, but very few resources to work with. The major problem appears to be the severe financial constraint - at the district as well as at the national level.

Despite the existing resources at the district and community levels - especially the strong public involvement in decision making, through the RC structures - there are a number of constraints, other than financial, currently working against the effective management of water resources. These are summarised in Table 4.2.

The following table displays the potentials that have been identified, and specific constraints - other than the general and pervading ones of lack of finance, transport and equipment.

Table 4.2 - Summary of water resources management functions, potentials and constraints

FUNCTIONS	POTENTIALS	CONSTRAINTS
Formulation of international policies	Establishment of the Water Policy Committee has been agreed	Lack of formal agreements between the countries of the Nile Basin. Lack of reliable information on the quantity and quality of shared water resources.
Policy making, planning and coordination	Legislation on water resources and supply has been drafted. Establishment of the Water Policy Committee has been agreed. NEMA has been established - opening up possibilities for cross-sectoral planning. DWD has a complement of staff with considerable experience of water resource management issues. DWD has been restructured to focus on advisory and supervisory roles. Decentralization opens up opportunities for a more rational reorganisation of cross-sectoral agencies and extension services. Sectors such as Agriculture, Community Development and, particularly Health are already involved in the development and supervision of water resources.	Low capacity at the district level for conducting environmental impact assessments. Inadequate knowledge of water resource management issues among extension officers. Economic pressures, such that environmental concerns are over-ridden. Lack of adequate structures for coordination across extension services.
Water extraction regulation	Regulations and management procedures are drafted. Capacity requirements at national level are low - easily absorbed by DWD. The local administrative system is established in all districts - with District Water Officers in place in most districts.	Shortage of staff at district level with engineering qualifications. Unclear interface between district, municipal authorities, and DWD. Lack of monitoring equipment.
Wastewater discharge and pollution regulation	Staff with necessary knowledge exist within DWD HQ. Required administrative structures and procedures at national level are relatively uncomplicated. District Water Officers can assist in monitoring activities.	Shortage of qualified staff at district level to deploy for discharge control. Lack of monitoring equipment. Very limited access to laboratory facilities.
Monitoring	"Rehabilitation of Water Resources Monitoring and Assessment Services" has been agreed. DWD HQ has staff with required qualifications. District Water Officers can assist in monitoring activities.	No formulated monitoring strategy, at present. No national or local standards on water resources management. Lack of staff at district level with engineering (hydrology) qualifications. No qualified staff at district level to deploy for general WQ monitoring. Lack of monitoring equipment. Very limited access to laboratory facilities.

FUNCTIONS	POTENTIALS	CONSTRAINTS
Enforcement	Regulations are drafted. RC and Magistrates Courts are in place and functioning.	Possible adverse socio-economic and political priorities and pressures.
Mediation	Traditional institutions, such as the meetings of Elders, the Administrative Chiefs, as well as the RC and Magistrates Courts, all could have a role. Water Policy Committee can act as final administrative appeal.	
Training and information dissemination	Possibility that Training Section of DWD will be strengthened. The RC system ensures a high degree of community participation - in discussion of issues and decision making Extension services, in related fields such as Agriculture, Community Development and Health, reach right down to the village level - with opportunities for Water Officers collaborating in the design and delivery of environmental messages	Shortage of qualified staff who could carry out educational programmes concerned with the management of water resources. Lack of coordination between extension agencies, so that harmonised information on water resource management issues can be disseminated and discussed

5 SHORT TERM MANAGEMENT STRATEGY

The preceding analysis has shown that at present there is not sufficient management and financial capacity in Uganda to carry out all the water resources management functions at the appropriate levels described in Chapter 3. It is therefore proposed that in the short term the various management levels work towards the achievement of a limited range of functions. This may take up to five years before these are being handled efficiently. When that has been achieved, another strategy should be initiated in order to work towards the achievement of the efficient operation of all necessary water resources management functions at the lowest appropriate levels.

Management capacity has also been taken into account when determining the amounts of water extraction that will require permits. It is estimated that, in the short term, there will not be more than a few hundred users per year requiring permits, and this should not place an undue strain on existing capacity. Many users will be grouped together in the same areas, and no permits will be required at all in some districts. Therefore, it will not be necessary for many districts in the short term to allocate resources for this function.

The following is a description of short term structures and functions at various levels.

5.1 Structures

The national, district and community management structures described in detail in Chapters 6 and 7 should come into operation as soon as possible. In themselves they will not place a great strain on management capacity, and they can become operational at short notice.

At the national level, the Water Policy Committee and its Secretariat should be established and become operational when the Water Resources Statute is enacted by parliament. DWD is already re-structured, but it still needs to define operational relationships between itself and district water staff consequent on decentralization. A circular describing these relationships in regard to water resources and water supply services should be prepared. See Annex 13 in Annex Report - Volume 3, "Guidelines for District Management of Water Resources", for an outline of such a circular.

At the district level, the District Resistance Councils should form a District Environment and Natural Resources Committee and a department with the corresponding name. The Committee will be responsible for ensuring the implementation of the functions described below. The minimum staffing need in the department would be officers for water, environment and forestry - plus supporting staff. The department would work through the extension staff of other departments.

If a DRC does not consider water resources management to be a priority and does not create the above organization, then consultation should take place with the DWD Inspection and Support Services Department in order to find another appropriate institutional structure at district level. District Magistrates Courts already exist, and they can take on the mediation of civil disputes that may arise regarding utilization of water resources.

The community level structures - the Rcs, RC Courts, Chiefs, Elders, and water point source management groups - already exist and operate with varying degrees of efficiency. The short term strategy for these structures will be for the District Environment and Natural Resources Committee and the district extension staff using the unified approach to encourage, advise and support these institutions in carrying out water resources management functions.

5.2 Functions

The short term management functions are summarised in Table 5.1. Some of the short term ones at some levels are the same as those described in Chapter 3 and in Table 3.1, which indicates that the necessary permanent function is expected to be operational within 5 years. These functions are marked with *.

5.2.1 Formulating international policies

National level:

* The Water Policy Committee will coordinate the formulation of policies regarding cross-boundary issues of water quantity and water quality. The WPC will advise the Ministry of Foreign Affairs regarding negotiations with upper and lower riparian states.

District and community levels:

* No functions.

5.2.2 Policy making, planning and coordination

National level:

* The Water Policy Committee will carry out the functions described in Sub-section 6.2.1 as they become relevant and applicable, viz: revise policy, legislation, regulations, and the Water Action Plan; set national priorities for water and related land resources; liaise with NEMA concerning water resources; ensure that plans and projects concerning water resources of related ministries conform to national environmental policies, standards and guidelines; advise the Minister on decentralization of national functions, and on appeals regarding water extraction and discharge licensing; mediate disputes between government bodies concerning water resources issues.

District level:

Establish a district management structure for water resources, such as an Environment and Natural Resources committee with its administrative department. Define district priorities for water resources management activities in the light of the severity of problems, expressed needs and financial resources available. In accordance with national policies and with the approval of DWD, make by-laws and regulations regarding the management of wetlands, hill slopes, cattle watering, fish ponds, irrigation schemes and other water resources. Establish a data base of water resources and sources. Integrate district extension services so that water resources and environment activities and messages are coordinated. Support lower levels of government, especially the sub-counties and Village Resistance Councils, in taking responsibility for monitoring and managing water resources in their areas. Promote the management role of women in water resources. Make an annual Water Resources Action Plan for approval by DWD.

Planning and prioritization of water resources activities will be based on the strategies detailed in Section 4.3 "Planning and Prioritization" of WAP Doc. 002 - Water Policy. Training and information activities will need to take place at the district level in order for politicians and staff to become acquainted with the principles and strategies of water resources management.

Community level:

Provide districts with information for establishing a data base, which can also in the future be used for the formulation of by-laws at the county and sub-county level.

5.2.3 Water extraction regulation**National level:**

DWD will administer the water extraction permit system. In the short term it will involve the licensing of only a small number of large users, as per the regulations, and the "Management Procedures for Regulation of Water Extraction" described in Annex 15 in Annex Report - Volume 3.

