Economic and Social Commission for West Asia

الأمم المتحدة - اللجنة الاقتصادية والاجتماعية لغربي آسيا

الإسكوا

ESCWA Work and SEEA Implementation in ESCWA Countries

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Technical Workshop on the Preparation of Water Accounts in Latin America
Santiago, Chile, 1–4 June 2009

Strengthening National Capacities in Environment Statistics, Indicators and Accounts (ESIA) in the ESCWA and ECLAC Regions 2007-2009

OBJECTIVES

- To strengthen National Capacities of ESCWA countries in the collection, coverage, dissemination and exchange of reliable, timely and comparable environment statistics, indicators, and accounts (ES)

- To take advantage of an integrated environmental statistical system approach in support of progress toward achieving national and internationally agreed development goals.

Activities of the Project

- Regional training sessions
- Subregional workshops
- Technical assistance missions
- Expert group meetings
- Methodological documents on integrated environmental statistical systems
- Database, docubase, and expertbase on environment information
- Study tours

Environment Statistics, Indicators and Accounts Project (ESIAP)

for ESCWA-Arab Region and ECLAC

- Home
- Background
- About ESIAP
- Expected Results
- ESCWA Activities
- ECLAC Activities
- ESIA Docubase
- ESIA Forum
- ESIS Database
- ESIA Network
- Questionnaires

Home

"Strengthening National Capacities in Environment Statistics, Indicators and Accounts Project" (ESIAP) *in support of progress toward achieving* the internationally agreed development goals in the ESCWA and ECLAC Regions" is a development account project that aims to strengthen National Capacities of ESCWA and ECLAC countries in the collection, coverage, dissemination and exchange of reliable, timely and comparable environment statistics, indicators, and accounts taking advantage of an integrated environmental statistical system approach (IESS) to provide policy makers with tools to monitor and ensure environmental sustainability in line with national and internationally agreed development goals (IADGs) such as WSSD and MDGs.

The 2-years project includes missions to countries, expert group meetings, regional and sub-regional workshops, fellowships, development of database and docubase, and the development of a network for experts and institutions in the field to learn from their peers and exchange success stories and lessons learned.

Info Corner

Brochure

Compendium

News

- **Fellowship**
  - Strengthening National Capacities in Environment Statistics, Indicators and Accounts in support of progress toward achieving the internationally agreed development goals in the ESCWA and ECLAC Regions
- **Training Workshop**
  - Training Session on the System of Environmental - Economic Accounting for Water (SEEAW) for the Arab Gulf Countries
  - MEDSTAT II Environment Sector / UNESCWA / UNSD Joint Sub-regional Training Session on the System of Environmental-Economic Accounting for Water (SEEAW)

Links

Beijer Institute of Ecological Economics

European Association of Environmental and Resource Economists (EAERE)

South Asian Network for Development and Environmental Economics

- **International and Regional Resources**
- **National Statistical Offices in Arab Western Asia**

ESCWA | ECLAC | ESCAP | ECA | ECE | UNSD | UNEP | Medstat | FAO | WB | ACSAD

The Network

Home | THE DOCUBASE | THE NETWORK | THE FORUMS | ESIAP Homepage

The Network

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The network's main menu

The ESIAP network and forum was established in July 2008 as part of the activiti
account project "**Strengthening National Capacities in Environment Statistics, Indi
support of progress toward achieving the internationally agreed development g
ECLAC Regions**" for 2008-2009 .

The development the network and forum on environment statistics, indicators and a
networking between of experts, practitioners and institutions, in the Arab regi
through interactive sharing and knowledge management. The network and foru
intra-regional cooperation and strengthen links between producers and users.

See & modify your **profile**

Search the **Network's members** database

UN-ESCWA

ESCWA-

The Forum

Home | THE DOCUBASE | THE NETWORK | THE FORUMS | ESIAP Homepage

The Forums

You are logged as admin

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The Forum's main menu

The ESIAP Forum provides a meeting place for where professional discussion on environment statistics, indicators and accounts is maintained. The forum facilitates contacts and exchange of experience and resources among its members.

