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**ECONOMIC AND SOCIAL COMMISSION FOR WESTERN ASIA**

Workshop on “Training of Trainers on the Application of  
IWRM Guidelines in the Arab Region”  
Kuwait, 14-18 May 2005

## **MODULE THREE**

### **LEGISLATIVE AND ORGANIZATIONAL FRAMEWORKS**

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<b>MODULE 3</b> <b>LEGISLATIVE AND ORGANIZATIONAL FRAMEWORKS</b>	
RATIONALE	<p>IWRM is contingent upon the instigation of an effective legal framework, sound institutional directives and effective human resource development to ensure that policies are put into effect. The role of water laws is to implement and enforce policy, and provide effective administrative and regulatory mechanisms at appropriate levels. Thus, water laws are a powerful tool to support IWRM. Creation of modern, IWRM-supporting water legislation should follow from the development of integrated and coherent water policies. Without appropriate policies institutions cannot function and without appropriate institutions, policies will not work, and without coordinated policies and institutions, management tools are irrelevant.</p> <p>This module addresses the required legislative and organizational frameworks for an effective governance and implementation of IWRM policies. It also discusses current water legislation and institutional frameworks and their required reforms.</p>
OBJECTIVES	<ol style="list-style-type: none"> <li>1. To sensitize participants to the basic notions of law and governance.</li> <li>2. To provide a broad overview of the required legislative and organizational frameworks in the implementation and enforcement of IWRM policy</li> <li>3. To evaluate the effectiveness of current legislation and institutional structure in ESCWA member countries and areas in need of reforms.</li> </ol>
MAIN REFERENCES & BACKGROUND MATERIAL	<ul style="list-style-type: none"> <li>- GWP. (2000). <i>Integrated water resources management</i>, TEC Background Paper No. 4.</li> <li>- World Bank/UNDP/FAO, FAO. (1995). <i>Water sector policy review and strategy formulation – a general framework</i>, Land and Water Bulletin 3</li> <li>- ESCWA. (1997). <i>Water Legislation in selected ESCWA member countries</i>, E/ESCWA/ENR/1997/2.</li> <li>- ESCWA. (1999). <i>Current water policies and practices in selected ESCWA member countries</i>, E/ESCWA/ENR/1999/15.</li> <li>- Water Issues Team, ESCWA. (2003). <i>Local ownership and leadership as vehicles for effective capacity building in IWRM</i>, paper presented at the Third World Water Forum, 16-23 March, 2003, Kyoto.</li> <li>- ESCWA. (1999). <i>Updating the assessment of water resources in ESCWA member countries</i>, E/ESCWA/ENR/1999/13.</li> <li>- تعزيز الترتيبات المؤسسية لإنفاذ التشريعات المائية وتجسين القدرات المؤسسية في قطاع المياه في بلدان الاسكوا، ٢٠٠١، E/ESCWA/ENR/2001/11</li> <li>- تطوير الهياكل المؤسسية والتنظيمية لإدارة الموارد المائية في الوطن العربي، ٢٠٠٠، المنظمة العربية للتنمية الزراعية، الحلقة القومية حول تطوير الهياكل المؤسسية والتنظيمية لإدارة الموارد المائية في الوطن العربي، الدوحة، ١٩-٢١/٩/٢٠٠٠.</li> </ul>
SUGGESTED INTERNET LINKS	<ul style="list-style-type: none"> <li>- <a href="http://gwforum.netmaster05.netmasters.nl/en/listoftoolsFrame_en.html">http://gwforum.netmaster05.netmasters.nl/en/listoftoolsFrame_en.html</a></li> <li>- <a href="http://faolex.fao.org/faolex/index.htm">http://faolex.fao.org/faolex/index.htm</a></li> </ul>
DELIVERY OPTIONS	
DIRECTLY RELATED MODULES	2, 14

<b>SESSION TOPIC SYNTHESIS</b>	
QUESTIONS FOR DISCUSSION	<ol style="list-style-type: none"> <li>1. What is legislation and what is its role in IWRM?</li> <li>2. What are organizational frameworks and their role in IWRM?</li> <li>3. What is the rationale for a comprehensive water law and organizational framework?</li> <li>4. What are the issues to be addressed in a proposed comprehensive water law?</li> <li>5. What are the requirements for successful implementation of water law?</li> <li>6. What are the main challenges facing legislative and organizational frameworks in your country?</li> <li>7. Are the current legal and institutional frameworks and settings in your country conducive for IWRM planning and implementation? How? and if not why not?</li> </ol>
<p><b>Water legislation, Regulations, Enforcement and Institutional Frameworks</b></p> <p><b>What is legislation?</b> <i>Legislation</i> establishes the basis for the execution of water policies and strategies and provides the context in which government and non-government entities and individuals take regulatory actions. It identifies the mechanisms of preventing and resolving conflicts that may evolve among some of the interested parties regarding water rights and use, water-sharing, water development, water disposal, water pollution and other disputable issues. The legislation system must touch on all aspects of water use, such as monitoring the quantity and quality of both surface water and groundwater sources, water allocations and transfers among users, water-charging and pricing, private sector participation in water management, reuse of waste water and discharged irrigation water, establishing approaches and procedures of dialogue and consensus among all interested parties, government agencies, local authorities and users, and ensuring application and enforcement of all water legislation.</p> <p><b>What are regulations?</b> <i>Regulations</i> are the tools of monitoring and enforcing the instituted laws, by-laws, rules, agreements and standards. They typically deal with aspects related to the following concerns: water and land-use rights and restrictions; development of different water sources and basins; groundwater extraction standards and monitoring; standards of water supply and distribution services; water charges and cost recovery; fiscal instruments such as subsidies, user fees, taxes, financial penalties, etc.; water quality and other environmental and health standards; maintenance and safety of water facilities, e.g. dams, water conveyance networks, etc.; monitoring techniques and tools of all established services, including technical, quality, environmental and health standards; and monitoring of the established financial management tools.</p> <p><b>What do we mean by enforcement?</b> <b>Enforcement</b> of water legislation is a pre-requisite for its effectiveness and rests on the relevance and flexibility of its regulations and on the administrative machinery required to ensure compliance. Some degree of differentiated enforcement, exemptions, delegation of enforcement and self-regulation by stakeholders should be considered. Enforcement of laws and regulations depends on the efficiency of the existing institutions, the extent and effectiveness of the enforcement capabilities, as well as the potential net benefits of their enhancement.</p> <p><b>What is institutional development?</b> <i>Institutions</i>, in their widest sense, comprise systems of laws, regulations, decrees, organizational arrangements, customs, markets, economic and financial instruments and all other components associated with them. The institutional framework should clearly define the mandates and responsibilities of the various actors. In particular, organizational arrangements should specify, the exact responsibilities and authority granted to perform tasks related to water planning, coordination among various water users, the regulations and enforcement mechanism designed to protect and reconcile the interests of all groups and the management of physical operations.</p> <p>The existing institutions determine, to a large extent, whether objectives and strategies can be achieved in practice. The transition from emphasis on supply management to a balanced strategy of managing both water supply and demand must be accompanied by an effective institutional reform. Experience has shown that institutional weaknesses and malfunctions are the major causes of unsustainable and ineffective water services. The main difficulties that experts face in the formulation of water resources management strategies and</p>	

programs, are not the lack of technical solutions but rather in the weak structure and performance of existing institutions and in the lack of enforcement of water acts and regulations.

