

APPENDIX 3: IWRM QUESTIONNAIRE

REPORTING ON JPOI TARGET ON INTEGRATED WATER RESOURCES MANAGEMENT AND WATER EFFICIENCY PLANS BY 2005

Part 1: Enabling conditions for water resources management (policies, legislation and plans)

1. Please indicate the stages of formulation and approval of key enabling instruments for water resources management in your country, by checking one of the five columns for each instrument.

Water Resources Management – Enabling Instruments	Not relevant	Under consideration	In place but not yet implemented	In place and partially implemented	Fully implemented
Main national instruments	1	2	3	4	5
a) Water Policy				X	
b) National/federal water law				X	

c) National/federal IWRM plan or equivalent strategic plan document				X	
d) National/federal Water Efficiency Plan				X	
Other national/federal strategies that may contribute to promoting IWRM:					
e) Poverty Reduction Strategy (PRS) with WRM component				X	
f) National Development Plan with WRM component				X	
g) National Sustainable Development Strategies with WRM Component				X See (g) below	
h) National Environmental Action Plan with WRM component				X	
International agreements on IWRM to which your country is party::					
i) Regional/sub-regional IWRM plans/strategies or their equivalent				X	
j) Transboundary IWRM plans/strategies (river basins) or their equivalent				X	

For enabling instruments that have been checked in columns 4 and 5 please provide details on name of document, year of approval. For items e–h, please also provide information on how they contribute to IWRM, if this is the case.

Please provide text.

(a) Water Policy: White Paper on a National Water Policy for South Africa – Department of Water Affairs and Forestry - April 1997

(b) National water law: National Water Act , 1998 (Act 36 of 1998)

Water Services Act, 1997 (Act 108 of 1997)

(c) National IWRM plan or equivalent strategic plan document: National Water Resource Strategy, First Edition – September 2004

(d) National Water Efficiency Plan: National Water Conservation and Water Demand Management Strategy – August 2004.

Water Conservation and Demand Management Strategies for the Water Services, Agriculture and Industry, Mining and Power Generation Sectors – August 2004

(e) Poverty Reduction Strategy (PRS) with WRM component: Policy on Financial Assistance to Resource Poor Irrigation Farmers (In terms of Sections 61 and 62 of the National Water Act, 1998) – 29 September 2004

This policy opens up six possible opportunities (subsidy products) for resource poor farmers (RPFs) who are members of

WUAs or other approved legal entities. The six products are:

- Grant on the capital cost for the construction and/or upgrading of irrigation schemes
- Grant or subsidy on operation and maintenance of waterworks and on the WRM charge and on depreciation charges.
- Grant for the acquisition of water entitlements for irrigation.
- Grant for preliminary or remedial socio-economic viability studies and investigations on irrigation schemes

- Grant on training of Management Committees of WUAs or other approved legal entities

- Grant on rain-water tanks for family food production and other productive uses

The six products contribute to IWRM in the following ways:

- Ensuring more equitable allocation of water

- Ensuring efficient use of water

- Ensuring beneficial water use

- Ensuring economically feasible enterprises

- Enabling revitalization of existing dilapidated irrigation schemes

(f) National Development Plan with WRM component: Chapter 3, Parts 8 & 9 of the National Water Resource Strategy (of 2004) outlines the development of physical water resource infrastructure which may be required until 2025. The Strategic Plan of DWAF also contains some of these schemes required within the next five years and the updated targets can be found in the latest update of the Strategic Plan of DWAF, i.e. 2007/08.

(g) National Sustainable Development Strategies with WRM Component: The National Framework for Sustainable Development (NFSD) is in the process of being established by DEAT. Apparently, a national strategy will flow from this.

The DWAF does not have an all encompassing sustainable development strategy for water but most (if not all) of its strategies are in line with the vision and principles for sustainable development in the draft NFSD document. An example is the NWRS mentioned above.

DWAF is also intimately involved in the planning of the National Spatial Development Perspective and on provincial level, the Provincial Growth and Development Plans as well as the Integrated Development Plans at local level. The sustainable development objective features strongly for all water related inputs into these planning instruments.