Pick a **thread** and **post** a message

Participate in the ongoing discussions

Propose a thread of discussion

Your proposition will be submitted for validation by the forum Admin

UN-ESCWA

ABOUT ESCWA COUNTRIES

Subregion1
Egypt, Iraq, Lebanon
Syria, Sudan

Subregion2
Arabian Peninsula
Jordan, Palestine
(about 200 m^3/yr/capita)

Surface Water
Shared Water
Resources

Hard to Measure
Water Assets
Water Use
Water Supply

Economics of
Water: Cost
Subsidies, Taxes

Social Problems

Limited Surface Water
Ground Water
(Fresh vs. Brackish)
(Fossil vs. Renewable)
(Desalination)

Water Assets
Estimation groundwater,
and recharge
Water Use
Water Supply

Economics of Water:
Cost, Subsidies, Taxes
Market values

Pilot Water
Accounts
Egypt, Lebanon
1st Step

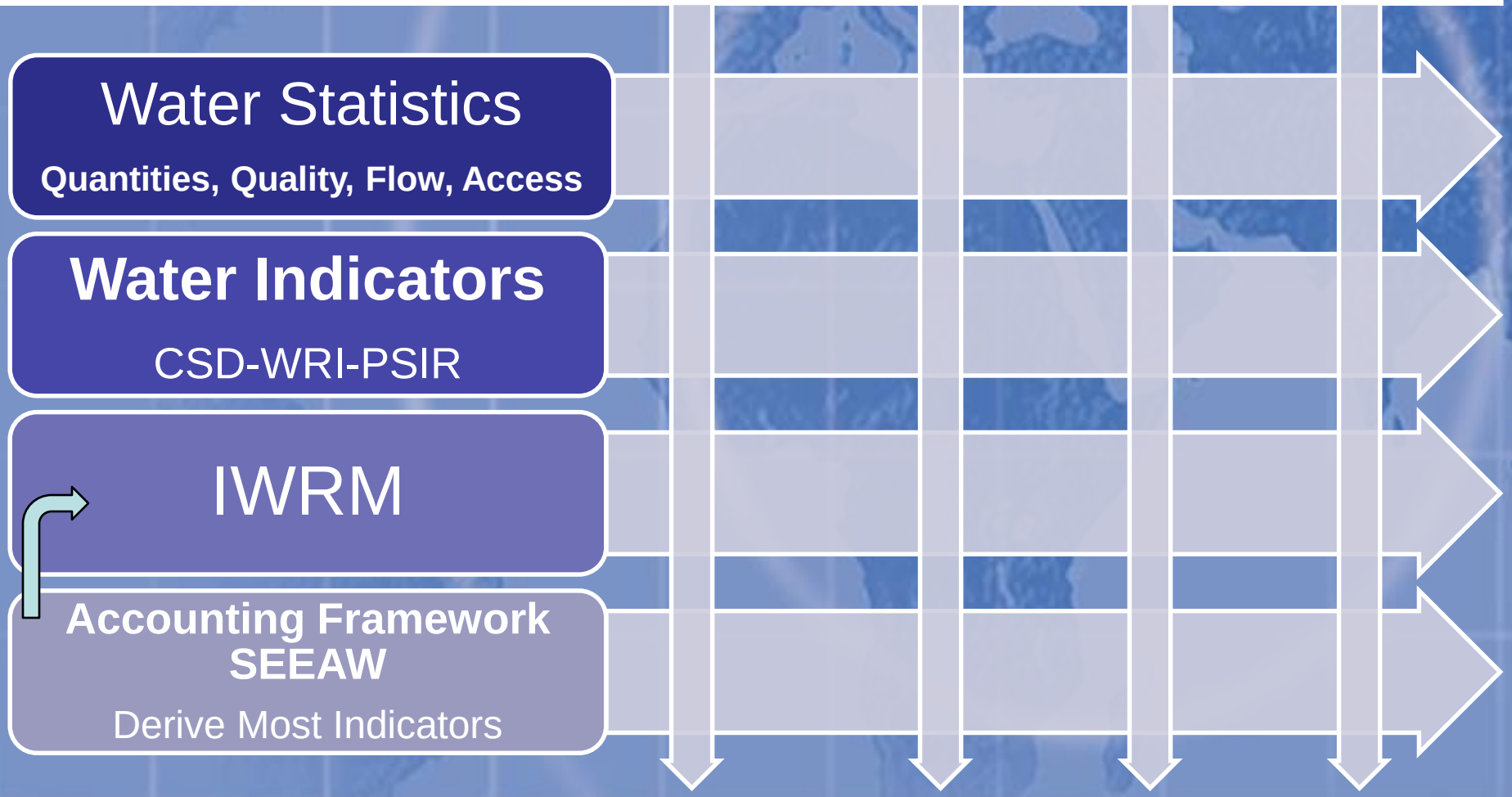
Pilot Water Accounts
Jordan, Oman,
Bahrain, Palestine

