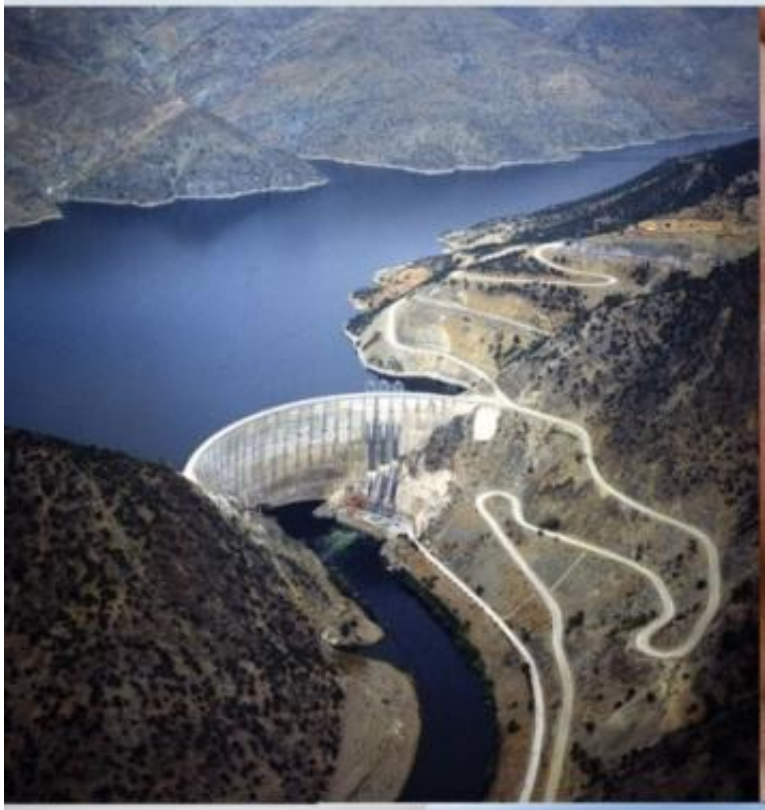


ORSAM WATER BULLETIN

Weekly Bulletin by ORSAM Water Research Programme

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





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❖ Lack of rain and snow raises drought concerns

State Waterworks Authority (DSİ) data states that the average cumulative precipitation between Oct. 1, 2013 and Jan. 2, 2014 across Turkey has decreased drastically in comparison to previous years and experts are concerned because Turkey faces a serious threat of drought this year due to the lack of rain and snow.

According to DSİ data, the average cumulative precipitation between Oct. 1, 2013 and Jan. 2, 2014 across Turkey has decreased 31.4 percent compared to the long-term average and decreased 41.6 percent when it is compared with the 2012 average.

Meteorology General Directorate data indicates that the total amount of precipitation per square meter in 2012 was 455.4 kilograms, but decreased to 292.8 kilograms in 2013.

This lack of precipitation has raised concerns among experts who say Turkey could face serious difficulties if there is not enough rain or snow in the upcoming months.

At a press conference on Jan. 7, Food, Agriculture and Animal Husbandry Minister Mehdi Eker was asked about the lack of precipitation. Eker responded: "As of yet, there is not an agricultural drought in Turkey. However, there is currently already a meteorological drought. The amount of rainfall in the last year is much lower than previous years. We have concerns." He added: "Spring rainfalls are very significant in terms of agricultural drought; they are very important for grain crops. We will wait for this period [spring]. There is currently no concern about planting."

Low volume in reservoirs

The lack of rainfall this year has greatly reduced the supply of water available in Turkey's reservoirs. The DSİ data states that the reservoirs are currently 35.4 percent full, while this rate was 64 percent in January of last year.

However, experts say they are hopeful that there will be precipitation in the coming months. A senior official from the İstanbul Waterworks Authority (İSKİ) who declined to be named told Sunday's Zaman: "Turkey entered the rainy season as of September, but there has not been enough rainfall thus

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far. However, we are still hoping and we believe the water level in the reservoirs will increase to the desired amounts before the end of May."

Stating that though the situation is not too alarming yet, the İSKİ official said that there will be serious trouble if the drought continues.

The average volume of drinking water in İstanbul's reservoirs is currently 33.97 percent. In Ankara, it is 24.77 percent, 57.78 percent in İzmir and 44.04 percent in Bursa. In January last year, the average in İstanbul was 62.26 percent, 28.03 percent in Ankara, 46.44 percent in İzmir and 46.9 percent in Bursa.