(h) National Environmental Action Plan with WRM component: First Edition Environmental Implementation and Management Plan in terms of Chapter 3 of the National Environmental Management Act, 1998 (Act No 107 of 1998) (NEMA) – 14 December 2001.
(<http://www.dwaf.gov.za/Documents/Other/EIMP/EIMP.First%20Edition.doc>)

The Second Edition of the plan is currently in draft and the final version must be submitted to the Department of Environment and Tourism by 30 March 2008. Since the First Draft had been published, progress with the plan was covered in four Annual Reports and this information, together with the results of an audit on the progress will be taken up in the Second Edition of the plan.

DWAF recently finalized a series of guidelines, known as the Integrated Environmental Management Series, which will guide the Water Sector to comply with the NEMA legislation.

(i) Regional/Sub-Regional IWRM plans/strategies or their equivalent:

SADC has developed the following regional water protocols, policies and strategies:

Revised SADC Protocol on Shared Watercourses, which entered into force in September 2003

SADC Regional Water Policy 2006

SADC Regional Water Strategy 2005

SADC Regional Strategic Action Plan on Integrated Water Resource Development and Management 2005

(j) Transboundary IWRM plans/strategies (river basins) or their equivalent:

The Orange Senqu River Commission (ORASECOM) (South Africa, Lesotho, Botswana, Namibia) will complete the first phase of a project to develop an Integrated Water Resource Management Plan for the Orange Senqu River Basin by the end of 2007.

The Tripartite Permanent Technical Committee (TPTC) between South Africa, Swaziland and Mozambique will complete the first phase of the Maputo Basin Study in 2008 and is making progress with the development of an Implementation Plan for the Incomati and Maputo River Basins.

The Limpopo River Commission (LIMCOM) (South Africa, Botswana, Zimbabwe, Mozambique) hopes to start with the Limpopo Basin Study in 2008.

2. If your country has an IWRM planning process or an equivalent water resources management planning framework in place, how was it developed and who developed it (e.g. developed using a multi-stakeholder process or developed by the relevant Ministry or through some other mechanisms etc.)

The broad contents and process for the establishment of the National Water Resource Strategy is set out in the National Water Act (Sections 5 to 7) and the same applies for the Catchment Management Strategies (Sections 8 -11). For both the national and catchment strategies an extensive public participation process is prescribed and a compulsory three month period after completion during which stakeholders can submit their comments. In the case of the NWRS, over 2000 comments had been received and had been taken into consideration for incorporation. No Catchment Management Strategy has been completed as yet but guidelines for the development of a Catchment Management Strategy have been made available by DWAF in May 2007. These guidelines can be accessed at <http://www.dwaf.gov.za/Documents/Other/CMA/CMSGuidelineFeb07.asp> . While waiting for the Catchment Management Agencies to get established and functional, the DWAF developed an interim planning instrument for IWRM at local level, namely the Internal Strategic Perspective (ISP). An ISP has been prepared for each of the 19 Water Management Areas, but with limited public participation. The Catchment Management Strategies will eventually replace the ISPs.

3. Please indicate steps/actions being undertaken to bridge the water demand/water availability gap, if such a gap exist in your country?

Please provide text.

The DWAF is addressing this problem in a structured way. The NWRS already gave an overview of the situation in the country, tabling the current and future requirements and the available resources as well as the potential for further development and the document also contains broad strategies for reconciling water requirements and availability. At one level lower (and higher level of detail), the ISPs were undertaken which specified the priorities for more detailed studies. The DWAF started with reconciliation studies (in order to determine strategies) for all big metropolitan areas which drives the economy of South Africa. All interventions are considered, i.e. water use efficiency measures (water demand management), groundwater resources, re-use of effluent, development of surface water resources and desalination of seawater. The next level that will soon start is reconciliation studies for all the smaller towns.

