Working together to
secure sustainable water
for all

The Integrated Water Resources Management (IWRM) Plan Framework

Supported by:

UNEP

Philippine Water Partnership

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Summary Document

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Steering Committee

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Overview

Introduction

Water is a core element of life. Every organism, individual, and ecosystem depends on water for survival. Indeed, water impacts all aspects of life. Ultimately, water and water systems has a pivotal role to play in the sustainability of life and of economic activity. Poor water management, declining water quality and water shortages can lead to diseases, poor health, reduced economic growth, social instability, conflict, and environmental disasters.

Water is a major factor shaping the natural environment. It has a long-term influence on the vegetation, fauna, shape of the landscape and on various ecosystems. Any changes in the water systems inevitably lead to changes in the natural environment.

Ensuring the continuing availability of adequate supplies of clean and safe water at a reasonable price, while at the same time effectively safeguarding the biodiversity and health of the environment, are two key challenges confronting our country today. To adequately respond to these challenges and to ensure that demand does not overrun supply, a critical balancing act is needed.

This requires an effective, efficient, equitable and integrated water resources management system that will balance the demands on this valuable and vulnerable natural resource with the available supply and carrying capacity of various major ecosystems.

During the World Summit on Sustainable Development (WSSD), held in Johannesburg in 2002, the Philippines, along with other world governments recommitted themselves to the UN Millennium Development Goals (MDGs), and agreed to formulate and implement their respective IWRM and water efficiency plans by 2005.

The WSSD recognized the importance of IWRM in the achievement of the MDGs. There are critical links between improved water resources management, access to water supply and sanitation as well as poverty reduction, alleviation of hunger, improved health and education, gender equality and environmental sustainability.

Cognizant of the urgency of taking immediate and collaborative action, the Medium-term Philippine Development Plan (2004-2010) underscores the need to translate these global commitments to action by adapting and operationalizing the Integrated Water Resources Management strategy. It envisioned that the IWRM strategy will enable the Philippines to effectively address the challenges in water resource management, not just from the demand side but also from the supply side, with due consideration for various stakeholders interests and needs. IWRM was also viewed as the path to protecting, conserving and restoring the health of critical ecosystems.

IWRM: Principles, Working Definition and Core Components

The fundamental principles governing integrated water management were laid down during the 1992 Dublin International Conference on Water and the Environment. These are:

1. Fresh water is a finite and vulnerable resource, essential to sustain life, development and the environment.
2. Water has an economic value in all its competing uses and should be recognised as an economic good.
3. Water development and management should be based on a participatory approach, involving users, planners and policymakers at all levels.
4. Women play a central part in the provision, management and safeguarding of water resources.

IWRM is a systematic, collaborative and multi-stakeholder process, which promotes the coordinated development and management of water, land and related resources within hydro geological boundaries**,** in order to maximize the resultant economic and social welfare in an equitable manner and without compromising the sustainability of vital ecosystems. It links water and water-related policy, objectives, and uses to improve planning and decision making in the operation and management of natural resources and environmental systems and in the design and implementation of relevant programs and policies.

The principal components of an IWRM system are:

1. River basin/watershed approach to water resources management, including integration of land water resources, upstream and downstream, groundwater, surface water and coastal resources.
2. Supply optimization, including assessments of surface and groundwater supplies, water balances, wastewater reuse, and environment impacts of distribution and use options.
3. Demand management, including cost-recovery policies, water use efficiency technologies, and decentralized water management authority.
4. Equitable access to water resources through participatory and transparent management, including support for effective water users association, involvement of marginalized groups and consideration of gender issues.
5. Improved policy, regulatory and institutional frameworks, such as market-based regulatory mechanisms.
6. Intersectoral approach to decision-making, combining authority with responsibility and accountability for managing water resources.

IWRM Framework Plan Formulation Process

In January 2006, the UNEP-assisted IWRM 2005 SEA Project commenced implementation in the Philippines. The project intended to accelerate IWRM implementation in the Philippines through the development of a National IWRM and Water Efficiency Improvement Plan.

A Project Steering Committee was constituted to provide general guidance, support and ultimately, approve the plan. The Project Steering Committee is composed of the NWRB Board: Secretaries of DENR, NEDA, DOJ, DOF, DOH, Director of UP-NHRC and Executive Director of the National Water Resources Board.

A Multi-sectoral Task Force (MSTF) was likewise constituted to act as the core group that will undertake the preparation of the plan. The members of the MSTF are representatives of various key government agencies (NWRB, DENR, EMB, FMB, MGB, LLDA, NEDA, DPWH, NIA, BSWM, BFAR, DILG, LWUA, MWSS, DOH, DOE, NPC, and PAGASA), non-governmental organizations (Phil. Water Partnership, Water Commons Institute and Streams of Knowledge) and an academic institution (UP-NIGS).

A series of key activities were conducted relative to the preparation of the IWRM Plan Framework. These included the following:

1. *Multi-Sectoral Task Force workshops and conferences.* The MSTF conducted a series of activities for the formulation of the plan including an organizational meeting, a leveling workshop, an IWRM Orientation, IWRM Strategic Framework meeting, institutional mapping workshop, thematic group formation and various consultative and complementation/validation meetings among the MSTF thematic groups.

2. *Consultation-Workshop with Non-Government Organizations and Civil Society Organizations.* The workshop, entitled "Building Partnerships and Enhancing Synergies for IWRM", oriented the representatives from various NGOs and CSOs on the commitment and initiatives of the Philippine government on IWRM. It also generated feedback on the IWRM Plan Framework. Key water-related issues of the NGO/CSO sector were articulated and suggestions and recommendations on the process and content (both form and substance) were discussed.

3. *Multi-sectoral Consultation-Workshops on the proposed National IWRM and Water Efficiency Improvement Plans in Visayas and Mindanao.* With the theme "Working Together to Secure Sustainable Water for All," the consultations generated feedback on the IWRM plan framework from a wider stakeholder base. The scope covers both sectoral and regional concerns since the participants were from different sectors and based in different regions in Visayas and Mindanao.

4. *IWRM-SEA Project Meeting (Rayong, Thailand).* The meeting brought together different Southeast Asian countries to assess the status of IWRM implementation. The draft

Philippine Plan framework was presented and generated positive feedback in terms of its scope, planning process and its multi-stakeholdership approach.

5. *IWRM Plan Framework Launching and Partners' Forum*. The IWRM Plan Framework was presented to key stakeholders and said stakeholders adopted a platform for action to implement IWRM. Among the signatories to the platform for action were 19 representatives from national government agencies, five from donor agencies, five from civil society organizations, and four from academic/research institutions. A copy of the Platform of Action is presented in Annex 1.

Purpose of Philippine IWRM Plan Framework

The IWRM Plan Framework is a directional plan. It is intended to guide the different stakeholders involved in water resources management, at different levels, to either prepare their respective IWRM plans, update/enhance their existing IWRM related plans or make IWRM an integral part of their development plans/programs

It provides a clear roadmap and a collaborative platform for all stakeholders and water-related agencies to effectively work together to achieve water for all in a sustainable, equitable and ecologically balanced manner.

This directional plan framework also seeks to enable and encourage a wider adoption and localization of IWRM, across different stakeholders, at different levels. It will guide water-related government agencies and other stakeholders in ensuring that water and IWRM are mainstreamed and integrated in their respective plans, programs, and projects. It will likewise be the take-off in the preparation of regional and local IWRM Operational and Action Plans.

Philippines Water Resources Situationer: Issues and Concerns

Land and Water Systems

The Philippines is an archipelago consisting of 7,100 islands and islets with a land area of about 300,000 km^2.

The country is rich in water resources. It has 421 principal river basins with drainage area varying from 41 to 27,280 km^2. Out of these 421 principal river basins, 20 are considered as major river basins, with each one having at least 990 km^2 basin area. These major river basins cover a total area of 111,269 km^2 equivalent to 37.1% of the total land area of the Philippines.

In addition, the Philippines has 16 major lakes, covering 400 hectares and above. Of these, five are in Luzon (Laguna, Taal, Bato, Buhi and Baao), three in the Visayas (Naujan, Manguao and Danao) and the remaining seven in Mindanao (Lumao, Lanao, Buluan, Blingkong, Labas, Mainit, Pagusi). .

The Philippines coastal bays and coastal waters cover an area of 266,000 sq. km; while its oceanic waters cover 1,934,000 sq. km. Philippine coastal waters contain some of the world's most diverse ecosystems. It is in fact considered as the center of marine biodiversity in the world, characterized by extensive coral reefs, sea grass beds, dense mangrove forests, and pristine and beautiful beaches. The country's total coastline is one of the longest in the world and stretches over 36,289 kilometers.

Average annual rainfall is about 2,400 mm of which 1,000 mm to 2,000 mm are collected as run-off by a natural topography of river basins, natural lakes and numerous small streams.

Availability of Water Resources: Increasing Water Stress and Potential Water Scarcity

Once known to be relatively abundant in water resources, the country is now facing the prospects of an emerging water crisis. Rapid population growth, indiscriminate urban sprawl, industrialization and economic growth are creating serious problems for water resources management, water security and sustainability.

Over the years, per capita water availability has been declining. The Philippines reported 1,907 cubic meters water availability per capita is the second lowest among the South East Asian Countries.

In addition, increasing demand for water has resulted in a number of regions and at least nine key urban centers experiencing water stress. Some areas are subject to devastating floods during the wet season while many areas experience water shortages during the dry season.

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Total area provided by DPWH with river control and drainage facilities reached about 305,725 has., representing only 15.69 percent of the total potential coverage of 1,947,950 has.

Among Southeast Asian countries, the Philippines has registered the highest net water withdrawals in 1990. Projections show that this trend will continue until the year 2025.

The Master Plan Study on Water Resources Management in the Philippines (JICA, 1998) shows a divergence in the water availability and demand across water resources regions and key urban centers. Assuming a high economic growth scenario, projections for 2025 indicate that the water balance[1] for the Central Luzon Region will be negative, while that of Central Visayas Region is barely positive due to the presence of Metro Cebu, a water scarce industrial and urban center. Assuming a high economic growth scenario and without a water resource development program in place, the projections of water balances of major river basins shows that 17 of the 20 major river basins will experience water shortages by 2025. The river basins in Luzon will face the most serious shortages by 2025.

Water Production and Use

As of December 2006, there are a total of 19,247 water rights grantees for domestic (municipal), agriculture, power, and commercial users of water. These represent only the legal water users and do not include unregistered and illegal water appropriators.

Agriculture water use covers irrigation, livestock and fisheries. More than half of the water rights grants are for irrigation purposes, followed by domestic use. Currently, the total area with irrigation facilities is 1,515,347. representing only 48.47 % of the total irrigable area Considering that over the next 25 years, food will be required for another 25–26 million Filipinos , this is cause for concern.

The country's total water resources production is 5,792,857 liters per second (lps). Surface water contributes 98.4 percent of production and the remaining 1.6 percent is produced from groundwater.

Surface water development is usually in the form of dams or reservoirs. It also takes the form of small-scale water impounding measures that are primarily used for irrigation purposes, but are also utilized for watershed management, inland fishery, flood control, mini-hydro power, and domestic water supply.