District level:

Identify large water users for licensing by DWD. The District Executive Secretary (DES) will be responsible for the administration of the licensing system as described in "Management Procedures for Regulation of Water Extraction". In short, the District Executive Secretary will conduct a hearing process at the community and district level, and pass on the recommendations to DWD. Establish a data base of water sources and structures in the district.

Community level:

RC 1 and RC 3 comment on water extraction applications.

5.2.4 Wastewater discharge and pollution regulation

National level:

* DWD will administer wastewater discharge permits as per the regulations and the "Management Procedures for Regulation of Wastewater Discharge" described in Annex 16 in Annex Report - Volume 3. It is expected that the system will slowly expand in relation to capacity to administer it. Assistance in capacity building is expected to be received through the project "Rehabilitation of Water Resources Monitoring and Assessment Services in Uganda".

District level:

* Identify wastewater dischargers for licensing by DWD. DES responsible for administration of licensing system as described in "Management Procedures for Regulation of Wastewater Discharge".

Community level:

* RC 1 and RC 3 comment on wastewater discharge applications.

5.2.5 Monitoring

National level:

* DWD will monitor water flows and water quality, including performance of permit holders, manage data banks and disseminate water resources data to relevant users. The "Rehabilitation of Water Resources Monitoring and Assessment Services in Uganda" project will build capacity for implementing these functions.

District and community level:

Where possible, observe performance of permit holders and report misuse to DWD.

5.2.6 Enforcement

National level:

* DWD will enforce regulations for water extraction and wastewater discharge through requiring permits, and requiring that water structures be removed or closed if the regulations are not adhered to. Enforcement through a civil court case will take place if administrative methods are not sufficient.

District and community level:

No functions in the short term.

5.2.7 Mediation

National level:

* The Water Policy Committee will act as the final possibility for mediation between government institutions regarding utilization of water resources. The Minister will be the final body for appeals regarding water extraction and wastewater discharge permits, and in this regard he will be advised by the WPC.

District level:

* The Environment and Natural Resources Committee will be the final mediating body of disputes that cannot be settled at lower levels. The Magistrates Courts will be a possibility for persons wishing to settle disputes in a civil court.

Community level:

* The RCs, the RC Courts, the Chiefs and the Elders will continue to play their existing roles in the settlement of disputes. Appeals can be made to the district level.

5.2.8 Training and information dissemination

National level:

* DWD, with the involvement of the WPC Secretariat, will issue guidelines to the districts on their role in the management of water resources, and will have a continuous role in advising and guiding the districts in relation to national legislation, regulations, policies and standards.

District level:

The districts will train their extension agents in the integrated approach to water and land management, and in spreading integrated environmental messages among the public. In the first instance, the districts will need external assistance in establishing and implementing such training, which could be provided on a pilot basis in a number of districts.

Community level:

* Local communities will not implement training activities, but the RCs will spread information received regarding water and land management practices.

5.2.9 Rural and urban water supply

National level:

* DWD will, according to the Local Government Statute, approve and supervise the districts in regards to water supply services. This function should involve the provision of technical guidance and assistance when required. Approval will be needed for extraction of water, in accordance with regulations.

In the short term DWD may continue to operate and maintain small town water supplies until they are rehabilitated. As all these systems run at a loss it would be inappropriate to hand them over to the district or town administrations before rehabilitation. The "Rural Towns Water and Sanitation Programme" within DWD will be dealing with this issue. DWD will continue to promote privatization of appropriate activities, such as drilling. Leasing of DWD drilling rigs to private operators has already started.

District level:

* Promotion of demand-driven point source development in rural areas that will be operated and maintained by the communities. The private sector will be involved in maintenance and repair, including distribution of spare parts.

Municipal and town councils, will take over the management of their water systems from DWD after they have been rehabilitated with external assistance. It will be possible to privatize small town supply systems to community groups or companies.

Community level:

* Management, operation and maintenance of rural water point sources such as boreholes, shallow wells and springs.

5.3 Summary

In the short term, the central level (DWD) will play a direct and deciding management role in both water extraction and wastewater discharge regulation. In the long term, it is envisaged that the districts will issue water extraction permits, while DWD only makes block allocations of water rights to districts regarding water sources that cross district boundaries.

All other functions will be started at the district and community levels in the short term, but it is expected that their capacity to implement them to the full will increase slowly over time, so that these functions will be carried out only to a limited degree in the short term. The short term functions are summarised in Table 5.1.

5.4 Assumptions and Risks

The short term strategy is based on the assumption that the decentralization process will continue to be implemented, and that the district and community institutions are relevant and appropriate places for selected water resources management activities. The strategy is based on the principle of management at the lowest appropriate level, and on the assumption that it is appropriate for democratically elected local councils to play a decision-making role with regard to policies and priorities of water resources management.

It is assumed that management at the lowest appropriate level, and participation of the users of natural resources in that management, will be the best possible option in relation to sustainable management of water resources. Centralized management of all functions, including inspection and control, has been shown not to be viable in the past, and cannot be afforded by government.

However, it is recognised that local level decision making may not necessarily lead to optimum technical solutions, and that strong local interests may lead to less than objective criteria being used for decision making.

Therefore, an operational balance of responsibilities has to be achieved between the central and local levels that takes account of national needs, technical considerations and popular participation. The short term strategy reflects this point.

There is a risk that District Resistance Councils will not see water resources management as a priority activity, and will only see the necessity for promoting water supply activities. They may not find it necessary to employ sufficient staff for water resources management, and may not form a committee and department to deal specifically with water and environment management issues.

Decisions not to place priority on water resources management can be based on a realistic appreciation of a district situation that has few water resources problems. It is expected that this will be the case in a number of districts in Uganda, and such decisions will not necessarily have a negative effect on overall water resources management.

However, it is possible that districts with immediate or potentially serious problems, for instance with regard to soil erosion, may not choose to place priority on water resources management. Such a situation can only be tackled by information and awareness raising activities that reveal the consequences of not taking action. In the short term strategy this function will be undertaken by DWD on the basis of project support for a training and information activity described in Chapter 9.

There is a risk that decisions will be taken that maximise short term productive output at the expense of long term environmental balance. This can take place at all levels of decision making, and will be a concern of NEMA as well as the Water Policy Committee. The only possible remedy will be constant environmental education and information activities directed at decision makers.

It cannot be expected that water resources management will begin to operate effectively at all levels after a short period of time. Uganda stands in a position at present where there is very little management of this kind, so there is a long way to go before an optimal situation is reached. Progress will take place gradually, and will need to be assisted along the way by external inputs.

Table 5.1 - Short term resource management functions

Main functions	National level	District and community levels
Formulation of international policies	Establish Water Policy Committee, its Secretariat, and its International Subcommittee.	
Policy making, planning and coordination	Set national priorities for water and related land resources. Revise policy, legislation and regulations. Liaise with NEMA. Ensure plans and projects conform to national policies, standards and guidelines. Advise Minister on decentralization of national functions and on appeals regarding water extraction and discharge licensing. Mediate disputes between government bodies concerning water resources issues.	Establish an Environment and Natural Resources Committee plus its administrative department - or other structure to perform the same functions. Define district priorities in the light of a problem analysis. Make relevant by-laws and regulations which address the priority problems. Integrate district extension services. Establish a database of water resources. Promote the management role of women in water resources.
Water extraction regulation	Establish a unit within DWD for processing applications and issuing permits for water extraction - as per regulations.	Identify large water users for licensing by DWD. Set up procedures within the office of the DES for commenting on applications to be passed on to DWD. Establish a database of water sources and structures in the district. RC committees to comment on water extraction applications.
Wastewater discharge and pollution regulation	Establish unit within DWD for administering wastewater discharge permits as per regulations.	Identify wastewater dischargers for licensing by DWD. Establish procedures for administering the licensing system, through the DES office, as per regulations. RC committees to report on pollution problems - and to comment on wastewater discharge applications.
Monitoring	Measure water flows and water quality. Monitor performance of permit holders. Process information collected at monitoring stations and manage a databank. Disseminate water resources data to relevant users.	Observe performance of permit holders and report misuse to DWD. Strengthen monitoring capacity.
Enforcement	Through the special unit set up within DWD for administering permit system, enforce regulations for water extraction and wastewater discharge - referring to civil courts when necessary.	