SEEA-W
A STEP FORWARD!

Frameworks, Classifications, Methods: Water Data

WATER SCACITY in the ESCWA region requires data on water in the most efficient way

Frameworks	International Classification	Organize Store	Assess quality/ Manage	Present data into information



SEEA Pilot Studies

1. Jordan
2. Lebanon
3. Oman
4. Bahrain
5. Egypt

JORDAN: Water Challenges

- Scarcity of fresh renewable water resources: Per capita water supply is around 145 m3/day in 2005 and expected to be 90 m3/year in 2025
- Overexploitation of renewable and non renewable ground water
- High population number and forced immigration
- Limited capacity of waste water plants
- High losses of water supply to municipal sector during distribution (public net work) 50 % as a result of leakages, theft, illegal tapping & malfunctioning metering.
- Limited capacity and number of dams 9 dams with storage capacity around 210 MCM
- Over 91 percent of the country receives less than 200 mm of rainfall per year
- Limited capacity of waste water treatment plants

Jordan – Implementation of SEEAW

- February 2007 – Med Stat II Workshop. The Department of Statistics begins work on water accounting
- June 2007 – Simplified physical supply and use table and presented at ESCWA Expert Group Meeting, Cairo, Egypt.
- June 2007 – UNSD mission to Jordan. Tables revised and training of DOS staff
- March 2008 – Med Stat II/ESCWA/UNSD workshop. Draft tables and analysis presented
- May 2008 – Draft report review by UNSD.
- The Department of Statistics and Ministry of Water Resources and Ministry of Environment developing a plan on-going production of water accounts
- March 2009 – Pilot Water Accounts revision and preparation for final submission

JORDAN Physical use table,2007

		Industries (by ISIC categories)					Households	Total
		1	36	37	others	Total		
From the environment	**U1 - Total abstraction**	**506**	**294**	**0.0**	**49.0**	**849**	**0.0**	**849**
	a.1- Abstraction for own use	506	0.0	0.0	49.0	555	0.0	555
	a.2- Abstraction for distribution	0.0	294	0.0	0.0	249	0.0	249
	b.1- From water resources:	**506**	**294**	**0.0**	**49.0**	**849**	**0.0**	**849**
	* Surface water	261	80	0.0	4.0	345	0.0	345
	* Groundwater	245	214	0.0	45.0	504	0.0	504
	*Soil water	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	b.2- From other sources	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**
	* Collection of precipitation	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	* Abstraction from the sea	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Within the economy	**U2** - Use of water received from other economic units	91	0.0	113	0.0	202	147	**351**
	of which: Reused water	91	0.0	0.0	0.0	91	0.0	**91**
	Wastewater to sewerage	0.0	0.0	113	0.0	113	0.0	**113**
Total use of water = U1+U2=								**1200**

