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DEVELOPING WATER ACCOUNTS FOR THE ARAB-ESCWA REGION

Paper prepared by Wafa Aboul Hosn, UN ESCWA

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Developing Water Accounts for the Arab-ESCWA Region

United Nations Economic and Social Commission for Western Asia
Wafa Aboul Hosn¹
Team Leader, Sectoral Statistics, Statistics Division

Abstract

Environmental stresses in the ESCWA region require from countries to establish environment statistics programs as part of their statistical system in order to compile and disseminate timely, reliable, relevant, and exchangeable information on natural resources and the environment including detailed data, indicators and accounts. The system of *Integrated Environmental and Economic Accounting* (SEEA 2003), which describes the interaction between the economy and the environment and covers the whole spectrum of natural resources and the environment is a framework that can be implemented. The paper focuses on water accounts (SEEAW) and provides a brief theoretical background of each with a specific example from countries that have implemented these accounting systems where possible. The paper also proposes a work plan for countries and recommendations to achieve a reliable, consistent and easily accessible integrated environment-economic account system.

1. Introduction

The ESCWA region represents 14 countries, 12 Arab countries of West Asia, as well as Egypt and recently Sudan. Those countries depend strongly on their natural and non-renewable resources to support their economic growth and thus face numerous constraints in their efforts to achieve sustainable development including fast growing populations, scarce water resources, land degradation, exploitation of oil and gas resources.

Main characteristics regarding freshwater resources in the region are scarcity and uneven availability, increasing gap between water supply and demand, deteriorating water quality and dominating water use in agriculture (ESCWA, 2007a). Furthermore, existing wastewater treatment facilities in the region face difficulties in handling increasing volumes of wastewater generated by increased water consumption and urbanization where the regional wastewater treatment capacity was sufficient to handle only 40% of the domestic wastewater generated in 2000 (ESCWA, 2007a).

Therefore, it is very important to integrate water issues into development and to account for the manifold interactions between all sectors of the economy and water needs to ensure sustainable development in the region.

2. Frameworks, classifications and methods recommended

The United Nations Statistics Division (UNSD) developed the Integrated Environmental and Economic Accounting (SEEA) as a framework which describes the interaction between the economy and the environment and covers the whole spectrum of natural resources and the environment (United Nations et al., 2003).

¹ UNESCWA- P.O.Box: 11-8575, Riad Solh Square, Beirut, Lebanon, Tel: (961 1) 978-519, Fax: (961 1) 981 510 Email: aboulhosn@un.org , Web: escwa.un.org

In SEAA, natural resources are classified as mineral and energy resources, soil resources, water resources and biological resources, in addition to land and ecosystems. The types of accounts that can be compiled are: the physical and monetary accounts, the hybrid accounts, the assets accounts, the emissions accounts and the quality accounts.

Water, energy and soil resources sub-accounts are of specific importance to sustainable development in the energy-rich yet water-scarce ESCWA region (ESCWA 2009).

In terms of types of accounts, priorities identified by countries pertained to physical flow accounts, assets accounts (physical stocks) and environmental protection expenditures (Table 1). , Given the, Monetary flows can be probably developed in countries with advanced system for National Accounts such as Oman. Emissions accounts are difficult to compile given the insufficient environmental monitoring systems and lack of environmental reporting in most ESCWA countries.

Table 1–Natural resources by type of accounts of priority in the ESCWA region

	Water	Soil	Mineral and Energy	Ecosystems
Flow and pollution accounts Physical Flows (Hybrid accounts) Monetary flows Pollution (waste, emissions)	X	X	x	
Asset accounts Physical Stocks Monetary Stocks	X		x	
Economic information on the Environment Expenditures Revenues/Taxes Etc	X		x	

Water Accounts

Water accounts are of major importance for the ESCWA region and this was further supported by a recommendation from the ESCWA Statistical Committee (ESCWA, 2004).

