



ORSAM WATER BULLETIN

Weekly Bulletin by ORSAM Water Research Programme

Events-News-Politics-Projects-Environment-ClimateChange-Neighbourhoods-Cooperation-Disputes-Scarcity and more



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22 December – 28 December 2014

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❖ Turkey and Iraq to cooperate on energy to sustain mutual growth

The Turkey-Iraq High-Level Strategic Cooperation Council held in Ankara yesterday was attended by Prime Minister Ahmet Davutoğlu and his Iraqi counterpart Haider al-Abadi. Speaking at a press conference held after the meeting, al-Abadi emphasized that oil must be the primary field of cooperation. "Turkey and Iraq will sustain joint economic development together," al-Abadi said.

Davutoğlu commented on the meeting as well, and said, "We are ready for cooperation in the field of energy." He further emphasized that after the discussions in November, many determined decisions have been taken to eliminate the obstacles applied to Turkish firms and that Turkey is ready to collaborate in terms of water and will back all of its commitments in this respect. "We hereby welcome you again and would like to underscore that we will be steadfast in our stance, which aims to decrease any kind of water waste," Davutoğlu added.

The Iraqi prime minister thanked Davutoğlu for his hospitality and added that they are visiting Turkey with a large administrative committee in order to hold strategic meetings. "We would like to implement this agreement again by looking after the benefits of both the region and our country," said al-Abadi and added that they aim to improve cooperation in all bilateral fields from economy to energy, security to military.

Recently, important energy partnership deals have been signed between Turkey and Iraq. "We want Iraq's unity and its revenues to be equally distributed among its people," said Foreign Affairs Minister Mevlüt Çavuşoğlu, during a televised interview yesterday. "We are going to work with Iraq in the next term and we will hopefully boost the trade volume from \$12 billion to \$30 billion in the future," he added.

According to the agreement reached between al-Abadi and Kurdistan Regional Government (KRG) Prime Minister Nechirvan Barzani, the Kurdish government will provide at least 250,000 barrels of crude oil per day to the federal government for export. The deal also allows for the export of 300,000 barrels per day by the federal government from the Kirkuk oil fields through the oil pipeline in the Kurdish region.

Turkey and Iraq had signed an electricity production plant agreement on December 11 to help meet Iraq's power supply needs. Turkish Energy and Natural Resources Minister Taner Yıldız had stated

that Turkey will establish a plant which will work with the capacity of 3,000 megawatts of electricity. The Iraqi government is conducting proposals with investors for projects to have a reserve of 4,500 megawatts of electricity, as the country faces severe power shortages, Iraq's energy minister said. Turkey's sole oil refinery company, Turkish Petroleum Refineries Corporation (TÜPRAŞ), recently signed an agreement to purchase the oil extracted by the KRG in Northern Iraq, which is to be sold by Iraq's National Oil Company, SOMO.

“Turkey and Iraq to cooperate on energy to sustain mutual growth”, 26/12/2014, online at:

<http://www.dailysabah.com/energy/2014/12/26/turkey-and-iraq-to-cooperate-on-energy-to-sustain-mutual-growth>

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❖ Turkish, Iraqi PMs discuss oil, ISIL threat

ANKARA - Turkey stands firmly against the presence of foreign fighters in either Iraq or Syria, Turkish Prime Minister Ahmet Davutoglu said Thursday.

"We want absolutely no foreign fighters in Iraq or Syria, whether they fight for the Syrian opposition or for ISIL," he said during a joint press conference with Iraqi PM Haider al-Abadi, who is paying a visit to Ankara.

The Turkish and Iraqi prime ministers spoke to the press after co-chairing the 2nd Turkey-Iraq High Level Strategic Cooperation Council meeting, which was launched in Baghdad in 2009.

"Foreign fighters must not be allowed access into Syria, no matter if they are fighting alongside the Syrian regime or fighting within the ranks of terrorist groups like ISIL, who are outsiders seeking dominance in those countries," Davutoglu said.

The Turkish premier added that Iraq belongs to the Iraqi people and that Syria belongs to the Syrian people "with all their resources and politics."

He said Turkey and Iraq agreed on taking a joint stance against all "terror" groups in the region, "whether it is the terrorist Islamic State of Iraq and the Levant or PKK."

PKK, or the outlawed Kurdistan Workers' Party, has claimed about 40,000 lives in Turkey in the past three decades and is listed as a terrorist organization by Turkey, the U.S. and the EU.

Davutoglu also reiterated Turkey's support for Iraq's central government, saying he considers the security threat posed by ISIL as a risk, not only for Iraq, but also for the wider region.

"Our attitude toward terrorist organizations like ISIL, who besieged Iraq and Syria, or the PKK, who attacked Turkey for decades through Iraqi soil, are absolutely the same," he added. "We are ready to support Iraq's security in any possible way."

During Thursday's council meeting, Davutoglu said the countries' defense ministers agreed to make more comprehensive efforts in training Iraqi security forces in their fight against ISIL.

Iraqi PM Abadi also highlighted the issue, saying Turkey and Iraq will cooperate to fight ISIL.

"There are meetings and negotiations with the Turkish brothers to help Iraq in the security and economic fields," he said. "Turkey and Iraq have common security ties. We care about Turkey's security and consider any party that threatens Turkey's security a terrorist group."

"Iraq will not allow any terrorist organization to hurt Turkey's security," he added.

Abadi also said Iraq seeks support from Turkey in security, intelligence, military, training and arming against ISIL.

"ISIL is an international terrorist network and we need international aid as well. Frankly, we can handle reinforcing the courageous fighters who are already fighting in the areas occupied by ISIL, who are already in the struggle," he said. "We cannot support all the others who intend to fight ISIL as it is not possible. We should support fighters in Al Hirah, Anbar and Saladin who are already fighting ISIL."

- Turkey-Iraq cooperation in energy

Davutoglu said Turkey is ready for any kind of cooperation to help direct Iraq's rich energy resources into the worlds market, adding that Turkey will continue and further develop existing energy cooperation in line with the principles designated by the Iraqi constitution.

Abadi also said Iraq wants its oil to reach the global markets via Turkey.

Turkey's state-run Petroleum Refineries Corporation bought 520,000 barrels of oil from the Kurdish Regional Government in Iraq, Turkey's energy minister announced two week ago.

Iraq's crude oil distribution keeps flowing via Turkey despite threats from ISIL. On May 22, northern Iraqi oil began flowing from Turkey's southern Ceyhan port to international markets, despite a harsh reaction from the Baghdad government.

The recent deal between the Kurdish Regional Government and the Baghdad government in Iraq will allow the federal government to export 300,000 barrels of oil per day from Kirkuk's oil fields through the oil pipeline in the Kurdish region.

- Economic ties

Davutoglu said Iraq is one of Turkey's key foreign trade partners, with a bilateral trade volume of \$12 billion in 2013.

"We have already surpassed \$8 billion to \$9 billion in the first nine months of 2014," he said, adding that a joint economic commission meeting in Iraq will take place in January.

Davutoglu also said that Turkey and Iraq see water as a key area of cooperation, adding that the two countries are ready to work together in managing water resources.

"Turkish, Iraqi PMs discuss oil, ISIL threat", 26/12/2014, online at: <http://www.turkishpress.com/news/416754/>

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❖ Oil versus Water!

For long the crude oil, dubbed 'black gold', has been the most precious liquid, but things are quickly changing as its price drops to a 5 year bottom low. Water is gaining ground, going from second to first place as the most valuable resource in the region.

For long the crude oil, dubbed 'black gold', has been the most precious liquid, but things are quickly changing as its price drops to a 5 year bottom low.

Water is gaining ground, going from second to first place as the most valuable resource in the region.

Major conflicts in the oil rich regions including the Middle East have directly or indirectly resulted from the want to control this natural resource by the global powers especially the United States.

However with the increase in crude oil supplies, especially shale oil and gas, and the demand staying as it is and in some cases dropping, oil prices have come down unprecedentedly to reach around \$60 dollars per barrel.

It seems that for now oil has passed its hayday as the most fought- over liquid in the world.

In comes water as the competitor of oil and how it is being controlled by the regional powers.

One can turn his attention to what Turkey is doing in building more dams.

This is part of its public work project (GAP project) to limit the water flow from the Euphrates and Tigris rivers that supply Syria and Iraq.

Iran is also following suit but to a lesser extent since it doesn't have the same water monopoly as Turkey.

Turkey and Iran are trying to exert economic pressure on Syria and Iraq to yield to their demands and

limit agricultural production to keep them in a state of economic dependency on Turkish and Iranian products.

Thankfully the Kurdistan Region is not badly affected by these measures due to the plentiful water supplies as it accesses around 46 billion cubic meters a year and it only needs around 9 billion!

As populations grow and food resources get scarcer, soon enough battles may no longer be fought over oil but rather for that life sustaining transparent liquid called water!

