

**AFRICAN DEVELOPMENT BANK
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**SUMMARY OF THE INTEGRATED WATER RESOURCES
MANAGEMENT POLICY OF THE AFRICAN DEVELOPMENT
BANK**

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**THE REGIONAL CONFERENCE ON THE REFORM OF
THE WATER SUPPLY AND SANITATION SECTOR IN AFRICA
26TH TO 28TH FEBRUARY 2001, KAMPALA, UGANDA**

**Tefera Woudeneh
Principal Water Resources Management Officer
Operations Policies & Procedures Division
African Development Bank
February, 2001**

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THIS SUMMARY IS PREPARED FOR THE SOLE PURPOSE OF PRESENTATION ON THE REGIONAL CONFERENCE ON THE REFORM OF THE WATER SUPPLY AND SANITATION SECTOR IN AFRICA, 26TH TO 28TH FEBRUARY 2001, KAMPALA, UGANDA. FOR AUTHORITATIVE, USE REFERENCE HAVE TO BE MADE TO THE BANK GROUP'S POLICY FOR INTEGRATED WATER RESOURCES MANGEMENT APPROVED IN MARCH 2000.

TABLE OF CONTENT

Abbreviation	i
Glossary	ii
1. INTRODUCTION	1
1.1 Background	1
1.2 Existing Situation	2
2. CONCEPT AND OBJECTIVES	2
2.1. Conceptual framework and Vision Context	2
2.2. Basic principles and objective	3
3. INTEGRATED WATER RESOURCES MANAGEMENT POLICY	4
3.1. Institutional strategies	4
3.2. Technical strategies	6
3.3. Economic strategies	7
3.4. Social strategies	11
3.5. Environmental strategies	13
Box 5: Policy Statements on Environmental Issues	14
4. IMPLICATIONS FOR BANK GROUP WATER OPERATIONS	15
4.1 Priorities	15
4.2 Implementation of the policy	16

Abbreviations

ADF	African Development Fund
ADB	African Development Bank
CSP	Country Strategy Paper
EIA	Environmental Impact Assessment
GEF	Global Environmental Facility
HIA	Health Impact Assessment
ICDD	International Convention on Drought and Desertification
IEE	Initial Environmental Examination
IWRM	Integrated Water Resources Management
NEAP	National Environmental Action Plan
NGO	Non-governmental Organisation
O&M	operation and maintenance
OCOD	Central Operations Department
PPP	Purchasing Power Parity
RMC	Regional Member Country
TAF	Technical Assistance Fund
WSS	water supply and sanitation
WUA	Water Users Association

GLOSSARY

Accountability	Refers to criteria and procedures to evaluate whether service providers have availed themselves of their responsibility for operations and management, for quality and quantity of services, and for expenditures and revenue collection.
Annual internal renewable water resources	The average annual flow of rivers and groundwater generated from endogenous precipitation. Annual averages disguise large seasonal, inter-annual and long-term variations.
Aquifer	An underground stratum that is saturated with water and transmits water readily.
Command and control	A system of water management based on administrative allocations.
Comprehensive Water Resources Management	In this concept all potential multipurpose uses of water resources are considered including water supply and sanitation, irrigation, hydropower, mining, aquatic resources, transport, recreation etc
Cost recovery	The extent to which users are charged for goods and/or services to generate revenue to cover the cost of provision.
Cross-subsidy	Part of the cost of providing services to a given group of consumers (usually poor), and paid for by another group of consumers through higher prices.
Decentralization	The distribution of responsibilities for decision making and operations to lower levels of government and community organizations.
Demand management	The use of price, quantitative restrictions and other devices (e.g., leakage detection) to limit the demand for water.
Economic efficiency	An investment or intervention is economically efficient when it maximizes the value of output from the resources available.
Economic good	An economic good is a scarce resource in the sense that it is limited in quantity in comparison to the desire for the resource. Treating water as an economic good recognizes that water has an opportunity cost.
Ecosystem	A complex system formed by the interaction of a community of organisms with its environment.
Efficient water pricing	From an economic viewpoint, the efficiency-pricing rule in the long run is one that equalizes price to long run marginal costs.
Environmental	Water as an environmental good has three dimensions: (i) water is part of

good	the natural environment and as such an asset with aesthetic values, (ii) water is required by all living creatures and vital for the survival of ecosystems, and (iii) water is part of natural process of constant change and an essential component in the positional transfer of matter and energy.
Externality	The unintended real (non-monetary) side effect of one party's action on another party, which is ignored in the decisions made by the party causing the effect.
Integrated Water Resources management	A comprehensive approach to water resource management that views water as a single resource with competing uses and inter linkages with the ecological, social and economic systems.
Mitigation measure	Measure taken to offset adverse effects of projects on the environment.
Opportunity cost	The value of goods or services foregone, including environmental goods and services, when a scarce resource is used for one purpose instead of its best alternative use.
Participatory approach	Planning approach in which all stakeholders, and in particular the envisaged beneficiaries, are part of the decision process.
Private sector participation	Involvement of the private sector in water resources management including development and operation. This can take several forms, with different features with respect to asset ownership, operation and maintenance, commercial risk and duration.
Project cycle	A sequence of analytical phases through which a project passes. This includes identification, preparation and analysis, appraisal, implementation, and evaluation.
Riparian state	A state through or along which a portion of a river flows or a lake lies
River basin	A geographical area determined by the watershed limits of a system of water. The watershed limit of the surface water or the sphere of aquifer recharge of underground water or combination of both may define a river basin boundary.
River basin authority	Administrative body involved at the river basin level in water resources management including assessment, development, operation, monitoring, allocation, quality control etc.
Social good	Water as a commodity to which social value is attached. Arising from the fact that water is an essential building block for life, the universal right of all to have access to water is generally accepted. Because water serves basic human needs, lifeline amounts of potable water should be accessible to all socio-economic groups in a given society at affordable prices.