The official said that İstanbul is a continuously growing city, noting: "As the population of the city increases year by year, its need for water also increases in parallel. We cannot guarantee that İstanbul will not experience water problems, even though we have already begun to bring water from the Melen Stream to İstanbul."

The construction of a "Melen Project" pipeline, initiated in 1997 by the DSİ to put an end to İstanbul's ongoing and potential water woes, was finished in 2007. Underground pipelines bring water from Sakarya's Melen Stream to İstanbul.

Evaluating the issue for Sunday's Zaman, Turkish Union of Agricultural Chambers (TZOB) President Şemsi Bayraktar also emphasized that Meteorology General Directorate data indicates that the cumulative precipitation between October and December 2013 is much lower than it was for the same period the previous year. He said: "The average cumulative rainfall is currently 159.1 mm. It was 270.5 mm for the same period in 2012."

Further analyzing figures about the amount of precipitation in Turkey, Bayraktar said that the biggest decline between October and December 2013 took place in the Central Anatolia Region. He stated that the cumulative rainfall in that region decreased 49.4 percent compared to the previous year, adding that this region was followed by the Mediterranean Region that saw a 47.7 percent decline, the Eastern Anatolia Region with a 45.9 percent decrease, the Southeastern Anatolia Region with 30.4 percent less, the Marmara region with a 25.7 percent decrease, the Aegean Region with 18.8 percent and the Black Sea Region with 11.8 percent decline.

The effect of lack of moisture on grain yields

Bayraktar stated that the lack of rain and snow has already affected grain yields, adding that farmers are looking forward to rain coming as soon as possible. "The growers are very concerned because their grain crops did not get enough rainfall in November and December," Bayraktar said, adding that according to the information they received from the TZOB branches across the country, some planted seeds failed to grow due to the lack of water.

Stating that it is very difficult to say with any certainty whether or not there will be a drought in 2014, Bayraktar said that everything depends on how much rain falls in the upcoming months.

Also speaking to Sunday's Zaman, Turhan Tuncer, the president of the Chamber of Agricultural Engineers (ZMO), pointed to the lack of snowfall this year. He stated: "I live in Ankara and it has snowed only once this year. Snowfall is very important for wheat yields. We, as agricultural engineers, call snow the quilt for the wheat. The wheat should germinate slowly under the snow. If snowfall decreases, wheat production will also decrease."

Professor Mikdat Kadıoğlu from İstanbul Technical University's faculty of aeronautics and astronautics told Sunday's Zaman that the "water year," or rainy season, started as of October 2013 and will end in September 2014, adding: "In the first three months of the water year, the desired rainfall didn't fall. Most of Turkey has a Mediterranean climate. In this climate, summers are dry and hot while winters are warm and rainy. Thus, we should have had most of the rainfall we need during these first three months. However, we did not and what is serious is that thus far, we are also seeing drought conditions in January."

Stating that Turkey has been experiencing a hydrological drought, Kadıoğlu said: "According to long-term weather forecasts, a high amount of rainfall is expected in the Black Sea Region, the Eastern Anatolia Region and the Central Anatolia Region. However drought is expected in the Marmara Region, the Aegean Region and the Mediterranean Region. These three regions are the country's most populated regions. In other words, the regions that need the most water."

Regarding the low volume of water in reservoirs, Bayraktar also said that according to the UN's latest water report, Turkey will experience a grave water problem as of 2025, adding: "People should not

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forget that Turkey is not a water rich country as it is frequently said. People have to use water economically; using our existing water resources wisely is of great importance for our country."

Deputy Chairman of the Turkish Water Foundation Ali Uysal said it is still very early to create disaster scenarios, adding that there will be rainfall during the spring months and the volume in reservoirs will increase when the snows melt in the spring.

But Uysal also called on the public to use water more economically, stating: "For example, they should use less water while washing their cars or doing the dishes."

"Lack of rain and snow raises drought concerns", 12/01/2014, online at:
http://www.todayszaman.com/newsDetail_getNewsById.action?newsId=336251

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❖ Minister: Neither İstanbul nor Turkey will experience water scarcity

As Turkey faces a serious threat of drought this year due to a lack of rain and snow, Forestry and Water Affairs Minister Veysel Eroğlu has said that people should not be worried, adding that neither İstanbul nor the rest of Turkey will experience water scarcity as the government has already taken preventative measures.