“Oil versus Water!”, 22/12/2014, online at:

<http://www.kurdishglobe.net/article/A24CC06928AD1BD4B3A18A0E703E685D/Oil-versus-Water-.html>

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❖ ISIL launches chlorine gas strikes in Iraq's Anbar province

ISIL Takfiri militants have launched chlorine gas strikes on a sub-district in the city of Hit in the troubled western province of al-Anbar, an Iraqi security source says.

The ISIL militants attacked the Baghdadi district with mortar shells loaded with chlorine gas, the unnamed sources said on Wednesday.

According to the source, the district has come under siege and heavy shelling by the ISIL terrorists.

The situation has already left people, mostly children in the area, in dire need of food supplies.

The area is also suffering from water shortage as the ISIL snipers have prevented water department employees from entering the region to fix a water project.

The Takfiri ISIL militants killed at least 300 Iraqi soldiers in a chlorine gas attack on an army battalion in al-Anbar Province in September.

The ISIL militants also used the chemical gas against Iraqi soldiers in Saqlawiya district of the northern town of Fallujah.

The ISIL terrorists control some parts of Syria and Iraq. They are engaged in crimes against humanity in the areas under their control. ISIL militants have terrorized and killed people of all communities, including Shias, Sunnis, Kurds, and Christians.

"ISIL launches chlorine gas strikes in Iraq's Anbar province", 24/12/2014, online at:
<http://www.presstv.ir/detail/2014/12/24/391693/isil-uses-chlorine-gas-in-iraqs-anbar>

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WWW.ORSAM.ORG.TR

❖ Water Shortages in Lebanon Devastate Syrian Refugees

BEKAA VALLEY, LEBANON—

In a region choking from dwindling water supplies, Lebanon has long been regarded as one of the few places where there is enough. But in recent years, half the people in the country have faced severe shortages. And the more than 1 million Syrian refugees in Lebanon are hit worst, making the country's most vulnerable people increasingly impoverished and sick.

In informal refugee camps in the Bekaa Valley, there is no shortage of water tanks, but many are empty. Aid organizations deliver free water to many families about once every 10 days, but children say that water lasts only a few days.

Refugees sometimes walk several kilometers every day to find enough to drink, and they say they are constantly scrounging for money to buy deliveries.

Outside a temporary schoolhouse in one camp, the school principal, Abu Yamen, said water shortages were leading to declining sanitation, making children sick, which is especially dangerous now as the winter approaches.

Yamen said he tries to teach children good hygiene, but most kids simply do not have enough water to be able to follow instructions.

Lebanon's water crisis is partially due to a drought last year. However, recent aid cuts for refugees have also reduced the amount of water families can buy.

Daniel Gorevan, who leads Oxfam's Syria Crisis policy, warned that providing water only to refugees — excluding Lebanese people who need more water — could further complicate the problem.

“They can develop their infrastructure and ensure that the services which are provided and the jobs which are created can benefit refugees and poor host communities alike, because we are seeing

increased tensions between refugees and host communities across the different countries,” Gorevan said.

Aid workers also say much of the suffering could be alleviated by repairing old pipes and equipment estimated to leak about half the available drinking water.

In some camps, Syrian refugees say fighting depression is one of their main problems. Dalia Mikdashi, a public health promotion specialist for Oxfam in the Bekaa Valley, where most of Lebanon’s Syrian refugees live, said water shortages add to the despair.

“This is a challenge," she said, "since the fact is the resources available cannot even match what was available before. This is also related to the hygiene promotion approach: How can we address this and make sure that people can adapt and not feel like their dignity is being affected?"

But in the poorest camps, said Umm Khaleel, a mother of seven, dignity is less of a priority than survival. She said most families in her camp have not had water or electricity for weeks, and the children are getting skin infections. She also said a foul-smelling sewage pit about six meters from the camp has contributed to illnesses.

A rushing nearby stream, she added, does not help because the sewage has made the water so polluted, it is not even clean enough for washing clothes.

“Water Shortages in Lebanon Devastate Syrian Refugees”,23/12/2014, online at:
<http://www.voanews.com/content/water-shortages-lebanon-syrian-refugees/2571595.html>

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❖ Million people wounded, diseases spreading in Syria – WHO

BEIRUT - One million people have been wounded during Syria's civil war and diseases are spreading as regular supplies of medicine fail to reach patients, the World Health Organisation's Syria representative said.

A plunge in vaccination rates from 90 percent before the war to 52 percent this year and contaminated water have added to the woes, allowing typhoid and hepatitis to advance, Elizabeth Hoff said in an interview late on Thursday.

More than 200,000 people have been killed in Syria's conflict, which began in March 2011 with popular protests against President Bashar al-Assad and spiralled into civil war after a crackdown by his security forces.

"In Syria, they have a million people injured as a direct result of the war. You can see it in the country when you travel around. You see a lot of amputees," said Hoff. "This is the biggest problem."

She said a collapsed health system, where over half of public hospitals are out of service, has meant that treatments for diseases and injuries are irregular.

Hoff said that Assad's government, which demands to sign off on aid convoys, is still blocking surgical supplies, such as bandages and syringes, from entering rebel-held areas.

Aid workers say Damascus argues that the equipment would be used to help insurgents.

"What has been a problem is the regularity of supply," she said. "The (government) approvals are sporadic."

Syrian officials could not be reached for comment on Thursday or Friday.

More than 6,500 cases of typhoid were reported this year across Syria and 4,200 cases of measles, the deadliest disease for Syrian children, Hoff said.

There was just one reported case of polio, which can paralyse children within hours, in 2014 following a vaccination drive, but other new diseases appeared, including myiasis, a tropical disease spread by flies which is also known as screw-worm, with 10 cases seen in the outskirts of Damascus.

Syrian activists in the Eastern Ghouta district of Damascus said that tuberculosis was also spreading due to poor sanitary conditions and a government siege on the area, blocking aid.

The United Nations called on Thursday for more than \$8.4 billion to help nearly 18 million people in need in Syria and across the region in 2015. Hoff said that the WHO delivered more than 13.5 million treatments of lifesaving medicines and medical supplies in 2014, up nearly threefold from the year before.

But the problems were growing at an even faster pace, Hoff said, with poor water access and deepening poverty worsening the health crisis: “The needs are not possible to believe.”

“Million people wounded, diseases spreading in Syria – WHO”, 21/12/2014, online at: <http://ewn.co.za/2014/12/19/One-million-people-wounded-diseases-spreading-in-Syria-WHO>

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❖ **Jordan: Providing water to refugees and host communities**

With the influx of hundreds of thousands of Syrian refugees into the northern governorates of Jordan, the demand for water has grown significantly. The ICRC has expanded its water activities to meet people's needs.

The influx of Syrian refugees into Jordan is placing considerable strain on local water supplies and wastewater disposal capacity. North Badia in particular has been seriously affected by the refugee crisis. "The increased refugee population in the host communities has created an additional burden for an already aging water supply system," said Danielle Brunton, who coordinates the ICRC's water and habitat programmes in Jordan.

In September, the ICRC signed a memorandum of understanding with the Yarmouk Water Company, which is responsible for water and sanitation services in four northern governorates, to upgrade the water infrastructure in eight of the areas of North Badia most affected by the refugee influx.

"What we are aiming at is to improve the quantity, quality and consistency of water supply for approximately 120,000 people in northern host communities," said Ms Brunton. The transmission and distribution pipe networks, water treatment plants, pump stations and water wells in Mafrak and Rweyshid will all be improved and modernized.

Facts and figures – August through November

Emergency aid

- Around 3,800 Syrian refugees temporarily in four transit facilities in the north-eastern border area received about 700,000 meals, 152,000 high-energy biscuit bars and nearly 49,000 packs of juice.
- Around 220,000 bottles of water, 1,300 blankets, 950 mattresses, 18,500 bars of soap, 80,000 diapers, 64,500 sanitary pads and 500 jerrycans were delivered to the Syrian refugees in the transit facilities.

Water and sanitation

- Tents, shelter caravans and sanitary facilities at four transit facilities in the north-eastern border area were cleaned, maintained and supplied with water.
- Eight sanitary blocks equipped with septic tanks, cesspools, washbasins, water coolers and new generator houses were built in four transit facilities in the north-eastern border area.
- Heaters were provided for tents as part of an effort to winterize four transit sites.

- Three pre-fabricated caravans, a sunshade and a fence were installed for the health facility in Raba'a Al Sarhan Registration Centre in Mafraq governorate.
- Construction work on pump stations, water treatment plants and transmission pipelines, and upgrades to wells were launched at eight locations in the North Badia: Sabha, Rawdat Basma, Amra wa Omera, Mukifta, Bustanah, Deir Al Kahaf, Ruwayshid and Al Hurra.