Transboundary water resources	Water resources (surface as well as groundwater) that cross borders of countries, or constitute borders between countries.
Unaccounted-for-water	The difference between the volume of water produced and delivered to a supply system and the volume accounted for by legitimate consumption, the difference being lost through system deficiencies or stolen.
User fee	A charge levied upon users for the services rendered or goods supplied by a project.
Water Resources Development (WRD)	The assessment of resources and needs, planning and preparation of programs and projects and their implementation through institutionalized mechanisms for the purpose of harnessing water for various human uses including drinking, sanitation, agricultural and energy production industrial development, recreation, transport etc,
Water Resources Management (WRM)	The institutionalized activities of water resources development, utilization, allocation conservation and control.
Water scarcity	Situation in which the annual internal renewable water resources are below 1,000 m ³ per capita.
Water sector	All providers and users of water. The sub-sectors of potable water supply, water supply to irrigation and to industries, sanitation, and hydropower are normally included. But users from other sectors are also important stakeholders, such as agriculture, forestry, fisheries, tourism and transport.
Water stress	Situation in which the annual internal renewable water resources are between 1,000 and 1,667 m ³ per capita.
Watershed	An area drained by a river or stream system.
Watershed Management	The adoption and implementation of Best Management Practices (BMPs) that protect, rehabilitate, and enhance the watershed. The conceptual framework considers the entire hydrographic basin as the unit of management.
Wetlands	Areas of marsh, fen, peat land, or water that include natural, artificial, permanent and temporary areas with static or flowing water that is fresh, brackish, or marine.
Willingness to pay	The maximum amount consumers are prepared to pay for a good or service. The difference between willingness to pay and what people actually have to pay, is called consumer surplus, a direct benefit to the consumer.

1. INTRODUCTION

1.1 Background

1.1.1 Water plays a crucial role in the economic development of African countries, and in sustaining the natural ecosystems. In Africa, water scarcity, weak policy environment, insufficient knowledge and information, and inadequate institutional capacity and investment are considered as the main factors for the underdevelopment of the water resources potential of the continent. International concerns about water resources management have led to the global consensus on the need to adopt a new approach to managing water resources. The new agenda calls for a comprehensive water resources management framework that integrates social, economic and environmental considerations. In view of these important changes, the Bank Group has reviewed its activities in the field of water resources management and developed this Integrated Water Resources Management (IWRM) Policy.

1.1.2 The IWRM policy rests on the principles that water should be treated as an economic, social and environmental good, and policies and options that guide water resources management should be analyzed within a comprehensive framework. Its central objective is to promote efficient, equitable, and sustainable development through integrated water resources management in Africa. In line with these policy principles and objective, strategies covering the economic, social, and environmental spheres of influence, and the technical and institutional framework have been formulated.

1.1.3 The Bank's mission is to contribute to the economic development and social progress of its regional members with an overarching objective of poverty alleviation. It is self-evident that water issues have considerable relevance for improving and sustaining living standards and human welfare. Over the period 1968-1999, an amount of US \$ 4.63 billion or about 13.3% of the total loan commitments per year have been provided to finance a total of 330 projects. The majority of the loans (62%) have been provided for water supply and sanitation, 26% for irrigation, and 12% for hydropower projects.

1.1.4 Bank-supported investments in the water sector, have suffered operational, social, economic, and environmental problems. The main causes for the poor performance have been inadequate planning within an integrated framework; weak institutional and legislative setup, lack of proper technology choice and development poor cost-recovery; inadequately motivated personnel, and insufficient stakeholder participation.

1.1.5 In the context of its strategic approach, and considering the circumstances of the RMCs, the Bank would play a major role in the water sector in the region. The water sector, due to its linkages with water supply, sanitation, agriculture and irrigation, energy, health and education is regarded as a major instrument in the fight against poverty in the region which is the over-arching objective of Bank operations.

1.2 Existing Situation

1.2.1 The great variability of rainfall and evaporation over Africa presents a significant problem for sustainable management of water resources. Inter-temporal regional and climatic variations, giving rise to alternative periods of floods and drought, will continue to cause uncertainties. The Region's water resources will come under pressure from increased demand created by rapid population growth. Fourteen African countries are experiencing water stress or water scarcity and this figure is expected to increase to twenty-five by year 2025, partly due to the high population growth rate experienced by African countries.