JORDAN Physical Supply table,2007

		Industries (by ISIC categories)						
		1	**36**	**37**	**others**	**Total**	**Households**	**Total**
Within the economy	S1- Supply of water to other economic units	0.0	147	91	23	271	90	**351**
	of which: Reused water	91	0.0	0.0	0.0	91	0.0	**91**
	Wastewater to sewerage	0.0	0.0	0.0	23	23	90	**113**
To the Environment	S2- total returns= (D1+D2)	60	140	6	5	211	0.0	**211**
	D1- to water resources	60	140	6	5	211	0.0	**211**
	* surface water	5	10	6	5	23	0.0	23
	* ground water	50	10	0.0	0.0	60	0.0	60
	* soil water	5	120	0.0	0.0	125	0.0	125
	D2- to other sources	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**
Total supply of water = S1+S2=								**562**
Water consumption= total use – total supply								**638**

Water Indicators

- **Total ground water abstraction.**

Value of indicator 2007: 504(MCM)

- **Safe yield of renewable ground water.**

Value of indicator 2007: 275(MCM)

- **Overexploitation of ground water (Depletion) or ground water balance.**

Value of indicator 2007: -229(MCM)

- **% of depletion of ground water or % of safe yield.**

Value of indicator 2007: 183%.

Pilot Water accounts for Oman

Preliminary data assessment

- Much water data already exists in government and private sector reports
- Supply side data appears good
- Use side data is less well developed
- Terms and definitions appear to differ between data sources
- Industry aggregations are different between data sources