Main functions	National level	District and community levels
Mediation	The Water Policy Committee to act as final administrative agency for mediation between government institutions regarding water resources issues.	The Environment and Natural Resources Committee to act as mediating body for disputes that cannot be resolved at lower levels. RCs, RC Courts, Chiefs and Elders to act in settling local disputes.
Training and information dissemination	Strengthen Training Section within DWD, in order for it to assist in the design of training programmes on water resources management - in guiding districts in relation to national legislation, regulations, policies and standards.	Train extension agents in the integrated extension approach to water and land management, and in disseminating integrated environmental information. Support RCs, and particularly members of water user groups, in their educational and custodial roles with regard to effective water resources management.

6 NATIONAL MANAGEMENT STRUCTURE

In order for the water resource management functions described in Chapters 3 and 5 to be implemented effectively - in accordance with the decentralization policies - it will be necessary for a structure to exist that facilitates management at the lowest appropriate levels. The national level will need to manage essential aspects that are not appropriate at other levels, and act as an enabler that reviews and revises the overall framework so that it responds to current needs and priorities. This national structure applies to both the long and short term situations. Fig 6.1 shows the overall structure.

6.1 Legislation

A Water Resources Statute and a Water Supply and Sanitation Statute, as already drafted and without major modifications, will have to be approved by the National Resistance Council. Regulations supporting these pieces of legislation will have to be approved and issued by the responsible minister.

Revisions to the legislation, when required in the future, will be initiated and coordinated by the Water Policy Committee.

6.2 Water Policy Committee (WPC)

A Water Policy Committee will be established, according to the provisions of the Water Resources Statute. It will be placed in the Ministry of Natural Resources with the Permanent Secretary of that ministry as Chairman and the Director of Water Development as Secretary.

It will relate closely to NEMA with regard to the setting of environmental policies and standards relating to water resources - for example, water pollution.

There will be a Secretariat of two professional staff plus support staff, placed within DWD. The Secretariat will draft proposals, prepare meetings, liaise with contact persons in all member institutions, monitor follow-up of decisions taken, prepare reports, etc.

Liaison officers will be appointed in every member organisation. They will be professionals at a lower level than the members of the WPC, and they could be the same persons who are appointed as liaison officers to NEMA. They will have responsibility for the daily management of the decisions of the WPC that effect their organisation; they will be the channel of communication to their organisation as a whole about cross-sectoral water and land management issues; and they will ensure that their member of the WPC is provided with issue and position papers relevant to the agendas of the WPC.

Except where specified in legislation, the WPC will not be able to take decisions binding on all member organisations. The member organisations will have to formally take the decisions themselves, but the agreements reached at the WPC will be at such a high level that the formal decisions and implementation should be assured.

The WPC will form sub-committees as deemed necessary. Members of sub-committees can be drawn from outside the WPC in order to include the necessary technical expertise. In the first instance, it will be necessary to form an International Sub-committee to work on the details of international policy.

6.2.1 Functions

The overall functions of the WPC are described in legal terms in the Water Resources Statute. Regulations supporting the Statute may include a Terms of Reference for the WPC. The Terms of Reference should include the following functions:

- coordination of policy formulation regarding international water resources; liaison with regional organisations concerned with water resources; review and coordination of plans and projects that affect international water resources
- initiation of the process of revision of the National Water Resources Policy, the Water Resources Statute, the Water Supply and Sewerage Statute, and the National Water and Sewerage Corporation Statute, when major revisions may be necessary
- interpretation and revision, when necessary, of regulations concerning the implementation of the above Statutes
- coordination of the preparation, implementation and revision of the Water Action Plan, including determining the types of activities, developments or works that may not proceed without prior approval of the WPC or prior amendment of the WAP
- liaison with the National Environmental Management Authority regarding policies, guidelines, standards, monitoring and information concerning water resources
- coordination of the formulation of national priorities for the use of water and related land resources
- setting of national water quality standards, and setting procedures for the administration of wastewater discharge

- setting procedures for administration of water extraction permits, including application fees, water charges, penalties and compensation - procedures to be incorporated in current regulations
- review and coordination of the formulation of national plans and development projects of related ministries that affect the protection and utilization of water resources, and ensuring that the plans and projects adhere to the national environmental policies, guidelines and standards as well as the Water Action Plan - including the coordination of donor-sponsored projects to ensure a harmony of policies and practices and avoidance of overlaps
- where it is not covered in legislation and regulations, advising the Minister on determination of the lowest appropriate levels of decision-making regarding the utilization and monitoring of water resources - which powers the Minister would subsequently delegate
- advising the Minister on settlement of appeals received regarding the administration of water extraction permits and wastewater discharge permits
- resolution of conflicts between government bodies regarding water resources that cannot be resolved at the district level

6.2.2 Membership

The legal provisions and procedures for membership are described in the Water Resources Statute. Regulations to the Statute should specify the procedures and membership as follows:

In order to ensure an effective decision-making capacity, there will be Core Members and Ordinary Members. Core Members will attend all meetings, while Ordinary Members are obliged to attend only those meetings whose agenda contains items relevant for their organization. Ordinary Members decide themselves if they will attend, and inform the Secretary accordingly.

A full meeting of the WPC once a year will decide which members will be Core Members for the coming year. This meeting will co-opt new members as required for the coming year. The meeting will also ensure that there is an appropriate gender balance on the WPC.

The initial membership for the first year of operation is proposed to be representatives from the following organizations:

Core Members:

- Directorate of Water Development
- National Water and Sewerage Corporation
- National Environment Management Authority
- Ministries responsible for:
 - lands and urban/rural planning
 - commerce and industry
 - women's affairs
 - finance and planning
 - agriculture
 - fisheries
- 1 District Resistance Council Chairman
- 1 District Executive Secretary
- 1 representative of industry or a research organization

Ordinary Members:

- Ministries responsible for:
 - local government
 - foreign affairs
 - health
 - works and transport
 - meteorology
 - geological surveys and mines
 - hydropower
 - veterinary services
 - forestry
- 1 representative of NGOs

6.3 Directorate of Water Development

In accordance with decentralization, DWD will exist primarily at the national level, and it will become a more regulatory and supervisory agency than an implementing agency for water resources management activities.

District water staff concerned with water supply services will be employed by and be responsible to the District Resistance Councils through the District Executive Secretaries. Some staff may be employed directly by DWD for water resource monitoring and will be stationed in district centres so that they can cover a number of districts.

In general, the four departments that now exist after re-structuring will function as follows:

- The Rural Water Development Department and the Urban and Institutional Water Development Department will implement donor and national-funded projects through the districts.
- The Inspection and Support Services Department will supervise and advise the districts on their own water supply activities and water resources management, and it will be the coordinating body in DWD that links all departments to the districts.
- The Water Resources Management Department will be responsible for monitoring and control of water resources, both in terms of quality and quantity.

In addition, there will be a small Secretariat for the Water Policy Committee under the Director.

Thus, the role of DWD after decentralization will be:

- technical adviser to government and the Water Policy Committee on international water resources management issues
- technical adviser to the Water Policy Committee on national water resources management issues, including national policies
- secretary to the Water Policy Committee and administrator of the WPC's secretariat

Its functions will be:

- collection, analysis, preservation and dissemination of hydrological, hydrogeological and water quality information
- administration of the wastewater discharge permit system
- administration of the water extraction permit system, apart from those functions delegated to district level
- technical supervision, inspection and advisory input to district management of urban and rural water supplies and sanitation
- liaison with international donors and NGOs, and implementation of national and donor funded projects

See Annexes 15 and 16 in Annex Report - Volume 3 for detailed procedures regarding the administration of water extraction and wastewater discharge permits.

6.4 River/lake basin management

A possible water resources management level that has not been mentioned above is that concerned with river or lake basins. Lake Victoria is a special case because of its size and international aspect, and policies regarding the Lake will be coordinated through the international work of the Water Policy Committee.