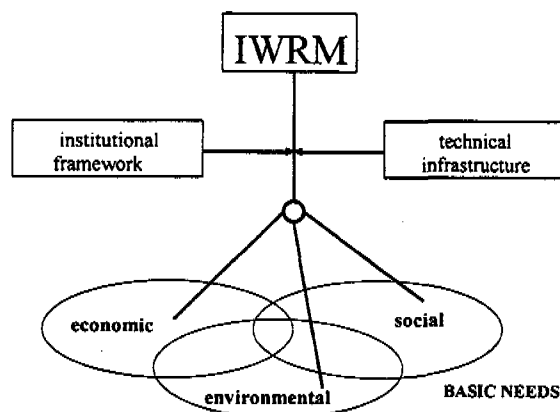
1.2.2 In general, about 65% of the rural population and 25% of the urban population lack access to safe drinking water while 73 % of the rural and 43 % of urban population are without access to adequate sanitation. Of an estimated 185 million hectares of arable land, only 12 million hectares are under irrigation. The total area currently under irrigation constitutes just about one-fourth of the potential irrigable arable land, of about 45 million hectares. Only about 4% of the energy demand is covered by hydropower. The small-scale hydropower potential particularly for rural energy supply is hardly exploited. The potential of other water uses such as tourism, fishing and transportation are hardly developed.

1.2.3 There are 55 major watercourses and lakes, which cross or constitute international borders and shared by the majority of RMCs. The water resources of many internationally shared river basins are subject to inter-country competing demands for various purposes. The equitable sharing of common resources between riparian nations is an important issue in Africa.

2. CONCEPT AND OBJECTIVES

2.1. Conceptual framework and Vision Context

The technical infrastructure and institutional framework provide the enabling facilities for water resources management. The balancing of the three basic needs –social, environmental and economic–has a crucial bearing on the management of water resources. The needs interact in a symbiotic and dynamic relationship. Water resources management should be performed within a framework, which balances these inter-related needs.



2.1.2 The Bank has defined its vision to be the leading development institution in Africa dedicated to providing quality assistance to RMCs' development effort. The IWRM Policy will function as an important instrument for the fulfilment of the Vision by enabling the sustainable development of water resources for the purpose of attaining the main objective of poverty reduction directly, and also through its congruence with other sub-sectoral and cross-cutting themes of the Vision.

2.1.3 The use of water resources for household consumption, agricultural production, and energy, fulfils critical dimensions of basic human needs for survival and food security. The Policy advocates minimal prices for lifeline water supplies, to enable the poor to have access to water services. Projects in the water sector would be reviewed for their impact to ensure linkages between water resources development and basic and community development programmes. Concerns for environmental sustainability are given priority attention in the Policy. Regional co-operation and integration are encouraged for the proper management of transboundary water resources.

2.2. Basic principles and objective

2.2.1 The Bank Policy on integrated management of water resources has two basic principles and one central objective as follows:

The basic principles are that water should be treated as an economic, social and environmental good, and; policies and options that guide water resources management should be analyzed within an integrated framework. Its central objective is to promote efficient, equitable, and sustainable development through integrated water resources management.

2.2.2 These basic principles and the central objective of the policy should guide the development, utilization and allocation of water resources in RMCs taking into consideration the increasing scarcity and competition between different water uses. Water use from surface and underground sources will be managed in an integrated and holistic way under the most appropriate technical infrastructure and institutional framework. Cost recovery measures will be implemented to facilitate increased private participation without jeopardizing access by the poor. Environmental sustainability and gender sensitivity will be ensured in all aspects of water development and management.

2.2.3 This policy document will provide a framework of reference for Bank Group staff throughout the project cycle for water-related projects and programmes in the regional member countries. It aims to stimulate Regional Member Countries to initiate and formulate national policies on integrated water resources management. It provides the basis for co-ordination of integrated water resources operations with bilateral, multilateral and non-governmental organizations. The implementation of the IWRM policy will strengthen the role of the Bank Group in national, regional and sub-regional programmes for public health, poverty reduction and environmental protection from the perspective of water security.

3. INTEGRATED WATER RESOURCES MANAGEMENT POLICY

In accordance with the policy principles and to attain the stated objective, a number of strategies have been elaborated. These strategies apply to or stem from the economic, social, and environmental spheres of influence, or to the technical infrastructure and institutional framework.

3.1. Institutional strategies

3.1.1 National water policies: National policies are fundamental as they provide the framework for legislation, strategic planning and operational management. The development and updating of national water policies based on IWRM principles is of critical importance and should be high on the agenda of each government

3.1.2 Legislation and regulatory framework: Water legislation is at very early stage of development in Africa. Stakeholders should have a consensus on the legitimacy of decisions and actions of the institutions regulating different aspects of water resources management. Institutions should be representative with clear legal and social basis, and should be fair. Legislations should be based on the “the polluter pays” principles.

3.1.3 Scale of management: Water resources management issues are handled at international, regional, national to household level involving multi-sectoral use. The river basins provide a parallel management level, with potential management conflicts between the national and basin levels. Autonomous institutions with responsibility for sector co-ordination and overall water resources management, are required distinct from institutions concerned with specific water sub-sectors. Implementation of the integrated approach involves the large number of institutions, the financial requirements are high, and long time horizon is needed to achieve success.