The *System of Environmental-Economic Accounting for Water* (SEEA) provides a conceptual framework for organizing the hydrological and economic information in a coherent and consistent manner (UNSD, 2007). The SEEA framework is an elaboration of the SEEA-2003, and both SEEA and SEEA use 1993 SNA as basic framework. The SEEA conceptual framework is complemented with a set of standard tables focusing on the following hydrological and economic information: (UNSD, 2007).

- (a) Stocks and flows of water resources within the environment;
- (b) Pressures of the economy on the environment in terms of water abstraction and emissions added to wastewater and released to the environment or removed from wastewater;
- (c) The supply of water and the use of water as input in the production process and by households;
- (d) The reuse of water within the economy;
- (e) The costs of collection, purification, distribution and treatment of water, as well as the service charges paid by the users;

- (f) The financing of these costs;
- (g) The payments of permits for access to abstract water or to use it as sink for discharge of wastewater;
- (h) The hydraulic stock in place, as well as investments in hydraulic infrastructure during the accounting period.
- (i) Quality accounts, which describe water resources in terms of their quality

The SEEAW is also a useful tool in support of decision makers on Integrated Water Resource Management (IWRM) by providing the information to on providing a standardized information system, allocating water resources efficiently, improving water efficiency and on understanding the impacts of water management on users (UNSD, 2007):

Countries were encouraged to compile water accounts using harmonized concepts, definitions and classifications (UNSD, 2007). Worldwide, 25 countries have insofar implemented parts of the water accounts. Seventeen of these countries are developed ones, while the remaining eight are developing (Botswana, Chile, Mexico, Namibia, Philippines, South Africa, Turkey and the Republic of Moldova) (Alfieri, 2006). Currently, 60 nations have requested the assistance of the UNSD in implementing their SEEAW, including all ESCWA countries (Vardon, 2008).

3. Organization, storage and management of data

To prepare pilot water accounts within the SEEAW framework in the ESCWA region, data organization, storage and dissemination require the following:

- i. Assessment of data availability for compiling water accounts (A list was prepared by UNSD and ESCWA in Arabic and English) (Annex1)
- ii. Development central comprehensive water database in the different units within concerned departments on water
- iii. Development of algorithms that relate questionnaires used in surveys and administrative records to central water database.
- iv. Following the standard definitions and methodologies , i.e., The International Recommendations of Water Statistics (IRWRS) that is being finalized by UNSD.
- v. Extracting the data and indicators related to SEEAW and share with NSO (same structure for the database can be used)
- vi. Preparing the standard tables and the adaptations introduced for ESCWA countries (Annex 2)
- vii. The NSO coordinates with the National Accounts Units for consistency and evaluation
- viii. NSOs provide the metadata
- ix. Repots should be produced(Joint among departments) and disseminated from the database.
- x. Evaluation and monitoring for improving data quality.

4. Coordination with various organizations working on water and environment data: UNSD, MEDSTAT, UNEP, ECLAC.

ESCWA, as regional commission, coordinates with UNSD sharing questionnaires on environment and water statistics and questionnaires on global assessments on water and environment regarding the regional component.

Coordination among organizations and with member countries on the use (IRWS) to compile water statistics and accounts in SEEAW ensures that water data is harmonized and can be integrated with other data sets for further analysis.

ESCWA had provided methodological document in Arabic such as the translation of the manual on the System of Environmental-Economic Accounting for Water (SEEAW) and the standard tables, in addition to the publication entitled “General and Specific Surveys to Compile data on Water Accounts in the Arab Countries (ESCWA 2008a) in order to assist member countries to better understand and apply the compilations process of water accounts.

ESCWA also developed a database, a docubase, and an expertbase for ESCWA within an integrated website “ESIAP” <http://esiap.escwa.un.org/index.php> to promote knowledge sharing on environmental statistics, indicator and accounts in the Arab region and among interested groups and experts.