Holding a press conference in İstanbul on Friday with İstanbul Mayor Kadir Topbaş to unveil new projects that will provide fresh water supplies to İstanbul, which has a population of over 17 million, Eroğlu said they will construct new dams to provide water to İstanbul's residents. The minister stated: "There is global climate change that brings drought to some places while bringing floods and heavy precipitation to other places. We have to take measures against this. We have to plan around the worst-case scenarios."

He continued, "Considering the possibility of a drought lasting two to three years in İstanbul, we have decided to construct a dam on the Melen Stream. We will lay the foundations of this dam soon."

Stating that İstanbul generally experiences a drought once every seven years and experiences a severe drought every 17 years, Eroğlu said: "For instance, there was a very serious drought in 1994. However, we overcame it with our resources, without harming İstanbul's residents. There was a drought in 2007, and now there will be a drought in 2014. However, you can be sure that we are taking precautions against the drought threat."

Eroğlu also announced that two other dams will be constructed near the town of Ağva in İstanbul, stating that the first dam will be the Osmangazi Dam and the second will be the Sungurlu Dam. He explained: "We have started these dams because İstanbul is a very big city. Its population is currently 17 million. It is a city whose population is even greater than the population of some countries in Europe. Leaving İstanbul residents without water even for an hour will make us very sad. Thus, we will make every possible effort for İstanbul."

Stating that the water level in İstanbul's reservoirs has decreased to 33 percent this year from 63

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percent last year, Eroğlu noted that they expect some rain on Thursday next week and confirmed that neither İstanbul nor the rest of Turkey will be left without water.

İstanbul Mayor Topbaş, also speaking at the conference, said the second phase of the Melen project is about to be completed, adding that Turkey has just experienced the driest year of the last 50 years.

The first phase of the "Melen Project" pipeline, initiated in 1997 by the State Waterworks Authority (DSİ) to put an end to İstanbul's current and future water issues, was completed in 2007. In this project, underground pipelines will bring water from Sakarya's Melen Stream to İstanbul.

He stated: "We are working day and night to solve the water problem. We are trying to prevent this problem from affecting people's daily lives in a negative way."

Topbaş also called on residents to use water more wisely, saying, "I have a request for İstanbul residents: please use water wisely."

According to DSİ data, the average cumulative precipitation from Oct. 1, 2013 to Jan. 2, 2014 across Turkey has decreased 31.4 percent compared with the long-term average and 41.6 percent compared with the average for 2012.

"Minister: Neither İstanbul nor Turkey will experience water scarcity", 10/01/2013, online at: http://en.cihan.com.tr/news/Minister-Neither-Istanbul-nor-Turkey-will-experience-water-scarcity_0109-CHMTI5MDEwOS8xMDA1;+h9eOugPGj

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❖ Environment: Turkey; Istanbul at risk of drought

(ANSAmed) – ISTANBUL, JANUARY 8 - Fears are growing over a drought which may hit the Turkish city of Istanbul due to the gradual drying up of the Melen Reservoir, as Anadolu Agency reports. The Melen Reservoir, which provides Istanbul with 676,000 cubic meters of water a day has been drying up since 2007. It was recently found that water levels in the reservoir have dropped to as low as 35%, which is down from 54.4% last year. A lack of rainfall, especially in 2013, explains the low levels in the reservoir, which is found the in Black Sea region of Sakarya and pumped to Istanbul via under-sea pipes.

Construction work on a new barrage to withhold reservoir water continues as the authorities prepare to provide Istanbul's 15 million plus residents with an alternative water source should a drought hit the city in the summer. (ANSAmed).

"Environment: Turkey; Istanbul at risk of drought", 08/01/2014, online at:
http://www.ansamed.info/ansamed/en/news/sections/environment/2014/01/08/Environment-Turkey-Istanbul-risk-drought_9866507.html

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❖ Iran Shelves Plan To Transfer Caspian Water To Inland

Iran has shelved a plan which was developed by the administration of former president Mahmoud Ahmadinejad for transferring water from the Caspian Sea to inland, the Mehr News Agency reported on January 12.

Iran has shelved a plan which was developed by the administration of former president Mahmoud Ahmadinejad for transferring water from the Caspian Sea to inland, the Mehr News Agency reported on January 12.