The increasing demand for potable water especially in urbanized areas has resulted in over-extraction and the unabated exploitation of groundwater resources. These in turn have

[1] *Water balance is the difference between the potential water supply and water demand*

resulted to saline water intrusion in some coastal areas and ground subsidence. Groundwater pollution is yet another growing problem

The way water is managed in coordination with land management has significant effects on agricultural productivity. Deficient management has resulted in substantive soil degradation, erosion, salinization and destruction of soil structure in numerous parts of the country. This in turn contributes to agricultural productivity losses.

Deteriorating Water Quality

Water quality standards for environmental water bodies are regulated by the Environmental Management Bureau of the DENR while standards for drinking water are set by the Department of Health (DOH).

Ideally, the bulk of our potable water should be sourced from surface water, as it is much more abundant than groundwater. However, the results of the Water Quality Scorecard (as reported in the 2003 Philippines Environmental Monitor) indicate that only a little over one third (36%) of our river systems/ surface water areas are potential sources for drinking water. Of this, only one percent falls under Class AA, or those that require only disinfection to meet the Philippine National Standards for Drinking Water. The rest of the sampling points (35 %) fall under Class A which require complete treatment to pass drinking water standards. The remaining 2/3 (64%) are not fit for drinking.

Likewise, preliminary data from the NWRB-NWIN project and LWUA indicate that up to 58 percent of groundwater intended for drinking water supplies are contaminated with total coliform and would need treatment.

The poor quality of water affects the health status of the population. Data from the National Epidemiology Center of DOH indicates that almost 1/3 (31 %) of the reported illnesses from 1996 to 2000 are water-related diseases. Contaminated drinking water is one of the most prevalent causes of health decline among the population. On the average, DOH estimates a total of P3.3 billion direct income losses and medical hospitalization costs, annually.

Aquatic ecosystems depend on water flows, seasonality and water-table fluctuations and are similarly threatened by poor water quality.

Water Supply: Equity and Sustainability Issues

Domestic water systems delivery is classified into three main types of facilities: Level I or point source system without distribution facilities, Level II or communal faucet system, and Level III or individual household connection system. Individual piped supplies (Level III) are provided by water districts, private operators, LGUs and community-based organizations (CBOs).

Shared water supplies are provided by LGUs and CBOs through barangay waterworks and sanitation associations (BWSAs) for point sources (Level I), and rural waterworks and sanitation associations (RWSAs) for communal faucet systems (Level II).

The Annual Poverty Indicators Survey (APIS) shows that access of the population to safe drinking water deteriorated from 81.4 percent in 1999 to 80 percent in 2002. This decline in coverage is largely due to the increasing demand of potable water brought about by a growing population. .

The APIS further reveals that access to safe drinking water of the bottom 40 percent of the population declined from 71.5 percent in 1999 to 70.2 percent in 2002.

A number of studies suggest that the lower than average and diminishing access of the poor is indicative of subsidies not meeting their targets. They also trace it to the weak Institutional performance of water utilities and operators. In urban areas, water supply services managed directly by LGUs rarely exhibit the financial autonomy necessary to operate in a sustainable manner. In rural areas, users associations generally have weaker capacities for operating and maintaining effective, efficient and sustainable systems. They are also unable to improve and expand services due to weak technical and managerial capacities as well as finance/resource related constraints.

Inadequate Sanitation and Sewerage Services

The proportion of the population with access to adequate sanitation in 2000 was estimated to be at 74.2 percent. This is a slight decrease from the 1991 coverage rate of 74.9 percent. The quality of sanitation services leaves much to be desired. Non-poor urban households rely mostly on septic tanks, which have been found to be poorly constructed and maintained, without provisions for desludging; thus, affecting their efficacy for primary treatment of wastewater.

Sewerage coverage is very low. Less than 8% of households in Metro Manila have access to sewerage, while the over-all urban sewerage coverage is a measly 4 percent (six cities.) The few sewerage systems that exist at present cater mostly to commercial establishments and affluent residential communities. In other parts of the country, coverage is much lower (estimated to be at 1 per cent)

In the last 30 years, investment in urban sanitation totaled only 1.5% of amount spent on urban water supply

Degradation of Major Ecosystems

The present status of coastal ecosystems in the country is a cause for alarm. Almost all Philippine coral reefs are at risk due to the impact of human activities; only 4 to 5 percent remain in excellent condition. More than 70 percent of the nation's mangrove forests have been converted to aquaculture, logged, or reclaimed for other uses. Half of the seagrass beds have either been lost or severely degraded, and the rate of degradation is increasing.

Beaches and foreshore areas are under increasing pressures from rapid population growth and uncontrolled development, which in turn leads to erosion, sedimentation and water quality problems.

Watersheds supply water according to the requirements of various domestic and industrial water and irrigation systems, as well as hydroelectric dams. About 140 priority watersheds with a total area of 4.5 million hectares nationwide need to be protected and /or rehabilitated.
One of the most formidable environmental challenges the Philippines faces today is the diminishing forest cover. Of the country's total forestland areas of 15.88 M ha, only 5.4 M ha are covered with forests and fewer than a million hectares of these are left with old growth forests.

Over exploitation of the forest resources and inappropriate land use practices have disrupted the hydrological condition of watersheds, resulting in accelerated soil erosion, siltation of rivers and valuable reservoirs, increased incidence and severity of flooding and decreasing supply of water.

Increasing Frequency and Intensity of Extreme Climate Events and Variability

The Third Assessment Report of Intergovernmental Panel on Climate Change (as cited by Greenpeace, 2005) indicated that extreme climate events/variability, such as, floods, droughts, forest fires, and tropical cyclones have increased in temperate and tropical Asia. The warm episodes of the El Niño-Southern Oscillation (ENSO) phenomena have been more frequent, persistent and intense since the mid-1970s, compared with the previous 100 years. This IPCC finding has manifested itself in the Philippines through the more frequent occurrence of severe El Niño and La Niña events, as well as, deadly and damaging typhoons and other severe storms; floods, flash floods, landslides, drought, forest fires, etc.

There were 5 La Niña episodes and 7 El Niño episodes from 1970 to 2000 compared to only 3 La Niña episodes and 2 El Niño episodes from 1950 to 1970. The strong warm (El Niño) events were in 1972-73, 1982-83, 1997-98, while the strong cold (La Niña) events were in 1973-74,1988-89 and 1998-99. The most common extreme climate events with significant economic and social impacts in the Philippines are tropical cyclone occurrences of which typhoons are the strongest and most destructive. Several typhoon extremes were observed from 1990 to 2004. The highest and lowest frequency of tropical cyclone occurrence, the strongest typhoon, the 2 most destructive typhoons, deadliest storm and the typhoon that registered the highest 24-hour record rainfall occurred during this period. There were seven (7) extreme tropical cyclone/southwest monsoon induced extreme events from 1991 to late 2004, namely, the Ormoc Catastrophe, 1991; Cherry Hill Tragedy, 1999; Payatas Garbage-slide, 2000; Baguio-La Trinidad landslides, 2001; Camiguin flashfloods, 2001; Southern Leyte-Surigao disaster, 2003; and the Aurora floods, 2004. These extreme events have one thing in common – persistent torrential rains, causing landslides and flash floods, killing people and destroying properties and the environment along its path.

Other extreme events were the great central Luzon floods of 1972, probably the worst damaging flood in Philippine history and a precursor to the recent spate of extreme events; the southern Mindanao drought of 1998, resulting in near starvation and the Indonesia forest fires, both associated with the1997-98 El Niño event; landslides and lahar flows caused by extreme precipitation (rainfall) events.

The sector most affected by climate change, so far, is agriculture and food security. The sharpest fall in agricultural productions are experienced during strong El Niño events and after the occurrence of severe tropical cyclones. However, increases in rice and corn productions are attributed to favorable rainfall conditions during La Nina years. The highest typhoon damage was 1.17% of GDP and 4.21% of agriculture. In the health sector, many of the biological organisms linked to the spread of infectious diseases are especially influenced by the fluctuations in climate variables. Among other factors, dengue fever and malaria are sensitive to such climate parameters as temperature, relative humidity and rainfall. Other climate-related diseases like cholera have been associated with extremes of precipitation, droughts and floods.

The climate change impacts on coastal zones and marine ecosystems observed in 1998 were massive coral bleaching in various reefs throughout the Philippines caused by the elevated sea temperature during the severe 1997-98 ENSO episode. Fish kills and high mortality of cultured giant clams in ocean nurseries were also observed. Severe red tide outbreaks also occurred after the strong El Niño periods. The worst incidence of red tide in Manila Bay occurred in 1992, another El Niño period.

Water Governance and Regulation: Highly Sectoral Approach

Water resource governance is the responsibility of multiple national agencies in varying capacities. LGUs and local water districts also exercise certain powers but subject to national government decisions. NGO intervention has also been emerging.

The current institutional and regulatory framework in the water resources sector is the product of incremental developments over many years, each in response to particular challenges of the time. This has led to the absence of an integrated water resources management system that adopts a holistic approach to sector demands.

There are some 30 government agencies and offices concerned with water resources development and management responsible with their own sectoral concerns. These agencies deal with water supply, irrigation, hydropower, flood control, water management, and other water-related concerns. For administrative supervision, these agencies are distributed among executive departments of the national government.

The Department of Environment and Natural Resources (DENR) and NWRB are the major institutions that influence watershed and water-related decisions and actions. Watershed management is largely handled by DENR, particularly the Forest Management Bureau (FMB). The Environmental Management Bureau (EMB) of DENR is responsible for maintaining water quality in the country.

The NWRB acts as the government coordinating and regulatory body for all water resource-related development. It is an inter-agency board that regulates water distribution, resolves issues and conflicts in water resources management and development. It approves projects involving appropriation, utilization, exploitation, development, control, conservation and protection of the country's water resources.

The Department of Health (DOH) is responsible for overseeing the implementation and enforcement of the Sanitation Code of the Philippines. As part of its mandate to protect public health, DOH monitors the quality of drinking water and regulates premises with sanitation installations.

The Department of Public Works and Highways (DPWH) is responsible for flood control and drainage.

The Department of Interior and Local Government (DILG) provides technical assistance and capability building to LGUs to help them manage water supply, sewerage and sanitation services.

The National Power Corporation (NPC) is responsible for the development of power sources including hydropower.

The National Irrigation Administration (NIA) is responsible for irrigation development and the Bureau of Soils and Water Management (BSWM) is tasked to provide the research and technical expertise for the management of water for agricultural use.

The Metropolitan Waterworks and Sewerage System (MWSS) is responsible for water supply in Metro Manila and some parts of neighboring provinces. The Local Water Utilities Administration (LWUA) governs local water districts in municipalities and cities, and review rates or charges established by local water utilities.

Based on the Local Government Code (LGC), the LGUs can also perform watershed management functions but are subject to DENR supervision and control. Provinces and municipalities implement community base forest management, social forestry, and watershed projects, but the barangay's role depends on the discretion of LGU executives. LGUs are likewise empowered to implement Level I to Level III water supply subsystems, communal irrigation systems and local flood control projects.