***Therefore reform and upgrading of existing water-related institutions is an important building block in ensuring an enabling environment foundation, and needed reformed should be recommended.*** However, it should be noted that institutional changes have always been resisted, precisely because they involve change. There is no common prescription for the best formula for institutional and organizational arrangements. The ultimate institutional form adopted by a country should suit its own political, cultural and socio-economic conditions. The transition to an integrated approach to water resources management will require, among others: clear separation between planning and regulatory operations, on one hand, and the physical operational tasks, on the other hand; defining the scope of government involvement in water management; overcoming the current fragmentation of institutional responsibilities, where numerous agencies are involved in planning the various aspects of water withdrawals, power generation, land use and macro-economic policies that influence the water sector and environmental protection; specifying the responsibilities assigned to the different agencies involved in handling water resources; ensuring that the empowered authorities match their designed responsibilities; designing the organizational structure related to data collection, analysis and dissemination as well as those related to human resources development; ensuring an adequate and appropriate process to allow for stakeholder involvement in decision-making.

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## MODULE 3 LEGISLATIVE AND ORGANIZATIONAL FRAMEWORKS

### A. INTRODUCTION

ESCWA member countries increasingly realize the *importance of comprehensive water legislation* and have consequently taken steps to update existing laws or to introduce new laws to cover development activities. Most water legislation in the ESCWA region was enacted between 1967 and 1985. During the last 10 years some countries (Egypt, Jordan, Oman and Yemen) have made an effort to revise or modernize existing laws or to introduce new water legislation and strengthen institutional arrangements. Most ESCWA members countries are in the process of updating their water legislation or are formulating new legislation and attempting to consolidate their water institutions. However, the content, coverage and jurisdiction of their water legislation may fall short of what is needed for the implementation of an integrated approach to the optimal development and management of water resources and the application of modern water codes. Enactment of a modern water code would contribute to the efficient regional development and management of water resources. Furthermore, enforcement of existing or planned water legislation has not received proper consideration. There is a need to establish an effective judicial water system, ensure organized and mandatory inspection, delegate legal enforcement powers to the authorities concerned, and increase the manpower and financial resources available to water authorities to effectively perform their functions.

Weaknesses in institutional arrangements constitute a major constraint in the enforcement of legislation aimed at achieving the integrated development and management of water resources in the ESCWA region. Fragmentation of authority is found in many member countries owing to the large number of ministries dealing with water resources, as well as to the lack of cooperation and coordination in carrying out activities.

### B. LEGISLATIVE FRAMEWORK (WATER POLICY TRANSLATED INTO LAW)

#### B.1. Introduction

Water is a scarce resource with multiple uses, which can lead to conflicts among users and reinforce upstream-downstream conflicts particularly when negative externalities prevail. Its sustainable use requires integrated management. Water legislation can create a framework for such integrated management and determines the way that economic factors relate to water resources, providing the context for private, public, community and individual water activities.

Water law exists to:

- Clarify the entitlement and responsibilities of users and water providers;
- Clarify the role of the state *vis-à-vis* other stakeholders;
- Formalize the process of transfer of water allocations;
- Provide legal status for various water user groups;
- Ensure sustainability of the resource.

Thus, water legislation provides a structure for both conservation and development goals. Water legislation addresses, among other things, the ownership of water resources, the legal nature and stability of water rights, the effective and beneficial use of water, the transferability of water rights, and the need to acknowledge and respect existing uses and customary entitlements when changing water legislation. Water law also seeks to prevent the transfer of negative externalities, restrict monopolies, and reduce transaction costs. In addition, water law sets out the duties and functions of water/environmental management agencies and water service providers.

Water law can achieve its goals through regulatory norms, which can address many issues including: water conservation, protection of water supplies, establishment of preferences and priorities, protection of water quality, technology and efficiency requirements, creation of management areas and jurisdiction, basin management principles, monitoring, information requirements, administrative rights of entry and inspection, creation and enforcement of public rights, emergency measures, registration and recording of uses and supplies.

### B. 2. Water rights

A water right is the right to use water - not to own it. Good water law recognizes and acknowledges existing uses and rights, including customary uses and aboriginal entitlements. At the same time, good water law is flexible enough to permit reform in response to technological change and socio-economic needs. In most countries, water (or at least its most important sources) belongs to the public domain, reflecting the notion of water as a public good. Where water use rights are granted to private individuals or corporations, they may be protected under the provisions of national, state, or provincial constitutions. Water rights may be closely linked to land rights, and held entitlements may also be held on the ground of gender or some other social attribute, with implications for the transfer of rights and enforcement of water legislation.

Under most water laws, a right may be held or maintained only when there is effective use. This often reflects the scarcity and value of the water resource and is linked to concern about the risk of vesting an absolute monopoly on a single individual. Law may specify that use is beneficial as well. The tenets of effective and beneficial use are:

- Water must not to be obtained for speculation or let run to waste;
- The end use must be a socially acceptable use;
- Water is not to be misused;
- The use must be reasonable as compared with other uses.

Water law will often rank uses for allocation of water at times of scarcity or in case of competing applications, e.g. water for basic human needs and/or ecosystem protection. Legally established water rights allow the development and conservation of water resources, provide collateral or assets for obtaining credit, and recognize existing social and economic relationships. In rural areas, legislation may allow responsibility for the operation, maintenance and management of irrigation systems to be transferred to farmers.

As water becomes scarcer, transfer of water rights becomes important. Water law increasingly accepts transfers, under prescribed conditions. A water rights registry helps to ensure the stability of water rights and the transfer of title, but adequate transitional mechanisms should also be developed to avoid socio-economic instability. The allocation of water rights *per se* may or may not strengthen IWRM. Reform may be needed if water rights are assigned inequitably, or do not reflect the value of water, or the management role of specific social groups or gender.

Key factors for good water law include:

- Transparency in water allocation and rights to reduce potential social unrest.
- Adequate information and availability of data on the surface and groundwater resource.
- A mechanism that ensures that allocation of water between competing demands is compatible with sustainable use.
- Explicitly setting out of conditionalities before water rights are granted or recognized, to prevent laborious political wrangling if changes are needed.

- Although many legal systems allow perpetual rights, time-bound concessions might be preferred for the same reason.

### B. 3. Legislation for water quality

Measures to protect the quality of water resources should be embedded with legislation, and may be preventive or corrective. *Preventive* measures include effluent and discharge regulations, technical standards and requirements for treating polluted effluents, economic instruments as well as quality standards for receiving waters, set according to expected or existing water uses and services. Legislation sets out the principles upon which pollution control is based. These and other measures to control non-point pollution can be integrated into programs tailored for specific sites and regions. *Corrective* measures include ceasing and desisting orders, compensation for damage and economic losses, and abatement and remediation requirements. The “polluter pays” principle allocates responsibility for damage costs.

Emergency actions and citizen suits can also be tools to enforce water quality, and under some legal systems can be used even by those who do not have a direct interest or legal right (e.g., NGOs), in some cases.

Other legal instruments for quality protection include liability, both strict and fault based, reversals in the burden of the proof, joint and several liability for pollution caused by more than one actor, fines, and other penalties such as imprisonment. Personal liability for employees and officers of corporations causing pollution can operate as a useful deterrent. In some systems, fines and other financial penalties are tailored to offset any financial advantages accruing to polluters. Water quality legislation is enforced through inspection, monitoring, record keeping, reporting and related powers.

The special problems posed by groundwater are addressed through various measures including, water quality testing, land use and catchment protection programs, control of diffuse pollution, leachates, pesticides and fertilizers, requiring a "no-concerns" certificate before issuing groundwater permits, control of point-source pollution and of hazardous and mining waste, regulation of underground storage tanks and of injection activities, and well head protection. The transfer of waste products between the different environmental media such as air, water and soil is recognized in some countries and legislation can be introduced to ensure that waste disposal follows the least damaging environmental path. To be effective water quality law needs a supporting system of indicators and institutional capacity for measurement, interpretation and application of environmental quality objectives or water standards. Some lessons learned in this regard include:

- Water quality laws must be included when overall water law is being revised.
- In setting water quality goals and standards it is important to ensure that they are technically achievable and that there is an institutional capacity to monitor and apply standards.
- Over ambitious or rigorous standards may be excessively costly to apply and may reduce the credibility of the legislation, undermining compliance.
- Enforcement of water quality legislation is more complex than controls on discharges alone.
- Self-regulation by dischargers may be useful, but monitoring and random sampling by the regulatory agency is often the only feasible procedure to ensure quality.