In the same line, ESCWA collaborated with UNSD, UNEP and MEDSTAT and ECLAC on organizing joint training workshops (Amman, Jordan, 10-13 March 2008 and Beirut, Lebanon, 25-28 August 2008), and provided technical assistance (Jordan, Oman, Lebanon, Syria), and study visits to strengthen the capacity of ESCWA member countries with respect to water accounting. The workshops provided training on the compilation and practical and operational use of the SEEAW, by drawing on experiences from around the world and by bringing together experts (water statisticians, water managers and/or accountants) from National Statistical Offices, Ministries of Environment and Water Authorities of the member countries (ESCWA, 2008b,c). Joint technical missions conducted to national statistical offices in member countries emphasised on presenting a work plan to assess existing information, identify gaps, bridge with corresponding data producers and users, set a national coordinating mechanism and present the advantages of water accounts and SEEAW to policy makers.

An important outcome of the trainings also relates to the adaptation of the SEEAW standard tables in order to take into consideration the regional peculiarities of member states, i.e., to classify underground water resources into renewable and non-renewable; to divide the water supply and use into cooling water and mining water; to divide the industry’s aggregates of the standard tables to show mining, oil extraction manufacturing, oil refining, hotels and cafes, constructions, to divide the water received from other economic units into reuse waste water to sewerage, and distributed water, and to include desalinated water.

5. Regional Agenda

Below, a regional agenda is suggested for the development of for Environmental Account Systems and in particular water accounting. It involves 5 phases, beginning in January 2009 and the finishing in December 2009. The work plan can be repeated from phase I to phase V on for the development of a second sub account such as pilot energy accounts.

The phases change according to the advancement of the country in environment statistics. Three groupings of ESCWA countries are distinguished:

- Group 1: Bahrain, Egypt, Jordan, Lebanon, Oman, Palestine. More advanced in Environment Statistics, Possibility of producing water accounts in one year according to the work plan below.
- Group 2: Saudi Arabia, United Arab Emirates, Kuwait, Qatar. Need to establish environment statistics. Possibility of compiling water accounts in two years. Financial and human resources available.
- Group 3: Iraq, Sudan, Syria, Yemen. Need to establish environment statistics. Financial and human resources not available. Possibility of compiling water accounts in three years

Phase I: Setting the ground (3 months)

Activities	Stakeholders	Month
1. Awareness raising on importance of environmental accounting at the Political and at the Public levels	National Authorities, NGOs UN organizations, Public	1 continuous
2. Legal Framework		
Update legal framework on environment statistics and accounts acts	National Governments	1-3
Reinforce the legislation (continuous)	National Governments,Public	continuous

Phase II: Institutional Framework , Coordination (4 months)

Activities	Stakeholders	Month
1. Establishment of High level steering committee -Clarification of roles and responsibilities for data production and compilation of accounts -Allocation or resources. Need one person, ideally full time, to be responsible for the compilation of the accounts	National Authorities, Ministers and DGs	3
2. Establishment of working group for environment accounts and nomination of focal points within government agencies Define the objectives Draft functioning rules and responsibilities Examine data exchange procedures Agree on a timetable for regular transmissions	NSO and concerned ministries, private sector and NGOs Technical Staff in concerned departments	4
3. Data Exchange , Detailed data quality assessment of existing data sources and identification of data gaps	Technical staff concerned department	5-regular
4. Information System for environment statistics and accounts	IT experts in concerned departments	6-continuous

Phase III. Technical Support (2 months-regular)

Activities	Stakeholders	Month
1. Identification of training needs	NSO with concerned departments and organizations	7-8
2. Training on the background documents on environmental accounting		7-8
3. Environment surveys		
Add environmental part of the industry questionnaire Add environmental survey of industries and services Add environmental survey of households	NSO with concerned departments	Depending on countries Periodic

Phase IV. Production of Pilot Sub-Accounts (3 months)

Activities	Stakeholders	Month
Sub-account 1: Water accounts		
1. Build Physical supply and use tables Identify available data sources and accessibility Find estimating methods for missing data Populate a first pilot table (SEEAW standard table I,II)	NSO with Water Authorities and concerned departments	9-11
2. Build Hybrid accounts Identify available data sources and accessibility Enterprises reports	NSO with Central Bank and data producers on National Accounts	9-11
3. Build Emissions tables Identify available data sources and accessibility	NSO with Water Authorities and concerned departments	9-11
4. Build Asset accounts Identify available data sources and accessibility		
5. Expenditure accounts	NSO with concerned departments	9-11