Unfortunately, there are no cross-sectoral water resources plans and policies that will enable and ensure integration of various water and land use activities, water quantity and quality management, conjunctive use of surface and groundwater, upstream and downstream uses , with due consideration for the full hydrologic cycle.

The Integrated Water Resources Management Plan Framework

The National IWRM Plan Framework is not just another water plan. There are key differences between the IWRM Plan Framework and a traditional water plan. The IWRM Plan Framework has the following distinctive features.

A Broader focus: It looks at water in relation to other dimensions needed to achieve larger development goals and meet strategic water related challenges

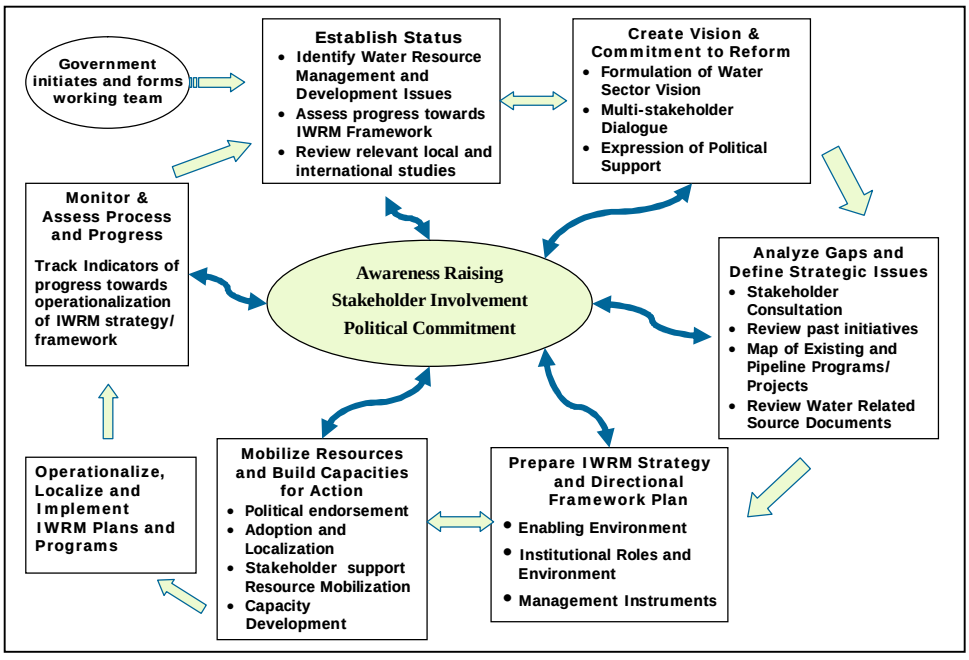
Dynamic and adaptive: It provides a framework for a continuing and adaptive process of strategic, integrated and coordinated action in all levels.

Integrated and holistic: All the different uses of water are considered together. Water allocation and management decisions consider the interrelationships and effects of these various uses. They are not viewed purely from a sectoral or project focus.

Multi stakeholder engagement and involvement in all stages and key processes : Includes government agencies, non government organizations, private /business sector, academe and civil society organizations working in the areas of health, environment, energy, finance, agriculture, education , tourism and disaster management

The planning process adopted by NWRB and PWP in the development of the Philippine IWRM plan framework is consistent with the general IWRM planning and implementation approach suggested by GWP.

IWRM Implementation Process in the Philippines



The Structure of the Integrated Water Resources Management Plan Framework

The plan framework was developed based on the hierarchy of initiatives consistent with the challenges and issues confronting water resources management in the Philippines.

SUSTAINABLE OUTCOMES

Four (4) Sustainable Outcomes were identified. These are the medium to long-term goals that we aspire for our water resources management system. These outcomes reflect our development aspirations for IWRM, and would ensure sustainability for our water resources. These include the following:

1. Effective Protection and Regulation for Water Security and Ecosystem Health
2. Sustainable Water Resources and Responsive Services for Present and Future Needs
3. Improved Effectiveness, Accountability, and Synergy among Water Related Institutions and Stakeholders
4. Adaptive and Proactive Response to Emerging /Future Challenges

STRATEGIC THEMES

Each of these sustainable outcomes is supported by Strategic Themes. A strategic theme is either a sectoral or cross cutting imperative that are necessary to achieve the desired outcomes. The strategic themes under a particular outcome are mutually reinforcing and are inter-dependent. Nine (9) strategic themes were identified to support the four (4) sustainable outcomes. These are:

For Effective Protection and Regulation for Water Security and Ecosystem Health

1. Ensuring Rational, Efficient and Ecologically Sustainable Allocation of Water
2. Enhancing Effectiveness in Groundwater Management and Aquifer Protection
3. Achieving Clean and Healthy Water
4. Managing and Mitigating Risks from Climate Change Events and Water Related Disasters

For Sustainable Water Resources and Responsive Services for Present and Future Needs

1. Promoting Water Conservation/Stewardship and Improving Water Use Efficiency
2. Expanding Access and Ensuring Availability of Affordable and Responsive Water Supply and Sanitation Services

For Improved Effectiveness, Accountability, and Synergy among Water Related Institutions and Stakeholders

1. Promoting Participatory Water Governance and Supportive Enabling Environment

2. Strengthening Knowledge Management and Building Capacity for IWRM

For Adaptive and Proactive Response to Future Challenges

1. Exploring New Pathways to Water Resource Management: Water Sensitive Design and Water Rights Trading

Each strategic theme is supported by several Strategic Objectives and each strategic objective is supported by several Key Actions. These key actions are major steps or initiatives required to accomplish the said strategic objectives. Note that the specific activities and their respective timeframes are not indicated. This will be defined through the different operational plans to be prepared by different government agencies and stakeholder groups, at different levels.

Outcome No. 1:
Effective Protection and Regulation for Water Security and Ecosystem Health

Strategic Theme No. 1:
Ensuring Rational, Efficient and Ecologically Sustainable Allocation of Water

Allocation of water is central to water security and ecosystem health. . Failure of the water allocation system to provide a balance between its economic, environmental, and social values will lead to decreased security and reliability of supply of water, further degradation of ecosystems, biodiversity loss, increase competition for water, and loss of productivity and income.

Key Challenges and Issues:

1. Increasing demand for water is placing greater pressure on water resources and critical ecosystems;
2. Absence of clear-cut national allocation objectives specifying desired environmental, economic and social outcomes;
3. Characteristics of present water allocation system (i.e., first-in, first-served, perpetuity of water rights) fails to address issues of economic efficiency, equity and environmental sustainability;
4. Absence of long-range water allocation plan which considers both macro (when and what quantities can be abstracted while without degrading the ecosystem and causing biodiversity loss) and micro (who and how much) allocation issues in all levels;
5. Inadequate utilization of technical tools for setting standards and determining appropriate and scientifically sound minimum flows for various ecosystems, watershed, and catchment areas; and
6. Weak and inconsistent enforcement of water allocation-related rules and regulations.

Strategic Objective No. 1
Provide scientific and technical leadership to ensure that water allocation strategies, systems, standards and processes sufficiently respond to issues of economic efficiency, equity, and environmental sustainability.

Key Actions:

1. Organize a technical advisory group to initiate research, standards development and recommend scientifically sound/locally appropriate strategies and systems.

2. Facilitate identification of relevant and meaningful set of ecological, economic, and social indicators to support identification of strategic management and policy options and define monitoring arrangements.

3. Install effective consultation and dialogue mechanisms to bring together expert knowledge and stakeholder needs and interests relative to water allocation.

4. Reactivate National Water Information Network (NWIN) to ensure availability of relevant and updated water-related data.

Strategic Objective No. 2
Establish policy framework addressing strategic allocation issues and balancing varying sectoral interests and stakeholder values and concerns.

Key Actions:

1. Conduct multi-agency/multi-sectoral policy analysis and review.

2. Conduct stakeholder consultations to identify water allocation issues and concerns and related recommendations.

3. Establish national allocation objectives specifying desired environmental, economic and social outcomes.
4. Formulate policy framework in consultation with key stakeholders.

5. Develop and disseminate implementing guidelines to all levels.

6. Undertake capacity development initiatives and establish enabling mechanisms to facilitate development of long-term water security plans in all levels (national, sub-national, river-basin/catchment level).

Strategic Objective No. 3
Develop, disseminate, and promote use of appropriate technical tools for sound water allocation strategies, standards and guidelines

Key Actions:

1. Conduct inventory and assessment of existing water allocation technical tools and decision support models

2. Build capacities on recommended technical tools and decision support models

3. Adopt GIS-based data management system and develop computerized simulation models

Strategic Objective No. 4
Strengthen tracking and accountability mechanisms to ensure integrity of water entitlements is maintained.

Key Actions:

1. Advocate for the amendment of relevant provisions of the Water Code and its Implementing Rules and Regulations (e.g., fees and charges; penalties for illegal and unauthorized appropriation of water and other violations; limitations on perpetual validity of water rights; economic valuation of water).

2. Establish effective tracking, monitoring and incentive systems to encourage compliance with regulations relative to entitlement volumes and other obligations regarding extraction of water (For whom? Appropriators of water, to include unregistered/illegal appropriators of water and permitees with unauthorized/excessive water extraction; How? Metering for deep wells, water bores, and pumps; metering for areas with significant water use).

3. Review and rationalize requirements for water registration, licensing and permits.

4. Enable LGUs to assume a more active role in enforcing water allocation rules and regulation.

Strategic Objective No. 5
Establish policy framework and undertake innovative programs to restore and/or improve the health of priority stressed rivers, lakes, and other water bodies (e.g., wetlands, floodplains, and estuaries) as well as ensure that those currently not significantly stressed remain healthy.

Key Actions:

1. Organize a technical advisory group to: (a) classify health status of rivers, lakes and other water bodies; (b) prioritize rivers, lakes, and other water bodies requiring immediate attention (restore, rehabilitate, recover); (c) recommend strategies and management actions for protection of rivers, lakes and other water bodies.

2. Install effective consultation and dialogue mechanisms to bring together expert knowledge and stakeholder concerns.

3. Facilitate formation of broad-based multi-sectoral coalitions and/or networks.

4. Establish "report card" tracking systems to monitor and publicize environmental conditions of priority rivers, lakes and other water bodies.

5. Increase environmental water reserve in stressed rivers, lakes and other water bodies.

6. Ensure that river basin/catchment plans provide an integrated program for river restoration and protection.

Strategic Objective No. 6
Sustain ecosystem health and biodiversity in coastal ecosystems and associated waterways

(Note: There is an existing Multi-sectoral Task Force that is currently completing a nationwide program for this Strategic Objective. The resulting plan of this initiative should become an integral plan of this plan framework.)

Strategic Theme No. 2
Enhancing Effectiveness for Groundwater Management and Aquifer Protection

Groundwater is a vital natural resource for the economic and secure provision of potable water supply in both urban and rural areas, for present and future generations.