### B.4. Reform of existing legislation

The role of water laws is to implement and enforce policy, and provide effective administrative and regulatory mechanisms at appropriate levels. Thus, water laws are a powerful tool to support IWRM. Creation of modern IWRM-supporting water legislation should follow from the development of integrated and coherent water policies. Legislation may be reformed to include the core elements of IWRM, that is: the value of water in use

(water as a social and economic good), the role of all stakeholders in water management and the sustainability of the resource. The legal framework may emphasize principles in support of such IWRM elements, such as: polluter pays principle, the river basin approach, public participation, reform of financing, ecological protection and equitable access to water resources.

Other legal reform topics, which help create a strong IWRM framework, include:

- The enabling institutional framework, including the legal roles and responsibilities of institutions and their inter-relationship;
- Mechanisms for stakeholders to participate in water resources management;
- Conflict resolution mechanisms;
- Water services and associated rights and responsibilities, covering, for example: provision of water for basic human needs, and standards of service (quality of water provided, assurance of supply, efficiency levels, etc);
- Tariff and water pricing systems, including principles of fairness, affordability and protection of the poorest;
- Customer protection mechanisms, such as timely and appropriate access to information, participation and involvement in water management;
- Equitable allocation of water rights;
- Clear mechanisms for transfer of water rights to minimize conflicts and risk of social unrest;
- Regulatory functions.

Experience teaches the following lessons:

- New legislation should be socially acceptable and administratively feasible.
- Water law is closely linked to land use in many countries. The close links between land use and water availability and quality should be reflected in water law.
- Water law needs to tread a careful line between completeness and flexibility. It needs to be flexible enough to reflect changing circumstances, yet explicit and complete enough to ensure full discussion of the basic principles and policies and their implications. If not sufficiently firm and clear, framework legislation may allow for arbitrary decision-making by implementers.
- National water laws must take into account any International Conventions accepted by that country.
- Legislative change creates stress for existing uses and water rights. In law reform, existing rights and uses and the entitlements of rural and indigenous populations should be protected and transitional provisions made.

## C. CREATING AN ORGANIZATIONAL FRAMEWORK

### C.1. Forms and functions

Many different types of institutions can be involved in IWRM, ranging from trans-boundary or international entities to local and regional governments as well as organizations of civil society and community groups. Such involvement will differ from country to country depending on their institutional set-up and prevailing socio-economic and political conditions. Today water organizations worldwide are experiencing both institutional and structural change, reflecting national desires for greater efficiency and improved performance. At the same time, many organizations whose primary function is not water management are responsible for sectors where the impact on water resources can be enormous such as agriculture, industry, trade and energy. Institutional reform will have to account for better coordination and mechanisms for dialogue among all these interacting sectors. Similarly water resources organizations will have to consider important issues, such as environment or gender, which have direct bearing on management and conservation of water resources.

The structure of institutions is a matter of water governance, which deals with the design and implementation of public policies for sustainable water investments and management that elicit the support of society as a whole. Governance activities include legal frameworks, policies, institutions, and management tools. Without appropriate policies institutions cannot function – without appropriate institutions policies will not work – and without a working set of policies and institutions, management tools are irrelevant. Without good governance civil society will not support the policies and will have a difficult time achieving sustainable and equitable water use. Good governance requires, above all, transparency of the institutions and participation by the citizens.

### C.2. Reforming institutions for better governance

Water governance refers to the political, administrative, economic and social systems that exist to manage water resources and services and is essential in order to manage water resources sustainably and provide access to water services for domestic or productive purposes.

Governance models must fit the prevailing social, economic and cultural particularities of a country, but certain basic principles or attributes are essential. Water governance requires that institutions are transparent, inclusive, coherent and equitable. They should also be accountable and responsive to peoples' needs. Thus governance requires the active participation of government, civil society and the private sector as all are instrumental in different ways in the successful implementation of institutional reforms. (Module 4)

In reforming institutions for better governance, an assessment of existing institutional systems should be carried out first to understand who does what for whom, and to whom they are accountable. An institutional assessment should identify, for example, conflicting laws, duplication or lack of clarity of mandates for different organizations and jurisdiction of different tiers of authority – local, sub-regional, national and, increasingly, international. Determining what to reform and the sequence that reforms should take is critical to the success of the reform process. A comparative analysis of reforms that have been undertaken in other countries in the region or in other countries with similar conditions would be useful to draw lessons.

Change can be painful and is often resisted as it makes people feel insecure even if they understand the need for change. Often good laws or revised procedures can fail if they are not understood or accepted by local politicians or community groups. Institutional reform needs to be done with a participatory and consultative approach, involving the formal and informal sectors, to develop understanding and ownership of the change process. (Module 4)

## **D. WATER LEGISLATION IN THE ESCWA REGION<sup>1</sup>**

### D.1. Evaluation of legislation in the ESCWA region

The ESCWA study on water legislation revealed the following:

- (a) Historically, water scarcity problems have been addressed within the various legal frameworks for water development and utilization in the Middle East, including all of the ESCWA member countries. This is reflected in the principles incorporated in sharia (Islamic law), customary practices, and vestiges of the Ottoman (Turkish) *Majalla* and the French and British water codes. Before the twentieth century, the Ottoman *Majalla* (code), sharia principles and customary practices prevailed in the region;

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<sup>1</sup> This section is a summarized version of the document: “Water legislation in selected ESCWA member countries” (E/ESCWA/ENR/1997/2). Since this publication, a number of ESCWA countries have enacted new water legislation and initiated institutional reorganization, which are being documented in the forthcoming ESCWA publications.

(b) Water legislation in the majority of ESCWA member countries is still governed by sharia principles (Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, the United Arab Emirates and Yemen) and traditional practices, or by a combination of sharia law, the *Majalla* (Lebanon and the Syrian Arab Republic) and some elements of modern water codes and customary practices (Egypt, Jordan, Oman and the Syrian Arab Republic). Review of the evolution of water legislation and institutional arrangements in the ESCWA region reveals that countries depending largely on surface water have enacted individual laws designed to regulate river flow diversion and establish water quality standards for drinking and reuse purposes and control pollution; to some extent, water allocation guidelines have been provided as well. Countries that rely mainly on groundwater have tended to issue directives or separate laws aimed at regulating groundwater development and extraction through the use of well drilling permits for the prevention of groundwater mining, as well as laws aimed at limited pollution control;

(c) Review of the status of water legislation and institutional arrangement demonstrates that progress has been made by some of the member States during the last few years. However, the extent of this progress varies from one country to another, depending upon the degree of water resource development, water utilization, and the degree of competition between the different water-using sectors. All countries in the ESCWA region have recognized the need to improve their institutional arrangements. Private ownership of water rights is being effected in most of the ESCWA member countries by including these rights in the sale of land, adding value to it by invested labor, or by selling the water in containers or through a distribution infrastructure such as an irrigation network. Ownership of water rights in some cases is based on water sharing principles inherent in traditional customs, as is the case in Oman, with acknowledgment of the right of prior appropriation. Some countries in the region have enacted laws explicitly specifying that water resources are public property (Jordan, Oman and Yemen), but most imply that water is either State or publicly owned (Bahrain, Kuwait, Lebanon, Qatar, Saudi Arabia, the Syrian Arab Republic and the United Arab Emirates);