It is possible that a requirement will arise in the future for river or lake basin management within Uganda where there are specific problems that can only be solved through such a management structure. At present, however, given the relative abundance of water resources in most parts of the country and the limited financial and management resources available, it has not been found necessary or appropriate to recommend the establishment of river or lake basin authorities. The limited scope of management functions that have been identified in the short term can be adequately handled by the proposed national and district level structures.

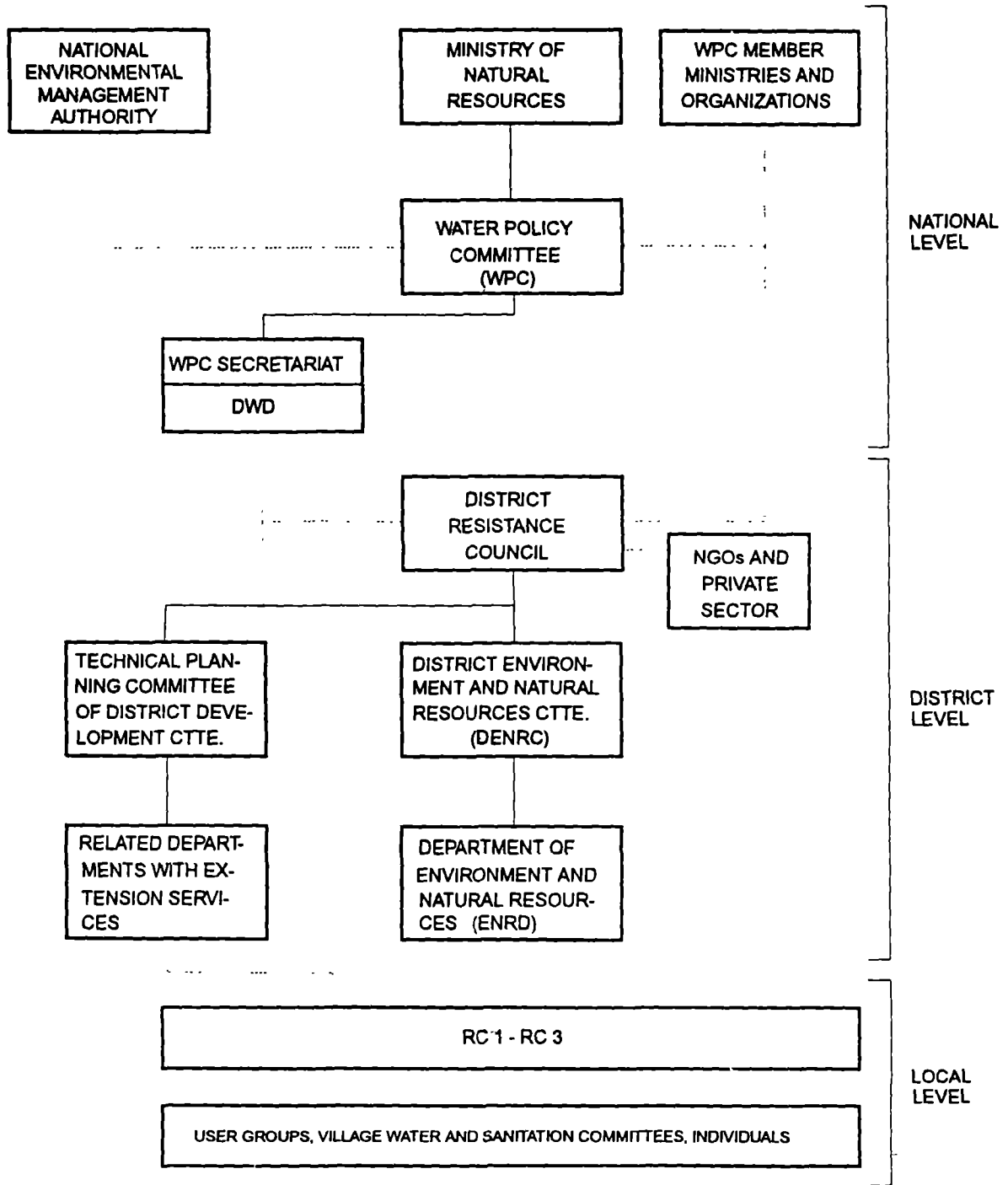


Figure 6.1 - Proposed overall institutional structure of water resources management

7. DISTRICT AND COMMUNITY LEVEL MANAGEMENT STRUCTURES

7.1 District committee and departmental structure

7.1.1 Committees

There are five technical committees specified as compulsory in the Local Government (Resistance Councils) Statute, 1993:

- Production and Marketing
- Health and Environment
- Education
- Works and Transport
- Welfare and Sports.

It appears that the Health and Environment Committee is concerned with environmental sanitation and not overall environmental management. In addition, there is a General Purposes Committee and a Finance Committee.

Overall planning and coordination is done by the District Development Committee and its sub-committee called Technical Planning Committee.

The District Resistance Councils have the power to establish committees other than those specified in the Local Government Statute, and they must appoint committees that are mandatory in other legislation. They can also establish their own departmental structure.

Water resources management needs to be closely linked to environmental management. NEMA is proposing the establishment of District Environment Committees. However, it seems appropriate to bring together all natural resources management functions in one committee.

Therefore, a District Environment and Natural Resources Committee (DENRC) is proposed.

There may be differences between the districts in relation to the priority needed to be given to environmental and natural resources management issues, but it is recommended that this committee be formed as soon as possible so that existing decentralized functions in this sector can be implemented in coordination with other district activities.

The functions of a DENRC in relation to water resources management at the district level are those described in Chapter 3 and summarised in Table 3.1. The DENRC will supervise the technical staff in the implementation of these functions, and will recommend policies, priorities, by-laws and standards to be adopted by the District Resistance Councils.

Membership of the DENRC will be determined by the DRC, and should include both political and relevant civil servant representatives to ensure that qualified social, technical and economic considerations are taken into account. The Chairman should be the Chairman of the DRC or his representative, and the Secretary should be the District Natural Resources Officer. NGOs that are active in water and related land management activities may also be co-opted as members.

In recognition of the important role that women play in the management of domestic water supply and in agriculture, the DRC should ensure that there is a strong representation of women on the committee.

7.1.2 Departments

The Decentralization Secretariat has proposed to the districts that they form five departments corresponding to the five technical committees, and that all existing departments be combined into these five. However, it is not appropriate that regulatory functions, such as environmental and water management, be part of a production or public works department; nor is it appropriate that water and environment management functions be submerged in a huge department such as health. Environment and water resources are national priority sectors that attract much external funding, and therefore need a solid and recognizable structure at the district level.

It is therefore proposed that another department be formed called the Environment and Natural Resources Department. It would include water, environment and forestry staff.

7.1.3 Integrated Extension Approach

In order to ensure that environmentally sound water and land management practices are spread throughout the district, and in order to make maximum use of scarce resources, such as staff, transport and offices, it is proposed that the districts coordinate their extension staff in various departments so that they disseminate the same environment and water resources management information and guidelines. The information and guidelines have to be integrated at the community level so that water and land management practices are coordinated in an environmentally sound manner.

The departments and units that have extension staff and would be involved are: health, community development, agriculture, veterinary services, forestry and fisheries. The concerned departments and committees would work together to create a unified extension

approach regarding, for example, land use practices and soil erosion, use of wetlands, use of chemicals, wastewater control.

The integrated extension programme could be coordinated and monitored by the Technical Planning Committee.

The promotion of such a strategy will require some training activities and advisory services. These could be funded externally and initially be carried out on a pilot basis in a few districts. Results from the NEMA pilot project on District Environmental Capacity Building can be utilised and built upon. (For a more detailed description of the training that is envisaged, see Sub-section 9.2.1).

7.2 Community structures

At the community level, demand-driven community management of water supplies at the lowest appropriate levels would be directed by village and sub-county water and sanitation committees. These are closely linked to, and may be part of, the Resistance Councils (levels 1 and 3). Their functions in terms of water resources management are described in Chapter 3 and in Table 3.1.

Women play a prominent role in the management committees and in maintenance of the facilities. This participation has been encouraged by various water supply projects, and such emphasis should be continued in the future.