Phase V. Dissemination (one month)

Activities	Stakeholders	Month
Publication of pilot study and planning for on-going production of accounts Prepare a joint publication Revise tables and analysis for publication Prepare publication for release Publish on the website Prepare promotional material and brief senior officials on water accounts Prepare plan for on-going production of accounts, including a cost-effective way to address data deficiencies and gaps	NSO with concerned departments	12
After publication Monitor use of accounts Review use and implement plan for on-going production of water accounts	NSO with concerned departments, continuous	Feed-back Review Restart the cycle

6. Recommendations for Improvements in Water Statistics

The main recommendations for improvements in water statistics target institutional and legal provisions, information accessibility, cooperation between the relevant environment-economic data agencies, human resources and training requirements, and information dissemination among others.

Institutionalization and legal provisions on official water statistics and accounts:

Although Freshwater is available in ECLAC member countries, water accounts were set as priority for the purposes of sustainable and integrated water management. In the ESCWA region, water accounts should be

given much higher priorities given the scarcity of this resource in the region. The legislation on water/environmental accounts is more advanced in ECLAC than in ESCWA. Several Countries such as Columbia, Mexico, Panama and Dominican Republic have legislation dating back to 10 years on producing water and environmental accounts

The National Statistical Offices are the authorities assigned to collect, compile and disseminate official statistics including environment statistics in most of the ESCWA countries based on a general statistical law, including environment statistics explicitly (Jordan and Palestine) or implicitly. Countries should update their legal provisions on statistics and reinforce environment and water statistics and accounts acts. Countries need to determine appropriate organizational structure with clear delineation of responsibilities and cooperation links between governmental bodies concerned with the compilation of environmental and water data.

Coordination with other important institutions producing water data:

The Ministry of Environment or Environment Protection Agency, the Ministry of Water, the Ministry of Agriculture/Irrigation, the Ministry of Municipalities, and water supply and use industries, all play an important role in collecting data on water. In some countries cooperation links between those governmental bodies and the National Statistical Office have been established to develop water statistics at the national level (Jordan, Palestine, Lebanon, Syria and Bahrain). In many countries, however, internal regulations do not allow all relevant data to be made available to the Statistical Office. In some cases, duplication in data collection usually leads to incompatibility among data sets.

The cooperation reduces time and cost of duplication in data production and allows agreement on applied methods, standards, classifications, concepts, and definitions to ensure data comparability. The National Statistical Office is ideal to step up to this role and should therefore strive to play the leading role in the cooperation system. The creation of a statistical coordination committee is also recommended to support mutual coordination and agreement in statistical programming, organization of data collection, and data dissemination by all water bodies involved in the process.

Strengthening human, technical and financial resources for water statistics:

In six countries (Egypt, Jordan, Palestine, Syria, Bahrain and Yemen), a separate unit dealing with water statistics has been created within the National Statistical Office. However, almost all of them consider the number of employees dedicated to water statistics as insufficient. In addition, their work situation is affected by frequent transfers of personnel and limited capacity of equipment and logistic means to carry out data collection. National Statistical Offices would need professional staff and appropriate training covering general statistical issues like sampling, non-response evaluation, as well as subject matter issues, to analyse data and derive indicators on water.

Installing monitoring stations and conducting environment and water surveys:

Primary water data can be obtained from the field. It is therefore very important to install sufficient monitoring stations and other technical infrastructure and collect regular data at a representative geographic scale. Six ESCWA countries reported that they carry out regular environmental/water data collection through special statistical surveys (Jordan, Palestine, Saudi-Arabia, Iraq (recently), Yemen and Kuwait). An important part of data is collected by the National Statistical Offices from secondary data sources. Secondary data sources are the ministry of environment, the ministry of agriculture, the ministry of water and special environmental protection agencies. A few countries add special questions on environmental issues to questionnaires of existing surveys (for example to the Economic Enterprise Survey or the Household Budget Survey). Egypt, Syria, Lebanon, Jordan and Palestine participated in the Euro-Mediterranean statistical cooperation project MEDSTAT-Environment phase one and are at present involved in the MEDSTAT-Environment project.