(d) Surface water from river flow is usually State property and is subject to appropriation to different sectors. Floodwater is still diverted and allocated according to sharia and traditional local customs in Oman, Saudi Arabia and Yemen. Procedures for allocating irrigation water from rivers, reservoir releases and floodwater in Egypt, Iraq, Jordan, Lebanon and the Syrian Arab Republic range from the simple to the complex. Specialized government authorities created for those purposes usually administer river flow and reservoir releases. Allocation regulations, implemented according to operational rules based on old practices or modern optimization criteria, are in practice in Egypt, Iraq, and the Syrian Arab Republic and, to a lesser extent, in Jordan and Lebanon. Water infrastructure for the domestic sector is the responsibility of the State in most of the ESCWA countries. The Government finances construction as well as the operation and maintenance of water distribution systems, including all water supply activities;

(e) In the countries of the Arabian Peninsula, as well as in Jordan and the Syrian Arab Republic, groundwater development has largely been regulated by permits or licenses. However, these methods are not very effective; a more comprehensive, modern water code is needed. There is wide variation between the member States in requirements for obtaining a permit and regulations for compliance with stipulated conditions. Proof of land ownership is a prerequisite in all cases, and owners may approach the Government to obtain a permit or authorization to drill a well for any purpose, subject to the terms and conditions set forth in the permit. Permits to use surface water stipulate the fulfillment of certain criteria and place limits on the quantity and sale of the water. For groundwater, there is usually a defined set of guidelines on the method of abstraction, well specifications and groundwater conditions. In addition to permit specifications, water resource conditions regarding quantity and quality in a specific area may call for additional restrictions. These procedures are followed in Jordan, Kuwait, Oman, Qatar, Saudi Arabia, the Syrian Arab Republic, the United Arab Emirates and Yemen. Laws have been enacted in Jordan, Oman and the Syrian Arab Republic to minimize the depletion of groundwater resources through discharge springs as well as abstraction from wells through the establishment of restricted

areas (harams). Some countries have complemented drilling permit regulations with the licensing or registration of professional well-drilling contractors. This mechanism is being implemented in Jordan, Oman, Saudi Arabia, the Syrian Arab Republic and the United Arab Emirates.

#### *D. 2. Recent legislation*

The ESCWA member countries have begun to realize the importance of comprehensive water legislation and have consequently taken steps to update existing laws or to introduce new laws to cover development activities. Most water legislation in the ESCWA region was enacted between 1967 and 1985. However, during the last 10 years Egypt, Jordan, Oman and Yemen have made an effort to revise or modernize existing laws or to introduce new water legislation and strengthen institutional arrangements.

In Egypt, Environmental Law No. 40 of 1990 covers the protection of water resources. In Oman, Royal Decree No. 100 of 1989 established the Ministry of Water Resources, which was given authority to regulate and protect water resources, especially groundwater. In addition, Decrees Nos. 2 and 13 issued in 1990 and 1992, respectively, address the registration of wells and drilling permit regulations. In Qatar, Decree No. 13 of 1994 amended Law No. 4, transferring the Environmental Protection Committee to the Ministry of Municipal Affairs and Agriculture in order to better protect water resources. Decree No. 34 of 1980 in Saudi Arabia addresses the question of groundwater development. In the United Arab Emirates, Law No. 7 of 1993 provides for the establishment of the Federal Environmental Agency, with mandates for the protection of water resources and the setting of standards. In Yemen, a law was enacted in April 1995 for the establishment of a national water resource authority, with powers to establish water policy, strategies and plans and to provide the enforcement necessary for further development and management. Many laws have been enacted in most countries of the ESCWA region; these laws address specific concerns, but the coverage of their respective mandates tends to be limited. (Annex 1) Water legislation in selected ESCWA member countries is shown in Table 1.

TABLE 1: WATER LEGISLATION IN SELECTED ESCWA MEMBER COUNTRIES

Country	Legislative status		Ownership	Use	Institutions <sup>2</sup>
	Past	Present			
Jordan	Vestiges of <i>Majalla</i> and a few laws, 1937-1988	Fragmented, most recent laws are Nos. 18 and 19 of 1988	State property (explicit)	Regulation by permit for both surface water and groundwater	Single, Ministry of Water and Irrigation, with two water authorities, 1988
Lebanon	Vestiges of <i>Majalla</i> and French code and a few laws and decrees, 1925-1985	Fragmented, but there are plans for a comprehensive law	Public domain (implicit)	Regulation by permit and old irrigation code	Ministry of Hydraulic and Electric Resources; a few other ministries and many regional commissions
Oman	Sharia, customary practices, and well and <i>aflaj</i> registration laws, 1975-1988	Fragmented regulatory decrees for wells and <i>aflaj</i> , 1995	State property (explicit)	Extensive regulation by permit for development of groundwater and <i>aflaj</i>	Single, Ministry of Water Resources, 1989
Saudi Arabia	Sharia and customary laws, water conservation regulations and many decrees, 1932-1988	Planning for a comprehensive law	State property (implicit)	Regulation by permit, mainly groundwater	Single, Ministry of Water and Electricity (formed in 2002 and consolidated all water-related agencies: Saline Water Corporation, wastewater, etc.)
Syrian Arab Republic	Vestiges of <i>Majalla</i> code sharia, and many decrees and laws, 1925-1995	Comprehensive water law under preparation	Public domain (implicit)	Elaborate permit system; regulation for both surface water and groundwater sources	Ministries, mainly of irrigation (1982) but also of housing, agriculture, public work and water resources
United Arab Emirates	Sharia, customary laws and a number of decrees, 1980-1994	Comprehensive water law drafted in 1995	Public domain (implicit)	Limited regulation by permit system for groundwater	Ministries, including agriculture and fisheries, electricity and water, and municipalities and the Higher Water Council, 1981

Source: ESCWA. (1997). *Water Legislation in selected ESCWA member countries*, E/ESCWA/ENR/1997/2

### D.3. Legislation enforcement

Enforcement of existing or planned water legislation has not received proper consideration. There is a need to establish an effective judicial water system, organized and mandatory inspection, delegate legal enforcement powers to the authorities concerned, and increase the manpower and financial resources available. Existing water institutions lack the legal authority to enter and inspect premises and to suspend or revoke permits, and the judicial system has no powers to prosecute offenders. Field inspection of water development and user facilities, especially in the irrigation and industrial sectors, is impracticable owing to manpower shortages, the lack of legal

<sup>2</sup> Some of the countries listed above have initiated reform in their water sector (Jordan, UAE, ..) or are in the process of doing so. Refer to Annex 1 to compare progress achieved in this respect.

mandates and the absence of public education on the importance of legislation, coverage, and the necessity for compliance with laws and regulations. Field inspection throughout the region is not backed by law, and powers to carry out such functions are minimal. Although the issuance and renewal of permits is contingent upon the fulfillment of requirements, inspection of the actual conditions under which the permit is issued is seldom carried out on a regular basis. There is no prosecution of offenders for non-compliance with laws and regulations.

Serious legislative action is needed to develop effective enforcement mechanisms for existing and planned water legislation. The fundamental requirement for implementation and enforcement is that the legislation should be accepted by the population and others that may be affected by it. The other important element is that legislation should be clear and unequivocal for all water sector activities. Rules, regulations and special provisions in the legislation should be clearly defined, and the authority of the water institution responsible for its administration and enforcement should be clearly identified. Specific suggestions for enforcing legislation are provided below.

One aspect of the implementation and enforcement mechanism is the imposition of sanctions and penalties for offences committed against the provisions of the water code or any other legal instrument regarding water matters. Sanctions and penalties should be strictly enforced for infringement of water regulations or the terms of permits, licenses and concessions. Penalties should be in accordance with the degree of the offence and could range from simple fines to imprisonment. Fines should be imposed on a graduated scale, in line with the degree of violation of the law, and the value of the fines should be tied to the inflation index. Establishing a system for the collection of fines should be given high priority. Offences would include liability for the damage or destruction of waterworks or structures and for interference with the official administration of water law permits and the regulations and requirements covering those utilizing the water. For repeat offenders, there must be legal provisions and enforcement mechanisms allowing the seizure, destruction or impoundment, either temporarily or permanently, of any equipment or buildings utilized in illegal activities.