Health

- Jordanian Royal Medical Services working at the health posts in the north-eastern border area were provided with basic medicines for children, chronic diseases and emergencies, wound-dressing materials, "international health emergency kits" and other basic medical supplies and equipment for use in the treatment of Syrian refugees entering Jordan.
- Medical screening was provided for around 11,775 Syrian refugees, in addition to clinical services for 1,800 Syrian refugees and ambulance transfer services to other health facilities for 153 Syrian refugees arriving at Raba'a Al Sarhan Registration Centre in Mafraq.
- A total of 79 basic first-aid training sessions were held for around 3,000 Syrian refugees in the Zaatari camp, and two basic first-aid training sessions for 55 Syrian refugees in Azraq camp.

Restoring contact between family members

- Around 13,500 Syrian refugees in the Zaatari and Azraq camps maintained contact with other family members inside Syria and elsewhere by making international telephone calls which were made available to them with support from Jordan National Red Crescent Society volunteers.
- A total of 77 travel documents were issued by the ICRC to Syrian refugees granted resettlement in third countries.

Working in partnership with the Jordan National Red Crescent Society

- Some 4,000 Syrian refugees living in host communities in Mafraq and Madaba governorates were provided with monthly cash assistance as part of a programme implemented with the Jordan National Red Crescent Society.
- Ten basic first-aid training sessions were held for around 280 Syrian refugees living in host communities, and six sessions for around 180 Jordanians, in cooperation with the Jordan National Red Crescent Society.

- With ICRC support, the International Federation of Red Cross and Red Crescent Societies and the Jordan National Red Crescent Society organized two "national disaster response training courses" for a total of 52 participants from the Jordan and Iraqi Red Crescent Societies.
- The ICRC funded the training of 140 needy Syrian and Jordanian women in hairdressing, computer skills, sewing, basic first aid and awareness of sexual violence at the vocational training centre of the Jordan National Red Crescent Society.

Promotion of international humanitarian law

- In accordance with its mandate, the ICRC organized a three-day training session in Amman on the conduct of hostilities with a view to raising awareness of and enhancing respect for international humanitarian law in times of war in Syria.

“Jordan: Providing water to refugees and host communities”, 22/12/2014, online at:
https://www.icrc.org/en/document/jordan-providing-water-refugees-and-host-communities#.VKJV_V4jvA

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❖ Agriculture Ministry ready with plans for the use of recycled water

Plans for a new project for the use of recycled water in agriculture have been prepared by the Ministry of Agriculture aiming at increasing water supply by 40 million cubic metres, sources told the CNA on Sunday.

The Ministry has prepared a seven-year strategic development plan for the period 2015-2021 that will be discussed by the Ministers of Agriculture and Finance at the beginning of 2015, the source said, adding that the cost of the project is expected to exceed 80 million euros.

The same source noted that the project will be Cyprus` response to the underwater pipeline built by Turkey to transport 70 million cubic meters of water to the island`s occupied territories.

“Agriculture Ministry ready with plans for the use of recycled water”, 29/12/2014, online at: <http://famagusta-gazette.com/agriculture-ministry-ready-with-plans-for-the-use-of-recycled-water-p27072-69.htm>

❖ **Jordan's water and energy security crises**

- A lack of natural resources, combined with regional insecurity, has put pressure on Jordan's government to expand and diversify its sources of energy and water.
- The benefits of short-term measures pursued by the government have been largely cancelled out by inflows of refugees from Iraq and Syria.
- Jordan is increasing its use of renewable energy and shale oil but long-term solutions, such as nuclear power, face significant domestic obstacles.

Jordan's decision, taken by 107 out of 150 members of parliament on 10 December 2014, to scrap a controversial draft agreement to pursue a gas deal with Israel has further limited the country's potential energy resources. The non-binding agreement, signed in September between Jordan's National Electric Power Company (NEPCO) and the Israeli-US consortium heading the Leviathan offshore natural gas field, would have provided energy-poor Jordan with USD15 billion-worth of gas over a 15-year period.

In a country where more than half the population is Palestinian, according to most estimates, the deal was unlikely to be popular. The 2013 conflict in Gaza and events in Jerusalem in December 2014, including fighting at the Al-Aqsa Mosque, have further sharpened political sensitivities.

Jordan's energy and water access have reached a critical stage. Lacking the plentiful oil and gas reserves of its Arab neighbours, poor management and rapid population growth have exacerbated strains on resources. Insecurity in the Sinai region and Iraq in 2014 hit energy imports. The arrival of more than a million refugees fleeing Syria has also stretched supplies to near-exhaustion.

Supply disruption

The United States' invasion of Iraq in 2003 stopped Jordan's energy trade. Iraq had provided half of Jordan's oil for free and the other half was paid for in goods at below market prices. A 2004 gas deal

with Egypt restored regular energy supplies to Jordan. However, insurgent attacks on the Arab Gas Pipeline (AGP) that runs through Egypt, Jordan, Lebanon, and Syria since 2011 have depleted supplies; natural gas imports from Egypt fell from 2.5 billion cubic metres (bcm) in 2010 to 0.5 bcm in 2012, forcing Jordan to buy expensive diesel and heavy fuel imports on the international market.

“Jordan's water and energy security crises”, 22/12/2014, online at: <http://www.janes.com/article/47233/jordan-s-water-and-energy-security-crises>

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❖ JICA supports sanitation for internally-displaced persons in Gaza – UNWRA

The Japan International Cooperation Agency (JICA) has provided UNRWA with 137 cubic meters of chlorine, which is essential for water and sanitation activities in UNRWA-managed collective centres in the Gaza Strip.

“JICA has always been a great supporter of UNRWA and the Palestine refugees,” said Director of UNRWA Operations in Gaza Robert Turner.

“We are very grateful to receive this donation in support of hygiene activities at the UNRWA-managed collective centres, where almost 19,000 internally-displaced people are living and dependent on UNRWA for all their basic needs. We welcome this contribution and look forward to continuing cooperation with JICA.”

JICA, the Japanese government agency for development aid, has been supporting education, health, infrastructure and economic development for the people in Gaza and actively responding to the emergency since the summer’s conflict. During August, JICA donated 870 food parcels to UNRWA, enough to help more than 5,000 displaced individuals survive for three days. This new support for UNRWA water and sanitation activities builds on sanitation training that UNRWA staff received in

Japan, by providing chlorine detergent for the 18 collective centres that are still temporary homes to almost 19,000 internally-displaced people. These recent in-kind contributions are equivalent to almost US\$ 60,000 in total. In addition, JICA employees personally donated US\$ 9,300 for the Gaza emergency relief during the hostilities in Gaza this summer.

JICA Palestine Office chief representative Izumi Tanaka noted that emergency needs in Gaza remain enormous and said he hopes the JICA contribution will help improve the condition of the shelters during the cold season. Mr. Tanaka said JICA will continue to support urgent reconstruction needs in Gaza.

JICA generously supports UNRWA health care, education, water and sanitation, camp improvement and energy efficiency based on a partnership agreement between the two agencies signed in August 2011.

BACKGROUND INFORMATION

UNRWA is a United Nations agency established by the General Assembly in 1949 and is mandated to provide assistance and protection to a population of some 5 million registered Palestine refugees. Its mission is to help Palestine refugees in Jordan, Lebanon, Syria, West Bank and the Gaza Strip to achieve their full potential in human development, pending a just solution to their plight. UNRWA's services encompass education, health care, relief and social services, camp infrastructure and improvement, and microfinance.

Financial support to UNRWA has not kept pace with an increased demand for services caused by growing numbers of registered refugees expanding need, and deepening poverty. As a result, the Agency's, General Fund (GF), supporting UNRWA's core activities and 97 per cent reliant on voluntary contributions, has begun each year with a large projected deficit. Currently the deficit stands at US\$ 35 million.

"JICA supports sanitation for internally-displaced persons in Gaza – UNWRA", 26/12/2014, online at:
<http://mideastenvironment.apps01.yorku.ca/2014/12/jica-supports-sanitation-for-internally-displaced-persons-in-gaza-unwra/>

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❖ Turning salty water sweet at the Dead Sea's Ein Bokek spring

Israel Nature and Parks Authority behind restoration efforts of one of the most important springs in Judean Desert.

A groundbreaking ceremony is scheduled on Wednesday for a project that will bring water to one of the most important springs in the Judean Desert, now contaminated by underground industrial waste. The Israel Nature and Parks Authority is behind the plan to restore the Ein Bokek spring, located near the Dead Sea.

Industrial brine from the Negev region of Mishor Rotem has been seeping into the groundwater that feeds Ein Bokek for years. The brine, which originates in industrial facilities belonging to Israel Chemicals, is channeled into evaporation pools but some of it nevertheless reaches the water table.

The increasing levels of salinity in the water of the spring has caused extensive damage to plant and animal species in the area. That damage includes the disappearance from the area of certain rare species, according to a survey conducted by nature authority scientists three years ago.