A Water Conservation and Water Demand Management (WC/WDM) Programme was launched in March 2007 by the Minister of Water Affairs and Forestry. Under this programme the National Waterwise Campaign and the blue ribbon initiative was announced. Also under this programme, WC/WDM is piloted and funded in various municipalities to implement technical measures. The national regulation on WC/WDM is currently under development.

4. If your country has developed and approved or is in the process of developing an IWRM Plan or an equivalent water resources management planning framework, please indicate how was the development of the plan/framework funded?

☐ entirely by national funds?

☐ mainly through assistance from donors or IFIs?

X ☒ through both national and donor funded activities?

☐ others?.

Part 2 : *Main elements of water resources management policies, strategies, programmes and plans*

5. From the following indicative list, please check those programme areas and policy measures that are included in your country's water resources strategies, programmes and plans, while at the same time giving some indication of their status of implementation.

Water Management Programs/Policies/Strategies/Measures	Not relevant	Under consideration	In place but not yet implemented	In place and partially implemented	Fully implemented
Water Resources Development					
Assessment of water resources.				X	
Regulatory norms and guidelines for sustainable development of water resources.				X	
Basin studies for long-term development and management of water				X	

resources.					
Desalination of seawater.		X			
Rainwater harvesting programs.		X			
Initiatives on water harvesting from coastal fogs.		X			
Supply augmentation programs to meet increasing demand of water.				X	
Programs and policies for recycling of water, wastewater treatment and reuse.				X	
Water Resources Management					
Programs and policies for watershed management.				X	
Program for improving efficiency of water infrastructure to curtail water losses.				X	
Programs and policies on protection and rehabilitation of catchment areas.				X	
Groundwater management program.				X	

Programs/policies to reverse ecosystem degradation and restore their functions.				X	
Programs and policies to avoid floods and to overcome flood related disasters.				X	
Programs and policies to combat drought and desertification.				X	
Policies for efficient allocation of water resources among competing uses.				X	
Legislative mechanisms to protect water resources from all types of pollution.				X	
Demand management measures to improve water use efficiency in all sectors.				X	
Integration of drainage facilities in irrigated agricultural development schemes.	X				
Mechanisms to promote conjunctive use of ground- and surface water.				X	
Norms and guidelines to evaluate environmental impacts of water projects.				X	

Cooperative programs for joint management of shared water resources.				X	
Water Management Programs/Policies/Strategies/Measures	Not relevant	Under consideration	In place but not yet implemented	In place and partially implemented	Fully implemented
Water Use					
Water demands survey in different water using sectors.				X	
Programs and policies for managing agricultural water use.				X	
Programs and policies for managing municipal water use.				X	
Programs and policies for managing industrial water use.				X	

Programs and policies for managing other water uses.				X	
Monitoring, Information Management and Dissemination					
Functional hydrological and hydro-meteorological monitoring networks.				X	
Standardized procedures for data compilation, processing and analysis.				X	
A reliable integrated water resources management information system.				X	
Programs for information exchange and knowledge sharing about good practices.				X	
Monitoring and reporting system to determine impact of IWRM reforms.				X	
Capacity Building and Enabling Environment					
Assessment of capacity building needs/ gaps in the water sector				X	

Capacity building programs on different aspects of water resources management.				X	
Establishment of river basin management institutions.				X	
Institutional reforms to enhance the effectiveness/accountability of institutions.				X	
Institutional co-ordination mechanisms for water resources management.				X	
Mechanisms to link water resources management to other economic sectors.				X	
Assessment of water management research needs and gaps.				X	
Mechanisms to enforce water legislation.				X	
Programs for providing advisory (extension) services on WM issues to end users.			X		
Programs for transferring improved and cost effective water saving technologies.				X	
Pro-poor policies and programs in the water sector.				X	

Stakeholders Participation					
Processes for stakeholders' participation in water management decisions making.				X	
Decentralized water resources management structures.				X	
Programs for gender mainstreaming in all aspects of WRM.				X	
Public awareness campaigns to educate people about water-health-poverty links.				X	
Mechanisms to discuss/resolve trans-boundary issues with the riparian countries.					X
Partnerships for water resources management.				X	
Financing					
Water sector investment plan				X	
Strategy for mobilizing financial resources in the water sector.				X	
Norms and procedures for financial sustainability and viability of water schemes.				X	

Gradual cost recovery mechanisms/progressive tariff structures in all water uses.				X	
Subsidies/micro credit programs for promoting water conservation technologies.				X	
Water sector investment plan.				X	

Please provide additional information on elements not covered above, but form a significant part of your water sector development and management plans, especially within the context of JPOI target and decisions reached during CSD-13 (see guidance note for these references).