The implementation of water legislation can be strengthened by building trust in legal instruments that constitute part of a fair judicial process. An appeals process, through water courts, could be used to build confidence in the justice system and make the enforcement and implementation of water legislation more acceptable to the community. The appeals process must be an integral part of any water legislation system so that a mechanism exists to challenge the decisions of water authorities by legal means.

Courts dealing exclusively with water matters can contribute to the implementation and enforcement of water legislation helping to resolve conflicts of water ownership and water use, protecting the rights of water users, providing fair legal means of addressing complaints, establishing justice and facilitating permit enforcement. The functions, procedures, jurisdiction and composition of the water courts should be specified in the legislation. The function of the courts would be to review, judge and settle disputes between different public parties or between the public and the water authorities. This may include judgments on existing water rights, conflicts in water use, determination of the amount of compensation for lost water rights, and any other water-related dispute. The court may be mandated to issue rulings that could be implemented by an enforcement authority, concerning penalties, sanctions and other punitive measures for violation of the water law. The jurisdiction of the water courts might include the entire country region, basin or sub-basin, depending on the mandate of the legal system of the country concerned. Court procedures could be designed according to the existing legal system or administrative rules and should be conducive to achieving optimal development and management of water resources. Prerequisites for the role of water institutions in achieving effective implementation and enforcement of the law include powers of persuasion, trustworthiness, neutrality, integrity and impartiality. It is crucial that the task of water management should be performed in a neutral fashion, without any conflicts of interest. The institutions empowered to implement and enforce compliance should have the financial and human resources required to achieve their task. The jurisdiction and mandate of the concerned institutions should be clearly

defined and supported by effective legal and policing measures. The water administration should be empowered to inspect sites at all times and to install such devices as are deemed necessary for the implementation of the water code.

## **E. WATER INSTITUTIONS IN THE ESCWA REGION**

### *E. 1. Evaluation of the current institutional arrangements in the ESCWA Region*

Weaknesses in institutional arrangements constitute a major constraint in the enforcement of legislation aimed at achieving the integrated development and management of water resources in the ESCWA region. Fragmentation of authority is found in most of the member countries owing to the large number of ministries dealing with water resources, as well as to the lack of cooperation and coordination in carrying out activities. Many ministries have been established with a dual function (water and agriculture, water and public works, water and electricity) only a few have a single function. In Bahrain, Kuwait, Qatar and the United Arab Emirates, ministries dealing with electricity and water, agriculture and municipalities, or agriculture and fisheries share water responsibilities. In addition, there are numerous metropolitan water and sewerage authorities. In Egypt, Lebanon and the Syrian Arab Republic, more than one ministry deals with the water sector. In Jordan, Oman, Yemen, and recently in Saudi Arabia, single water ministries have recently been established with responsibility for all aspects of water resource activities. Nevertheless, overlapping of responsibilities and functions between water institutions still exists in all member countries. Many water functions are scattered among numerous departments. Coordination and cooperation between agencies has not been mandated by legislative instruments, resulting in the mismanagement of resources and unnecessary duplication or gaps in monitoring activities and enforcement procedures. In addition, water institutions lack legal power to enforce laws and regulations.

At the local level, administrative aspects of water allocation and distribution and of the organizational framework differ between countries, with variations in the mixture of older traditional practices and complex regulations. In the larger cities, water for domestic and industrial use is managed by the municipality, the water authority or a water department. In most towns and villages in the ESCWA region, however, water is managed and administered by government-appointed administrators, especially for water and sewerage services. The institutions responsible for water in the ESCWA member countries are listed in table 1.

The strengthening of institutional arrangements can be accomplished by defining legal responsibilities and granting water authorities the powers to exercise their rights and carry out their duties. Within the context of drafting a modern water law, it is necessary to address issues relating to the type, legal power and jurisdiction of water institutions. The water code must define the function of the water authority in matters relating to water resource investigation, development, utilization, monitoring, protection and management, and to the provision of services. The law must allow these institutions to grant permits, licenses, concessions and rights and must give them powers of enforcement for the purpose of controlling and monitoring extraction and use. Provisions may be established for the supervision and the enforced distribution of water among users, in accordance with their legal rights.

Responsibility for water availability may rest with private entities, including privatized governmental institutions. For this type of institution, legislative action must be directed towards water supply regulations that protect the basic interests of the users with regard to quantity and quality. In addition, legal operating guidelines may be necessary to ensure that institutions allow users reasonable access to available water. The water law should empower water resource institutions to act in an emergency. Such institutions should be able to declare certain areas protected or restricted and to ration water for purposes of water development and management. The mandate may also include limitation of existing rights to use water, the imposition of limits on water withdrawal or diversion, and the prohibition of certain uses. The specific provisions of power granted to the water institutions through the water law may cover other limitations or obligations that are considered to be in the

public interest or that promote security, health, and environmental preservation. However, there must be a differentiation between exceptional provisions extending powers for a limited period and regular administrative water control.

### *E. 2. Institutional reforms*

Since water ministries, councils or authorities have now been established in most ESCWA member countries, emphasis should be placed on institutional reform to coordinate and strengthen administrative jurisdiction. The water law or a separate legal instrument should specify obligatory coordination and implementation mechanisms between ministries dealing with water and water-related issues, as well as between departments and independent water institutions. Coordinating legislation should address this problem at every level and define the powers, functions and responsibilities of each entity involved.

The establishment of a water resources council (Apex body) may be a possible solution to overcome coordination problems between ministries, as suggested in Oman and the United Arab Emirates. The members of the council may be ministers with sectoral responsibility for water and water-related issues, along with members of the private sector. The council may be given the authority to take decisions on setting up water policy objectives, accepting water plans, allocating funds for water investment, answering financial questions concerning water and implementing water policy, including pollution control and environmental protection measures. It may be appropriate to establish, in parallel, a national water commission with members from various ministries. This commission would have to ensure national-level institutional cooperation and coordination from the technical and economic standpoints. The water law may specify whether the commission should take the form of an advisory or executive body and define the binding force of its decision-making capacity. The relationship between the council and the commission must be addressed in the water code. At the regional level, a basin management authority with powers to execute projects may be appropriate. At the local level, water user associations may be very effective, particularly in the area of administration of water rights. The establishment of a single, unified water institution would contribute to improved coordination. The centralized water institution could be responsible for functions such as the execution of decisions and the evaluation, control, monitoring, inspection and management of all water resources and water-related activities.

Another option for the improvement of institutional arrangements is the establishment of two distinct types of institutions with regulatory and developmental functions. The regulatory institution would act as a policy-making body responsible for coordinating all activities related to water utilization by various users; the development institution would be responsible for the actual development of water resources. A legal instrument must establish the link between the regulatory water administration and the developmental institution. Water legislation should clearly indicate the responsibilities of the water institutions responsible for water resources and provide them with the necessary powers to facilitate the implementation of their functions (Refer to Boxes 1 and 2 for two case studies).

BOX 1: CASE STUDY ONE: JORDAN

Jordan: From water service provision to planning and management in the Jordan valley authority  
To shape a new future for the agency, The Jordan Valley Authority (JVA) went through a rigorous and public strategic planning process. This has resulted in a detailed and thoroughly vetted written draft strategic plan that can be put into effect.

Main IWRM Tools

- A2. LEGISLATIVE FRAMEWORK - Water policy translated into law
  - A2.3 Reform of existing legislation
- B1. CREATING AN ORGANISATIONAL FRAMEWORK – Forms and functions
  - B1.04 River basin organizations
  - B1.06 Service providers and IWRM
  - B1.08 Role of the private sector.