There may also be community groups formed for the purpose of managing a resource such as an irrigation scheme, a wetland or part of it, and fish ponds.

7.3 Mediation structures

As described in Section 3.8, the existing mediation and judicial structures will continue to function as before in settling disputes about the utilization of water resources. At the community level these are the Resistance Committees and Courts (especially at the RC 1 level), the Chiefs and Elders. These structures at present settle virtually all local disputes.

The Environment and Natural Resources Committee will act as an administrative appeal possibility at the district level; while the District Development Committee will settle inter-departmental disputes.

Disputes can also be handled on a civil basis through Magistrates Courts. This forum would most likely be used by persons or organizations that disagree with decisions of the DENRC regarding water extraction permits.

8 WATER RESOURCES MANAGEMENT TOOLS

Management tools are the instruments that are used to administer the necessary water resources management functions within the structures described in the preceding chapters.

8.1 Regulations, management procedures and by-laws

Regulations are the supporting rules of the relevant legislation, such as the Water Resources Statute. Regulations can be made and amended at short notice, and in most cases need the approval of the Minister to become binding. In specific cases, approval by the Cabinet may be necessary. Regulations specify the current policies, priorities, standards and procedures that apply nationally.

Management procedures contain a further level of detail supporting the legislation and the regulations, and specify the steps to be taken in implementing particular provisions. Examples are the "Management Procedures for Permitting Water Extraction" and "Management Procedures for Regulation of Wastewater Discharge" found in Annexes 15 and 16 of the WAP Annex Report - Volume 3.

Regulations and management procedures made at the national level need not necessarily apply uniform conditions for the whole country, but can take account of regional variations with regard to water resources and socio-economic conditions.

By-laws that are binding on local residents can be made by a legally established corporate body such as the District Resistance Council (RC 5), County Resistance Council (RC 4) and Sub-county Resistance Council (RC 3). The by-laws can, for example, determine the regulation and use of local water resources such as wetlands and fish ponds. By-laws made by lower level institutions cannot contradict those made by higher institutions. The Village Resistance Council (RC 1) can make rules for behaviour regarding, for example, point source water supply operation and maintenance and other exclusively local issues.

8.2 District management guidelines

DWD, through its Inspection and Support Services Department, which will be the coordinating link to all DWD departments, will issue guidelines to the districts about the district and community roles in water resources management. The guidelines will be revised regularly to take account of further decentralization and of changes in legislation and regulations. A draft district management guideline is found in Annex 13 of the WAP Annex Report - Volume 3.

8.3 Permits

Management of water extraction and wastewater discharge will be regulated through permit systems as described in the management procedures mentioned above.

8.4 Data management system

One of the most vital tools for implementing integrated and sustainable water management policies is, of course, a system for monitoring and assessing both surface and groundwater resources - with respect to quantity as well as quality. What is needed is a data management system that will collect, analyze, store and disseminate information - and assist users in their access to and application of the information that is relevant to their specific management functions. Such a system should be based on a flow of information from collection points at a local level to a central data-processing and data-storing facility - and then out again to the users of the data.

For speed and efficiency in making and implementing some management decisions, it is important that, whenever possible, relevant data is abstracted, analyzed and used at the district level - instead of waiting for it to go to and come out of the central data-bank. Also, in order to facilitate cross-sectoral management mechanisms, data will need to flow from and to sectors related to water resources, such as agriculture, land, fisheries and forestry.

Such a data-flow and decision-making structure is diagrammed in Fig 8.1.

All collected information will be sent to the central unit at DWD. Some of the information (water samples, for example, that can be analyzed by mobile kits, or the drilling of boreholes) can be compiled and used locally.

Relevant data will be sent to TECCONILE and other international bodies; processed data such as studies and reports would go to the Water Policy Committee and NEMA. Other data might, when appropriate, be passed to the Government Chemist.

Finally, to complete the decision-making loop, processed and sometimes simplified data will flow back to the local users.

It is expected that one main outcome of the proposed project, "Rehabilitation of Water Resources Monitoring and Assessment Services in Uganda", will be the design of such a water resources management information system - and the provision of the necessary training of DWD and district-based staff. (See Chapter 9, Sub-section 9.1.5).

DATA MANAGEMENT FLOW CHART

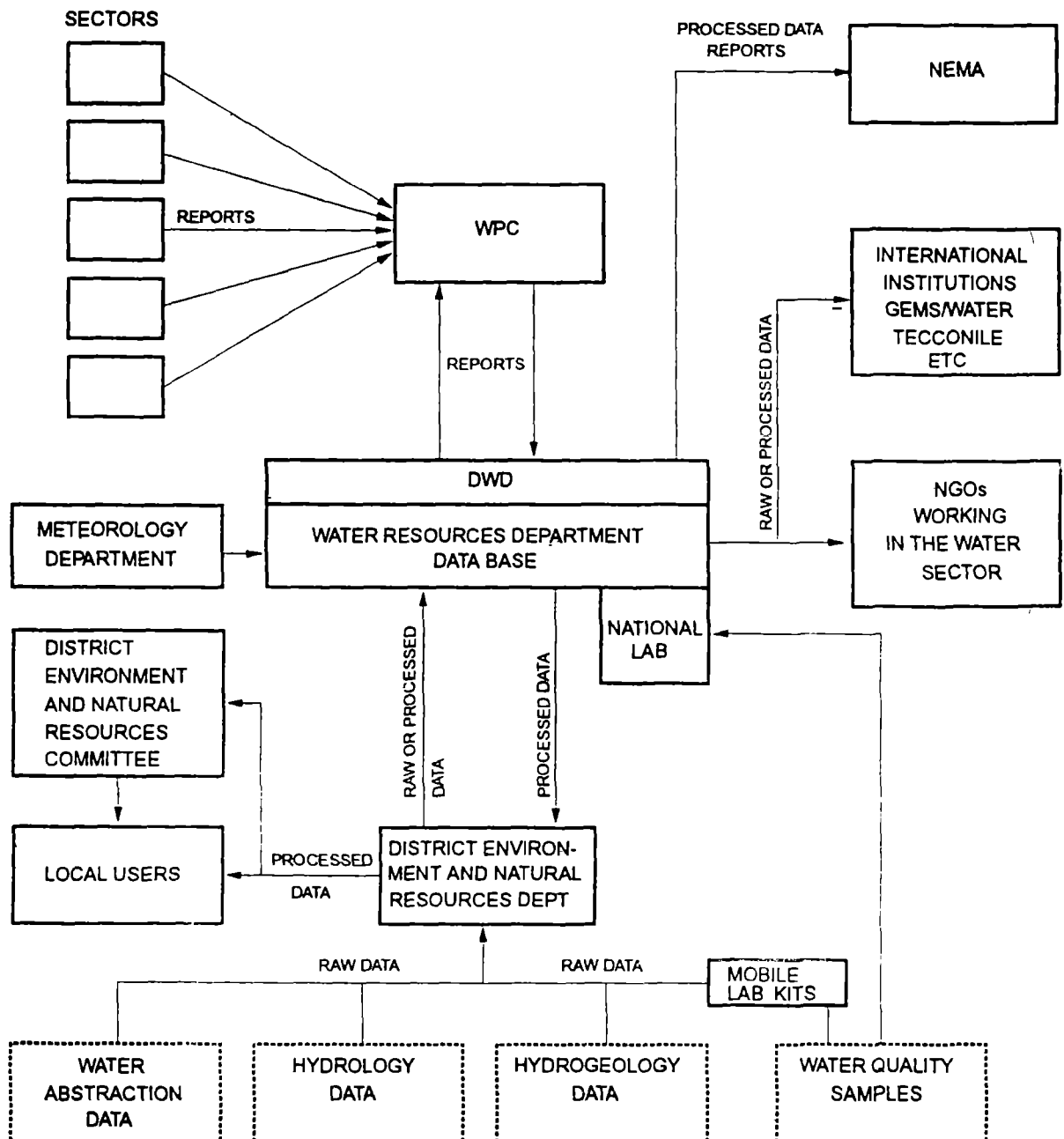


Figure 8.1 - Proposed exchange of water resources data and information

8.5 Budgets and finances

Sufficient financial resources will need to be made available for management of water resources as described in the Water Action Plan.