The agency has explored a number of options to restore the spring. One possibility was to desalinate the water and return it to the spring, but that would have require the laying of a pipeline that would damage the wadi, or dry river bed. The solution that was chosen involves bringing water from a nearby Mekorot Water Company reservoir, to dilute the salinity of the spring water. In addition, some of the saline water will be transported by pipe to the drainage system of the Dead Sea hotel area.

“The NPA and Mekorot promised us that by the end of next year, the necessary amount of water will flow through the spring,” the director of the NPA’s environmental unit, Nissim Keshet, said. The Dead Sea Works, which is also owned by Israel Chemicals, will be in charge of operating the system. The project will be paid for out of a fund established by the government for repairing environmental damage in the Dead Sea area.

The quantity of industrial contaminants is so great — amounting to tens of millions of cubic meters — that the project is expected to take decades to complete. As part of the project, Mekorot is to drill

a well in Mishor Rotem to draw off the contaminated water, but it is expected to take years before enough water can be pumped to stop the salinization of Ein Bokek.

“Turning salty water sweet at the Dead Sea's Ein Bokek spring”, 24/12/2014, online at:
<http://www.haaretz.com/life/nature-environment/.premium-1.633460>

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❖ **Jordan to help Palestine better manage water sector**

Amman - Jordan will assist Palestine in the management of water and wastewater services under a memorandum of understanding signed between the two countries on Monday.

The Water Ministry will implement programmes with the Palestinian Water Authority to train and rehabilitate staff working in the sector, Water Minister Hazem Nasser said.

"The ministry will conduct training courses for the Palestinian Water Authority in the operation, maintenance and management of water and wastewater facilities," Nasser said during the signing ceremony.

The training courses are designed to raise the efficiency and performance of the Palestinian Water Authority's cadres and in the management of water and reuse of wastewater, he noted.

In addition, the ministry will transfer its expertise in restructuring the water sector and amendment of relevant laws and policies to the Palestinian water authority, according to the minister.

Meanwhile, the Palestinian Water Authority will share its experience with Jordan in rationalising the use of water, he added.

"Jordan and Palestine suffer from a severe shortage of water; the water per capita share in both countries has dropped to unprecedented low levels, turning the two neighbouring states to be among the water-poorest countries in the world," Nasser said.

Palestinian Water Authority Director Mazen Ghneim said his country also seeks to benefit from Jordan's experience in public-private partnerships in the water sector.

He urged Jordan to continue playing its major role in supporting Palestinians' water rights, noting that water is among the "final solution files" in the stalled negotiations between the Palestinians and Israelis.

He thanked Jordan for promising Palestine to supply it with 30 million cubic metres from the projected Red Sea-Dead Sea Water Conveyance Project, noting that the desalinated water will significantly help address the shortage in Palestine.

Jordan, Israel and Palestine signed a memorandum of understanding last December in Washington to implement the first phase of the Red-Dead project.

Under the memo, Palestine will receive 30 million cubic metres of freshwater to cover its water deficit, while Israel will buy its share of 50mcm of desalinated water from the project at cost value and sell Jordan the same amount of water in the northern part of the Jordan Valley at a cost of JD0.27 per cubic metre.

“Jordan to help Palestine better manage water sector”, 22/12/2014, online at:

https://www.zawya.com/story/Jordan_to_help_Palestine_better_manage_water_sector-ZAWYA20141223082120/

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❖ **VivaCell-MTS: New water supply network to function in Arazap village in 2015**

A new water supply network will be put into operation in Arazap village in 2015. The water supply network of Arazap village was constructed in the remote 1960s. Over the years of exploitation, the cast iron pipes have grown out of use, and the outdated infrastructures have been causing various problems. The low water pressure has limited the villagers' access to drinking water. Partial renovation of water pipelines no longer gives results, and is not justified from the financial perspective. And relying on the community budget for the reconstruction of the network is not realistic.

VivaCell-MTS, the U.S. Agency for International Development (USAID) and the Foundation for the Preservation of the Wildlife and Cultural Assets (FPWC) have started a program aimed at improving the water supply network of Arazap village. A 15 km long new, virtually leak-proof polyethylene pipeline, which is part of the 18.2 km long internal water supply network, has already been installed. 90% of the earthworks and connection works of water pipelines is completed.

In the near future a fence will be constructed around the sanitary protection zone of the pump station; a water metric system will be installed that will facilitate the economy of water. Some other works will be finished as well. It is expected that after the installation of the new pump and water metric system, the water supply network of the community will be improved and water will be equally distributed to all villagers' houses for 24 hours. The cooperation between the organizations, which undertook the financial support of the program, and the community will make it possible to report economy of water and energy.

As a result of the project implemented as part of the trilateral agreement, the drinking water problem will be solved in Lukashin, Arazap villages of Armavir region and Berkaber, Artsvaberd villages of

Tavush region next spring. The cooperating sides have joined efforts and follow the process of the implemented works.

Over 6,800 inhabitants of the four targeted villages will benefit from the project. VivaCell-MTS has allocated AMD 70 million and USAID 60 million for the implementation of the project, the press service of VivaCell-MTS reports.

“VivaCell-MTS: New water supply network to function in Arazap village in 2015”, 22/12/2014, online at:
<http://www.panorama.am/en/society/2014/12/22/vivacell-mts-arazap/>

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❖ Food Security: The End of a Golden Age

This article first appeared on www.opedspace.com

The golden age of agriculture is over. Growth based on the expansion of cropland area as seen until the 1950s, followed by improving land productivity through new technologies and productivity-based agricultural policies will fail us. It resulted in dramatic yield increases leading to what critics have called 'huge stores of unwanted grain', 'butter mountains', and 'milk lakes'. Nevertheless the world's food output is losing momentum as the backlog of agricultural technology fades, soil erodes, available arable land shrinks, and water becomes scarce. It is a struggle to find ways to feed our growing population. Just imagine that in 2020 one hectare will be required to feed more than five people compared to 1960 when it only had to feed two. This means that we have to be extraordinarily efficient with our resources.

The pressure of agriculture on natural resources is intense. The availability of land for agriculture is restricted; within the 13 billion hectares of total land only 1.6 billion is under farmland production. Meanwhile since 1960 one-third of the world's arable land has been lost through erosion and degradation. Looking at water; only 3% of the world's water is fresh with one-third being economically accessible. Global water scarcity has a critical impact on food security when agriculture accounts for almost 70% of freshwater withdrawals. With a growing wealthier and active population the demand for water will continue to surge exponentially as we've already seen it triple over the last 50 years. Adding a changing climate on top of this has a clear potential to affect our scarce soil and water resources, nevertheless the actual damage that would result from such change is unclear.

Times have changed and if we're planning to feed 8 billion people by 2050 then its time we start rethinking our agricultural systems and make a mental shift of looking at agriculture and environment separately.

What happened in Russia and Sahel during the summer of 2010 is a warning that we can't ignore our environment anymore. Extreme weather events are more frequent and impact the world's food supply with global repercussions on food prices, people's livelihoods, disrupting national economies, and in some cases leading to severe impacts on the stability of our societies. It's not just about food

production or biodiversity, but it's about both coming together while accounting for climate change in a holistic way.

With the right incentives and practices it will be possible to overcome the threat of stagnant yields. We need to think about climate-specific solutions. Increase water use efficiency through technologies such as drip and pivot irrigation. Reduce leaching and erosion with minimum/no-tillage practices. Close the nitrogen and phosphorus cycles by appropriately applying livestock and human wastes. Invest in the production potential of millions of small-scale farmers. Substantially greater public and private investments in technology and knowledge are needed internationally, especially in low-income nations, to make agricultural systems more sustainable. Moving away from the 'industrial' to a 'climate smart' agriculture is our solution.

There are good examples of climate smart agriculture as seen in Niger where agroforestry techniques applied on five million hectares have benefited over 1.25 million households, sequestering carbon, and producing an extra half-million tons of grain per year.

Although the situation might seem doomed there is hope if we start finding solutions to increase farm productivity while strengthening farmers' resilience to climate change. This can be achieved through a three-way approach based on a rapidly expanding array of biological and agronomic knowledge specific to agro-ecosystems and regions. Firstly by preserving our current natural assets, followed by increasing farm productivity with 'climate smart' technology and knowledge, and finally by investing in the potential of small-scale farmers globally. The new mindset must be directed to raising yields from existing farmlands in order to save land for nature. Only at that instant we will be able to overhaul the environmental deficits that are driving our food security to the edge.

By Robert de l'Escaille who currently works for the Agriculture Unit of the World Bank Group. He holds a M.Sc. in Environmental Economics and Policy from Imperial College London and a B.Sc. in International Food and Agri-Business from the Royal Agricultural College. You can follow him on Twitter at @rdelescaille

The views expressed in this article are solely those of the author and do not express the views of the World Bank, its Board of Executive Directors or the Governments they represent.