**Description**

The Jordan Valley Authority (JVA) has been the pre-eminent water development agency in the Jordan Valley since its creation in the early 1950s. The growing capability and involvement of other groups and Ministries, the changing valley needs and a new law made it necessary for JVA to change its mission and the type and level of services it offers. To shape a new future for the agency, it was decided that JVA should go through a rigorous and public strategic planning process. This planning process was led by a steering committee composed of all relevant stakeholders and various working groups. Stakeholder participation was ensured through a series of information meetings and workshops to collect comments and input before completing the plan. This has resulted in a detailed and thoroughly vetted written draft strategic plan that is to be presented for Ministerial approval in November 2002 so that the recommendations of the Strategic Plan can be put into effect.

In the Jordan Valley, JVA is decreasing its role as a service provider and beginning to increase private sector involvement in providing water services. As a result of the strategic planning process, the institution will become more of a regulatory entity, performing the government functions of monitoring and control of water service providers.

**Lessons learned**

The strategic planning process created conditions under which all the actors having a stake in water development and management could become involved, present their respective positions and concerns and negotiate to achieve acceptable solutions to the proposed institutional reform. Relevant stakeholders included other Ministries, farmers in the valley and existing and potential landowners.

Legislative reform was and continues to be necessary to establish JVA's new regulatory functions. As the public entity, JVA must have the capacity and capability to monitor and regulate service delivery to ensure adequate provision at reasonable and equitable prices. Increasing private sector involvement requires adequate government regulation and an institutional framework that enables the public and private partners to achieve the common objective. Financial sustainability of JVA's operations is of paramount importance. In this respect the relevant legislation must allow JVA to collect and manage revenues from its respective activities, for example, the sale of water and the lease or sale of lands.

The human resources impact is a major challenge associated with implementing the Strategic Plan. The Government of Jordan must develop a strategy to reduce over-staffing, but more importantly it should focus on adequately training its personnel and ensuring it has a strategy to retain the best personnel in the future. This will require the development of a comprehensive human resources strategy including early retirement compensation packages. The private sector can play an important role in providing water services. The management contract and the associated bidding process must be devised to allow for adequate incentives for the private sector to take responsibility of existing assets, operations, investments and customer service. Conversely, the government's ability to control the private sector and ultimately ensure better quality and quantity of water services delivered must not be diluted.

A successful integration and adaptation of the Strategic Plan for JVA is dependent upon continued participation from JVA policy leaders and senior-level management and active engagement from regional stakeholders, most importantly farmers in the Jordan Valley, who depend most directly upon JVA for water management and distribution.

### **Importance of the case from an IWRM perspective**

The case illustrates how an integrated strategic planning process can create conditions under which all the actors having a stake in water development and management can become involved, present their respective positions and concerns and negotiate to achieve acceptable solutions to the proposed institutional reform. The case describes how the JVA worked to secure water supplies and overcome inequalities in water allocation to efficiently and economically meet users' expectations. To do this, JVA must work with all stakeholders to determine the water requirements of different zones and users including irrigation, tourism, and municipal and industrial water users. A related challenge addressed by the JVA is to be transparent in assessment/assignment of supplies and subsequent communication on to users on water availability and its quality.

*Source: GWP Tool Box – Case Study No. 161, 2003*

## BOX 2: CASE STUDY TWO: EGYPT

Egypt: Improving public sector performance - institutional strengthening of the Alexandria general water authority (AGWA)

The case illustrates AGWA's experience in addressing challenges and improving performance in the implementation of their institutional strengthening plan over a 5-year and 10-year period.

### Main IWRM Tools

- ◆ B1.06 Service providers and IWRM
- ◆ B1.07 Strengthening public sector water utilities
- ◆ C5.1 Conflict management
- ◆ C7. ECONOMIC INSTRUMENTS - Using value and prices for efficiency and **equity**
- ◆ C7.1 Pricing of water and water services

## Description

The case illustrates AGWA's experience in addressing challenges and improving performance in the implementation of their institutional strengthening plan over a 5-year and 10-year period. It reveals the process undertaken by the Steering Committee and Assessment Teams to evaluate AGWGA's institutional capacity, including organization, management, planning, training and human resources, financial, and customer relations. The project is also assisting AGWA and Egyptian Government organizations in developing programs to resolve water source disputes (over both quantity and quality) and the interpretation of governorate laws and regulations that affect utility performance. Water sector planning at the governorate and national levels is being evaluated because the adequacy of the raw water supply affects AGWA's performance as provider of safe drinking water.

After the first two years, results include completion of institutional assessments and identification of priority actions, creation of a management information system, implementation of a major formal training program for employees and the completion of a modern fully equipped training centre, development of new personnel and pay regulations and schedules, evaluation of cost recovery strategies, and a strategic plan for the institution.

### Lessons learned

AGWA, has taken significant steps to assess its institutional capacity and identify priority actions and programs for improving public sector provision of drinking water in Alexandria. Utility personnel worked with the consultants to conduct assessments, and identify and reach consensus on needed improvements in utility efficiency. Benchmarks, performance indicators, and best practices were also identified; although reaching agreement by the assessment teams on some issues took longer than expected.

Improvements in utility efficiency must be accompanied by government decisions to provide the legal and institutional framework for successful utility performance, including adequate water sector planning and improved conflict management among stakeholders to resolve water resource disputes. In institutional building initiatives, effective communication is one of the key requirements for a successful outcome. These include quarterly coordinated meetings with GTZ and the Dutch projects and other contractors working for AWGA, weekly meetings between the AWGA Chairperson and the ISC Project Director, extensive and active participation of AWGA personnel, monthly Steering Committee meetings, frequent meetings with USAID and briefings to stakeholders. This has contributed to thorough discussions of program objectives, approaches and expected results. The use of power point presentations and thorough preparations for Steering Committee meetings and workshops ensures clarity and generates debate. Using power point presentations instead of writing lengthy reports has ensured understanding of plans and initiatives by simplifying and making visual all project implementation reporting. Effective communication has allowed AGWA senior managers and USAID officials to have ample opportunities for regular input and active participation in the decision-making process. With these communication strategies there are no surprises in the outcomes, issues are resolved in a methodical manner, and obstacles are minimized.

### Importance of the case from an IWRM perspective

Most of the world's population will, for the foreseeable future, be served by public water utilities. Hence, greater attention should be paid to improving public sector performance. USAID is supporting improved sustainability for water and wastewater service delivery in Egypt and improved capacity for local utilities to deliver these services through improving their systems and staff qualifications. The case illustrates how improvements in public utility efficiency can be identified, agreed to, and implemented to increase access to sustainable water service for a large city population.

Source: GWP Tool Box – Case Study No. 162, 200

## F. GUIDELINES FOR A COMPREHENSIVE LAW AND ORGANIZATIONAL FRAMEWORKS

Integrated water resource management is contingent upon the instigation of an effective legal framework, sound institutional directives and effective human resource development to ensure that policies are put into effect. Broad-based water legislation is needed to provide a framework for an integrated approach to the regulation, development and management of water and other related activities. Comprehensive water legislation should comprise guidelines for the rational utilization of water resources including, *inter-alia*, desalinated water and renovated wastewater. It should also address water use priorities, water ownership, the jurisdiction of authorities responsible for controlling utilization and protection, pricing, beneficial uses, and the issuance of use permits, and should include provisions for conflict resolution. Appropriate water legislation would provide a mechanism for ensuring the most equitable, economic and sustainable use of available water resources, taking into consideration socio-economic conditions and national development needs.