Some specific data gaps and deficiencies

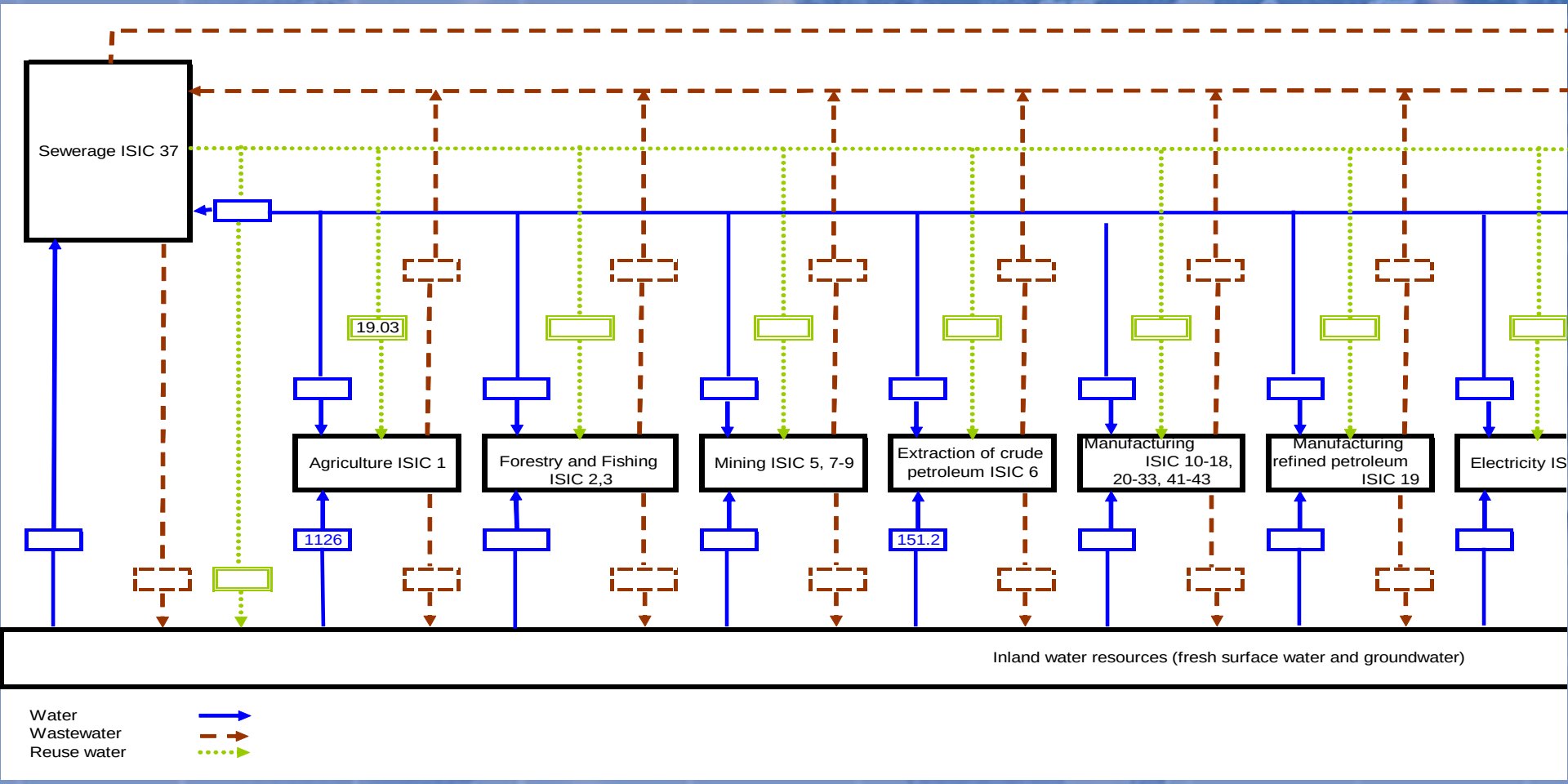
In the national accounts

- The water and electricity supply are combined
- The sewerage industry is combined with other industries
- Value of fixed capital for water supply and sewerage is not known
- Costs of water supply and sewerage for own use are not known
- Sub-national data are not published

In the physical water data

- Volume of water extracted from wells is poorly known
- Industry aggregations are not consistent with ISIC and are less detailed than the national accounts
- Only limited economic data (e.g. on revenues from sales or government subsidy) are published

Trial population of standard physical supply and use diagram



Suggested implementation Plan for Oman

September 2008

- 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
- Nomination of focal points and establishment of working group

October-December 2008

- Trial population of standard tables for national level (if resources allow for one or more regions)
  - Physical supply and use tables, Hybrid supply and use tables , Asset account
- Preliminary analysis of data, including a detailed data quality assessment of existing data sources