3.1.4 Trans-boundary river basin Management: The Bank will support multinational organisations and river basin authorities that span more than one country, and support studies to identify the benefits of collaborative approaches in developing international shared water resources on the basis of mutual agreement. The Bank would seek for the co-operation of all riparian countries in respect of project or program proposals from one country, which involves the utilisation of shared water resources.

3.1.5 Decentralisation: Responsibilities for management of water resources can be transferred to restructured and empowered public agencies, private agencies or water users associations with effective, autonomous and accountable set-up. Regulations governing quality standards, pricing, and mechanisms to promote competition and protect consumer interests, control pollution and protect aquatic ecosystems should be put in place.

3.1.6 Water users associations in irrigation: This form of decentralisation helps to promote project success and sustainability, by ensuring that design choices and

operational practices are consistent with local conditions. Projects involving user participation are more valued and maintained by the local population ensuring sustainable production than projects that do not incorporate user participation.

3.1.7 Accountability: Accountable agencies are responsible for the quantity and quality of their services, for the cost of operations and investments, and for effective policies and strategies. Public agencies that are not required to cover their costs are often poorly motivated to provide good services, collect fees, or pursue cost-efficiency. Ensuring that public sector institutions in the water sector are motivated and accountable can solve this problem.

3.1.8 Autonomy: An important principle in restructuring public service agencies is to convert them into financially autonomous entities, with authority to charge and collect fees, and freedom to manage their affairs. Capacity to self-finance is an essential precondition for financial autonomy, accountability and political independence. The RMCs should develop competent regulatory capacities to protect the public and consumer interest against monopolistic tendencies of autonomous agencies and utility companies. Governments should play an important role in fostering user participation by providing technical training for water user associations and communities or institutional organizers. The Bank is committed to support governments in this process.

3.1.9 Governance: Governments should promote good governance through the institutionalization of financial and administrative accountability, transparency and fairness; ensuring effective participation and inclusiveness in governance at all levels, allowing the systems of checks and balances to function well; providing for independent audit systems for the public sector etc. Achieving success in the area of good governance is an important ingredient in the effective functioning of institutions, attracting domestic and foreign investment, achieving sustainability and generally in the fructification of efforts made in other areas of water resources management.

3.1.10 Box 1 below delineates policy statements, which provide a framework for Bank intervention on institutional issues.

Box 1: Policy statements on Institutional Issues

The Bank :

- 1. Considers it essential that national Integrated Water Resources Management Policies (IWRMPs) be developed and implemented.**
- 2. Will use the Country Strategy Papers as a basis for dialogue with RMCs to encourage the development and implementation of such policies.**
- 3. Will, in future water projects give financing priority to those projects that comply with national policies that are based on the concept of IWRM.**
- 4. Will support, where possible, countries that wish to develop their national IWRM Policies. A limited amount of financial support from the Technical Assistance Fund (TAF) may be used for such purposes.**

5. Notes that water resources development, regulation, and service provision are three distinct functions. Ideally, these functions should be executed by separate organizations. Umbrella organizations should be mandated to exercise responsibilities for integrated water resources management at the national or basin level. Water services utilities should provide services to consumers at a fee, subject to regulation. Water resources management organizations should preferably cover the area of a river basin unit on a scale, which is administratively feasible.
6. Recognizes that inadequate human resources capacity often presents a constraint in the proper functioning of organizations in the water sector. The Bank, therefore, will strengthen its partnership with specialized institutions to promote activities such as training and research.
7. Will promote and support joint efforts of riparian countries in developing strategies for integrated water resources management on the basis of mutual agreement.
8. Will support multinational organizations and river basin authorities that span more than one country.
9. Will seek broad agreement with riparian countries in respect of project proposals emanating from one country, for the development of shared water resources.
10. Urges RMC governments to review and sharpen their role in the management of water resources, in order to create an enabling environment for more effective public-private partnerships (PPPs) in the water sector, including the participation of users and community associations, local councils, NGOs, private sector entrepreneurs, and capital markets. Institutional arrangements to guarantee autonomy and accountability as well as to protect service providers need to be carefully thought out, discussed, and evaluated. The sharing of experience and best practices among African countries and from countries in other regions of the world should prove immensely useful in this regard. Promoting good governance is also an important aspect of an enabling environment.

3.2. Technical strategies

3.2.1 Better knowledge of the water resources: Strategic planning depends upon knowledge of the occurrence and distribution of water and natural and physical factors while knowledge on water consumption, pollution, and household demand patterns are essential for operation. Knowledge is gained through sustained and systematic programmes of data and information gathering, analysis, synthesis and research on the range of issues pertinent to water resources, the environment and social welfare. Building database, and making it accessible to users would level the playing field among stakeholders, and advance technical knowledge and decision-making at regional level for shared water resources. Programmes to increase the knowledge capacity and generate information for water resources management should be high on the agenda.