8.5.1 Water resources

DWD will retain overall responsibility for water resources management, at least in the short-term, but will need to use district staff in monitoring of surface and groundwater quantities and quality, and in the administration of water extraction and wastewater discharge permits.

The administrative costs incurred by the districts can be covered by the application fees for water extraction that must be paid to the District Executive Secretary. The districts should retain the whole fee, and account for it through procedures made in agreement with DWD. The fee can be said to cover all water resource administrative functions for which DWD requests the participation of district staff, and not only extraction permit functions. An alternative would be to divide the fee between DWD and the districts, but this would entail complicated procedures for small amounts of money.

In addition to application fees, there will also be charges for water extraction, based on quantity, and wastewater discharge, as specified in regulations. DWD should, therefore, be able to recover its administrative costs for water resources management through the following channels:

- fees for applications for wastewater discharge permits, which will be paid to the Director of DWD and retained in the Directorate
- charges for water extraction and for wastewater discharge will be paid to DWD for onward transmission to the Treasury; DWD will retain an administrative fee which is a percentage of the total amounts; this percentage will be negotiated with the Ministry of Finance and Economic Planning at the time that the charges come into effect

8.5.2 Water supply

The district administrations will have to make adequate provision in their budgets for the administration of the development of water supply services. It is not expected that the districts will have the financial capacity in the short term to finance the capital costs of development activities, except for small-scale projects, but will be able to plan and administer the activities. Funds for large rural and urban projects are expected to come from international sources, and be administered through DWD.

9 CAPACITY BUILDING NEEDS

Much of the foregoing analyses of structures and functions implies a range of capacity-building initiatives if Uganda's water resources are to be managed effectively - whether in the short or long term. At national, district and community levels, there will be a need for various training, education and information dissemination activities:

- orientation programmes for those politicians, officials and public representatives who become members of policy making and planning committees related to water resources management
- re-orientation programmes for staff of DWD and other relevant ministries, and for district-based staff who have responsibility for carrying out water resources management functions within the decentralised structures of local government
- in-service programmes on water resources management issues for members of the training section in DWD who have a responsibility for designing training activities and information materials for staff within the water and sanitation sector and for the general public
- in-service programmes for those extension workers who have a responsibility for giving information and facilitating discussion about water resources problems and issues
- awareness programmes on water resources management issues addressed to the general public, but particularly to members of RCs and members of water and sanitation committees operative within local communities

9.1 National level

Here, the immediate capacity-building concerns will be to enhance the effectiveness of those bodies established for strategy formulation in the water sector, to foster coordination between key sector ministries, and to assist DWD in carrying out its retained role in water resources management - and in defining its advisory and supervisory relationship with staff working at the district level who also have responsibilities for water resources management. However, there should be a longer-term concern to influence relevant training institutions to put more emphasis on water resources management topics in the curricula designed for such professionals as civil engineers, community development workers, agriculture, fishery and forestry officers, public health inspectors.

9.1.1 Water Policy Committee: orientation workshop

As soon as possible after the Water Policy Committee is formed, an intensive orientation workshop should be held, in order to:

- appraise members of the range of water resources management issues with which they will be concerned
- update them on the water sector legislative framework and management mechanisms currently in place at national, district and community levels
- clarify the role and responsibilities of the Water Policy Committee, and its relationship with other bodies with similar functions - in particular, the National Environment Management Authority - and contact officers in member organisations
- formulate an action plan for the first phase of the committee's work

9.1.2 Coordination seminars

Following the restructuring of ministries and the decentralization of government, in the interests of promoting cross-sectoral coordination in the management of land and water resources, immediate - and then occasional - seminars should be held for senior members of ministries and institutions concerned with agriculture, fisheries, forestry, energy and industry. The objectives would be to:

- explain the policies, structures and processes of the Water Action Plan
- clarify the roles and responsibilities of the Water Policy Committee, NEMA, and the participating ministries and institutions
- formulate action plans for coordinating approaches to the solution of land and water resources management problems

9.1.3 DWD: reorientation workshops

Given that DWD has so recently been restructured, that all its staff previously deployed in the districts will have new terms of service according to the decentralization policy, that new legislation related to both water supplies and water resources will soon be passed, that the Water Action Plan will be in place - there will be a need for the directing staff of DWD to review the changes that are affecting the Directorate's operational, advisory and supervisory roles in relation to water resources management.

A series of workshops should be held for senior staff of all four departments of DWD, in order to:

- review the new legislation and structural changes affecting the water sector
- clarify DWD's role and responsibilities with regard to water resources management
- define DWD's relationship with the Water Policy Committee
- define DWD's relationship with water-sector staff employed by the DRCs within the districts

9.1.4 DWD Human Resource Development Support Unit: training design activities

If a Human Resource Development Support Unit (HRDSU) is established within the Training Section of DWD, along the lines recommended in current project proposals (See Sub-section 4.1.1) then one important way of implementing the training and public education components of the Water Action Plan would be to utilize the opportunities this unit would afford.

The HRDSU would facilitate the review of existing training programmes and development of materials, and help in the distribution to water sector agencies and training institutions. Thus, it would be appropriate to:

- support the HRDSU in designing training activities related to water resources management and addressed to staff of the water and sanitation sector employed by ministries, the district administrations and NGOs
- assist the HRDSU in producing educational materials related to water resources issues and addressed to the general public, though in particular to members of local water and sanitation committees

9.1.5 Curriculum development within environmental sector professional training institutions

The effective management of water resources depends on the understanding of key environmental issues - and collaboration in planning and implementation of projects and extension programmes - by senior managers and field staff working in various national ministries and local authority departments:

- Ministries responsible for natural resources; agriculture, animal Husbandry, fisheries; health; local government
- Departments responsible for community-based services; construction and public works; health; environment and natural resources

One of the activities of the proposed Human Resource Development Support Unit within DWD should be to advise the institutions who train the staff of these ministries and departments on how they might incorporate relevant water resource management topics within their curricula. The following table lists the most relevant institutions, cadres and the courses:

Table 9.1 - Professional training programmes concerned with water resources management

INSTITUTION	CADRE	QUALIFICATION
Makerere University, Faculty of Technology	Water Engineers	BSc (Eng)
Makerere University, Faculty of Social Science	Community Development Officers	BA (Social Work or Social Administration)
Makerere University, Faculty of Agriculture and Forestry	Agricultural and Forestry Officers	BSc (Agric or Forestry)
Makerere University, Institute of Public Health	Doctors	Postgraduate Diploma in Public Health
	DMOHs	4 months course in District Health Planning
Uganda Polytechnic, Kyambogo	Water Technicians	Ord. Diploma in Water Engineering
School of Hygiene, Mbale	Public Health Inspectors	Diploma in Public Health
	Public Health Assistants	Certificate in Public Health
Nsamizi Institute, Social Development	Community Development Assistants.	Diploma in Social Development; Certificate in Social Development
Bukalasa, Arapai and Busitema Agriculture Training Institutes	Agricultural Assistants	Certificate and Diploma Courses
Fisheries Training Institute, Entebbe	Fisheries Assistants	Certificate and Diploma Courses
Forestry Training Institute, Nyabyeya	Forestry Assistants	Certificate and Diploma Courses

To prepare for these advisory activities in relation to curriculum development at the professional training institutions, the relevant staff of HRDSU would themselves need some short term technical assistance.

9.1.6 Monitoring, data processing skills: training programmes

Within the proposed Rehabilitation of Water Resources Monitoring and Assessment Services Project there would be a substantial training components. Besides on-the-job training, members of DWD's Water Resources Department and relevant field staff deployed in the districts will receive training in long-term courses and short workshops:

Long term courses:

- for staff of Entebbe laboratory: training on analytical methods and quality assurance procedures
- courses in hydrology, hydraulics, pollution cause/effects relations, water resources assessment tools and procedures

Workshops:

- design of hydrometric stations
- data quality check procedures and maintenance
- sampling and field measurements
- database design, data handling, data processing and routine reporting

9.2 District level

The decentralization process that is taking place in Uganda provides an opportunity for a rationalization of services as well as scope for greater democratization of decision-making; and, of course, it calls for massive training initiatives in so many spheres. With respect to water resources management, there are needs parallel to those at the national level: orientation workshops for members of policy-making committees and local government officials; in-service training programmes for district water officers and extension workers who are concerned with the fairly wide range of environmental problems; information dissemination to the public on water resources management issues.