Sadly, while it plays a very essential role, it is oftentimes taken for granted, its management and protection left to chance. In fact, it is usually not given the same degree of importance as surface water.

Aquifers (geological formations which contain useable ground water resources) are even more unknown, misunderstood and/or unappreciated as to its importance.

Aquifers are refilled, or recharged, by rainfall. However, less and less area is available to allow rainfall to refill the aquifers because paved roads, parking lots, housing developments and other buildings cover up lands that have soils best suited to allow water to seep into aquifers. In addition to reduced recharge areas, aquifers are experiencing increasing threat of pollution due to rapid urbanization, industrial development, agricultural activities (i.e. use of pesticides, fertilizers etc) and mining enterprises. Further, the impact of over-extraction, declining water levels, and water quality degradation due to pollution lessens the amount of available groundwater. We need to strengthen capacities and institutionalize systems/structures for managing our groundwater resources and protecting our aquifers. We need to take significant action to prevent future pollution and deterioration of our groundwater and aquifers as well as corrective action to control pollution and the threats to recharge posed by existing and past activities. These actions will contribute to ensuring sustainability and quality of water supply for present and future generations.

Key Challenges and Issues:

1. Over exploitation of groundwater leading to salt water intrusion, fissures and ground subsidence;
2. Declining and insufficient groundwater recharge due to reduced recharge areas and inappropriate land use and development;
3. Increasing aquifer contamination and pollution;
4. Inadequate technical capacities for groundwater protection, management, and sustainability;
5. Lack of public awareness on interrelationships between land use and development practices, aquifer recharge, and groundwater quality and quantity;
6. Insufficient public awareness on value/importance of aquifers and. appropriate actions for groundwater protection; and
7. Absence of integrated program and plans for groundwater management and aquifer protection.

Strategic Objective No. 1
Strengthen capacities in effective groundwater resource management at all levels.

Key Actions:

1. Formulate a policy framework for effective management of groundwater resources as well as for promoting reduced use of groundwater especially in critical/vulnerable areas.

2. Develop standards/benchmarks, guidelines and programs in all levels.

3. Advocate for the inclusion of groundwater resource management plans in local development plans.

4. Build relevant capacities and competencies of key technical and support staff in all levels.

Strategic Objective No. 2
Institutionalize a nationwide groundwater monitoring system.

Key Actions:

1. Inventory and review past and current government efforts, studies and researches related to groundwater monitoring.

2. Integrate new technologies in the design of the existing Nationwide Groundwater Monitoring System (NGWMS).

3. Collaborate with partner agencies and relevant stakeholders in the adoption and institutionalization of the NGWMS.

4. Pilot NGWMS in vulnerable aquifers and strategic stressed areas.(n.b. the following urban centers have been identified as water stressed areas: Manila, Cebu City, Bacolod, Davao City, Zamboanga City, Baguio City, Iloilo City, Angeles and Cagayan de Oro City.

5. Roll-out implementation of NGWMS.

6. Conduct periodic assessment of NGWMS and revise/enhance as necessary.

Strategic Objective No. 3
Develop and implement policies, programs and strategies for aquifer protection and groundwater remediation (in all levels).

Key Actions:

1. Fast track implementation of the groundwater protection component of the Clean Water Act.

2. Delineate vulnerable aquifer areas requiring protection from loss of recharge or significant contamination (e.g. aquifer vulnerability mapping).

3. Identify prime areas for recharge and promote best management practices to maximize groundwater recharge.

4. Establish restricted groundwater zones in sensitive areas/locations, especially where there are rapidly declining aquifers, increasing chemical contaminants and instances of rapid and serious land subsidence.

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5. Undertake groundwater pollution hazard assessment.

6. Identify point and non-point contaminant sources and their locations that pose threats to the aquifers.

7. Formulate policies, strategies and implementation guidelines for aquifer protection, groundwater protection and groundwater remediation.

8. Inform and involve key stakeholders to facilitate commitment and support in the implementation of policies and programs.

Strategic Objective No. 4
Develop and implement strategies and programs that will enable significant users/high volume users to assume accountability for groundwater management and aquifer protection in their areas.

Key Actions:

1. Conduct an inventory of high volume users of groundwater.

2. Identify options and schemes, including incentive mechanisms to encourage and /or compel high volume users to assume the responsibility of managing groundwater and protecting related aquifers.

3. Formulate policy and guidelines for operationalization of appropriate mechanisms.

4. Conduct orientation sessions and capacity building initiatives to enable high volume users to assume accountability for ground water management and aquifer protection.

5. Install tracking and monitoring systems.

Strategic Theme No. 3
Achieving Clean and Healthy Water

Safe, clean and healthy water is one of life's most precious commodities. It is so precious in fact that the United Nations has declared it a fundamental human right i.e. everyone is entitled to sufficient, safe, physically accessible, affordable and acceptable water for personal and domestic use. In our country, we even passed a Clean Water Act. Nevertheless, the challenge remains tremendous and the pressures are increasing. Access to clean, safe and healthy water remains a daily struggle for many Filipinos.

Aside from the obvious health effects derived from scarcity of water, poor water quality has large economic and quality of life costs, both now and in the future. This is seen and felt in terms of health impacts, quality of well being and foregone revenues. Untreated wastes and wastewater affects health by spreading disease-causing bacteria and viruses, making water unfit for drinking and recreational use and serving as a threat to biodiversity. The development of freshwater resources for human use has compromised natural ecosystems that depend on these resources.

Thus, clean and healthy water is an integral part of the strategy in reducing poverty and achieving Millennium Development Goals. Availability of clean and healthy water is a cornerstone for development and is important for stability and growth. We must be able to accommodate competing users and uses in an equitable and responsible manner, be prepared to minimize adverse effects of past and existing practices and actively prevent further damage and degradation to our water resources and related ecosystems. .

Key Challenges and Issues:

1. Declining water quality;
   - Contamination of surface and groundwater
   - Excessive water abstraction and withdrawal
   - Pollution of water systems and water bodies
   - Increasing volume of solid and hazardous wastes
2. Household, agricultural, industrial and domestic practices which lead to pollution;
3. Increasing water demand and increasing competition across various users and uses; and
4. Increased risks and threats to supply of clean and healthy water.
   - Climate change and climate variability
   - Indiscriminate land development and land use
   - Deteriorating health of critical watersheds and water systems

Strategic Objective No. 1
Minimize the adverse environmental impact on water resources of developmental activities in high potential and high economic value areas (i.e., industrial, commercial, tourism, and housing).

Key Actions:

1. Ensure that master plans for development of priority high economic areas should include sustainable water management plans and conform to River Basin Water Resource Plan (RBWRP).

2. Ensure the integration of sustainable water management plans with other local development plans.

3. Promote the adoption of ecotourism as a strategy to contribute to the conservation, protection and sustainability of water resources.

4. Promote the development and maintenance of greenway areas.

5. Build adaptive management capacities of key stakeholders and technical staff.

6. Establish knowledge sharing mechanisms to capture and disseminate lessons learned and good/best/promising practices.

Strategic Objective No. 2
Ensure the implementation and enforcement of the relevant provisions of RA 9275 otherwise known as the Clean Water Act.

1. Develop guiding framework, plans and programs to effectively operationalize key provisions of the Clean Water Act.

2. Strengthen competencies and capacities of partner implementing agencies and LGUs to effectively operationalize and enforce laws and regulations of the Clean Water Act.

3. Upgrade field monitoring equipment, laboratory facilities and related tools and technologies for more effective implementation of relevant provisions of the Clean Water Act.

4. Create broad-based, multi-sectoral coalition to promote the Clean Water Act and spearhead tracking of progress of implementation and extent of compliance.

Strategic Objective No. 3
Ensure the implementation and enforcement of the relevant provisions of RA 9003 otherwise known as the Ecological Solid Waste Management Act.

Key Actions:

1. Enable LGUs to fast track compliance with key provisions of the Ecological Solid Waste Management Act.

2. Establish mechanisms to encourage and facilitate inter-LGU collaboration for effective localization.
3. Develop learning packages and tool kits to assist LGUs to inform, educate and engage their respective constituencies in the protection of water resources through effective solid waste management.

4. Establish knowledge sharing mechanisms to capture and disseminate lessons learned and good/best/promising practices.

5. Install tracking mechanisms to assess progress and localization.

Strategic Objective No. 4
Ensure the protection, conservation and rehabilitation of high ecological value areas (NIPAS/protected areas), high cultural value areas (IPRA/areas reserved for indigenous people) and historical areas with significant values for ensuring sustainability of water resources (e.g. critical watersheds, recharge areas, major reservoirs)

Key Actions:

1. Develop orientation packages and programs for lead and implementing agencies on interrelationships and effects of land use and development, social and economic related practices and activities on the sustainability of water resources.

2. Consolidate and disseminate water related data and information on protected areas to highlight water-related issues and critical areas requiring corrective action.

3. Develop implementing guidelines to rationalize the collection, utilization, and distribution of environmental users' fees.

4. Conduct studies on strengthening effectiveness and sustainability of environmental users' fees.

Strategic Objective No. 5
Minimize contamination of water systems

Key Actions:

1. Strengthen information systems and mechanisms related to water contaminants and pollution sources to ensure ready availability and easy access for decision makers, LGUs and stakeholders.

2. Build capacities to develop appropriate strategies and programs which will respond to identified contaminants and threats to the water system.

3. Promote best management practices for reduction and control of pollution as well as solid waste management.

4. Inform, educate and engage community groups, community-based organizations, civil society organizations, and other relevant organizations to spearhead initiatives to protect water systems.

5. Design appropriate incentives, rewards, recognition and/or penalties to encourage adoption of practices promotive of healthy water systems and waterways.

Strategic Theme No. 4
Managing and Mitigating Risks from Climate Change Events and Water-Related Disasters

Weather can change very rapidly from day to day and from year to year, even with an unchanging climate. Climate is the long term average of such weather conditions. With climate change, such changes in weather conditions can go from one extreme to another. Climate change brings with it more frequent and more extreme climate events such as floods, droughts, forest fires, tropical cyclones.

The distinguishable signals of climate change are among its robust findings that: the earth is definitely warming; global average surface temperature has increased over the 20th century by about 0.6 degrees centigrade; global average sea level rose between 0.1 and 0.2 meters during the same period and rainfall may have increased by 0.2% to 0 .3% per decade over tropical land areas.

A number of environmental groups/scientists feel that such signals of climate change are already clearly evident in the Philippines. Climate change would lead to an intensification of the global hydrological cycle and have major impacts on our water resources. This will result to changes in the volume and distribution of water and inevitably impact on both ground and surface water supply. This will also further exacerbate water shortages in water scarce areas.

Decreases in agriculture and aquaculture productivity will increase due to thermal and water stress, sea-level rise, floods, droughts, tropical cyclones. Accelerated sea level rise will expose many communities to increased risk of coastal flooding, erosion, salt water intrusion

Coastal zones and marine ecosystems will also be impacted. Coral reefs will be negatively affected by bleaching and by reduced calcification rates. Tourism, an important source of income and foreign exchange will face severe disruption from sea level rise and extreme climate events.