3.2.2 Appropriate technologies: Water management technologies should be accessible, socially acceptable, and be easily operated and maintained. Existing traditional technologies and practices should be evaluated, adopted or adapted. Appropriate technology does not exclude the utilization of sophisticated technologies, provided that sufficient attention is paid to cost effectiveness and maintenance. This will be one of the appraisal criteria in each Bank-supported project.

3.2.3 Meeting Water Supply Scarcity: Implementation of technical measures will be required to meet increased future water demand against the background of increasing scarcity and uneven distribution. These will include construction of dams for water conservation, transfer of water from surplus areas to deficient areas and increasing water use efficiency. Other innovative approaches such as water harvesting, land management, increased water recycling and reclamation through desalinization should be applied as appropriate.

3.2.4 Flood and Drought Mitigation Measures : Flood mitigation measures such as catchment conservation, creation of storage facilities to attenuate extreme events, river training and regulation, and flood plain management will be required. Water conservation through storage creation and replenishment of underground aquifers should be considered for use in drought conditions.

3.2.5 In Box 2 below, policy statements on technical issues are summarized.

Box 2: Policy Statements on Technical Issues

The Bank will:

- 1. Stress, in the course of its interventions, the importance of water resources quantity and quality assessment and monitoring and collection of data on other natural, environmental, economic, social and technical factors necessary for water resources development and management. The Bank would therefore promote the development of adequate data management and water information systems, as a basis for sustainable development and management of water resources. The establishment of Early Warning Systems for drought and flood control would be encouraged.**
- 2. Projects, whose objective is to establish sustainable water assessment and monitoring programs, should be established, as much as possible, on the basis of cost-recovery.**
- 3. Encourage RMCs to give a high priority (i.e. through skilled human resource development, and sustained financing of data and information systems, and research) to the development of capacity to generate and continuously update their knowledge of water resources issues.**
- 4. Will promote and support water conservation and augmentation projects that are aimed at addressing water scarcity problems through increased water productivity and supply development.**

5. Will support the planning and implementation of structural and nonstructural flood and drought mitigation measures in the framework of IWRM approach.
6. Encourage the application of appropriate technologies, which would enhance water availability and supply, particularly efficiency in water use in agriculture and irrigation, improve leakage control and detection and enhance water reclamation and recycling.
7. Encourage the adoption of technologies, which would enhance efficiency, particularly efficiency in water use in agriculture and irrigation, and improve leakage control and detection.
8. Ensure that rehabilitation is giving priority, where applicable, in project appraisal, as an alternative to costly new capital expenditures.

3.3. Economic strategies

3.3.1 Pricing : Getting the prices right is at the core of improving water resources management. Within the process of establishing appropriate fees and fee-structures, economic, environmental, financial and social considerations play a crucial role. **Prices should be set to give incentives for efficient water use in various applications, and to supply water at adequate rates and quality levels.**

- ◆ **Economic considerations** : Treating water as an economic good recognizes that water carries an opportunity cost. Welfare is maximized when prices are equal to long-term marginal cost of production including the opportunity cost of the underlying water resources. In this situation, economic or allocative efficiency is achieved.
- ◆ **Environmental considerations** : Treating water as an economic good should include the “polluter pays” principle. The Bank will promote the incorporation of environmental costs in water fees through the effective implementation of this principle.
- ◆ **Financial considerations** : The costs of water resources management are high, and investments will need to be based on improved cost recovery. The Bank recognizes economic efficiency would be achieved by billing users on the basis of the full economic cost of water. However a more realistic and immediate objective is to charge users at the price for the recovery of financial costs. Government subsidies, should be determined taking into account cost recovery from consumers through direct charges.
- ◆ **Public and Private Partnerships** : Private sector participation can be an effective way of mobilizing investment and increasing the autonomy and accountability of service providers. Options for private sector participation, include service contracts, management contracts, lease, concessions, build-operate-transfer , build-operate-own , and divestiture. The choice for an option should follow a carefully designed and consultative process involving all stakeholders.

- ◆ **Social considerations** : Subsidies on drinking water for the poor could be applied on progressive block tariff schedules basis, in which a floor price is charged for a limited lifeline amount of water, while a higher price is levied on additional quantities. Progressive price structure serves to restrain excess consumption and to encourage frugality and conservation. On aggregate, however, the tariff structure should achieve full cost recovery to ensure financial sustainability without relying on budgetary subsidies
- ◆ **Transfer pricing**: Transfer pricing between urban and rural water supply could be applied for raw water obtained from shared basins. A levy could be charged on urban water consumers to finance part of the capital investment for the development of rural water supply and sanitation systems. The same principle could be applied for hydropower development and supply of electric energy to low income groups in urban and rural areas. Transfer pricing could also be used as an instrument for the equitable allocation of water resources among countries sharing common basins subject to agreements among riparian states.
- ◆ **Non-price measures to improve efficiency**: In some countries, implementing water price reforms poses a number of difficulties arising from political pressure to resist paying for water to lack of technical and managerial capacity to assess and enforce charges. Non-price measures such as transferring management responsibilities to user groups or promoting the development of water rights and local water markets can be used to encourage consumers to use water more efficiently. These approaches can be successful where user groups have been involved in policy formulation and implementation.