“Food Security: The End of a Golden Age”, 24/12/2014, online at: http://www.huffingtonpost.com/opedspace/food-security-the-end-of-a-golden-age_b_6111212.html

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❖ **To save the Dong Nai River, consensus is needed**

VietNamNet Bridge – The Dong Nai river system Environment Protection Committee still cannot reach agreement about its operation, while the river is becoming more seriously polluted.

A report presented at the eighth session of the committee held on December 22 showed the serious situation of the Dong Nai river system with increasing levels of COD (chemical oxygen demand), BOD (biochemical oxygen demand), TSS (Turbidity and total suspended solids) year after year.

The report also pointed out that the concentrated waste water treatment systems in industrial zones and the systems of collecting and treating industrial solid waste, domestic and medical waste cannot meet requirements.

Under current regulations, 60 percent of domestic waste water must be collected and treated. However, all of the 11 localities through which the Dong Nai river runs do not treat the waste water. HCM City reportedly can collect and treat 13 percent of the waste water, Lam Dong six percent, while the other localities zero percent.

Luong Van Ngu, deputy director of the Lam Dong provincial Department of Natural Resources and the Environment, said in the province alone, 500,000 tons of fertilizer and 3,000 tons of plant protection chemicals are used every year, while the chemical residues all go to lakes, rivers and streams.

Ngu said if the problems cannot be settled soon, HCM City, Dong Nai and Binh Duong provinces will suffer most from the pollution.

Le Van Tuan, a senior official at the Ministry of Construction (MIC), cited a report as saying that only 15 percent of the domestic waste water and 45 percent of the industrial waste water in the river valley can be treated.

It is expected that the total waste water volume would reach 4.5 million cubic meters per day by 2020 and 7.3 million cubic meters per day by 2030.

Meanwhile, the Dong Nai River Environment Protection Committee, which was set up with relevant parties to help protect the river, still do not have a common voice.

A representative from the Ba Ria – Vung Tau province noted that the effects of the Dong Nai river protection campaigns remain “unclear”. Attributing this to the lack of consensus among the committee’s members, he called on the involved parties to cooperate in a more reasonable way.

Le Thanh Cung, chair of the Binh Duong People’s Committee, chair of the committee in the 2013-2014 term, admitted that the committee still cannot work effectively, even though the members are

all high ranking officials, including the leaders of provinces and cities, and deputy ministers of relevant ministries.

“To save the Dong Nai River, consensus is needed”, 26/12/2014, online at:

<http://english.vietnamnet.vn/fms/environment/119629/to-save-the-dong-nai-river--consensus-is-needed.html>

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❖ Place of Water in Kazakhstan 2050 Strategy

Kazakhstan is a country rich in oil and natural beauty. But to reach its aspirations under the Kazakhstan 2050 Strategy, it may be missing one vital resource – water.

This is not an obvious limitation, especially in parts of the Almaty or East Kazakhstan oblasts, where water flows abundantly in rivers. But when he outlined the Kazakhstan 2050 Strategy two years ago, President Nursultan Nazarbayev identified water shortages as a key global challenge, with a special salience for landlocked Kazakhstan.

A lack of high-quality drinking water is severe in some regions, especially rural areas. By the end of 2013, according to Kazakhstan's Statistical Yearbook for 2009-2013, 93 percent of the households in Kazakhstan's cities were living in premises with running water; however, in rural areas, the figure stood at only 25 percent. Many households in remote areas still have their water delivered in water tanks and kept in special reservoirs.

By 2050, Kazakhstan hopes to have solved once and for all the problem of water supply.

Globally, this is a familiar problem. Today, one billion people lack access to safe drinking water. By 2025, two-thirds of the world's population will face water stress, and the situation will deteriorate by 2050. Even worse, less than one percent of the world's water is usable.

But these dire statistics need not apply to Kazakhstan. In this, a small island, as different from Kazakhstan as it is possible to imagine, may offer a useful model.

Singapore is just over 700 square kilometres, whereas Kazakhstan is 2.7 million. Singapore has no natural resources, definitely no oil, and is an island one degree north of the equator.

And yet, as Minister of Foreign Affairs of Kazakhstan Erlan Idrissov has said, Kazakhstan has used Singapore directly as a model of how to achieve success – its state asset management body, Samruk Kazyna, is based on Singapore's Temasek state investment company.

“Singapore’s expertise is also being used to help improve public services, including education, and to modernise and diversify our economy, particularly in the field of chemical production and information technology,” he wrote in an opinion this year.

Another unglamorous but essential public utility could be added to this list: the provision of water in cities.

Singapore is one of the world’s driest countries: 20th from last in terms of fresh water availability. It used to rely on a larger neighbour, Malaysia, for its water. Despite its poor endowment in water, Singapore has a stable water supply and management system today.

Under the Asian Development Bank’s IDWA (Index of Drinking Water Adequacy), Singapore scores full marks in four out of five indices: access, capacity, use and quality. There is universal provision of water to households and the cleanliness of its supply meets World Health Organisation standards. Water in Singapore is safe to drink straight from the tap.

How did Singapore provide water for both economic growth and for drinking? How did it wean itself off heavy dependence on its neighbour for its supply of water?

Here are three ideas that could be useful for Kazakhstan.

Every Drop is Precious

One of the secrets to Singapore’s success is an unglamorous engineering task – fixing the pipes.

In most developed countries now, non-revenue water – leakage from source to end user – is about 20 percent. In some countries, such as Mexico, it is as high as 40 percent. In Kazakhstan, it is 22 percent. In Singapore, it is 4 percent. In other words, if Kazakhstan reduces its leakage to Singapore’s level, it will immediately increase its water supply by nearly 20 percent.

At the moment, Kazakhstan’s water supply network is in poor condition – some of its sections have exceeded the standard operating term of 25 years. In 2009, only 36 percent of the water supply network was in working condition and 64 percent needed complete replacement or major renovation, according to the Ak Bulak programme approved by the government in May 2011. The government is already putting efforts toward rebuilding its water infrastructure. State programmes for water supply,

like the Drinking Water Programme from 2002 – 2010 and the current Ak Bulak programme, acknowledge the need for better policies for accurately metering water use and ensuring supplies for end users.

Such efforts need to be strengthened, not just because Kazakhstan's population is increasing, but because goals under the Kazakhstan 2050 Strategy aimed at economic growth will require efficient water use and the recognition that each drop is precious.

Price and Compassion

The pricing of water is a politically salient activity. In Singapore, everyone who uses water is charged from the first drop. The Singapore government has targeted support that provides utilities subsidies for the poor. Even the very poor have constant water connections and the same level of service as any other Singaporean.

Today, state programmes in Kazakhstan emphasise the efficient use of water via tariff differentiation, cost-efficient operation of enterprises and covering investments for the implementation of medium- and long-term programmes. But both drinking and irrigation water is still subsidised.

Kazakhstan will have to find its own formulation for pricing water. But it must recognise that water has an economic cost and its price must reflect its value.

Nudging Behaviour

Nudging, in behavioural economics and social psychology, is a light-touch approach to behaviour modification – using the power of social norms or all-too-human emotions.

Some successful examples of nudging have been the use of data on electricity bills to lower consumption.

In terms of regulating demand, Singapore has public education programmes. But it also has several nudges among its water management programmes, including smaller flush cisterns, automatic push pipes and the publication of average consumption data in bills to nudge high water users.

Such nudges decrease (or eliminate) efforts needed to save water, or, in the case of bills, harness the power of social norms to change behaviour.

Appreciating every drop, price recognition and nudging are all measures that Kazakhstan can implement easily and at relatively low cost, especially in its cities.

Kazakhstan has big dreams, economically and politically, as befitting a big country. It has both the wealth and the political will to make regulatory and policy changes that will make the revolutionary transformations required.

We argue that these changes ought to take place in water first. It will lay the foundation for the incredible developmental growth that will likely follow.

Leong Ching is a senior research fellow at the Lee Kuan Yew School of Public Policy at the National University of Singapore. Karlygash Karamanova is a teaching assistant at the Graduate School of Public Policy at Nazarbayev University.

“Place of Water in Kazakhstan 2050 Strategy”, 25/12/2014, online at: <http://www.astanatimes.com/2014/12/place-water-kazakhstan-2050-strategy/>

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❖ Jeddah prepares integrated plan to deal with rains, floods

In collaboration with other concerned government departments, Jeddah Municipality has prepared an integrated plan to deal with heavy rains or floods in the city.

Benefiting from the experience gathered from the floods that hit the city in 2009 and 2011, an official source said the plan includes the designation of 15 locations in various parts of the city to accommodate citizens who may be displaced.

The official, who did not want to be identified, said the plan focuses on the quick draining of water accumulated at intersections, main streets and empty squares.

The plan will also deal with the possible health hazards that may be caused by stagnant water.