The lack of comprehensive water legislation in many ESCWA member countries has contributed significantly to inefficiency in the development and management of water resources. Some of the legal and institutional water constraints consist of the following:

- Water responsibilities scattered among institutions have given rise to problem of poor coordination, and have in some cases led to duplication of efforts and ineffective planning, making it difficult to achieve efficient management of water resources. Thus, the administration of water is fragmented among many ministries, water authorities, committees and entities, which has contributed to mismanagement and inefficiencies in water distribution and use. Moreover, control of water pumping and extraction is either absent or very limited. This has caused a decline in water tables in some aquifers and contributed to seawater intrusion in some coastal areas.
- The revenues generated by levying water charges on users are not enough to provide for new investments or even to cover the costs of maintaining and rehabilitating the water networks. Although in principle, there should be charges for water used for irrigation, there is no enforcement in its application. Historical (acquired) water rights encourage farmers not to pay.
- Enforcement of water laws and regulations is limited, due to acquired water rights, political allegiance and the resistance of farmers to various monitoring attempts. Aggravating the problem of law enforcement is the lack of accurate data and information about water resources, quantities, qualities, etc. Moreover, the inadequacy of qualified technicians and maintenance personnel, and the lack of funds to train staff, in addition to political interference in staff recruitment, have left their negative mark on the overall quality of manpower in the water sector.

It is evident from the preceding paragraphs that some of the ESCWA members countries have updated or are in the process of updating their water legislation or that they are formulating new legislation and attempting to centralize their water institutions. However, the content, coverage and jurisdiction of their water legislation may fall short of what is needed for the implementation of an integrated approach to the optimal development and management of water resources and the application of modern water codes. Enactment of a modern water code would contribute to the efficient regional development and management of water resources.

A well-formulated law facilitates efficient management of water demands, conserves its supply, and protects the environment. It is also important to have it socially acceptable and administratively enforceable; and appropriate for political, technical, socio-economic, institutional, or legal conditions prevailing in a given country.

Furthermore, water law should not be detailed, it should cover basic principles while implementation of specific provisions of the law is best handled by regulations; one or more ministries empowered to do so by the water law can issue these regulations.

It is essential to secure the protection of the country's water resources through authorization, permit, or concession granted by a National Water Authority (NWA). This established permit system under the new law should include provisions handling the quantity issue. The provision should have limitation on quantity of water to be used, and restriction regarding the purposes of the use, and the prevention of any harmful effects, which may be caused by the improper use of this right. Violations and offences could be committed against any of the provisions of the water law. Penalties and sanctions for such offences and violations should be included in the new law; and the institution (or entity) empowered to pass judgments and impose penalties or sanctions should be identified. A comprehensive water law should ensure that the following considerations are included:

### ***1. Provision of Mandate***

The proposed law should have clear mandate statement for the whole National Water Authority (NWA) including its institutions and their jurisdiction, responsibilities, functions and clarify the mechanisms for cooperation.

### ***2. Organizational Clarity***

Water administration is essential for effective implementation and enforcement of the provisions of the water law. To promote a most rational management of the country's water resources, it is necessary to organize these activities into groupings of well-defined areas and duties. The new law should indicate clearly the major functions, powers, and responsibilities of the various water sector institutions and the linkage among these functions.

### ***3. Adherence to Existing Rights and Legal Framework***

A water law cannot be coined without full consideration for the prevailing legal environment. Some of these legal issues, which are closely related to water, might need to be modified or amended to conform to the fundamental principles of the new law. The new law should include an article repealing the provisions of any other law to the extent they contradict its new provisions. Customary rights should be recognized, and the new law should establish their "legal nature", subject to the same restrictions as rights granted under the permit system. Recognition of these rights should be given only after appropriate review and inquiry.

### ***4. Quality Control and Protection of Environment***

Water misuse and uncontrolled practices of used water disposal cause pollution. The new law should have provisions subjecting agricultural and industrial uses of water to obligations and limitations, which control water quality and prevent pollution and harmful effects of water use and disposal. Provisions related to disposal or discharge of effluents should deal with pollution control, either on preventive bases or after its occurrence. These provisions might include treatment requirements, water quality standards, or other measures. Pollution caused by users without permits or concessions should also be controlled by legal measures.

### ***5. Financial Framework***

Although water is a natural resource, its development, conservation, and utilization entail costs. A comprehensive water law should address the financial aspects of these costs. Considerations in this respect might include:

- Government financial involvement;

- Government subsidy;
- Financial viability.

### 6. Integrity of the Institution

Even if the legal authority and power of the NWA to enforce a water use permits regime is legally clear, it may still lack the power of persuasion if it is not seen as a trustworthy entity. It is critical that the task of water management reflects honesty, integrity, and impartiality. The day-to-day activity of the NWA consists of issuing, or refusing, or modifying permits to use water. Any decision related to a permit involves some judgment, often a comparison with the proposed (or existing) use of water by several competing users. Choices imply judgments that certain uses are "better" than others, according to the criteria the NWA is bound to follow.

### 7. Appeals

Related to the integrity of the NWA is the need to have an honest appeal procedure, through which the loser can prove that the decision was not in line with the broader guidelines within which the NWA is expected to operate. Moreover, the appeal procedure should be simple and subject to time limits ("justice delayed means justice denied").

### 8. Sanctions and Penalties

The enforcement provisions of all legislation should include specific penalties for specified violations. Most likely the scope of those violations is fairly narrow, since by nature they will mostly be related to violations of permit conditions. For violations that cannot be identified with precision, the NWA or the courts can specify ranges or limitations of penalties to avoid arbitrary decisions. Sanctions could be specified in terms of fines, imprisonment, changes in permit conditions, or combinations of the above.

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## **H. ANNEX 1: WATER RESOURCES RELATED LEGISLATIONS**

### **BAHRAIN:**

- Amiri Decree No. 12/1980 governing the use of Underground Water (1 May 1980).

### **EGYPT:**

- Resolution No. 631 of the Cabinet considering the creation of a Station for Waste Water Depuration in Qabreet and Assalimiya in the province of Kofr Al-sheikh as a public benefit (31 April 2004);
- Resolution No. 536 of the Cabinet considering the Sewerage System Project in Al-Akhsas and Mansha'at Alqanater in the province of Algheeza as a public benefit (28 March 2004);
- Resolution of the Primer No. 466 considering the works for the establishment of the High Water Tanks for drink water in the zone of Abu Kabeer Centre in the Province of Asharqeya as a public benefit (17 March 2004);
- Resolution No. 610 of the Cabinet concerning the protection of Nile River and coasts (12 April 2003);
- Cabinet Resolution No. 292 considering the creation of a course for flood in the southern Saririyah to discharge in Nile River a public benefit (20 February 2003);
- Premier Resolution No. 203 concerning the Regulating Standards and the General Skeleton for works and licences in Nasser Lake, its costs and services (27 January 2002);
- Ministerial Resolution No. 487 of the Ministry of Irrigation and Water Resources concerning the management of Water Distribution and Transportation System (24 November 2001);
- Resolution No. 1068 charging the Ministry of Water Resources and Irrigation to carry out a field research about the orientation and behaviour of farmers in consumption of water (15 October 2001);
- Premier Resolution No. 1333 regulating the works and licence on the Nile Course (17 September 2001);
- Resolution No. 1333 creating a committee from the competent ministries for the protection of the Nile River (17 September 2001);
- Ministerial Resolution No. 138 creating committees into the Drainage General Department (9 April 2001);
- Ministerial Resolution No. 434 of the Ministry of Water Resources and Irrigation regulating the transportation and distribution of waters (20 November 2000);
- Law No. 4 of 1994 concerning the environment (3 February 1994);
- Law No. 48 of 1982 concerning pollution protection of the Nile River and the waters channels (21 June 1982).

### **IRAQ:**

- Law relative to maintenance of networks of irrigation and drainage (No. 12) (12 August 1995);
- Regulations creating the General Body for Operating and Maintaining Saddam River (No. 67) (7 August 1995);
- Law relative to the establishment of the Ministry of Irrigation (Law No. 8) (14 April 1993);
- Regulation No. 25 concerning the preservation of rivers and public waters from pollution (16 July 1967).