9.2.1 Environment and Natural Resources Committee: orientation workshop

Whether or not the Environment and Natural Resources Committee is established along the lines proposed in Sub-section 5.1.1, one of the new technical committees in the restructured district authorities will have a responsibility for making district policies and plans for water resource management - and for ensuring effective coordination of extension services related to environmental management in general.

So, as with the Water Policy Committee at the national level, there will be a need for orientation workshops for these new committees, with the following similar objectives to:

- appraise members of the range of water resources management issues with which they will be concerned
- update them on the water sector legislative framework and management mechanisms currently in place at national, district and community levels
- review the scope and powers of the district authorities, in relation to both water supply and water resources
- consider the specific roles and responsibilities of the Environment and Natural Resources Committee, or whichever committee is given the brief for water resources management
- clarify the roles and functions of the various district staff working within the water sector, and their relationship with staff working in other sectors such as agriculture, community development and health
- clarify the relationship with DWD, in terms of its retained responsibilities for water resources management - and its general advisory and supervisory roles
- explore concepts of community management of water resources and water supplies, and consider the applications of demand-driven and community participation approaches in the particular districts
- draw up an action plan for the first phase of the committees' work

9.2.2 District Water Officers: reorientation training

The District Water Officers have a crucial role in water resources management in as much as, within the decentralized government strategy, they have responsibilities for drafting plans, designing and facilitating public awareness programmes, as well as carrying out water quality control activities at the district level. But, whether they are graduate engineers or not, their preparatory professional training will have emphasised technical as opposed to management competencies. Moreover, in their work so far in the Districts they are likely to have been much more concerned with water supply rather than water resources management problems.

Therefore, there is a need to not only update the DWOs on the water resources issues addressed in the Water Action Plan, but also to clarify their own water resources management functions - and to sharpen the skills required for carrying out these functions.

In-service workshops should be held for DWOs, in order to increase their knowledge of:

- national policies, new statutes and regulations that apply to the management of water resources
- available sources of water and the supply systems operative within their own districts
- health and hygiene benefits of improved water and sanitation facilities
- detrimental environmental impacts that can be caused by ineffective management of water resources

and to improve their skills in:

- drafting action plans and making budgets related to the management of water resources at the district level
- monitoring river flows and levels, inspecting water installations, checking water quality and wastewater discharges
- mobilising and supporting the various water user groups operative at the county and sub-county levels.
- supervising staff employed by the DRC or by the water user groups to manage and maintain water supplies
- coordinating educational campaigns concerned with the conservation or improvement of water sources
- liaising with extension staff in the fields of agriculture, community development, forestry, fisheries and health, in order to promote public awareness of environmental issues
- collecting, analysing and maintaining information concerning water sources, supplies and water quality in the district
- processing applications for water extraction permits, and commenting on applications for wastewater discharge permits
- reporting on water resources management to the District Executive Secretary

9.2.3 District Extension Staff: workshops on water resources management

The case for an integrated extension approach has been made in Sub-section 5.1.3. In the interests of harmonising extension messages - and of making the best use of limited extension resources - the districts would coordinate their extension staff in various departments so that they all disseminate the same information and facilitate the same kinds of discussion on environmental protection in general and water resources management in particular. The proposed clustering of services in a few technical departments makes such a strategy both more appropriate and more possible

Thus, the targeted staff would be from the fields of agriculture and fisheries; community development; health; environment and natural resources. Because of problems of scale, a pilot programme could be run for such extension agents in, say, five districts with different water resources management profiles. It is most important that the training should be "situation-centred", in that it always focuses on actual characteristics and issues of the districts concerned.

The training would in the first instance be conducted with external inputs, and will involve training of trainers at the district level who can follow-up the training on a continuous basis. The permanent district level trainers would be the unit heads of the Environment and Natural Resources Department and the members of the DENRC.

The objectives of the training would be to:

- design an integrated extension strategy: both content and logistics
- explore experiential and interactive methods of promoting environmental awareness and of developing skills for effective management of water resources
- increase understanding of the common range of problem areas, such as:
 - o excessive irrigation
 - o draining of wetland
 - o competition between domestic and livestock use of water
 - o overgrazing and land degradation
 - o harmful wastewater discharges
 - o other industrial pollution of water sources
 - o water quality changes caused by fishponds
 - o spread of water hyacinth
 - o deforestation
 - o soil erosion
 - o lack of sewerage management
- identify the kinds of information materials that would be most useful in public education activities

9.3 Community level

Training and information activities on water resources management issues should be promoted for local leaders, committee members, and for extension workers operating at below the district level. Here, it will be especially important to inform and activate the RC system, with its network of committees down to the RC 1, village level.

9.3.1 RC committee members: orientation meetings

It is assumed that the extension services will ensure that their workers operating at county and sub-county levels will receive similar training on water resources management - provided by the district staff - so that they can incorporate the same range of topics in their interactions with farmers, say, or women's groups.

But a particular effort should be made to sensitise RC committee members on the significance of effective water resources management. To this end, extension workers should be encouraged to hold occasional meetings with the RCs, to:

- discuss water resources problems that might be occurring in the area
- appraise the members on their role in protecting sources: by framing local by-laws and mediating in local disputes
- distribute any information materials on water resources management specifically designed for members of the water and sanitation committees.

Table 9.2 - Summary of proposed capacity-building initiatives

TARGET GROUP	ACTIVITY	OBJECTIVES
Water Policy Committee	Orientation workshop	Appraise on water resources management issues. Update on legislative frameworks and management mechanisms for water sector. Clarify roles and responsibilities of WPC Formulate action plan.
Senior staff of key sector ministries	Coordination seminars	Explain policies, structures and processes of WAP. Clarify roles and relationships of WPC, NEMA, & participating ministries - in relation to land and water resources management. Formulate action plans for coordinating approaches to land and water resources management problems.
Senior staff of DWD	Reorientation workshops	Review legislation and structural changes affecting water sector. Clarify DWD's role and responsibilities in water resources management. Define DWD's relationship with the Water Policy Committee. Define DWD's relationship with district water staff.
DWD Human Resource Development Support Unit	Training design and materials development	Design training activities on water resources management for staff of water and sanitation sector. Produce educational materials on water resources issues for general public and members of water and sanitation committees.
Training institutions within the sectors of civil engineering, agriculture, forestry, fisheries, community development, health and environment	Curriculum development	Incorporate water resources management topics within professional and technical training programmes.
Staff of DWD's Water Resources Department and relevant field staff	Monitoring procedures; data collection and processing	Improve analytical methods and QA procedures. Develop management and maintenance skills for running hydrometric and water quality stations. Improve basic laboratory functions. Develop skills in installing, testing and/or calibrating analytical instruments. Improve routine skills of data handling/processing and reporting.

TARGET GROUP	ACTIVITY	OBJECTIVES
Environment and Natural Resources Committee	Orientation workshop	Review scope and powers of the district authorities with respect to water resources management. Consider the roles and responsibilities of the Environment and Natural Resources Committee. Clarify roles and functions of district water staff. Clarify relationships with DWD Explore concepts and applicability of concepts of community management of water resources and water supplies. Draw up action plan.
District Water Officers	Reorientation workshops	Increase knowledge of: - water resources management policies, legislation and regulations - available water sources and supply systems in the district - health and environmental impacts of poor water resources management. Improve skills in: - drafting district plans for water resources management - monitoring water quantity and quality - supervising other district water staff - supporting water user groups - coordinating educational campaigns - collecting and processing data on water resources management matters - reporting on water resource management issues.
District extension staff	In-service training related to water resources management components, in an integrated district extension service - a pilot programme in five districts	Design integrated extension strategy. Explore experiential and integrated methods of promoting environmental awareness. Increase awareness of common range of problem areas. Identify appropriate information materials for educational programme aimed at community groups.
RC committee members	Meetings on water resource management issues	Discuss local water resources problems. Appraise members of the role in protecting sources and framing local by-laws. Distribute information materials aimed at members of water and sanitation committees.