3.3.2 Demand management and conservation : Demand management and water conservation are low cost alternatives to supply augmentation. Where water is scarce and locked-up in low-value uses, the Bank will encourage RMCs to investigate market-based reallocation of water as a strategic alternative for expensive supply augmentation. The Bank will support programmes aimed at reduction of system losses and improvement of efficiency. The Bank is aware that, in many RMCs, installed capacities have remained static or decreased due to lack of maintenance. Where required, the Bank will support augmentation of installed capacity and development of new systems to meet increasing demands.

3.3.3 Scope for Private Participation: The promotion of private sector participation requires an enabling environment, including a favorable framework of incentives and regulations along with building entrepreneurial capacity. The Bank will support RMCs in establishing conditions for promoting private sector participation and work in partnership with private players to promote development financing on a commercial basis. The transition from public to private provision of services, will take time, considerable imagination, flexibility, and policy dialogue among stakeholders in view of lack of investment, long payback period, low service prices and low payment capacity due to high incidence of poverty.

3.3.4 The private sector in irrigation: Private small or medium-scale irrigation schemes tend to cost less due to the use of local labor and resources in construction, and the contribution of local beneficiaries to operations and maintenance. Large-scale

irrigation schemes can be jointly implemented with the private sector by sharing the investment cost with the public sector. RMCs should promote the development of private irrigation schemes by creating favourable legal, financial, economic and institutional conditions. The Bank will support RMCs programmes for the development of small and medium-scale irrigation schemes, as an integral component of rural development. Assistance will be provided to resolve the problems and constraints of large public schemes at policy, managerial, or operational levels. The Bank will consider providing technical assistance funds to support investigation of approaches to restructure large-scale schemes including increased participation of water user associations. The Bank will also consider, providing financial support towards the rehabilitation of existing irrigation infrastructure as a necessary precondition to successful restructuring.

3.3.5 Taking into consideration all the issues raised and the strategies outlined, Box 3 encapsulates the main elements of the Policy with respect to economic issues.

Box 3: Policy Statement on Economic Issues

1. In the context of increasing water scarcity, economic cost pricing, including recognition of opportunity cost should be used as a basis for water allocation decisions.
2. Ultimately, the aim of water pricing should be economic cost recovery, taking into account social equity and capacity to pay by the rural and urban poor. Initially, however, RMCs should target the recovery of full financial costs.
3. The principle of “the polluter pays” is crucial in protecting freshwater resources from pollution and degradation. Its implementation will ensure that consumers and other water users are made aware of the costs of maintaining water resources at a minimum quality level, commensurate with the continued integrity of natural aquatic ecosystems or the safety of surface and ground water resources for human consumption. The Bank will provide support to RMCs in formulating policies, legal instruments and institutional arrangements to monitor and implement this principle.
4. The Bank will support RMCs’ strategies to develop appropriate water pricing policies. In order to balance the interests of different consumer groups, the general public, and service providers (whether public or private) RMCs need to put in place competent regulatory capacities.
5. Due consideration should be given to demand management and conservation as important alternatives to costly supply capacity augmentation in certain situations. In this context, pricing is also a demand management tool, which encourages efficient utilization of water and minimizes wastage, promotes sustainability, conservation and protection of water resources.
6. The Bank will promote public-private partnerships, by: helping to create an enabling environment; ensuring the application of good governance; promoting regional co-operation and facilitating the acquisition and exchange of knowledge and experience in such partnerships.

7. The Bank will facilitate the participation of the private sector and Water User Associations in the water sector of RMCs. The Bank will also be an active partner in finding ways to alleviate the social impacts (e.g. unemployment, increased prices) that are likely to accompany increased private sector participation.

8. The Bank will support the sustainable development of small, medium and –large scale irrigation schemes, where applicable.

3.4. Social strategies

3.4.1 The social dimension: As water is a social good, all dimensions of water resources management should be analyzed from the social perspective to elucidate social issues critical for achieving IWRM.. Social analysis and identification of issues at the onset of projects will enable the incorporation of appropriate responses for mitigating negative impacts and maximizing benefits. Thus it is necessary to undertake social impact assessment in integrated water resources management projects.

3.4.2 Population pressure and urbanisation: Fresh water resources are scarce and finite. The social aspect of sustainability of water resources deals with the capacity to manage population growth to achieve stability in water demand. In most RMCs, the key strategies used are to lower growth rates, and ensure balanced spatial distribution. In the urban areas recognition should be given to informal settlements and slums, to provide basic water supply and sanitation. RMCs should make a long-term commitment to developing rural and marginal areas to reduce current rapid urbanization. A comprehensive analysis of the linkages of water resources and human settlement also calls for an examination of the system of land ownership and land use patterns in rural and urban areas.

3.4.3 Health and education : Education for creating awareness and change of attitude on sustainable management of water resources is a key element to health improvement. Health and education programs targeted at improving the operation of domestic water facilities, hygiene in the home, and the proper storage and use of water supplies should be encouraged. The preventive and control measures of water related disease should be taken as integral parts of water resources management practices based on health impact assessment (HIA) of projects. Such programs need to be flexible, participatory, and sensitive to complex social and cultural norms and perceptions.