The plan is just in the phase of study. Even the workshops which had been equipped to start the project have been closed down and no work will be implemented without environmental permissions, he explained.

In December 2013, the Mehr News Agency "ed Iranian deputy energy minister Sattar Mahmoudi as saying that Iran has finished preliminary studies for transferring water from the Caspian Sea to inland.

Some 200 million cubic meters of water is projected to be transferred per year to the central parts of the country for drinking and industrial purposes, according to the official.

In April 2013, ex-Energy Minister Majid Namjou said that Iran will start operations to transfer water from the Caspian Sea to the central parts of the country in the near future.

The required budget, which is about 20 trillion rials (about $800 million), has been provided, he said, adding that the project will be completed by March 2016.

In October 2012, the Iranian energy ministry received the permission to transfer water from the Caspian Sea to central parts of the country.

Meanwhile, Iran's environment protection organization official Abdolreza Karbasi sad in October

that transferring water from the Caspian Sea to the central desert of Iran will lead to an ecological disaster.
Water desalination systems will add 32 million tons of salt to the Caspian Sea water per year, which is a disaster for the ecology of the sea, he added.

Currently, the Caspian Sea water holds 13 grams of salt per liter of water. If 250 million cubic meters of water is transferred annually to Semnan, some 32 million tons of salt will be added to the sea, he explained.

"Iran Shelves Plan To Transfer Caspian Water To Inland", 12/01/2014, online at: http://en.haberler.com/iran-shelves-plan-to-transfer-caspian-water-to-347401/

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❖ Environmental Protection Organization: Iran ranks first in world for wasting water sources

Iran ranks as first country in the world for wasting water resources, head of Environmental Protection Organization Massoumeh Ebtekar said, Mehr news agency reported on Jan. 9.

She confirmed the reports of international reports that claim Iran has fallen 65 positions in the Environmental Performance Index (EPI).

Ebtekar said that the average consumption of energy in Iran is fivefold more that in other countries on average.

She underlined that Iran is the seventh bigger greenhouse gas producer in the world and because of this situation the country's climate has got 1.5 to 3 degree harmer than several years ago.

Ebtekar added that this factor causes water sources' more evaporation and climate exchange in Iran.

In mid-August, the ILNA news agency reported that Iran ranks 114 out of 134 countries in the 2012 Environmental Performance Index (EPI) report.

The index ranks countries on 25 performance indicators covering both environmental public health and ecosystem vitality.

Iran's rank in 2006 EPI report was 40, which indicates a fall by 74 steps during ex-president Mahmoud Ahmadinejad`s administration (2005-2013), the report said.

Lake Urmia's drying was a problem, as a result of which some 70 percent of its water surface has dried up. Destruction of forests is another problem. According to official statistics, some 40 hectares of forests are being destroyed every year.

One of the problems that really affects the health of people in Iran is air pollution. The air over Iran's capital is amongst the most polluted in the world. Experts say many Iranians suffer serious health problems as a result

"Environmental Protection Organization: Iran ranks first in world for wasting water sources", 09/01/2014, online at: http://en.trend.az/regions/iran/2228473.html

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❖ Japanese specialists say ready to save Lake Urmia

Japan International Cooperation Agency (JICA) has expressed its readiness to eliminate the environmental disaster in Lake Urmia, said JICA official Hideaki Yuki Hair at the joint press conference with Hassan Abbasnejad, Head of the Iranian West Azerbaijan Province's Environment Organization, APA reports quoting IRNA.

According to him, JICA specialists visited West Azerbaijan Province and inspected Lake Urmia. On January 30, JICA specialists will visit Iran again with the view of eliminating the environmental disaster in Lake Urmia. The visit will last till February 7. The Japanese delegation will include 5 people specialized in fields of water resources and agriculture.

Lake Urmia is located between Iran's East and West Azerbaijan provinces. The lake covers approximately 6 000 square meters area. Over the last 50 years, 70 percent of the lake has completely dried up and salted. Its water level began to decline since 1995. The area of Lake Urmia strongly reduced and the water around 5 islands completely dried up. Experts have repeatedly warned about salt storms threatening the health of people, as well as economy. Only 15 percent area of Lake Urmia has remained.