These are only some of the predicted dire impacts of climate change. Given these scenarios, there is no excuse for not preparing to meet the challenge of climate change. The risks are far too great to ignore. Thus, there is a need to ensure our preparedness for climate change events and water-related disasters. Focusing on mitigation alone is no longer a sufficient strategy. A climate change adaptation agenda must be developed, taking into account both supply and demand adaptation. Adaptation must be embedded in our climate risk management efforts.

Key Challenges and Issues:

1. Inadequate hazard (geo-hazard) and vulnerability maps essential for climate risk management and adaptation, land use planning and disaster preparedness;
2. Limited scope of the current flood/drought forecasting , tropical cyclone warning and climate change monitoring system;
3. Weak institutional/interagency coordination and absence of a common baseline, integrated programs for managing/mitigating climate change events and water-related disasters;
4. Lack of systematic climate risk management in key government agencies;
5. Disaster mitigation and preparedness is not integrated in the development plans of all provinces, cities, and municipalities;
6. Poor implementation of land use plans;
7. Low level of awareness on the causes and adverse effects of climate change events and water-related disasters among various sectors and key stakeholders; and
8. Local government units are technically and financially constrained to adequately pursue land-use planning and to adopt structural and non-structural flood mitigation initiatives.

Strategic Objective No. 1
Strengthen the climate change risk management and adaptation strategies/programs in all levels.

Key Actions:

1. Conduct vulnerability and adaptation assessments on the impacts of climate change on water resources and the environment.

2. Fast track the completion of hazard/vulnerability maps nationwide.

3. Undertake GIS-based municipal level vulnerability assessments on sea level rise, water resources, agriculture, coastal and marine resources, and health.

4. Implement climate risk management in key productive sectors (e.g. natural resources, agriculture, tourism etc.).

5. Increase awareness and develop a sense of urgency among stakeholders in all levels re: climatic variability and the risks of climate change.

6. Scale up initiatives on development of relevant water pricing policies and structures.

7. Establish a national target in generating power from new, renewable resources (e.g. solar energy, wind power, etc.).

Strategic Objective No. 2
Strengthen capacities (competency and technology) of national and local government units and concerned line agencies for proactive and coordinated action and integrated management of climate change events and water-related risks/disasters in all levels.

Key Actions:

1. Integrate climate change policies with national development plans and the portfolio of existing national policies (e.g. energy mix requirements, land use policies, emission/carbon/energy taxes, support for research and development, etc.).

2. Enhance the capacities of concerned agencies/LGUs in preparing for, coping up, mitigating and monitoring the effects of climate change events and water-related disasters, including mainstreaming of climate change actions in developmental plans and programs.

3. Upgrade facilities/ Improve accuracy and effectiveness of equipment for forecasting and monitoring of climate change events and water related disasters.

4. Harmonize and synergize plans, programs and strategies of agencies and organizations involved in climate change risk management, disaster preparedness/mitigation.

5. Strengthen coordination between and among national government agencies, LGUs, civil society organizations and the academe on climate change risk management and disaster preparedness/mitigation.

Strategic Objective No 3:

Enhance availability and accessibility of relevant scientific information vital for effective climate risk management and the development of robust, cost efficient and feasible adaptation strategies.

Key Actions:

1. Identify and convene experts/specialist groups to provide technical assistance/guidance to key national agencies (e.g. mapping-out water related risks , anticipated climate change events, recommend appropriate strategies, develop adaptation programs and policies).

2. Establish a knowledge management portal on climate change and climate risk management.

3. Develop standardized hazard and risk mapping systems/tools, which include climate risk information.

4. Build and utilize existing capacities of private and non-governmental scientific institutions/centers of expertise.

5. Establish systems and enabling mechanisms for continuing tracking, documentation and sharing of experiences and knowledge gained on application of climate risk management and adaptation strategies.

Strategic Objective No. 4
Reduce the impacts of flood and other water-induced hazards by integrating and harmonizing measures in major river basins, high-risk principal/small rivers, areas within fault lines, volcanic areas and high-risk coastal areas.

Key Actions:

1. Improve and enhance structural measures (reducing hazard magnitude), non-structural measures (reducing vulnerability), and response and recovery (mitigating Impacts).

2. Formulate river basin management plans for priority river basins, focusing on flood mitigation with strong economic, environmental and social components.

3. Establish community-based rainfall and water level monitoring.

Outcome No. 2
Sustainable Water Resources and Responsive Services for Present and Future Needs

Strategic Theme No. 5
Promoting Water Conservation/Stewardship and Improving Water Use Efficiency

We cannot create more water. We need to use it wisely and efficiently. Indeed, water use efficiency and conservation is critical to ensuring the long-term sustainability of water supplies. Water use efficiency and conservation becomes increasingly important as water demand rises. Its great promise resides in the idea that increasing knowledge, sophistication, technology and care can save substantial volumes of water and increase the productivity of each unit of water that is used.

Key Challenges and Issues:

1. At current growth rates, demand for water will overtake the capacity of our water supply systems by 2025;
2. Supply oriented responses to water scarcity will further exacerbate the conditions of our surface and ground water sources;
3. Current pricing of water does not reflect the its real value and encourages wasteful consumption of water;
4. There is high percentage of non-revenue water in key sectors and highly urbanized areas due to poor physical infrastructure and pilferages; and
5. Water use efficiency in irrigation is less than 30 percent.

Strategic Objective No. 1
Strengthen regulatory measures and mechanisms to encourage more efficient water use.

Key Actions:

1. Develop pricing policies, pricing structures, and incentives that will promote environmentally sound and more efficient water use (e.g., reduce or maintain present consumption levels).

2. Reduce demand for good quality water by installing regulatory policies and mechanisms that will promote use of lower grade water for designated domestic, commercial, industrial and agricultural purposes.

3. Develop policy guidelines to ensure new land and infrastructure developments incorporate water conservation and water sensitive/low water use designs and systems.

4. Forge stronger partnerships between and among service providers and government agencies and institutions.

5. Develop programs for undertaking periodic water audits especially for high volume/significant water users and in highly stressed areas.

6. Develop incentives, rewards and recognition programs for high volume/significant water users who install water conservation and water efficiency improvement programs.

Strategic Objective No. 2
Institutionalize national commitment to water efficiency improvement in all sectors and all levels.

Key Actions:

1. Undertake benchmarking of successful water efficiency improvement programs.

2. Consolidate baseline data on current water usage/water consumption.

3. Develop policy framework on water efficiency and desired water efficiency targets and standards for all sectors and all levels.

4. Design and install simplified, user-friendly, web-based monitoring and tracking systems to measure improvements in water efficiency across sectors and across levels.

5. Publicize progress, best management practices and successful programs.

Strategic Objective No. 3
Encourage water conservation and water efficiency among water users.

Key Actions:

1. Develop programs, learning packages and informational materials for increased public awareness on water conservation, options and ways to better manage and use water and development of values on water stewardship/careful, responsible and smart water use.

2. Inform, educate, and engage the youth in designing and implementing innovative, high impact water conservation and water stewardship programs and promotions/campaigns.

3. Document and disseminate, in popular form, best practices for minimizing water use and using water efficiently.

4. Develop high-impact rewards and recognition programs for sectoral groups and communities that implement innovative water conservation and water efficiency improvement programs.

Strategic Objective No. 4
Improve water use efficiency in selected key sectors and fast-growing, highly urbanized areas.

Key Actions:

1. Develop programs and strategies to reduce NRW (non revenue water) in key sectors and highly urbanized areas (e.g. distribution lines, leakages/pilferages, illegal connections).

2. Create water vigilant community groups to discourage illegal water connections and minimize leakages and pilferages.

3. Allocate resources to fast track rehabilitation and reconfiguration of existing irrigation facilities, systems and services.

4. Allocate resources to ensure sustained optimal efficiency of irrigation facilities and systems.

5. Promote adoption and implementation of more water efficient design in irrigation facilities, structures and systems.

6. Initiate introduction of low water use crops and more efficient farming practices.
7. Encourage design and institutionalization of water smart programs in selected strategic high-volume water use sectors and fast-growing highly urbanized areas.

8. Develop incentive programs that will facilitate the introduction and installation of low-cost conservation and water efficiency devises.

Strategic Objective No. 5
Promote and scale up adoption of tried and tested, as well as, new and emerging technologies related to water conservation and water efficiency.

Key Actions:

1. Promote water efficient and water recycling technologies for domestic, industrial, agricultural and other uses.

2. Optimize use of rainwater harvesting for domestic, industrial, agricultural and other uses e.g., for agriculture through the implementation of small impounding project as a supplemental source of irrigation water, for household domestic use as a means of reducing domestic demand on piped water systems.

3. Promote reuse and recycling of water.

Strategic Theme No. 6
Expanding Access and Ensuring Availability of Affordable and Responsive Water Supply and Sanitation Services

Deficiencies in water supply and sanitation coverage significantly decrease the quality of physical, social and economic well being of individuals, families and communities. They reinforce the cycle of poverty and powerlessness that keeps people trapped and slows development. Water, sanitation and hygiene are intertwined determinants of this vicious cycle of water/ill health/poverty. Invariably, those who lack adequate and affordable water supply and sanitation are the poor; water associated diseases also hit the poor in a disproportionate way. It is this burden of ill health, which maintains the vicious cycle in which poverty leads to more ill health and more ill health translates to further impoverishment, which is experienced invariably through inadequate water supply and sanitation. In this vicious cycle, inadequate water supply and sanitation are both the underlying cause and outcome.

Lack of adequate sanitation is also the most critical determinant of contamination of drinking water with microorganisms. The supply of safe drinking water, adequate sanitation, improved hygiene behavior and environmental management translates into less cost in the delivery of health services by local governments as well as increased productivity.

Given the importance of adequate, affordable and accessible water and sanitation services, the sustainability of established water supply and sanitation systems is a major concern. Sustainability in this area can be categorized into two aspects: functional sustainability and environmental sustainability. Functional sustainability relates to the conditions upon which the systems can continue to operate; its main constraints are resources (key issue 2, and3) and capacities (key issue 4). On the other hand, environmental sustainability takes into account the impact of outside changes on the long-term viability of the system. Related to this are the worrying trends in water quantity and quality (key issue 5) and the unfavorable political/regulatory environment (key issue 1).

Key Challenges and Issues:

1. Inequitable access to services and disparities in coverage across regions;
   - § Weak and fragmented regulatory framework
   - § Institutional Fragmentation
   - § Low priority/limited resources allocated for water supply and sanitation among LGUs
2. Water supply and sanitation utilities and agencies are chronically underfinanced;
3. Average annual national expenditure for water resource development sector fell from 1.23% between 1993-98 to 1.09% in 2000;
4. Poor service quality and limited coverage of small and medium water utilities due to:
   - § Inadequate technical capabilities
   - § Low-cost recovery
   - § Inability to acquire additional financing
5. Threatened sustainability of supplies of water sources especially in water stressed areas.

Strategic Objective No. 1
Ensure the use of cost-effective, non-traditional delivery mechanisms for water supply and sanitation facilities especially for poor and marginalized communities.