3.4.4 Involuntary resettlement: The Bank's policy is to minimize involuntary resettlement and its negative impacts associated with projects. To achieve this objective, an environmental impact assessment (EIA) is conducted in compliance with the Bank's environmental policy. However, resettlement cannot always be completely avoided. In such a case, the EIA should always indicate the adverse effects of a project on the socio-economic environment with adequate mitigation measures. Minimum facilities should be provided for resettled people as an integral part of the project cost. Resettlement programmes should be carried out with the full participation of the target populations.

3.4.5 Gender: Gender equity implies the effective participation of women in all decision-making processes in water resources management. The Bank will support water resources projects and policies that give due recognition to the role of women, as custodians of domestic water consumption and, as agricultural and food producers, who have interests in irrigation; improve women's access to and control over production factors, services and infrastructure facilities; reduce the domestic workload of women; create opportunities for women to improve their knowledge and capacities; seek women's active participation in decision-making at domestic, local, national and international levels; and strengthen women's organizations.

3.4.6 Participation: A demand-responsive approach is participatory and key to the successful development of water resources. Projects and programmes that are built on a demand-responsive approach tend to be more successful and have better prospects for sustainability than those, which are supply-driven. As stakeholders, modern civil organizations should be taken on board, supported and empowered to enable them to participate significantly in water resources management. Cultural and traditional values should be studied to provide a basis for designing an effective information, communication and education programme to deepen community understanding of sustainable utilization and management of water resources.

3.4.7 Taking into consideration all the issues raised, the main policy elements with respect to social issues are outlined in Box 4.

Box 4: Policy Statements on Social Issues

1. As a social good, there is a universal right to water and it should be made available to all at an affordable cost.
2. Gender issues should be taken into account in integrated water resources management. The Bank will strongly support, water resources development projects which show good prospects of reducing the time spent by women and girls in fetching and storing water.
3. The Bank will bring up issues on Core Labour Standards in the process of discussions with RMCs, and appraise programmes and projects in the water sector to ensure that they are in conformity with established criteria on labour.
4. Where involved, the Bank will ensure that stakeholders are effective participants in all decision-making process likely to affect them. Their willingness and capacity to pay for water resources development should be sought and not just assumed.
5. The Bank will ensure that control and prevention measures of water related disease are integrated as part of the water management practices control and prevention measures based on proper health impact assessment and through effective stakeholder participation.

3.5. Environmental strategies

3.5.1 Environmental linkage: The Bank encourages its RMCs to make environmental considerations an integral part of water resources management. Important environmental issues should be identified early in the project cycle. There is a close correlation between environmental degradation of water resources and poverty. Policies such as the provision of interest free loans for the mitigation of environmental degradation and poverty should be explored. Integrated water resources management is an effective mechanism for abating water-related health and environmental problems and for enhancing existing water resources conditions.

3.5.2 Conservation of the resource base : The environment should be regarded as a 'water reserve' rather than as a water "user". Sustaining the water resource base is essential for maintaining water security and environmental sustainability. In general, regional co-operation is required for conservation of the resource base, as Africa's water resources are predominantly transboundary. Including environment in the "water reserve" guarantees adequate environmental flows for the ecological functions of river and wetland systems.

3.5.3 Improving water supply, sanitation and health : Strategies to abate waste and wastewater pollution, and protect water sources include; improving waste collection, establishment of environmentally proper waste disposal, and the construction of sufficient municipal and industrial wastewater treatment plants.

3.5.4 Protection of catchment areas and erosion control : An integrated approach to water resources management is also a prerequisite to combating land degradation, floods, and diminished water retention of river basins, as a result of unsustainable land use practices. Watershed management must be developed to cover all major river basins. An essential aspect of this strategy is the involvement of rural communities who are true stewards of watersheds.

3.5.5 Sustaining bio-diversity : Adequately managed forests play a major role in water conservation and water resources management. The tidal and fresh water marshes and the coastal lagoons and estuaries are of vital importance for many species as breeding grounds and staging areas in their migration routes. If an EIA shows adverse effects of proposed projects on biological diversity, sufficient mitigation measures should be formulated and implemented to compensate the negative impacts. The Bank would seek to play an active role in facilitating the access of RMCs to the grants from the Global Environmental Facility (GEF) in respect of projects and programmes in the areas of bio-diversity, land degradation, desertification and shared waters.

3.5.6 Environmentally sound construction of dams and reservoirs : Dams will be required for water conservation and will play a vital role in providing water for domestic and industrial supply, irrigation, power generation and contribute to flood and drought mitigation. Feasibility studies and environmental impact assessment should indicate whether dam and reservoir construction would be economically, environmentally and socially feasible and acceptable, and whether mitigation measures

could compensate for the damage. With dam projects, adequate mitigation measures should be designed and implemented to compensate for physical, biological and socio-economic adverse impacts.

3.5.7 Sustaining the marine and coastal environment: Coastal ecosystems are not demarcated by physical boundaries, but form one system along the coast of various countries. There is a need for coastal zone management policies, providing a balance between the exploitation of natural resources, the conservation of these sources, the preservation of the environment and the promotion of human well being. Another important area is the protection of coastal aquifers from over-abstraction and saline intrusion.