The municipality will also immediately correct any mistakes made by contractors while digging or asphaltting roads.

Under the plan, the municipality will set up an operation room consisting of liaison officers and technicians to deal with the rain and floods.

It will also sign contracts with five cleaning companies to pump out rain water from the city's streets.

The municipality will have an emergency team consisting of technicians who will assess the effects of rains on the roads and fix any problems on the spot.

The team will also monitor construction companies to make sure that they abide by regulations, including the establishment of canals to drain rain water.

Within its efforts to deal with the hazards of heavy rains and floods, the municipality will liaise with the Presidency of Meteorology and Environment (PME), the Civil Defense, traffic police, the Ministry of Water and Electricity, National Water Company and the Ministry of Transport.

The plan includes a timetable to clear main streets of water within 24 hours. Water will be removed from internal streets within 48 hours and in 72 hours from empty squares.

"Jeddah prepares integrated plan to deal with rains, floods", 22/12/2014,online at:

<http://english.alarabiya.net/en/perspective/features/2014/12/22/Jeddah-prepares-integrated-plan-ready-to-deal-with-rains-floods.html>

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❖ Build greener to tackle climate change, Arab cities urged

CAIRO (Thomson Reuters Foundation) - Cities in the Arab region should introduce stronger standards for green building and promote sustainable communities if they are to have a chance of tackling climate change, experts say.

The [United Nations](#) Human Settlement Programme (UN-HABITAT) estimates that 56 percent of the Arab world's population already lives in cities and urban centers, a proportion that more than quadrupled between 1990 and 2010.

It is expected to shoot up to 75 percent by 2050.

The speed of the urbanization process has put additional stress on social services and infrastructure in a region already deeply vulnerable to climate change.

"Climate change forces upon us all a serious discussion on green building and the promotion of sustainability," Egypt's Minister of Housing and Urban Development Mostafa Madbouly told the Arab world's first Forum for Sustainable Communities and Green Building this month. "This is no longer a luxury."

The Intergovernmental Panel on Climate Change projects hotter, drier and less predictable climate patterns across the region, which could reduce water run-off by 20 to 30 percent in most countries in the Middle East and North Africa by 2050.

Water and food shortages, particularly in urban centers, are expected to be among the most defining challenges.

The Arab world already suffers disproportionately from extreme heat. A recent World Bank study, Turn Down the Heat, found that if the global temperature rises by 4 degrees Celsius, the average number of hot days is forecast to exceed 115 per year in the region's cities.

Unprecedented heat extremes could affect 70 to 80 percent of the land area in the Middle East and North Africa, it noted.

But experts say stronger governance and planning could help reduce this vulnerability.

"We need to change our approach to urbanization. Instead of talking about problems, we must see urbanization as an instrument," UN-HABITAT Executive Director Joan Clos told the forum.

One response is to improve green infrastructure. Several cities across the Arab region, like Beirut and Riyadh, have made attempts to adopt green building codes.

Egyptian authorities told the forum they are working to finalize licensing standards that would help ensure new buildings cut their emissions and electricity consumption.

The buildings sector is responsible for more than 40 percent of global energy use and one third of global greenhouse gas emissions, the U.N. estimates.

INFORMAL CREATIVITY

But adopting clear standards to improve construction is no easy task in a region where city governance is generally centralized, with primary responsibility falling on national governments and little or no capacity in municipalities.

In a region where cities contribute nearly 92 percent of gross domestic product, there is a great deal of diversity among them. But in many, weak governance has allowed the simultaneous growth of informal settlements.

That makes the task of setting and enforcing building regulations even more difficult, as well as hampering the ability to monitor changes to a city's make-up.

Red-brick towers have sprouted in Egypt's capital, for example. From above, Cairo looks almost red, representing what Egyptians recognize as the color of unlicensed construction.

At least two thirds of Cairo's population live in neighborhoods that have sprung up since 1950, mostly devoid of planning or control.

But informal settlements need not be an obstacle, according to Egypt's Minister of Urban Renewal and Informal Settlements Laila Iskandar. Rather they are a space where the creative resourcefulness of residents can be tapped, she said.

One example of an entrepreneurial group is Cairo's informal waste collectors, who recycle more than 80 percent of what they gather, she noted.

"We need to strengthen capacities where they exist. In informal areas, we have a golden opportunity to adopt a paradigm shift towards more sustainability," she argued.

ENERGY EFFICIENCY

A bigger challenge to sustainable cities rests in inefficient, high-intensity energy use across the industrial and service sectors, both concentrated in urban areas.

Wasteful consumption, particularly in the Arab Gulf monarchies, already sucks in more energy on a per capita basis than most other parts of the world.

Across the region, industry is the most energy-hungry sector, accounting for around 45 percent of consumption. In absolute terms, eight of the world's 10 most energy-intensive economies are Arab countries, according to research for the 2012 Arab Human Development Report.

"Energy efficiency is the solution to solving energy crises," said Kurt Wiesegart, team leader of an EU-financed energy-efficiency project for the construction sector in the Mediterranean.

"Governments must put in place clear and strategic plans that support energy efficiency reforms or consumption will continue to go unchecked."

With large subsidies effectively eliminating incentives for private and business transport to cut their use of fuel, the Arab world also wastes revenues on inefficient modes of transport and does not invest enough in public transport upgrades, a key component of sustainable cities.

A 2007 McKinsey study found that, of the world's potential to make energy-efficiency savings in the road sector, one third alone could be met from the elimination of fuel subsidies in the economies of the Middle East and [Venezuela](#).

"We have a lot of challenges but also opportunities," said Hussein Abaza, a senior adviser to Egypt's environment minister.

"There is a great deal of policy initiative but it is not always coherent and in many cases, it is incomplete. If green growth is to have a chance, we must work to address that."

"Build greener to tackle climate change, Arab cities urged", 23/12/2014, online at:

http://www.reuters.com/article/2014/12/23/us-egypt-climatechange-construction-idUSKBN0K110O20141223?utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=4a73dfd26f-RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_c1265b6ed7-4a73dfd26f-250657169

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❖ ‘Share less water, but make treaty a reality’

KOLKATA: River experts feel that the Teesta water sharing treaty between India and Bangladesh can be a reality if both the neighbouring countries agree to share less water from the river.

The sharing of water of Teesta is a concern for both India and Bangladesh. In September 2011, [Mamata Banerjee](#) had objected to the inking the water sharing pact fearing that North Bengal would turn dry if the treaty was implemented.

"Non-implementation of the treaty is a barrier to our bilateral ties," said a diplomat of Bangladesh, adding "We want the issue to be resolved at the earliest."

With Bangladeshi president [Abdul Hamid](#) touring India, the issue of water sharing came up for discussion with the Indian Prime Minister and President as well.

An Indian river expert said, "Both the countries should come out of the myth of unrealistic command area with the meager flow of Teesta during the lean period. In lean period, the rate of water flow in the river is less than 200 cumec. Both the countries should understand the reality."

The expert added: "To solve the dispute, rationalization of the command area is needed keeping in mind the water available in lean season. It is a myth that North Bengal will turn dry after water sharing, as six districts draw water from the river."

"There is a demand that India should retain 55% share of the river's water, while the Bengal government is trying to pursue the Centre for a 75:25 water sharing ratio. But, Dhaka wants an equal water sharing of 40:40, while the remaining 20% should be set aside for the river to flow," another river expert said.

River expert Subir Sarkar said, "As Teesta is an international river, its water should be shared equally by the countries through which it flows. Water sharing can be based on catchment area. Central Water Commission measures water carried by Teesta and Bangladesh gets their data. Therefore, any suppression of fact on part of Indian government will upset Bangladeshi officials."

Iqbal Matin, a professor of civil engineering at Rajshahi University of Engineering and Technology in Bangladesh, said: "When water sharing is taking place internationally, the two neighbours should go for it. If the water flow is low, we have to accept lesser amount of water."

Former chief justice of Bombay High Court Chittatosh Mookerjee, who was a chairman of Cauvery Water Disputes Tribunal, said, "The Helsinki Rules on the uses of the waters of international rivers lay down the principle of reasonable and equitable utilization of international river water among the riparian states."

Imtiaz Ahmed, a professor of international relations at Dhaka University, said more political will was required for signing the water sharing treaty. "Indian constitution does not say that the Centre should need the consent of the Bengal government for inking the pact. As [Manmohan Singh](#) did not ink it, the present BJP-led government may delay it for political gains," he said.

‘Share less water, but make treaty a reality’, 24/12/2014, online at: http://timesofindia.indiatimes.com/city/kolkata/Share-less-water-but-make-treaty-a-reality/articleshow/45622755.cms?utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=4a73dfd26f-RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_c1265b6ed7-4a73dfd26f-250657169

❖ **Singapore water treatment company hopes \$250M deal signals things to come**

SINGAPORE -- Now that it has won its first major Middle Eastern municipal water contract in five years, Hyflux expects demand in the region to accelerate.