Key Actions:

1. Conduct multi-sectoral community consultations to assess need and determine cost-effective, non-traditional delivery mechanisms.

2. Identify viable options/systems/mechanisms and undertake cost analysis and social acceptability analysis.

3. Develop and pilot models of cost-effective, non-traditional delivery mechanisms, in selected strategic areas.

4. Promote adoption of appropriate models of community-managed delivery systems for water supply and sanitation services.

5. Establish knowledge sharing mechanisms to capture and disseminate lessons learned and good/best/promising practices in delivery of water supply and sanitation services for poor and marginalized communities.

Strategic Objective No. 2
Ensure that water supply and sanitation services are provided at fair, reasonable and affordable rates.

Key Actions:

1. Consolidate tariff regulation for water supply and sanitation services in one single regulatory body.

2. Develop adaptive, responsive and sound tariff setting procedures and methodologies for different types of water utilities and water service providers (e.g. peddlers and haulers).

3. Determine and develop standards of affordability for water supply and sanitation services.

3. Ensure meaningful stakeholder participation in determining tariffs and establishing levels of service.

4. Encourage adoption and implementation of innovative and cost-effective technologies that may reduce unit costs, foster conservation, and ensure efficient delivery of services and operations of the utility.

5. Inform and educate customers on their rights and responsibilities, and the obligations and service standards for utilities service providers.

6. Introduce incentives for water utility providers to invest and use water efficient designs and technologies; innovative sanitation options and technologies and pollution control methods.

7. Provide technical guidance and assistance to LGUs in their promotion of appropriate and affordable sanitation technologies.

Strategic Objective No. 3
Ensure that small and medium scale water providers attain operational efficiency and sustain financial viability.

Key Actions:

1. Ensure coherence of regulatory processes, service level standards and tariff setting methodologies for different types of water utilities and water service providers.

2. Install developmental programs ensuring timely provision of technical assistance and institutional support to small and medium scale water utilities and water service providers.

3. Establish/strengthen network of small and medium scale water providers by:
   - Facilitating exchanges of lessons learned and best management practices
   - Institutionalizing capacity development and performance benchmarking
   - Undertaking continuing collaborative initiatives

4. Facilitate economies of scale and increased viability by encouraging amalgamation or integration of small and medium scale water utilities and water service providers, where appropriate.

Strategic Objective No. 4
Create a conducive environment to encourage new and additional investments in water supply and sanitation facilities/services.

Key Actions:

1. Review and rationalize accountability for planning, construction, operation and regulation of water supply and sanitation infrastructure.

2. Install mechanisms to effectively promote models and schemes for private-public sector partnership in water supply and sanitation.

3. Develop incentive programs to encourage new and additional investments in water supply and sanitation facilities/services.

Strategic Objective No. 5
Ensure sustainable development of water supply especially in water stressed areas.

Key Actions:

1. Establish mechanisms that will determine areas requiring development of new sources of water supply.

2. Develop new, economically viable and ecologically sustainable water sources, prioritizing use of surface water.

3. Promote the use of cost effective alternative sources of water supply in water-stressed areas, e.g. desalinated sea water, rainwater and treated recycled water.

Outcome No. 3

Improved Effectiveness, Accountability, and Synergy among Water Related Institutions and Stakeholders

Strategic Theme No. 7
Promoting Participatory Water Governance and Supportive Enabling Environment for IWRM

A. Public Policy Environment

Key Challenges and Issues:

1. Lack of effective mechanisms on information dissemination on water related laws, rules and regulations;
2. Legal and jurisdictional conflicts on water related issuances by various institutions/national government agencies that leads to conflicting interpretation of water related laws, rules and regulations, among others;
3. Policy gaps on strategic water resource management related issues;
4. Local development plans do not integrate water resources management issues and concerns; and
5. Absence of an enabling policy instrument mandating the adoption and institutionalization of Integrated Water Resource Management (IWRM).

Strategic Objective A.1
Fast track the adoption and institutionalization of IWRM in water-related agencies and institutions.

Key Actions:

1. Advocate for issuance of enabling policy adopting integrated water resource management as a national strategy and the operationalization of the IWRM strategic framework.

2. Formulate a policy framework addressing strategic IWRM related issues and ensuring coherence with national development goals and priorities.

3. Undertake targeted policy-relevant research studies and popularize findings/results.

4. Develop orientation packages to enable key stakeholders to enhance their awareness and appreciation of IWRM.

5. Strengthen national and local capacities on IWRM for key stakeholders and technical support staff.

6. Create an expert advisory group to provide technical guidance and assistance in the operationalization and institutionalization of IWRM in water-related agencies and institutions, as well as the development of appropriate IWRM management instruments and tools.

Strategic Objective A.2

Create enabling policy environment for IWRM adoption and operationalization in LGUs.

Key Actions:

1. Establish collaborative mechanisms with various LGU leagues and relevant policy advisory bodies, e.g. PLCPD, PWP, Streams of Knowledge., etc.

2. Develop and promote a legislative agenda supportive of IWRM adoption and operationalization in LGUs.

3. Conduct forums and capacity building on transforming the agenda into enabling orders, resolutions, legislative issuances, plans and programs.

4. Create champions who will mobilize support for IWRM adoption and operationalization in LGUs.

5. Ensure local development plans incorporate IWRM-related strategies and programs.

6. Establish tracking mechanisms and monitoring systems for all levels.

7. Establish mechanisms for knowledge and experience sharing on IWRM localization and institutionalization.

8. Develop rewards/recognition programs for LGUs that are “IWRM responsive” and have implemented innovative programs.

B. Institutional Roles and Arrangements

Key Challenges and Issues:

1. Sectoral approach in water resource management and development which lead to fragmented management and development of water resource;
   - Numerous NGAs/institutions involve in water resources management and development with overlapping/unclear mandates/accountabilities
   - Lack of coherence in assigning water related functions and accountabilities to national government agencies
   - Weak linkages among water-related agencies at all levels
2. Weak and inconsistent enforcement of water-related laws, rules and regulations;
3. Absence of sufficient monitoring and tracking mechanisms;
4. Low capabilities of LGUs to implement responsive local water governance (e.g., participatory planning, monitoring and evaluation); and
5. Highly centralized and resource-challenged regulatory water resources management body.

Strategic Objective No. B.1
Install and strengthen institutional structures, systems, and mechanisms to facilitate integration, coordination and synergistic implementation of IWRM**.**

Key Actions:

1. Undertake sectoral diagnosis and assessment (e.g., review mandates, accountabilities, current and planned programs/projects of water related agencies, organizational and operational constraints, sectoral operations strategic issues, and previous related and relevant studies).

2. Consolidate findings focusing on key strategic areas for integration, collaboration, complementation and specialization of various water-related agencies and institutions.

3. Create adaptive collaborative framework ensuring coherence, clarity and alignment of focus with IWRM principles and desired outcomes and more robust accountability measures and mechanisms.

4. Build consensus on viable and responsive institutional arrangements for whole water cycle management in all levels.

5. Formulate and gain approval for policy issuance formalizing streamlined institutional arrangements for IWRM operationalization/localization.

6. Implement approved structural and systemic reforms in water related agencies and institutions.

7. Design and install appropriate enabling and tracking mechanisms to assess effectiveness of new institutional framework and structural systemic reforms.

Strategic Objective No. B.2
Strengthen local structures and systems to facilitate adoption and operationalization of IWRM in LGUs.

Key Actions:

1. Review mandates and accountability of LGUs vis water resource management and other water-related concerns (e.g., solid waste management, coastal resource management, land use and development, etc.).

2. Review implementation scope of regional, provincial and district offices of water related NGAs and public institutions.

3. Identify areas for strengthening collaboration and complementation between LGUs, water-related NGAs and public institutions.

4. Develop and pilot models for localizing adaptive governance and management for IWRM.

5. Assess and compare effectiveness of various models for localizing IWRM.

Strategic Objective No. B.3
Enable NWRB to effectively fulfill its mandate as independent regulatory body, technical leader, and policy & resource institution for water resources management and development**.**

C. Financing, Incentive Structures and Resource Mobilization

Key Challenges and Issues:

1. Public water-related agencies are chronically underfinanced;
2. LGUs (specifically lower income class LGUs) are not able to carry-out their devolved responsibilities for the provision of basic services due to limited funds and financing;
3. Investment levels for water-related programs and projects are declining and are inadequate to reach sectoral and developmental targets as well as MDGs; and
4. Limited private sector participation in financing water sector projects.

Strategic Objective No. C.1
Formulate National Water Investment Plan.

Key Actions:

1. Translate IWRM Strategic Framework into operational plans with corresponding required budget allocations.

2. Consolidate and categorize budget requirements and identify financing gaps.

3. Package program and project proposals for mobilizing resources and support from various local and international sources.

Strategic Objective No. C.2
Improve access to and performance of various financing facilities and windows for water supply and sanitation projects (e.g. MDFO, water quality management fund).

Key Actions:

1. Review existing financing facilities and windows available to both public and private sector for water supply and sanitation projects, and institute measures to improve access and performance of said facilities.

2. Provide LGUs, water districts, cooperatives and other entities technical assistance in project development/feasibility studies.

3. Ensure wider dissemination to relevant stakeholders the features and mechanics of the different financing facilities.

Strategic Objective No. C.3
Expand NG-LGU and other cost-sharing schemes for water projects with the objective of achieving the most effective/optimal financing mix given specific context and considering poverty reduction objectives and capacity to pay.

Key Actions:

1. Intensify capacity building in local development planning, appraisal, and implementation to ensure the optimal and sound use of limited local government funds.

2. Review the existing MDFO/NEDA cost-sharing schemes that are based on LGU income classification to improve the availment by those LGUs that are in most need of the funds.

Strategic Objective No. C.4
Improve the climate for private sector investment in water infrastructure and service delivery.

Key Actions:

1. Develop and test out models for encouraging increased private sector involvement in water resource management programs and projects.

2. Continue rationalizing pricing policies and clear-cut (rule based and transparent) regulatory framework to attract private sector participation.

3. Provide new and innovative fiscal and non-fiscal incentives for private service providers.

4. Provide for private sector representation in water regulatory bodies and other multi-sectoral bodies related to water resource management at all levels.

Strategic Objective No. C.5
Promote the application of economic or market-based instruments to improve feasibility of water projects and ensure maintenance and sustainability of the systems and facilities.

Key Actions:

1. Pursue the on-going piloting and model building of raw water pricing schemes and approaches.

2. Encourage proper valuation of water by industry to ensure improved water use efficiency.

3. Conduct benchmarking and research on the application of water rights trading in the Philippines.

D. Creating an Irreversible Momentum for IWRM: Strategic Partnerships and Stakeholder Engagement

Responding to the challenges of IWRM is a vast and complex undertaking, far too large for any one organization or group to undertake by itself.

Thus, partnering: forging working relationships with allies, networking/coalition building and leveraging of strategic relationships with various sectors, is an integral and vital strategy of IWRM localization and sustainability. It is a proactive and integrative process, which enables collaborative and responsive governance towards the achievement of shared goals and specific objectives.