January 2009

  - Circulation of trial tables and preliminary analysis

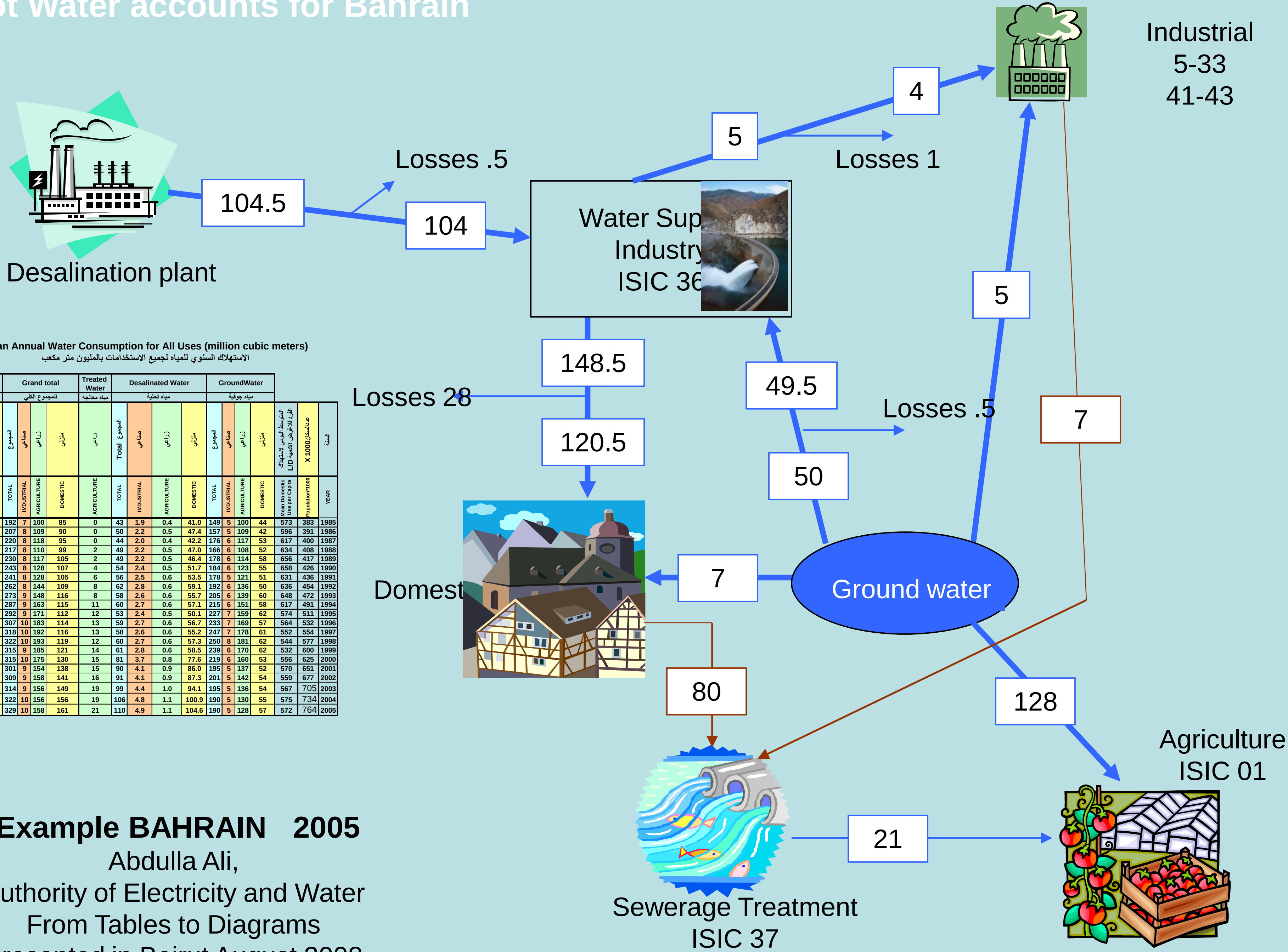
February – March 2009

  - Revise tables and analysis for publication
  - Prepare plan for on-going production of accounts, including a cost-effective way to address data deficiencies and gaps

April-May 2009

  - Publish trial accounts and analysis
  - Begin to implement plan for on-going production of water accounts

Pilot Water accounts for Bahrain



Mean Annual Water Consumption for All Uses (million cubic meters)