Adoption of new classifications, methodologies, standards and coding systems:

Generally, statistical methodologies such as sampling design, the specification of the survey population, methods of data collection, calculation, and statistical modelling have not yet been applied to their full extent in ESCWA countries. Some of them (Jordan, Palestine, Saudi-Arabia, Syria and Lebanon) apply international classifications in specific fields. However, the most relevant classifications (e.g. International Standard of Industrial Classification – ISIC- classification for economic activities ver.4, or FAO land use classification) should be applied region wide.

Filling data gaps:

Data gaps in all ESCWA countries often depend on the national priorities, which in turn depend on their respective needs, past experience and activities, as well as the available institutional and financial resources. Substantial data gaps on water concern water quality statistics such as fresh water quality, drinking water quality, river water quality, lake and marine water quality, sewage and treated water quality and to a lesser extent water quantity statistics, such as water supply, water demand, and water distribution.

Dissemination:

With the exception of Jordan and Palestine which produce regular specific reports on environment /water statistics, the statistical office in Iraq published in 2006 “An Environmental Survey of Iraq for 2005” and the Central administration of Statistics in Lebanon published “A National Compendium of Environment Statistics in Lebanon”. Usually countries include tables in the annual statistical report or in specific reports such as the health statistics report.

These procedures and output of basic water statistics should be freely made available (along the Aarhus Convention for the Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters) in a well-organised and computerized system which will allow efficient data processing and efficient data exchange amongst the institutions involved in environment statistics production. However, high sensitivity of water data in some countries results in inaccessibility of available information;

Tailor the assistance of ESCWA and other UN and regional organizations in the field:

ESCWA assists countries in the region by raising awareness on the importance of environmental and water accounts and on related data collections through training, coordination between countries, collaboration with UNSD, UNEP, MEDSTAT.

Technical assistance should continue to assist in the initial phase of the work and to provide on-the-job-training on the production of statistical tables and on methods of estimating and filling data gaps.

Specifically, ESCWA could support the creation of a regional environmental statistical system including the development or adaptation of appropriate manuals, classifications, and guidelines for standardization, methodologies, as well as case studies from the ESCWA region and support countries in responding to the international data requests. Disseminated outputs, reports on water accounts are effective for decision making in national policy and at international level.

The UNSD could support by leading international harmonisation of definitions, concepts and methods in water statistics and by providing methodological documents in Arabic.

Finally, the agenda proposed and the recommendations set forth along with integrated strategic planning, resources allocation, sound management and monitoring and evaluation, ESCWA member countries can produce pilot water accounts that can be used by policy-makers for sound decisions on environment protection and economic development.

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Annex 1. Data List

The following list of data items drawn from SEEAW prepared by UNSD and ESCWA to show the types of national data that may be available and that are needed for compiling water accounts. Stakeholders should agree on the availability of data and address data gaps.

For each data variable, stakeholders fill the information: Department or Ministry responsible, availability, coverage, sharing, coordination, plans for collection, main constraints.