Moreover, it allows allies and partners to expand/optimize their resource base, maximise their reach, widen the scope and scale of IWRM related projects, activities, services, strengthen their flexibility and adaptability and enlarge their organizational "footprints". In effect, partnering strengthens partners, processes, programs and projects. Another key strategy for generating momentum and ensuring sustainability is multi sector and multi level stakeholder engagement. Stakeholder engagement also facilitates acceptance and support for IWRM programs, projects and services as well as its continuing relevance and alignment with stakeholder needs and local realities.

Opportunities exist for everyone in the whole community, to contribute towards sustainable water management. To do this, individuals and communities must be aware of key water issues and recognize the value/impact of their own actions. Strategic communication campaigns and social mobilization will help build this heightened level of water awareness and responsibility. It will help encourage water savings not only during drought/dry months, but all the time. It will also encourage water stewardship.

Key Challenges and Issues:

1. Inadequate stakeholder engagement and involvement in key processes of water resources management and development in all levels;
2. Absence of tools/mechanisms to facilitate stakeholder engagement;
3. Limited awareness and understanding of the value, urgency and developmental implications of IWRM and related programs on water efficiency, conservation and stewardship;
4. Need to mobilize widespread support and acceptance of IWRM as a strategy for sustainable water resources management and development in all levels; and
5. Lack of champions to advocate and promote IWRM, water conservation and water stewardship.

Strategic Objective No. D.1
Design and mainstream programs, processes and enabling mechanisms that will strengthen stakeholder engagement and involvement in key processes of IWRM institutionalization and localization, in all levels.

Key Actions:

1. Formulate an IWRM stakeholder engagement framework, principles and guidelines for all levels.

2. Develop a stakeholder engagement tool kit that will serve as guide for IWRM partners and allies.

3. Establish mechanisms that will facilitate tracking of stakeholder engagement initiatives as well as sharing of good/best/promising practices.

Strategic Objective No. D.2
Create multi-sectoral coalitions and networks that will aggressively champion and promote IWRM in all levels.

Key Actions:

1. Undertake mapping of relevant organizations, institutions, groups, associations, individuals.

2. Organize, convene and/or sponsor multi- sectoral forums to encourage networking, forging of linkages and /or building of coalitions for IWRM promotion and support.

3. Conduct innovative, high impact special events in selected strategic areas.

4. Partner with existing resource centers, centers of excellence or local institutions that have the capacity to serve as clearing house of information for IWRM in their areas.

5. Develop and popularize IWRM Agenda for Action that will serve as an impetus for coming together and working together.

Strategic Objective No. D.3

Design a two pronged, multi-stream, strategic communication campaign that will stimulate interest and promote support for IWRM-related initiatives (on the program level) as well as encourage water stewardship (on the personal action level).

Key Actions:

1. Review /Inventory previous and existing strategic communication campaigns including messages and materials.

2. Design and pre-test key messages for program support and for personal behavior change.

3. Develop cost effective and context/culture sensitive IWRM communication materials.

4. Forge alliances with developmentally oriented individuals, organizations, groups, associations (e.g. media owners, media practitioners, civil society organizations, professional associations, church groups, academic institutions, youth organizations, etc.) at both national and local levels, who can help generate momentum and boost the campaign.

5. Encourage and enlist the support of private companies and water districts to incorporate water stewardship related messages in their marketing and promotional activities.

6. Encourage water companies /water districts to make water bills more informative.

7. Prepare communication dissemination plans for selected strategic areas.

8. Establish tracking and assessment indicators and mechanisms.

Strategic Objective No. D4

Undertake social mobilization in selected strategic areas.

Key Actions:

1. Conduct capacity building on social mobilization for members of the multisectoral task force.

2. Undertake stakeholder mapping and analysis.

3. Develop a social mobilization operating framework and plan for IWRM.

4. Design a high profile launch.

5. Form a pool of IWRM champions in all levels who will actively support and promote IWRM principles, values, programs/projects and processes.

6. Install a tracking and assessment system.

7. Establish mechanisms for documenting experiences and for knowledge sharing of good/best/promising practices.

8. Publicize and popularize successful initiatives.

Strategic Theme No. 8
Strengthening Knowledge Management and Building Capacity for IWRM

Knowledge is a crucial resource in IWRM and the protection and management of critical ecosystems. Sustainable water resource management requires the creation, sharing and application of relevant knowledge. Indeed, knowledge grows and evolves as others review, use, and learn from the original knowledge source; the more it is used, the better it becomes.

Thus, the key challenge for IWRM practitioners is not simply sharing/disseminating what it knows/has in its organizational knowledge base. Rather, it is acting as a knowledge leader by:

- *Identifying valuable strategic knowledge which should be made accessible to its staff as well as the communities it serves, its allies/ partners, other stakeholders*
- *Institutionalizing enabling mechanisms, which will ensure that organizational and sectoral knowledge on IWRM, water, sanitation, health and hygiene, grows and evolves.*
- *Developing and /or strengthening knowledge communities, knowledge circles, and knowledge networks*

A vital part of knowledge creation and sharing is capacity development. It is the process by which individuals, groups, organizations/institutions and communities identify and solve development problems over time.

In this context CD is more than just training. It includes the creation of an enabling environment with appropriate policy and legal frameworks, as well as organizational development and human resource development.

It also shifts the focus to enhancement and strengthening of existing capacities/competencies rather than building institutions based on universal/generic models. More importantly, capacity development does not take place only through formal activities; it can also be done through coaching, mentoring, lakbay aral, hand holding, technical assistance, visits, informal sharing of ideas and experiences, email, virtual communities, e groups, ezine, to name a few.

Key Challenges and Issues:

1. Absence of mechanisms for capturing/sharing/accessing lessons learned, good/best/promising practices in IWRM;
2. Need to scale up LGU to LGU and interagency interactions/knowledge sharing;
3. Lack of competency based capability development program for IWRM;
4. Need to develop integrated framework for ensuring step-wise capability development of key stakeholders in IWRM;
5. Weak post training tracking and follow-through mechanisms;
6. Inadequate resources for conducting on site, community level coaching and hand holding for IWRM;
7. Lack of alignment of competencies of partners with demands/requirements of new directions/IWRM related programs;
8. Need to popularize and publicize key messages on IWRM; and
9. Need for creating irreversible momentum for IWRM.

Strategic Objective 1
Create a knowledge portal / knowledge based infrastructure for IWRM and adapt web-based technologies (e.g. e-zine, email, e-community etc.) for regular knowledge sharing and updates.

Key Actions:

1. Conduct benchmarking of various models of KM portals for IWRM or related topics and gather information on existing knowledge-based virtual learning systems and mechanisms.

2. Form an inter-agency task force that will oversee the establishment and installation of knowledge-based infrastructure, systems and mechanisms (including development of knowledge agenda for IWRM across different levels).

3. Collaborate with experts, other users, system owners, on the design of appropriate knowledge-based systems and mechanisms (i.e., enablers for knowledge sourcing, knowledge abstraction, knowledge conversion, knowledge diffusion, knowledge development and refinement) as well as establishment of potential linkages/common platform.

4. Undertake institutional profiling of related relevant sites for possible first level linkage.

5. Popularize and publicize the knowledge portal and/or virtual knowledge based infrastructure.

6. Create communities of practise and other virtual e-learning communities and circles.

7. Design and install e-tracking and follow through mechanisms to review and evaluate your knowledge strategies, knowledge services and knowledge related activities.

Strategic Objective 2
Design and institutionalize community-based knowledge sharing mechanisms.

Key Actions:

1. Establish linkages with non-government organizations, community based organizations, LGUs and CSOs.

2. Undertake capacity building on knowledge management for IWRM.

3. Develop guidebooks and learning tools to help facilitate formation and running of local knowledge circles and knowledge communities.

4. Enable local groups to integrate knowledge sharing mechanisms and services in their current programs and services.

5. Publicize/clearly communicate the benefits, examples and outcomes of desirable knowledge practices and activities (e.g. how knowledge has been applied and contributed to achieving desired outcomes; community based knowledge models /knowledge communities, etc.).

Strategic Objective 3
Institutionalize competency- based, action focused capacity development programs on IWRM for various key stakeholders

Key Actions:

1. Inventory existing training programs, learning packages and materials on IWRM.
2. Develop a competency framework for IWRM for different key stakeholders across all levels.
3. Create a pool of knowledge managers and trainers in IWRM in all levels.
4. Design innovative, competency based, action oriented learning programs in IWRM for key stakeholders.
5. Pilot e-learning packages for IWRM in strategic and relevant virtual learning sites.
6. Install tracking and follow through mechanisms.

Strategic Objective 4
Promote widespread use and/or adaption of existing resource materials/learning packages in IWRM.

Key Actions:

1. Transform learning packages / resource materials into popular and user friendly forms.
2. Adapt appropriate scaling up strategies (e.g. grafting, integration, piggybacking) to maximize diffusion and use of IWRM learning packages and resource materials.
3. Establish functional knowledge sharing mechanisms (e.g. knowledge circles, knowledge communities, etc.).

Outcome No. 4

Adaptive and Proactive Response to Emerging and Future Challenges

Strategic Theme No. 9
Exploring Innovative Pathways to Water Resource Management

A. Water Sensitive Design: Ensuring sustainable and environmentally-sound development and water management practices

Key Challenges and Issues:

Traditional development approach/practices and rapid population growth results to a substantial negative impact on water and surrounding environment; and will result in further, and perhaps irreversible, degradation of the region's waterways if not given urgent attention. This includes:

1. Rapid increase in water demand and inefficient use of water resulting economic and ecological impacts;
2. Depletion of groundwater associated with increasing water demand and decreasing aquifer recharge cause by urban development;
3. Increased flooding as a result of increased impermeable areas, increased runoff events, increased stormwater volumes, increased peaks, and the removal and alteration of natural drainage features;
4. Declining water quality and aquatic ecosystems as a result of wastewater and stormwater discharges, loss of habitat connectivity, and loss of natural treatment system; and
5. Accelerated sedimentation as a result of construction practices and the channeling and concentrating of overland flow.

Strategic Objective No. A1
Introduce and promote the use of water sensitive design (WSD) and technologies in highly urbanized areas

Key Actions:

1. Benchmark, pilot-test and document various WSD schemes and determine their appropriateness and cost-effectiveness for adoption and scaling-up.

2. Formulate policy on Water Sensitive Design (WSD) based on:
   a. Results of the pilot tests
   b. Review and inventory of existing laws, rules and regulations governing the development of residential, commercial, and industrial areas (e.g., BP 957, BP 220, Building Code, Clean Water Act)

3. Mainstream WSD principles (national and local levels) through national policy/strategy and local ordinances.

4. Promote and institutionalize WSD:
    a. Identify appropriate incentive mechanisms to encourage households, private sector, and LGUs to adopt WSD;
    b. Inclusion of WSU principle on the rules and regulations on commercial and subdivision development clearance from HLURB;
    c. Inclusion of WSD principle in Local Development Plans; and
    d. Establish network/linkages and partnerships among concerned sectors (DOST, HLURB, LGUs, Property Developers, Academe, urban planners, landscape architect, etc.) in promoting and adopting WSD.