It must be clearly understood that the eradication of alien invasive trees (Working for Water Programme) also forms part of the element “Programs and policies on protection and rehabilitation of catchment areas”.

The maintenance of water resource infrastructure and ensuring safe dams.

The introduction of water use charges for the discharge of waste in water resources

Part 3: Implementation, monitoring and evaluation

6. If your country is in the stage of implementation (last two columns of the preceding question), please indicate specific actions/ activities undertaken, including institutional arrangements such as e.g. national implementation body, cross-sectoral coordination mechanisms, stakeholder fora, river basin committees etc.

Please provide text.

Water Resource Development: The National Water Resource Strategy (NWRS), also referred to as “Our blueprint for survival” outlines the water situation in South Africa in terms of the water demand and water availability in each of the 19 Water Management Areas. The National Water Act places an obligation on the Minister of DWAF to establish this strategy and the Minister therefore took responsibility for developing it. The strategy was completed in September 2004. This strategy also outlines the different development options.

The NWA also places an obligation on CMAs to develop catchment management strategies (CMSs) which must be in harmony with the NWRS. The CMAs are in the process of being established and therefore the CMS development for one CMA only commenced recently and others will follow soon. In the meantime National DWAF undertook to document the internal memory i.r.o. WRM and development options by means of the Internal Strategic Perspectives. Whilst the CMAs will in future be responsible for the CMSs as planning instruments, the National DWAF still remains responsible for planning projects of strategic importance and projects where water has to be transferred from one basin to the other. Water balance studies for this purpose are undertaken by DWAF. Examples of such projects of strategic importance are the dam in the Berg River for augmented water supply to Cape Town, the De Hoop Dam for mining purposes and domestic water supply, and the Vaal River Eastern Sub-System Augmentation, for water supply to ESKOM, etc. Some projects are planned and built by National DWAF with funding from the Fiscal while other are funded off budget by institutions such as the Trans Caledon Tunnel Association (TCTA).

Local authorities are responsible for their own water supply and sewage treatment works. They can access finance for such projects through the Municipal Infrastructure Grant programme, currently managed by the Department of Provincial and Local Government. DWAF is currently regulating the allocation of such water use to ensure sustainable development of the water resources, but more of these kinds of regulatory functions on Water Management Area level

will, over time, be delegated to CMAs. Various guideline documents have been developed with the aim of setting a standard, e.g. the guideline for the preparation of CMSs, Water Quality guidelines, etc.

Water Resources Management:

The policy on Water Resources Management was developed and approved in 1997. From this flowed many sub-policies and programmes. The encompassing CMS Guidelines for the development of CMSs provides a holistic approach for CMAs of all the necessary initiatives and actions that are necessary for IWRM within a watershed area.

The improvement of water use efficiency and the reduction of water losses is an IWRM initiative that has already been launched on National level. The Minister of DWAF announced water conservation and water demand management (WC&WDM) in 2006 as one of her flagship priorities. This programme includes piloting WC&WDM in selected municipal areas. All possible measures must be taken to conserve water and water demand needs to be reduced to minimum but still acceptable levels. The eradication of alien invasive plants under the Working for Water programme is one of the methods to conserve water and the DWAF, has run this programme for several years with great success. The DWAF utilizes the services of various implementing agents such as other government departments, municipalities, water user associations, etc. for implementing Working for Water.