الاستهلاك السنوي للمياه لجميع الاستخدامات بالمليون متر مكعب

% use			Grand total				Treated Water	Desalinated Water				GroundWater						
نسب الاستخدام %			المجموع الكلي				مياه معالجه	مياه تحلية				مياه جوفية						
صناعي	زراعي	منزلي	المجموع	صناعي	زراعي	منزلي	زراعي	Total المجموع	صناعي	زراعي	منزلي	المجموع	صناعي	زراعي	منزلي	المتوسط اليومي لاستهلاك الفرد للأغرض الادمية L/D	عدالسكان X 1000	السنة
IMDUSTRIAL	AGRICULTURE	DOMESTIC	TOTAL	IMDUSTRIAL	AGRICULTURE	DOMESTIC	AGRICULTURE	TOTAL	IMDUSTRIAL	AGRICULTURE	DOMESTIC	TOTAL	IMDUSTRIAL	AGRICULTURE	DOMESTIC	Mean Domestic Use per Capita	Population*1000	YEAR
4	52	44	192	7	100	85	0	43	1.9	0.4	41.0	149	5	100	44	573	383	1985
4	53	43	207	8	109	90	0	50	2.2	0.5	47.4	157	5	109	42	596	391	1986
3	53	43	220	8	118	95	0	44	2.0	0.4	42.2	176	6	117	53	617	400	1987
4	51	46	217	8	110	99	2	49	2.2	0.5	47.0	166	6	108	52	634	408	1988
3	51	46	230	8	117	105	2	49	2.2	0.5	46.4	178	6	114	58	656	417	1989
3	53	44	243	8	128	107	4	54	2.4	0.5	51.7	184	6	123	55	658	426	1990
3	53	44	241	8	128	105	6	56	2.5	0.6	53.5	178	5	121	51	631	436	1991
3	55	42	262	8	144	109	8	62	2.8	0.6	59.1	192	6	136	50	636	454	1992
3	54	43	273	9	148	116	8	58	2.6	0.6	55.7	205	6	139	60	648	472	1993
3	57	40	287	9	163	115	11	60	2.7	0.6	57.1	215	6	151	58	617	491	1994
3	59	38	292	9	171	112	12	53	2.4	0.5	50.1	227	7	159	62	574	511	1995
3	60	37	307	10	183	114	13	59	2.7	0.6	56.7	233	7	169	57	564	532	1996
3	60	37	318	10	192	116	13	58	2.6	0.6	55.2	247	7	178	61	552	554	1997
3	60	37	322	10	193	119	12	60	2.7	0.6	57.3	250	8	181	62	544	577	1998
3	59	38	315	9	185	121	14	61	2.8	0.6	58.5	239	6	170	62	532	600	1999
3	56	41	315	10	175	130	15	81	3.7	0.8	77.6	219	6	160	53	556	625	2000
3	51	46	301	9	154	138	15	90	4.1	0.9	86.0	195	5	137	52	570	651	2001
3	51	46	309	9	158	141	16	91	4.1	0.9	87.3	201	5	142	54	559	677	2002
3	50	47	314	9	156	149	19	99	4.4	1.0	94.1	195	5	136	54	567	705	2003
3	48	49	322	10	156	156	19	106	4.8	1.1	100.9	190	5	130	55	575	734	2004
3	48	49	329	10	158	161	21	110	4.9	1.1	104.6	190	5	128	57	572	764	2005

Example BAHRAIN 2005

Abdulla Ali,
Authority of Electricity and Water
From Tables to Diagrams
Presented in Beirut August 2008

Challenges in SEAA-W Implementation in MSs

1. Use of common concepts, definitions and classifications within and across countries
2. Quality of data
3. Established sustainable system for national coordination
4. Need for aggregate Indicator
5. Implementing Water Quality Accounts and Valuation

Technical Problems:

- Water Accounts at the watershed levels (Lebanon, Oman, Egypt)
- Supply by water tankers, cooling water, desalination
- Soil water, brackish water…

Role of Organizations

ESCWA, UNSD,UNEP,MEDSTAT

- Sharing Water Data (UNSD-UNEP Questionnaire)
- Verifying and checking data, contacting and following-up with countries fro clarifications and corrections
- Conducting joint trainings and missions on Water Accounts (training material, bilingual, coordinated assistance)
- Adding countries concerns and comments in manuals and recommendations
- Web Portal on Environmental Accounting for ESCWA Countries Network, docubase and forum ESIAP.escwa.org.lb
- Sharing lessons learned with other regions (ECLAC)

Opportunities in SEEAW for ESCWA and ECLAC Countries

WHAT WAS ACCOMPLISHED UNTIL NOW!

1. Countries can use available data and put it into the system allowing gaps to be identified and addressed.
2. Improved data quality by cross- checking the different standard tables
3. Strengthening coordination among national statistical offices and water and environment ministries
4. SEEA-W as agent in creation of regional networks

WAY FORWARD

LONGER TERM APPLICATIONS!

1. Integrating information for water policy and management
2. Link to economic information through SNA
3. Flexibility and expansion to accommodate regional needs (i.e. inclusion of tourism industry, separate identification of oil industries etc)