B. Water Trading: Towards a more efficient allocation of water

Key Challenges and Issues:

1. Growing scarcity of water vis a vis demands of various users and uses;
2. The public- and user-based allocation system of water in the Philippines results in wasteful consumption of and spawns the growing scarcity of water; and
3. Increased population growth, improved lifestyle of people, and dwindling water supplies due to poor conditions of major water sources pose major threats to water security, especially in urban centers.

Strategic Objective No. B1
Improve water allocation efficiency through the creation of a tradable system for water rights.

Key Actions:

1. Develop clear guidelines for possession and transfer of water rights to clarify the existing provisions of the Water Code that specify the conditions under which leases and transfers can take place.

2. Develop and pilot-test various schemes of water trading, specifically in water scarce areas and in fully-allocated areas.

3. In cases where need and local backing exists, the government should facilitate the development of transferable water rights regimes through supporting mechanisms and forums to allow parties to negotiate the terms of the agreement and providing an appropriate regulatory framework.

Operational Planning and Localization

As indicated earlier, the IWRM plan framework intends to guide the different stakeholders, at all levels, to prepare their respective IWRM plans or to enhance their existing plans, ensuring that IWRM is clearly integrated therein. It will be the basis for the institutionalization and operationalization, as well as the localization of the IWRM strategy in the country.

The plan framework revolves around four key sustainable outcomes. There are nine imperatives or themes that support the sustainable outcomes. Each theme has several strategic objectives, which in turn has several key actions that represent major steps or initiatives required to achieve the said objectives.

Note that there is no single agency or institution that is responsible for the accomplishment of all the outcomes and thematic imperatives. The achievement of the outcomes and the intermediate results is the collaborative and collective effort of all water-related agencies and institutions, and all other stakeholders. Specific responsibilities, at different levels, may be pinpointed at the level of strategic objectives and key actions. In developing the operational plans (by institution/stakeholder, at different levels), the specific activities for each key actions will be identified. The time frames for the key actions and objectives will likewise be determined.

The operational planning and implementation phase of the IWRM plan framework consists of several key milestones.

1. Launching and Commitment Setting

The initial step is to promote the widest dissemination of the plan framework across all stakeholders. This will ensure a shared understanding of IWRM and a commitment to pursue, adopt, integrate and implement IWRM by different stakeholder groups across all levels.

The national launching for the IWRM Plan Framework was accomplished through a Partners' Forum conducted last 26 January 2007. The Secretary of DENR, along with other key personalities from national government, LGUs, private sector, and the donor community gave their insights and perspectives on IWRM. The IWRM plan framework was presented to the key stakeholders, and a Pledge of Commitment/ Action Agenda to implement IWRM was duly signed by all the participants.

Similar multi-sectoral launching and commitment-setting activities need to be done at local levels, particularly as a jump-off for local level (regional, provincial, river basin) operational planning initiatives.

2. Issuance of an Enabling Policy and Instrument

An enabling policy is needed to have a government mandate that will translate the IWRM plan framework into a collaborative initiative of all water-related agencies, and supported by other government agencies. A government mandate for IWRM is needed, and this may take the form of an executive order issued by the Office of the President, upon the recommendation of the NWRB Board.

This will ensure that the operationalization and implementation of the IWRM plan framework shall have the full backing of the government. Likewise, it will clearly show the commitment of the Philippine government to pursue IWRM and, at the same time, leverage the commitment of civil society and other stakeholder groups to adopt, integrate and implement IWRM in their respective areas of interest and operation.

It should be noted, that as of end February, an executive order (EO) creating a Presidential Task Force on Climate Change has already been signed/issued.

3. Establish a Technical Support Base for IWRM Implementation

A close scrutiny of the plan framework would indicate the need for technical and scientific support as a pre-requisite to the implementation of the different objectives and key actions. The different tools, guidelines, standards and frameworks that are needed to implement IWRM should be informed or reinforced by scientific and technical support.

To facilitate the provision of scientific and technical support for operational planning and implementation, a technical support base may be established for each of the sustainable outcomes. This will be a practical approach since concerns related to an outcome are interrelated. This will also maximize the time and effort of the different experts within each group. To have a smooth transition between the development of the plan framework and the operational planning (and subsequently plan implementation), it is suggested that the different sub-groups of the Multi-Sectoral Task Force (MSTF) become core members of a Technical Advisory Group (TAG). The original MSTF sub-groups will be expanded to include scientific and technical experts from different disciplines related to each of the sustainable outcomes.

The TAG will provide scientific and technical advisory services related to the development of operational plans and enabling mechanisms of government agencies and civil society groups. The TAG may recommend systems, processes, and templates to aid different agencies and institutions in developing detailed operational plans.

One main area of responsibility of the TAG will be the development of toolkits and templates to facilitate localization of the IWRM plan framework. Localization will entail the preparation of operational plans at the regional, provincial, municipal, and community levels. These will require technical tools and processes to ensure that local level plans are aligned with national IWRM plans and would also undergo a participatory, multi-stakeholder process. Localized technical support bases may likewise be established to provide the scientific and technical support mechanism at the local level.

4. Operational Planning

An important milestone to the institutionalization of IWRM is the preparation of IWRM operational plans by key water-related government agencies and non-government organizations. This process will start with complementation sessions among the different key agencies and NGOs to determine the responsibilities of agencies/institutions over the different strategic objectives and key actions in the IWRM plan framework. Consensus on areas of complementation and lead-support arrangements needs to be achieved. This will harness the participation of all related agencies, and at the same time determine accountabilities of agencies/institutions. The confluence of responsibilities across the different strategic objectives and key actions will determine which agencies/institutions should have joint responsibility over the thematic areas and sustainable outcomes. This will facilitate the identification of coordinative and tracking mechanisms per thematic area or sustainable outcome.

After the initial complementation sessions, when general responsibilities and accountabilities have been determined, the different key water-related government agencies and NGOs will conduct their operational and financial planning, concentrating on the strategic objectives and key actions that are their accountabilities, either in a lead or support role. The operational planning for IWRM may result in a new agency plan or an enhanced/revised plan. Either way, the most important thing is to ensure that the strategic objectives and key actions, along with their corresponding activities and resource requirements are clearly spelled-out in the plan. The different agencies and institutions should likewise ensure that relevant components and dimensions of IWRM are integrated in the plan.

The operational plans of the different key water-related agencies and NGOs will inevitably contain initiatives and activities that will require the support or cooperation of other agencies and institutions that are not primarily involved in water resource management, but have some water-related programs and projects or initiatives, such as those agencies that implement integrated area development projects. These agencies may then conduct joint planning and complementation meetings to ensure that these initiatives are highlighted and become part of the plans of the cooperating partner agencies.

2. Localization

Localization of the IWRM plan framework will be done across different levels, by different sectors and stakeholder groups. Communities and LGUs will be loci of local level planning and consequently, the cascading of IWRM operational plans of the different national government agencies and NGOs will inevitably converge at LGU and community levels.

There will be several tracks for the localization of IWRM planning and subsequent implementation. National government agencies will translate their IWRM plans and programs to regional/provincial plans. This is especially for those agencies, which have sub-national offices or branches. Water-related civil society organizations that have local counterparts or partners may likewise institute IWRM planning at the local levels.

The main challenge for the localization of IWRM is to ensure that local government units initiate IWRM planning and follow-through with the implementation of their respective

IWRM plans. This is an essential condition if IWRM is to be operationalized and implemented all over the country. LGU-level IWRM plans will ensure integration of sectoral or component plans. It will also facilitate community-level planning and integration, since the local chief executives are in the best position to influence and motivate community leaders and groups.

Participation of all stakeholders should likewise be a key requisite in the local level planning for IWRM. In the same way that the national IWRM plan framework was developed, local level planning should include government agencies, local civil society groups, sectoral and religious groups, academic and research institutions. Local planning should take-off from the vision/philosophy of the local government unit and based on the gaps and opportunities related to water resources management. Plans of national government agencies and even NGOs should be aligned with the thrusts and directions of the LGUs. With this as the guiding philosophy, national and sectoral plans may be triangulated with local plans, ensuring a more effective and sustainable implementation of IWRM.

Annex 1

Platform of Action

The Philippine Integrated Water Resources Management Plan Framework

We recognize that water is a core element of life. It is an essential natural resource for human health, sanitation, livelihood, fisheries and agriculture, industry, power generation, tourism and recreation, transport and navigation and other human activities,

We also acknowledge that water has a pivotal role in economic growth, global competitiveness and sustainable development. It is vital to safeguarding the integrity, viability and health of all major ecosystems. Moreover, there are proven critical links between improved and integrated water resources management, availability and access of affordable water supply and sanitation as well as achievement of poverty reduction, alleviation of hunger, improved health, and education and gender equity.

We are convinced that ensuring the continuing availability of adequate supplies of clean and safe water at reasonable price while at the same time effectively safeguarding the biodiversity and health of the environment are the twin challenges confronting our country today. To adequately respond to these two key challenges, a critical balancing act is needed.

The Medium Term Philippine Development Plan (2004-2010) recognizes and underscores the necessity of adopting and institutionalizing the IWRM approach as the preferred strategy for water resources management and for achieving the Millennium Development Goals (MDG). This is also in line with the country's commitment to the World Summit on Sustainable Development (WSSD)

We affirm the need to institutionalize an effective, efficient, equitable and integrated water resources management system that will balance the increasing demands on this valuable and vulnerable natural resource with the available supply and carrying capacity of the environment.

Together, we will strive to make IWRM an integral part of what we do.

We will champion the adoption and institutionalization of IWRM in our agencies, organizations and institutions.

We will adopt and support the Philippine IWRM Framework Plan as a collaborative framework for mainstreaming IWRM in all development plans, programs/projects at all levels.

We will vigorously and enthusiastically work together to achieve the following goals and outcomes:

Effective Protection and Regulation for Water Security and Ecosystem Health by:

- Ensuring Rational, Efficient and Ecologically Sustainable Allocation of Water
- Enhancing Effectiveness in Groundwater Management and Aquifer Protection
- Achieving Clean and Healthy Water
- Managing and Mitigating Risks from Water Related Disasters and Climate Change

Sustainable Water Resources and Responsive Services for Present and Future Needs by:

- Promoting Water Conservation/Stewardship and Improving Water Use Efficiency
- Expanding Access and Ensuring Availability of Affordable and Responsive Water Supply and Sanitation Services

Improved Effectiveness, Accountability, and Synergy among Water Related Institutions and Stakeholders by:

- Promoting Participatory Water Governance and Supportive Enabling Environment
- Strengthening Knowledge Management and Building Capacity for IWRM

Adaptive and Proactive Response to Emerging /Future Challenges by:

- Exploring Innovative Pathways: Water Sensitive Design and Water Rights Trading

In view of the foregoing, we, the undersigned representatives of national government agencies and institutions, local government units, civil society organizations, academe, private sector and the donor community affix our signatures to this platform of action, this 26th day of January 2007 at the DENR Operations Center, Visayas Avenue, Quezon City.