Another flagship programme of the Minister of Water Affairs and Forestry is the Water Allocation Reform (WAR) programme. A position paper has been drafted (not as yet approved by the Minister) and a number of pilot projects for compulsory licensing in the Inkomati, Mhlathuze and Vaal River WMAs are underway. A new strategy for accelerating WAR is currently being developed.

The DWAF is actively involved in the protection and rehabilitation of catchment areas. In this regard, the Water Resource Classification System is almost complete and will be established soon by announcement in the Government Gazette. Intermediate and comprehensive Reserve quantification is also undertaken by DWAF. Although Regional Offices and later, the CMAs will be closely involved in this exercise, the determination of the Reserve will remain a national competency. The implementation of Resource Directed Measures (RDM) (classifying resources, quantification of the Reserve and the setting of

Resource Quality Objectives) will contribute in reversing ecosystem degradation and restore their functions. Planning of structured RDM implementation is currently underway.

As far as Groundwater Management is concerned, active steps have been taken by DWAF to commence with the Groundwater Resource Information Programme (GRIP) in a few provinces.

A groundwater guideline for dolomitic areas has been developed and finalised during 2006 and the DWAF is currently busy with the development of a groundwater guideline for all other areas.

Water quality management is becoming increasingly important as South Africa's resources in especially developed areas get increasingly more polluted. The series on Water Quality Guidelines provide guidance on the management of our water resources in order to protect them from pollution. The Waste Discharge Charging System has been introduced in the new Raw Water Pricing Strategy and polluters can expect to pay for their pollution loads within the coming years.

The DWAF closely collaborates with the National Disaster Management Centre under the Department of Provincial and Local Government on emergency and disaster management i.r.o. water related disasters (floods, droughts, pollution incidents and the outbreak of water borne diseases). Over the past few years numerous local authorities had to be financially assisted to enable emergency water provision. A total of R 792 million has been spent for this purpose since 2003 and recently another R 400 million has been requested in respect of drought stricken authorities as a result of the current protracted drought.

Also in the international arena the South African Water Sector (SAWS) played an important role in providing assistance after the devastating Tsunami disaster of December 2004. The SAWS comprises institutions such as DWAF, Water Boards, South African Institution of Civil Engineering, South African Association of Civil Engineers and private sector firms and individuals.

South Africa is closely collaborating with its neighbouring countries on its shared water courses. This is being done through its international water management institutions ORASECOM, LIMCOM and JPTC.

Water Use:

Water demands for the different water use sectors are determined when water balance studies are done by the National DWAF. For this purpose the demographics of each water management area is inter alia studied in order to determine the water demand for domestic use. The water demand for Stream Flow Reduction Activities, i.e. water demand for forestry is based on previous studies which were done by the Water Research Commission. Water demands are addressed in the NWRS as well as in each ISP and will feature clearly in the CMSs that are currently under development.

Water conservation and water demand strategies have been developed for each of the three main water use sectors, i.e. the Water Services, Agricultural and Industry, Mining and Power Generation Sectors. These strategies will be rolled out in collaboration with DWAF's Regional Offices and the future CMAs.

Strategic Environmental Assessments have been conducted for various Water Management Areas in order to inter alia determine the Forestry potential.

DWAF has developed a strategy for the acceleration of processing licence applications and putting in place a licence progress tracking system. This system will be rolled out over the next few years and National DWAF, Regional Offices and the future CMAs will play a vital role in ensuring the success of this effort.

Monitoring, Information Management and Dissemination:

The different types of surface water monitoring that that is currently undertaken are, hydrological flow monitoring and hydro-meteorological flow monitoring, physio-chemical, eutrication, microbial, toxicity, biological and radioactivity monitoring. For groundwater, the levels of groundwater tables, the abstraction from groundwater aquifers and the quality of the groundwater are being monitored. The national network for surface flow monitoring stations has a station density of 1 station per 1500 km². The World Meteorological Organisation's *Guide to Hydrological Practices* suggests a density of 1 station per 1000 km² and it was the Department's intention to expand the national network progressively with 5% per year. This need is currently reinvestigated.