The Singaporean company, in a tie-up with Oman's National Power and Water Company, earlier this month secured the rights to develop and operate a seawater desalination plant in Qurayyat, near Oman's capital city of Muscat. The deal is valued at \$250 million.

The water treatment business has been sluggish due to political turmoil in the region, but Hyflux reckons that is changing. "Pent-up demand in the Middle East and Africa is driving the revival of water infrastructure projects" after a few years of declining government investments, Olivia Lum, Hyflux's executive chairman and group CEO, told the Nikkei Asian Review in an emailed statement. Lum noted an increase in the number of projects that have come up for tender in the second half of 2014, and said Hyflux is keen to bid on new opportunities.

Under the Oman contract, Hyflux will design, build and run a plant that will use reverse-osmosis membrane technology to treat seawater for public use. Slated to go onstream in May 2017 with a daily capacity of 200,000 cu. meters, the facility will provide water to the government-owned Oman Power and Water Procurement Company for 20 years.

This is Hyflux's second contract in Oman. The first, awarded in 2009, was also for a desalination facility, which was completed in 2012 in the southern city of Salalah. That plant's capacity is 68,000 cu. meters per day.

The Salalah deal marked the start of Hyflux's dry spell in the Middle East and North Africa, which it still considers one of its most important markets.

"Singapore water treatment company hopes \$250M deal signals things to come", 24/12/2014, online at: <http://asia.nikkei.com/Business/AC/Singapore-water-treatment-company-hopes-250M-deal-signals-things-to-come>

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WWW.ORSAM.ORG.TR

❖ Infographic: California Drought Drains Groundwater Reserves and Encourages New Wells

California's disastrous three-year drought has depleted nearly all of its hydrological bank accounts. The Sierra Nevada snowpack last winter was [the third-lowest on record](#). Soils are baked. Mammoth reservoirs are mere puddles. And groundwater tables are dropping with unprecedented speed.

Water levels in many of the state's most important groundwater basins – those used by cities in coastal Southern California and by farmers in the expansive Central Valley – fell 50 feet or more between the spring of 2013 and the spring of 2014. The statewide plunge led to an arms race of sorts as farmers and landowners poked ever-deeper holes in the ground to access the receding supply.

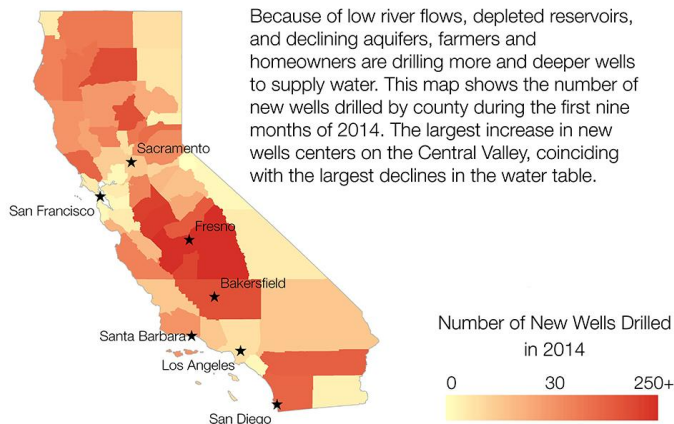
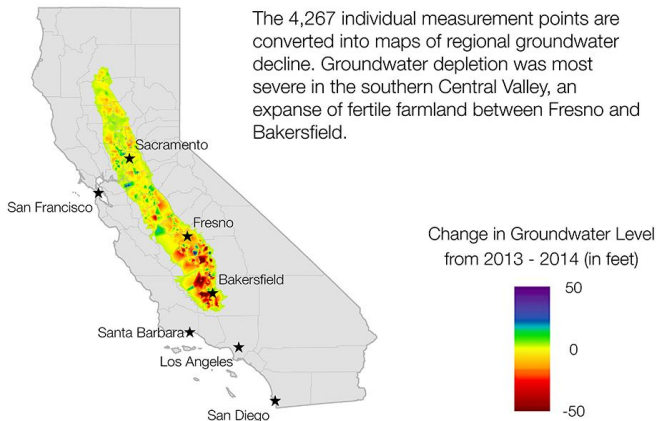
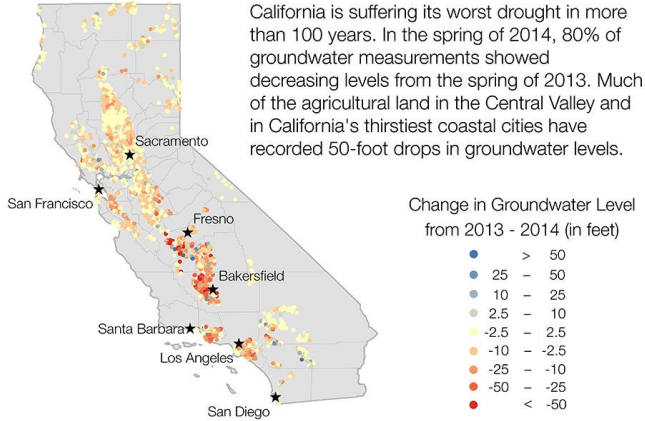
The losers in this race are the rural poor, the farm workers in Tulare County, marked darkest red on the map, whose domestic wells [went dry by the hundreds](#). Without running water, their showers come from bottles, and they flush toilets by hand. Circumstances in the Central Valley this year were so visibly twisted that legislators passed [sweeping reforms](#) to state groundwater law, requiring local agencies, for the first time, to bring water use in line with availability.

The graphic below shows the decline in state groundwater levels and the increase in new wells that have been drilled. The dots represent the change in groundwater levels between the spring of 2013 and the spring of 2014, based on measurements taken through the California Statewide Groundwater Elevation Monitoring Program. Red dots represent a decrease in levels, while blue dots show a rise.

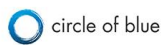
The second image translates the point measurements into regional trends. Since the spring of 2013, groundwater depletion has been most severe in the San Joaquin Valley, an expanse of fertile farmland between Fresno and Bakersfield.

The third map shows where new wells were drilled during the first nine months of 2014. The largest increase came in the same counties where groundwater declines were the steepest.

CALIFORNIA DROUGHT DEPLETES GROUNDWATER RESERVES



Sources: California Department of Water Resources,
California Statewide Groundwater Elevation Monitoring Program



“Infographic: California Drought Drains Groundwater Reserves and Encourages New Wells”,18/12/2014, online at:
<http://www.circleofblue.org/waternews/2014/world/infographic-california-drought-drains-groundwater-reserves-encourages-new-wells/>

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❖ Shale gas drilling operator penalized for landslide that diverted Greene County streams

Vantage Energy Appalachia LLC will pay a \$999,900 penalty for more than a dozen Pennsylvania environmental law violations resulting from illegal waste disposal and a landslide that covered and diverted two small streams near its Porter Street well pad in Franklin Township, Greene County.

The state Department of Environmental Protection said Monday the penalty is part of a consent order that requires the Engelwood, Colorado-based gas drilling company to fully restore the impacted unnamed tributaries of Grimes Run, which flows into the Monongahela River, and remediate the surface and groundwater in the area. All remediation work must be completed by the end of 2015.

The landslide impacting the streams occurred on Jan. 16, 2014. In July, a Vantage subcontractor, Elite Well Services, dumped two truckloads of drilling wastewater into the landslide area where remediation work was underway. Also in July, the company was cited for constructing an access road along the streams without a required permit.

“These violations resulted in significant damage to our natural resources and this action is in direct response to the seriousness of the violations,” John Ryder, DEP district oil and gas operations director, said in a release about the settlement.

Mr. Ryer also said Vantage is taking steps to better manage its shale gas drilling sites in the state, including hiring an independent consultant to conduct an environmental audit of its drilling sites.

Vantage has two shale gas wells drilled and producing on the Porter Street well pad, but, under terms of the consent order, seven other wells will not be drilled until after the remediation and restoration work is completed.

Vantage issued a statement Monday saying it is, “deeply committed to across the board operational excellence, transparency and environmental compliance,” regrets the “isolated events” and is taking “proactive steps to ensure that such incidents do not occur again.”

“Shale gas drilling operator penalized for landslide that diverted Greene County streams”, 22/12/2014, online at:
http://www.post-gazette.com/powersource/companies-powersource/2014/12/22/Vantage-Energy-Appalachia-penalty-Franklin-Township-Greene-County-Pennsylvania/stories/201412220201?utm_source=Circle+of+Blue+WaterNews+&+Alerts&utm_campaign=ad936dffd6-RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_c1265b6ed7-ad936dffd6-250657169

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❖ Water Left Out Of Lima Climate Negotiations

Exactly one month after the United States and China signed a landmark climate change agreement that focused on water supply and water quality in two of its six major provisions, negotiators at the international climate conference in Lima, Peru were silent on the subject.