### **JORDAN:**

- Law No. 54/2002 Public Health Law (Temporary Law) (2002);
- Law on the Environment (No. 12) (2 September 1995);
- Jordan Valley Development Law No. 19 (1988);
- Law on the Water Authority (No. 18) (1988);
- Resolution of the Cabinet of 9 March 1980 creating the Department of the Environment (9 March 1980).

### **LEBANON:**

- Decree No. 12492 authorizing the occupation of a river public property for the creation of Winter Water Course in the zone of Aria-Ba'bda (26 May 2004);
- Decree No. 12479 of the Ministry of Energy and Waters considering as a the works for irrigation the regions Albeqa Algharbi, area located under Qaraon Dam, Mashghara, E'tneit, Alqaroun, Majdal Balheis, Sahmar, and Rashia as a public benefit (19 May 2004);
- Decree No. 11170 of the Ministry of Energy and Waters considering the works for the irrigation of Alharmel and Alqa, construction of a dam, creation of a lake, water pumps and water tanks in Ba'labak and Alharmel in the province of Albiqa as a public benefit (14 October 2003);

- Decree No. 11118 of the Ministry of Energy and Waters considering the works for the creation of a depurator for the wastewater in the zones of Kasrawan, Ghazeer, Adma and Addafnah located in the Province Jabal Lobnan as a public benefit (7 October 2003);
- Decree No. 11119 of the Ministry of Energy and Waters authorizing the use of water from Assa'look Spring for agricultural and industrial purposes (7 October 2003);
- Decree No. 11065 of the Ministry of Energy and Waters considering the works for the creation of a well in the zone of Ibreen as well as the creation of water pump station in the same zone as a public benefit (3 October 2003);
- Decree No. 11066 of the Ministry of Energy and Waters considering the works for the creation of a well in the zone of Terbel as well as the creation of water pump station in the same zone as a public benefit (3 October 2003);
- Decree No. 11070 of the Cabinet considering the works for Sewage System Project in Albeqa Algharbi, creation pumps for wastewater in (Housh Alharimih, Alkhayarah, Ghazah, Almansourah, Hammarah and Der Hanteesh) as well as the creation of a depurator for the wastewater in Saghbeen as a public benefit (3 October 2003);
- Decree No. 11020 of the Ministry of Energy and Waters considering the works for installation of pumping station PS-A2 for wastewaters in the zone of Ghazeer-District Kasrawan in the Province of Jabal Lobnan as a public benefit (24 September 2003);
- Decree No. 11022 of the Ministry of Energy and Waters considering the works for installation of pumping station PS-B4 for wastewaters in the zone of Wati Salam-District Kasrawan in the Province of Jabal Lobnan as a public benefit (24 September 2003);
- Decree No. 11023 of the Ministry of Energy and Waters considering the works for installation of pumping station PS-B3 for wastewaters in the zone of Al-Safra-District Kasrawan in the Province of Jabal Lobnan as a public benefit (24 September 2003);
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- Decree No. 11026 of the Ministry of Energy and Waters considering the works for installation of pumping station for wastewaters PS-B5 in the zone of Wati Salam -Province of Jabal Lobnan as a public benefit (24 September 2003);
- Decree No. 10847 of the Cabinet considering the works for the establishment of water tanks and drink water networks in the zone of Jezzeen in the South Lebanon as a public benefit (6 September 2003);
- Decree No. 10848 of the Cabinet considering the works for the establishment of conduit pipes for pumping waters from Ajdibreen to bednile in the zone of Alkoura-province of Northern Lebanon as a public benefit (6 September 2003);
- Decree No. 10849 of the Cabinet considering the works for the establishment of water tanks, roads and conduit pipes for pumping waters in the zones of Qetteen Azar and Ayntoura-province of Jabal Lobnan as public benefit (6 September 2003);
- Decree No. 10850 of the Cabinet considering the works for the establishment of wells and roads in the zones of Qetteen Azar and Ayntoura Almatn-province of Jabal Lobnan as public benefit (6 September 2003);
- Decree No. 10668 of the Ministry of Energy and Waters considering the works for supplying water to the villages of the District of Ba'labak-Province of Albeqa as public facilities (14 August 2003);
- Decree No. 10005 considering the works of the creation of Winter Water Course Project in the zone of Ba'bda a public benefit (15 April 2003);
- Decree No. 9969 of the Ministry of Energy and Water authorizing the pump of 1800 cubic metres daily from the wells located in the Land No. 1107 for industrial uses (12 April 2003);
- Decree No 8838 of the Ministry of Energy and Waters authorizing the occupation of river public property for the construction of an irrigation canal in the zone of Halba (9 October 2002);
- Decree No. 6672 of the Ministry of Energy and Water considering the works for the protection of Annasara-Aidmoun Source from pollution as a public benefits (6 November 2001);
- Resolution No. 52/1 of the Minister of Environment concerning standards and metrology for water, soil and air pollution control (29 July 1996);
- Resolution No. 2528/S of the Minister of Water Resources and Electricity concerning the protection of groundwater in the zone of Jabal Alkanisa (28 May 1996).

**OMAN:**

- Regulations for the registration of existing wells and new well permits (Ministerial Decision No. 2) (31 March 1990);
- Royal Decree No. 100/89 for the Establishment of the Ministry of Water Resources and Designation of its Duties and Responsibilities (10 October 1989);
- Regulations for Wastewater Re-use and Discharge (Ministerial Decision 5/86) (17 May 1986);
- Water Resources Development Law (2 November 1977).

**SAUDI ARABIA:**

- Executive Order No. 14-62: By-laws of the Water Resources Preservation Regulations (7 February 1989);
- Charter No. 1401/1 of 1402 Hegira (1982) - Administration of Observation and Environmental Protection concerning the environmental protection standards (3 1982);
- Regulations for the Preservation of Water Resources, 1980 (Royal Decree No. M 34 of 1980) (7 July 1980).

**SYRIA:**

- Resolution No. 1216 of the Ministry of Irrigation protecting sources of Jorat Alhisan against pollution (23 May 2001);
- Resolution No. 22 of the High Agricultural Council carrying out the Ministry of Irrigation to authorize the exploited and unauthorized wells (30 April 2001);
- Resolution No. 13 of the High Agricultural Council creating a committee for studying the unauthorized excavated wells for potable waters (25 February 2001);
- Resolution No. 31 of the High Agricultural Council issuing irrigation licence (21 October 2000);
- Resolution No. 2165 of the Ministry of Irrigation defining the maximum quantity of authorized waters and the areas, which should be irrigated by this quantity (16 August 2000);
- Resolution No. 2166 obligating the owners of the authorised wells to install counters on the pumps(16 August 2000);
- Resolution No. 11 of the High Agricultural Council concerning the irrigation method (5 July 2000);
- Resolution No. 3796 defining the boundary of Basel Dam Lake with the objective to prevent pollution(3 December 1998);
- Resolution No. 187 adopting the Standardization No. 1712 concerning the rubber hydrants used for discharge and absorption of water as a Syrian Standardization and Metrology (3 September 1998);
- Resolution No. 1988 creating 3 offices for irrigation into the Ministry of Irrigation (9 July 1998);
- Resolution No. 3412 of the Minister of Housing and Public Utilities fixing the tariff of cubic meter of drinking water (30 November 1996);
- Law on Environmental Protection and Development of March 1994 (March 1994).

**YEMEN:**

- Resolution No. 58 of the Primer establishing a branch of the General Authority for Water Resources in the basin of Sana'a (9 February 2003);
- Water Law No. 33 (31 August 2002);
- Resolution No. 60 of the President of the Republic establishing the General Authority for Rural Water Projects (17 March 2002);
- Resolution No. 21 establishing the General Department for Water and Sewage System (7 February 1997).