National DWAF, through its Regional Offices, is currently responsible for the running and maintenance of the national monitoring network of gauging stations. The Regional Offices are responsible for data collection and it is foreseen that a close collaboration between the CMAs and DWAF needs to be cultured as CMAs take over the data collection function for several gauging stations.

The four main information systems for water resources are the following:

- Surface water hydrology
- Water quality
- Groundwater
- Water Use Authorisation and Registration Management System (WARMS)

The responsibility of maintaining these systems will be shared between DWAF and the CMAs but will be co-ordinated by national and regional water resource monitoring committees.

Capacity Building and Enabling Environment:

The Framework Programme for Research, Education and Training in Water (FETwater) was established in 2002. The programme is financially supported by the Flemish Government with UNESCO as implementing agent. Through networking 391 water practitioners and 23 students in the water sector have been trained on specific subjects. The second Phase of the FETwater programme has recently commenced and will see the programme through from 2008 to 2010. Two additional training networks have been established as part of Phase II. The six networks are:

- Groundwater

- Wetlands
- Beneficial use
- CMA Development
- Disaster Management
- Resource Directed Measures

The first CMA, the Inkomati (ICMA) was established in terms of the NWA in 2004 but it took quite a while for this CMA to become functional. The Governing Board of the ICMA is now in place and the agency is busy building its executive structure.

The Breede, Mvoti-Mzimkulu and Crocodile/Marico CMAs have already been established and the Department is in the process of appointing their governing boards.

The DWAF's intentions are to delegate as much as possible operational functions to different kinds of water management institutions so that the Department retains only the policy making and the regulatory functions. In this regard, an Infrastructure Branch was formed within the Department which would then deal with the development, operation and maintenance of all water resource infrastructure. It is the intention to transform the branch into an infrastructure agency which will then take over the infrastructure from DWAF.

The NWRS provides a programme for CMAs to be established and developed into functional institutions. Furthermore the DWAF is establishing new water user associations for the transfer of government irrigation schemes to these institutions. A large number of irrigation boards from the previous dispensation still needs to be transformed into water user associations.

International water management institutions ORASECOM, LIMCOM and a JPTC have been established for Transboundary collaboration on IWRM.

Assessments of the water research needs and gaps are done collectively between the Water Research Commission (WRC) and DWAF, The DG of DWAF is also a member of the WRC.

A first order strategy for compliance monitoring and enforcement is in place. The department is currently developing an overarching policy i.r.o. compliance monitoring and enforcement for all 11 water uses as defined in the NWA.

Stakeholders Participation

The NWA is very clear on the requirement for stakeholder participation i.r.o. processes such as the establishment of the NWRS, CMSs, Reserves, etc.

The DWAF developed Generic Public Participation Guidelines and distributed these in September 2001. The CMS Guidelines, referred to earlier also contains best practice suggestions for public participation.

The following major public participation exercises is worth mentioning:

- Development of the NWRS
- Public participation for the establishment of CMAs.

- Development of the WAR position paper

- Currently the Compulsory Licensing exercise is requiring major public participation.

Examples of DWAF awareness campaigns are the following; the WASH and VISION 2025 Campaigns.

Financing:

As the sector leader, the Department of Water Affairs & Forestry is leading the development of a Water Sector Programme. While the(municipal) water services component is already comprehensively dealt with in the current document developed during the second half of 2006, the water resources component still needs to be attended to. When this is done, this document will go a long way towards a water sector investment plan.

According to this 2006 document, the investment needs for the municipal water services sector, together with nominal provision for water resource infrastructure development, operations and maintenance to serve this specific sector component, runs in the order of R17,5 billion for the 2007/08 financial year, with an envisaged shortfall of around R3,5 billion. It is currently projected that these investment needs will increase to R18 billion during the 2008/09 financial year, after which it is expected to start to decline, as the MDG targets are being met in respect of the provision of basic water services.