The word ‘water’ is not mentioned once in the five-page agreement signed in Lima on December 12 at the close of the 20th session of the Conference of the Parties (COP), an annual meeting that brings together all 195 countries within the United Nations Framework Convention on Climate Change (UNFCCC). The talks were the last major negotiations to take place before a meeting of the countries in Paris in December 2015, when a binding global climate deal is expected to emerge.

The breakthrough in diplomacy that is expected to lead to the Paris climate accord is the U.S. – China climate pact, signed last month, and driven in large part by new science and ground level awareness globally that most of the planet’s major energy and grain-producing regions are getting drier. That knowledge, though, evaded negotiators in Peru despite the efforts of the global water community to include water in the official diplomatic text—a goal that first rose to prominence at the 2009 U.N. climate conference in Copenhagen.

From our perspective I can say, unfortunately, so far water does not play a central role in the negotiations,” Maika Muller, programme officer for the Global Water Partnership, told Circle of Blue. “It is recognized by the parties, but it is not explicitly mentioned in the decisions or the agreement, although we all know it is a common thread in climate impacts expressed by extreme events like floods and droughts.”

Instead, the negotiations have focused single-mindedly, and narrowly, on capping greenhouse gas emissions, even as climate change is being experienced most acutely through melting glaciers that dry up water supplies, record-breaking droughts that decimate food supplies and hinder energy production, and massive storms that are more deadly and expensive than ever.

More recognition of the connections between water supply, water quality, water conservation, and climate change is not enough to prompt deeper discussions at U.N. climate summits, according to water policy experts. They warn that failing to formally take water into account could ultimately

undermine efforts to both mitigate and adapt to climate change. For example, without formal recognition, water management projects necessary for sustainable cities, agriculture and energy are largely cut out of initiatives like the Green Climate Fund. Renewable energy strategies and efforts to stop deforestation also have important intersections with water, and must be designed with water in mind, experts say.

“If you don’t appreciate and recognize the role of water, then our firm belief is that you will not be able to sustain climate action,” Karin Lexen, director of the World Water Week and Prizes Department at the Stockholm International Water Institute (SIWI), told Circle of Blue.

No Action Despite Recognition of Water’s Importance

Until Lima, water issues were rising in the global diplomatic community. Water made progress within the official framework last year, at the COP19 meeting in Warsaw. There, water was included as one of four focus areas of the Nairobi Work Programme, an initiative created in 2005 to develop and spread knowledge that can inform climate adaptation efforts.

But it’s been a slow ascent. Water has not been incorporated fully into key programs like the Green Climate Fund, established at the 2010 COP in Mexico City to help countries combat climate change.

“Water is only under the Green Climate Fund, so far, as an impact indicator for WASH, but there is not a stand-alone focus on water resource management,” Muller said. “If a water window is created under the Green Climate Fund, it will increase the attention by the parties and the negotiators to put water on the climate agenda. It would also allow developing countries to raise money for resource management and prepare for climate risks that occur by water.”

Though diplomats are reluctant to guide water into global climate negotiations, water is increasingly recognized as an important element in UNFCCC program activities, such as the Nairobi Work Programme. The Work Programme assists countries in understanding how climate change will affect them, and how they can adapt.

“The major barrier for [a program focused on water] was not that negotiators didn’t feel that water is important, but having yet another program, yet another issue that needed to be negotiated,” Lexen said. “I think this is one of the problems.”

The Danger of Ignoring Water

Leaving water out of official negotiations, however, will likely be detrimental to the programs and initiatives that are included. Water experts identified problems likely to arise in both mitigation and adaptation measures—the ability to keep the worse effects of climate change from happening and the ability to adjust to new climate realities, respectively.

Mitigation, which focuses on either reducing emissions or capturing emissions that have already been released, is an area where water has been especially absent.

“Mitigation has been very much about the economy, about calculations,” Lexen said. “The people involved in mitigation have been very far away from the water community, when really more effects are showing that if you don’t deal with water, you will not be able to solve this issue.”

For example, a scientific study published in February found that the Amazon rainforest has the potential to become a source of carbon emissions in drought years, while in wet years it can take more carbon out of the atmosphere, reducing global emissions. In other words, focusing solely on stopping deforestation will not necessarily lead to carbon reductions. Water must be taken into account, too.

Similarly, efforts to produce renewable energy and build clean energy infrastructure are largely dependent on water. Hydropower dams may not produce energy effectively if they are not built with changing water realities in mind, while the production of biofuels also relies on adequate water supplies. Failure to address these issues could put large investments at stake, as well as jeopardize the capacity to adapt to climate change if decisions made for mitigation lock in certain water consumption patterns that last decades, according to John Matthews, coordinator of the Alliance for Global Water Adaptation (AGWA).

“A lot of people at work on clean energy don’t see water yet,” Matthews told Circle of Blue.

Taking water into consideration is also necessary for effective adaptation initiatives, according to Sonja Koeppel, environmental affairs officer with the Convention on the Protection and Use of Transboundary Watercourses and International Lakes at the United Nations Economic Commission for Europe (UNECE). In a river basin, for example, expensive adaptation measures to combat

increasingly severe flooding in downstream areas may be unnecessary if funding can be mobilized and coordinated to address the roots of the problem upstream.

“These things are still very little considered at UNFCCC,” Koeppel said. “When it comes to transboundary river basins, it is necessary to have some sort of coordination and cooperation on these adaptation measures at the basin level.”

A Growing Coalition Around Water Issues

While formal inclusion of water in the negotiations has remained elusive, the water community has been successful in elevating the number and diversity of people talking about water and climate.

“On the one side, if you are looking into the text on the table right now, you will not find water much more than in 2009,” Lexen said, referring to the draft text for Paris and the text from the Copenhagen agreement. “But if you enter into a discussion with the negotiators and those working with the UNFCCC, they would say ‘yes, we appreciate that water is really important, and we need to have you guys here.’”

Between the Copenhagen conference and the Lima conference, many decision makers have shifted their views of water from a narrow, niche infrastructure sector. Water is now viewed as a common theme encompassing major areas like agriculture and energy, according to Matthews.

“Five years ago, when we talked about water we were just trying to make the basic case that water was essential to thinking about climate adaptation,” Matthews told Circle of Blue. “Water has really become recognized as the medium through which climate change impacts occur, such as droughts, floods, tropical cyclones, and extreme storms. All of that in effect shows that the language of water is really the language of climate change impact.”

Matthews said another major difference is the level of engagement he saw in Lima. Water side events attracted the attention of high-level government officials and heads of organizations such as the UN Intergovernmental Panel on Climate Change (IPCC). It was a marked change from Copenhagen, where Matthews recalled an event where one man said he was the only representative out of a 600-strong delegation from Brazil who was dedicated to water.

“I think what was catalyzed in Lima is a much broader coalition,” Matthews said. “Water caught fire. Water has moved out of the water community as an important agenda item. It is being talked about by people who cannot be labeled as simply coming out of the water community and advocating for their interests.”

Key Goals for Water in 2015

Matthews and others in the water community hope this broad coalition can take advantage of three important meetings next year to pursue the inclusion of water and climate issues at the international level. In addition to the Paris COP in December, two other major events—the World Conference on Disaster Risk Reduction in March and the Sustainable Development Goals summit in September—offer opportunities for negotiators to place water on the agenda.

“Despite a lack of the presence of water in the [Lima] discussions, we are hopeful for next year when so many important events will happen, and new agreements and frameworks will be developed,” Anna Kaplina, environmental affairs officer with the Convention on the Protection and Use of Transboundary Watercourses and International Lakes at UNECE, told Circle of Blue. “We do hope that water will take a much more prominent place in those agreements and discussions.”

Some of the major goals identified by water experts include:

- Integrating water into discussions of both climate change mitigation and adaptation. For example, taking into consideration the water used to generate renewable energy, or by forests that store carbon in plants and soil.
- Including water resource management projects in the Green Climate Fund, and allowing these projects to work at the regional, river-basin level.
- Passing a comprehensive Sustainable Development Goal for water, including not just water and sanitation access targets (WASH) but also a target for integrated water management.
- Addressing water issues coherently in all three major international negotiations—the Disaster Risk Reduction conference, the Sustainable Development Goals summit, and the Paris COP21 conference.
- Translating on-the-ground water knowledge and action into the international negotiations and global policy discussions.

- Continuing to build upon the community mobilized around water issues at the Lima COP20.

“We will have to see in reality how this can be done and how realistic it is in the next year,” Koeppel said. “In the end it will have to be the countries speaking up for this topic.”

“Water Left Out Of Lima Climate Negotiations”, 19/12/2014, online at:

<http://www.circleofblue.org/waternews/2014/world/water-left-lima-climate-negotiations/>

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