10 ACTIONS

The following are actions that will have to be taken to implement the proposals contained in this chapter. They do not reflect all the activities that are needed; they would be the key initiatives in any start-up phase.

10.1 Organizational

- Establishing the Secretariat of the Water Policy Committee with staff, offices and equipment.
- Establishing the Environment and Natural Resources Committees in the districts - and the departments concerned with water resources management.
- Defining the operational roles between DWD and the district administrations, in accordance with regulations and the provisions of the Water Action Plan.
- Establishing the unit within DWD that will administer the processing of applications and issuing of permits for water extraction and wastewater discharge.

10.2 Training

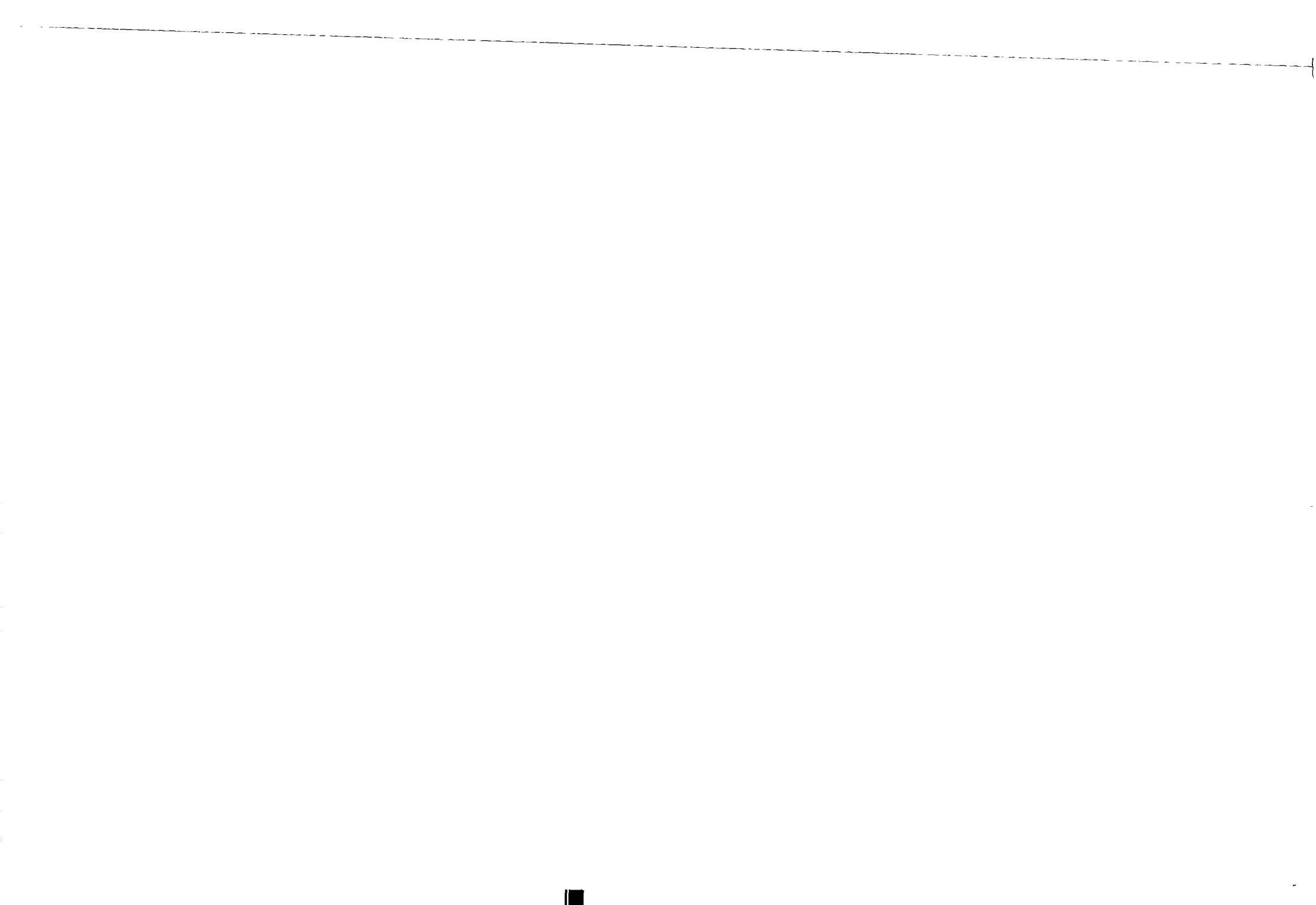
- Providing orientation seminars and workshops for the Water Policy Committee, for senior staff of key sector ministries and particularly DWD, regarding roles and responsibilities.
- Facilitating the staff of the Human Resource Development Support Unit within DWD in their design of training programmes and information materials related to water resources management.
- Assisting environmental sector training institutions in curriculum development in relation to water resources management.
- Designing and providing orientation training at the district level for policy makers, administrators, extension staff and RC committee members: about roles and responsibilities in relation to water resources management.

APPENDIX 1.1

WATER ACTION PLAN DOCUMENTS



UGANDA WATER ACTION PLAN (WAP)		
DOCUMENT	TITLE	DATE
001	WATER ACTION PLAN PHASE I - PROJECT DOCUMENT Description of the background and requirements to the work in WAP Phase I including budget	Jan 1993
002	REHABILITATION OF WATER RESOURCES MONITORING AND ASSESSMENT SERVICES IN UGANDA - PROJECT IDENTIFICATION REPORT Background and proposal for a water resources monitoring project including budget.	Feb 1994
003	REGIONAL WATER QUALITY MANAGEMENT IN THE UPPER NILE BASIN - PROJECT IDENTIFICATION REPORT Background and proposal for a water quality management project including budget	Feb 1994
004	WATER ACTION PLAN PHASE II - PROJECT DOCUMENT Description of the background and requirements to the work in WAP Phase II including budget	Oct 1993
005	WATER ACTION PLAN - MAIN REPORT Synthesis of the key points of the Water Action Plan comprising the water resources management framework, the action programme and guidance for the implementation and monitoring of the plan.	Jul 1994
006	WATER RESOURCES POLICY Policy document defining a water resources policy with associated management strategies. Outline of areas for further policy development and actions. Preliminary discussion draft of a water supply and sanitation policy.	Jul 1994
007	RAPID WATER RESOURCES ASSESSMENT An assessment of the surface water and groundwater resources occurrence in time and place and a tentative estimate of the water requirements and water resources development trends	Jul 1994
008	INSTITUTIONAL AND MANAGEMENT ASPECTS An assessment of water resources management functions, structures and tools. Proposals for a future management strategy and corresponding capacity building.	Jul 1994
009	INTERNATIONAL ASPECTS An assessment of the international aspects and implications of Uganda's position in the Upper Nile Basin in relation to water resources	Jul 1994
010	ANNEX REPORT - VOLUME 1 - DISTRICT STUDIES Collation of district studies for Arua, Mbale, Mbarara, Moroto, Mukono and special studies for Hoima, Kabale and Tororo	Jul 1994
011	ANNEX REPORT - VOLUME 2 - GROUNDWATER DATABASE Groundwater database development description, specification and manual.	Jul 1994
012	ANNEX REPORT - VOLUME 3 - MANAGEMENT ASPECTS Background for preparation of regulations supporting the Water Resource Statute, guidelines for district water resources management and management procedures for issuing of permits	Jul 1994
013	ANNEX REPORT - VOLUME 4 - PROJECTS AND ACTIONS Description of water resources development plans and projects giving guidelines for prioritization, impact assessments, updating and coordination. Catalogue of water resources related projects and actions	Jul 1994
014	WATER ACTION PLAN - EXECUTIVE SUMMARY A concise short version of the set of strategies, actions and guidelines constituting the Water Action Plan also giving a key to the documentation	Jul 1994



REPRINTED BY DEVELOPMENT SYSTEMS LTD PO BOX 5332, KAMPALA, TEL 257574