In general the National Water Act and the Water Services Act support the following general financial principles:

- Households should preferably be provided with free basic water (up to 6 cubic meters per household per month)
- Water users should be exposed to progressive tariff structures. Sliding tariffs should, e.g. benefit poor households with relatively small consumptions and penalise lavish users of water
- Cross subsidisation should be visible and transparent
- A Waste Discharge Charge System is on the cards, with the policy and implementation strategy in place and the business rules currently being developed
- The development, operations and maintenance of water infrastructure (for services and resource management) should be funded by the users benefited
- The national fiscus largely provides funding for the development, operations and maintenance of strategic water resource infrastructure
- The national government assists the development, maintenance and operations of infrastructure in respect of the provision of basic water services through the Municipal Infrastructure Grants and Equitable Share Contributions to local authorities

- The monitoring and enforcement components of water resource management should preferably be done at the catchment level, with national government being responsible for the regulation of the water sector. Catchment management charges to pay for relevant aspects of water resource management are levied on a wide spectrum of water users. The Department has adopted the SAP Accounts Receivable System and water use accounts are sent out nationally in respect of all major water uses. Further attention is being given to debt management
- Pilot water conservation and demand management initiatives are funded in various municipalities and a feasibility study is underway on various economic instruments to support WC and DM
- The Department has developed and is implementing a policy to support resource poor farmers financially

7. Defining indicators, establishing networks and setting up mechanisms to ensure monitoring and evaluation are all key activities in any successful implementation of plans and reform processes. If your country has established monitoring and evaluation mechanisms for water resources management policies/strategies/plans, please describe how and by whom it is being done:

Please provide text.

The DWAF has identified strategic WRM projects which are of cross-disciplinary nature. Project Co-ordinating committees have been formed and milestones and performance indicators have been selected. Progress with these projects are reported on a quarterly basis by National DWAF.

Part 4: Outcomes of implementation of IWRM or Water Efficiency plans.

8. Countries which have made some progress in *implementing* IWRM/Water Efficiency Plans or equivalent reform frameworks may already have achieved some of their intended objectives. Sharing these experiences as well as constraints in implementing water resources management reforms may assist other countries in their implementation efforts.

- (a) At the time when your country embarked on water resources management reform and planning process, what were the priority problems which were intended to be solved? (e.g. lack of water resources for development, frequent floods, deteriorating water quality, wetland degradation, low water efficiency etc)

Please list three priority problems planned to be solved through water resources management reforms:

- (i) Cost recovery of WRM expenses
- (ii) Redress in water allocation
- (iii) Establishing the NWRS

- (b) What were the main water management measures implemented to address the problems identified under (a) above?—for example: new water policy or law, creation of new institutional structure, decentralization of water management to river basin level and water user associations, upgrading of water resources assessment and monitoring networks, application of economic instruments etc.

Please provide text.

- (i) Development of WARMS; Registration of water use; sending out invoices; clearing payments

(ii) Development of policy; Developing of a licensing tool kit; Drafting the position paper and finalising through stakeholder participation; Compulsory licensing in pilot catchments

(iii) Developing framework; Water balance studies, Finalising first draft; Extensive stakeholder participation process, reviewing comments; Cabinet approval; Establishing the strategy

(c) Please provide an evaluation/assessment of the results achieved as a result of implementing the water management measures implemented under (b) above to address the problems identified under (a) above.

Please provide text.

(i) Additional revenue and reducing the shortfall on the Water Trading Account

(ii) No results achieved as yet in terms of redress but much more clarity of how to deal with water reallocation

(iii) General buy-in from all stakeholders; NWA implementation in structured manner

(d) Please list constraints or obstacles that your country has experienced in IWRM implementation.

Please provide text.

(i) Resistance from water users as a result of the introduction of new charges

(ii) Inaccurate information provided for water use registration

(iii) Internal capacity

(iv) Financial constraints

(v) Slow progress with WMIs

(vi) Slow progress with redress in water reallocation

(vii) Pile up in water use licences

(viii) maintaining stakeholder interest,

Note: Where possible, please provide either an electronic copy of your IWRM Plan, or equivalent, Water Efficiency Plan or other relevant planning documents - or a Web link to these.