3.5.8 Combating drought and desertification: IWRM and land use planning at sub-regional or international level, are essential tools for sustainable development in arid and semi-arid regions. The International Convention on Drought and Desertification (ICDD) encourages countries to give due priority to activities that would combat desertification. The Bank supports this priority and will seek to increase its involvement in providing support for its implementation.

3.5.9 Solid waste management : Analogous with the necessity for treating wastewater, it is equally important to protect surface and groundwater from the detrimental effects of solid waste. Solid waste dumpsites must be located and controlled in such a way that risks for human health is eliminated. The Bank urges countries to incorporate policy on the relation between solid waste management into national IWRMPs, and actions into the National Environmental Action Plans.

3.5.10 National Environmental Action Plans : National Environmental Action Plans (NEAPs) and similar national frameworks for sustainable development have been formulated by many countries, but implemented by only a few. The NEAPs generally promote an integrated approach and could serve as important tools for IWRM and donor collaboration. The Bank highly favors such cross-linkages.

3.5.11 Taking into consideration all the issues raised, the main policy elements with respect to environmental issues are outlined in Box 5.

Box 5: Policy Statements on Environmental Issues

1. Water is an environmental good with three major dimensions: (1) it is required by all living creatures and it is vital for the survival of ecosystems; (2) as part of the natural environment, it is an asset with aesthetic values; (3) it is an essential component in the positional transfer of matter and energy. Although these environmental dimensions cannot always be assessed in monetary terms, they should be evaluated through the decision-making process.

2. The Bank will only finance water related projects for which adequate environmental impact assessment have been conducted, and where the costs of necessary mitigation measures have been incorporated into the overall project costs.

3. The Bank will promote the treatment of domestic and industrial wastewater as essential to the environment in general and health in particular. In general, the level of capital investment in sanitation and treatment facilities is relatively low compared to that of water supply facilities. The Bank will only finance water supply projects, for which the sanitation and wastewater aspects are adequately covered, if applicable. This means that either treatment facilities have to be installed in parallel, or it must be shown that the self-purification capacity of the water system is sufficient to handle the wastewater effluent.

4. The Bank will also promote the reuse of treated wastewater for suitable irrigation and industrial activities, as a means of water conservation.

5. The Bank will support the sustainable development of coastal environments and internationally coordinated environmental protection policies, in which the global solidarity principle is included (i.e. countries have a common responsibility for not polluting shared coastal environments). In this context, the Bank will assist RMCs to have access to grants from GEF.

6. The Bank supports the envisaged activities set out by the Convention on Drought and Desertification and will seek to increase its involvement in providing support for the implementation of these activities.

7. The Bank urges countries to incorporate policy on management of solid waste management into national IWRMPs and the National Environmental Action Plans.

8. The Bank highly favors the establishment of cross-linkages between National Environmental Action Plans and Integrated Water Resources Management.

9. The Bank will promote the introduction of clean technologies to reduce industrial waste emissions.

4. IMPLICATIONS FOR BANK GROUP WATER OPERATIONS

4.1 Priorities

4.1.1 In view of the present status of water resources management in RMCs, the Bank will focus on the following areas for the purpose of assistance and policy dialogue:

- Development of a comprehensive, integrated analytical approach, which emphasizes the treatment of water as a social, economic and environmental good, as well as an enabling technical and institutional framework.
- Adaptation and strengthening of institutions that will provide better management, promote cost recovery, financial autonomy and improved knowledge of water resources and its use.
- Strengthen co-operation and joint action on transboundary water resources management

4.2 Implementation of the policy

4.2.1 Priority actions and reforms will be addressed through sector work, technical assistance, and the NEAPs. Identified issues and investment needs will be prioritized in collaboration with governments, and reflected in the country strategy paper (CSP). The resulting reform action plan will guide lending and non-lending operations in the water sector. The Bank will develop operational instruments that encourage consultation and prevent conflicts among riparian countries. Good practices will be identified and mainstreamed into operational work.

4.2.2 A critical dimension of the implementation of the IWRM Policy will be to strengthen collaborative arrangements with relevant international, regional and multilateral development institutions. This will involve improved dialogue, joint reviews and appraisals, increased scope for co-financing, joint efforts to promote agreements and legal frameworks for riparian countries, etc.

4.2.3 The Bank will monitor progress made in RMCs in implementing reform agenda through existing instruments. The adoption and implementation of a comprehensive analytical framework in sub-sectoral projects will also be monitored. With respect to the implementation of the Policy, the Bank will ensure widespread dissemination of the policy among the RMCs, prepare *various* Guidelines, to assist Bank staff, as well as RMCs and encourage greater private sector involvement in supporting water resources development in RMCs.

4.2.4 With the introduction of this IWRM Policy, the Bank will adopt a new integrated approach. Professionals from the relevant departments of the Bank will meet on a regular basis to discuss and incorporate the concepts of integrated water resources management into their operations and project appraisal. A Bank-wide focal point for water operations will be maintained, with adequate capacity, resources and appropriate skills. The Bank will conduct periodic reviews every two years to evaluate its achievements in the water sector in line with the IWRM approach.