Hydrological/meteorological:	الهيدرولوجية / الارصاد الجوية:
Precipitation (e.g. rainfall, snow)	الأمطار الهاطلة (الأمطار، الثلوج)
Evapo-transpiration (evaporation and transpiration)	التبخّر
Run-off	الجريان
Outflows to sea	التدفق نحو البحر
Outflows to other territories	التدفق الخارجي
Volume of water stocks in:	كمية مخزون المياه في :
Surface water	المياه السطحية
Artificial Reservoirs	خزانات المياه الاصطناعية
Rivers	الأنهار
Lakes	البحيرات
Groundwater	المياه الجوفية
Soil water	مياه التربة
Volume of water abstracted from:	كمية المياه المستخرجة من :
Surface water	المياه السطحية
Artificial Reservoirs	خزانات المياه الاصطناعية
Rivers	الأنهار
Lakes	البحيرات
Groundwater	المياه الجوفية
Soil water	مياه التربة
Other sources	مصادر أخرى
Collection of precipitation	مياه الامطار المجمعة
Abstraction from the sea	استخراج المياه من البحر
Volume of water supplied by:	كمية المياه المتوفرة من:
The water supply industry (ISIC 36)	امدادات المياه
Other industries	الصناعات الأخرى
Volume of water losses in distribution by water supplier from:	حجم الخسائر في توزيع المياه عن طريق المورد :
Leakage (e.g. from leaky or burst pipes)	التسرب
Evaporation (e.g. from open channels)	التبخّر (من قناة مفتوحة)
Theft	السرقية
Volume of water used by:	كمية المياه المستخدمة من :
Agriculture (1)	الزراعة (1)
Mining and Quarrying (5-9)	التعدين والكسارات (5-9)
Manufacturing (10-33)	الصناعة التحويلية (10-33)
Electricity Industry (35)	الكهرباء (35)
Other industries	الصناعات الأخرى
Households	المساكن
Irrigation:	الري
Area irrigated by crop type	المنطقة المروية حسب نوع المحصول
Volume of water applied to irrigated area	كمية المياه المطبقة على المساحة المروية
Irrigation techniques or management practices	تقنيات الري أو الممارسات الإدارية
Wastewater:	المياه العادمة
Volume collected by the sewerage industry	كمية المياه المجمعة في محطات التكرير
Volume treated by the sewerage industry	كمية المياه المكررة في محطات التكرير

Volume of wastewater reused	كمية المياه العادمة المعاد استخدامها
Volume discharged to inland waters	كمية المياه المصروفة الى المياه الداخلية
Volume discharged to sea	كمية المياه المصروفة الى البحر
Emissions to water:	الانبعاثات في المياه
Total nitrogen (N)	مجموع النيتروجين
Total phosphorous (P)	مجموع الفسفور
Total Suspended Solids (TSS)	مجموع المادة الصلبة العالقة
Total Dissolved Solids (TDS)	مجموع المادة الصلبة الدائبة
Biochemical Oxygen Demand (BOD)	الطلب البيولوجي الكيميائي على الأكسجين
Chemical Oxygen Demand (COD)	الطلب الكيميائي على الأكسجين
Arsenic (Ar)	الزرنيخ
Heavy metals (e.g. Cd, Hg, Cu, Cr, N, Pb, etc)	المعادن الثقيلة
Water supply industry:	صناعة امداد المياه
Sales of water	مبيعات المياه
Government subsidies	الدعم الحكومي
for operating costs	تكاليف التشغيل
for specific capital items	لرأس المال المحدد
Other revenue	ايرادات اخرى
Compensation of employees (e.g. wages)	تعويضات الموظفين (الاجور)
Other production costs (e.g. insurance, rent, fuel, electricity, chemicals, etc.)	تكاليف الانتاج الاخرى (مثل التأمين والايجار والوقود ، والكهرباء ، والمواد الكيميائية، الخ.)
Taxes	الضرائب
Capital expenditure	النفقات الراسمالية
Sewerage industry:	محطات التكرير:
Sales of sewerage services	مبيعات خدمات الصرف الصحي
Government subsidies	الدعم الحكومي
for operating costs	تكاليف التشغيل
for specific capital items	لرأس المال المحدد
Other revenue	ايرادات اخرى
Compensation of employees in (e.g. wages)	تعويضات الموظفين (الاجور)
Other production costs (e.g. insurance, rent, fuel, electricity, chemicals, etc.)	تكاليف الانتاج الاخرى (مثل التأمين والايجار والوقود ، والكهرباء ، والمواد الكيميائية، الخ.)
Taxes	الضرائب
Capital expenditure	النفقات الراسمالية
Value of the water supply infrastructure (i.e. fixed capital):	قيمة البنية الأساسية لمدادات المياه (أي رأس المال الثابت) :
Water supply industry (e.g. dams, pipes, etc.)	امدادات المياه (السدود ، والانابيب ، الخ.)
Agriculture (e.g. wells, sprinklers and pump for irrigation)	الزراعة (مثل الآبار ، والرشاشات ومضخات للري)
Other industries – mining industry, manufacturing industry, etc	صناعات أخرى- صناعة التعدين ، والصناعة التحويلية ، الخ
Households (including rainwater tanks and wells)	المساكن (بما في ذلك خزانات مياه الامطار والآبار)
Value of the sewerage infrastructure (i.e. fixed capital):	قيمة الصرف الصحي (أي رأس المال الثابت) :
Sewerage industry (e.g. sewers, wastewater treatment plants, etc.)	مجاري الصرف الصحي (مثل المجاري ومحطات معالجة مياه الصرف ، الخ.)
Agriculture (e.g. drainage channels)	الزراعة (مثل قنوات الصرف)
Other industries (e.g. mining, manufacturing, etc)	صناعات أخرى (صناعة التعدين ، والصناعة التحويلية)
Households (including septic tanks)	المساكن (بما في ذلك خزانات الصرف الصحي)
Tariffs and charges	التعريف والرسوم

Water tariffs and charges (price to users, industries and households)	تعرفة المياه والرسوم (السعر للمستخدمين ، والمصانع والمساكن)
Sewerage service tariffs and charges (price to users, industries and households)	تعرفة مجاري الصرف الصحي والرسوم (السعر للمستخدمين ، والمصانع والمساكن)
Cost of water used by:	تكلفة المياه المستخدمة من:
Agriculture	الزراعة
Mining industry	الصناعة التعدينية
Manufacturing industry	الصناعة التحويلية
Electricity industry	الكهرباء
Other industries	صناعات أخرى
Households	المساكن
Cost of sewerage services by:	تكلفة خدمات الصرف الصحي عن طريق :
Agriculture	الزراعة
Mining industry	الصناعة التعدينية
Manufacturing industry	الصناعة التحويلية
Electricity industry	الكهرباء
Other industries	صناعات أخرى
Households	المساكن

Annex 2. ESCWA Adapted SEEAW Standard

جداول الحسابات المائية الموحدة

SEEAW Standard Table I: Physical use table (ESCWA Adaption)

.1 . SEAAW

Physical units

	Total	Rest of the World	Households	Industries (by ISIC categories) ()									
				Total	99-58 53-45 39 38	56 55	37	36	35	43-41 33-10	9-5		3-1
From the environment													1. مجموع الاستخراج (=أ.1+ب.1+ج.1 ح) (ح) .1 .1 : .1 .1 .1 .2 .1 .3 .1 .1 .1 .1 .1
Within the economy													2. استعمال المياه المتلقاة من الوحدات الاقتصادية الأخرى a.2 b.2 c.2
3. Total use of water (=1+2)													3. مجموع استعمال المياه (=2+1)

Note: grey cells indicate zero entries by definition.

SEAW Standard Table II: Physical supply table

.2 . SEAW

Physical units

	Total	Rest of the World	Households	Industries (by ISIC categories) ()							
				Total	99-58 53-45 39 38	56 55	37	36	35	43-41 33-10	
Within the economy	4. Supply of water to other economic units										.4
	of which:										:
	4.a Reused water sewerage										.4
	4.c Distributed										.4
To the environment	5. Total returns (= 5.a+5.b)										(.5+ .5=) .5
	5.a To water resources										.5
	5.a.1 Surface water										.1 .5
	5.a.2 Groundwater										.2 .5
	Renewable										
	Non-renewable										
	Saline										
5.a.3 Soil water										.3 .5	
5.b To other sources (e.g. sea water)										() .5	
6. Total supply of water (= 4+5)										(5+4=) .6	
7. Consumption (=5-6)										(6-3=) .7	

Note: grey cells indicate zero entries by definition.