"Japanese specialists say ready to save Lake Urmia", 07/01/2014, online at: http://news.az/articles/iran/85552

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❖ NESPAK achieves breakthroughs in Iraq, Jordan

Wednesday, January 08, 2014 - Lahore—National Engineering Services Pakistan (NESPAK) Private Limited has made a major breakthrough by setting up its office in Iraq and winning a dam project in the Kingdom of Jordan, this was disclosed by Mr. Amjad A. Khan, Managing Director NESPAK. MD NESPAK also said that that NESPAK has set up its office in Baghdad to deal with the East of Gharaf Project awarded by the Ministry of Water Resources, Government of Iraq. The acquisition of this project has marked the restart of NESPAK operations in Iraq after 23 years' break. According to the spokesperson of the NESPAK the project is aimed at strengthening the war torn economy of Iraq by providing sustainable irrigation and drainage facilities to about 390,000 acres of land in Nassiriya and Kut Govern orates, the area between Tigris and Euphrates rivers. NESPAK signed the contract agreement for the project with Ministry of Water Resources, Government of Iraq, in Baghdad, under which NESPAK will provide topographic survey and detailed design services for irrigation and drainage networks. The duration of the project is 25 months.

Under another achievement, NESPAK has won a dam project in Jordan through International bidding, which shows Company's recognition as a world-class Consultant not only in Pakistan but abroad as well. NESPAK submitted proposal in September 2013 and has won construction supervision of Zarqa Ma'een Dam Project in Jordan.

"NESPAK achieves breakthroughs in Iraq, Jordan", 08/01/2014, online at:
http://pakobserver.net/detailnews.asp?id=229588

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❖ Waters wars: How aquatic scarcity sparks conflicts between states

As they say, 'water is life', with its shortage continuing to fuel conflicts around the world. Since the mid-20th century, the planet has seen nearly 180 disputes connected to water resources, and among the latest is the problem in Egypt.

For centuries, the protection of natural resources has been tied to wars and conflicts around the world. So it's unsurprising that when Ethiopia, the source of around 85 percent of the Nile's water, raised the possibility of building a high dam on the Blue Nile, some Egyptian experts suggested going to war with the country.

"If you cut water we'd be dying" political scientist at the American university in Cairo, Said Sadek, told RT. "We have to remember that Egypt has only 6-7 percent of arable land. The western Egyptian territory is a desert, so that can be a serious problem, affecting national security."

By 2050 Egypt will contain 150 million people and the country will need an extra 21 billion cubic meters of water in addition to the current 55.5 billion, Sadek noted.

In June, Ethiopia's parliament ratified a treaty that grants permission to upstream countries to implement irrigation and hydropower projects without Egypt's approval. The agreement replaces a colonial-era treaty which granted Egypt and Sudan the majority of Nile River water rights.

'Intl law has no answer to water disputes'

Journalist and commentator on the Middle East Adel Darwish told RT that in this case international law proves itself inadequate in defending the equal use of shared water.

"The international law is not clear about water and water usage. If it's a river it's a different law from whether it's a lake or a sea. So when water crosses borders then you have reasons for conflicts because international law is not clear on what to do on water disputes."

Nations should rationally share their common supplies and not politicize their disputes, he added. "Now between Egypt and Ethiopia a very dangerous situation is about to explode because the Egyptian, the Sudanese and the Ethiopians are playing a political game rather than trying to find an

economic investment that is a win-win for everybody. Perhaps the Sudanese and the Egyptians should give the Ethiopians some type of subsidized crops, grains, give them even subsidized power so they would build a smaller dam rather than building a huge one. Politics seem to be blinding politicians to see the actual economic needs that could divert the conflict."

Among other conflicts is the problem in Syria as its major water sources travel through Turkey and Iraq , making the country vulnerable, Darwish noted.

"You have the whole area of Syria, Iraq and Turkey that nearly came into conflict with each other in the late 1980s when the Turkish had the Southern Anatolia project, the Ataturk Dam. We don't know what the outcome of the Syrian war is going to be. We might actually have some kind of a hostile regime to Turkey, so the Turks could use some kind of water weapon there."

Growing population and industrial demands have tripled water withdrawals around the world over the last 50 years, UN figures show. As the world's per capita water supply is expected to drop by one third in the next 20 years, the worst strain will be in Africa and the Middle East.

"Waters wars: How aquatic scarcity sparks conflicts between states", 07/12/2014, online at: http://rt.com/news/water-shortage-conflict-africa-280/

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❖ Christopher Baumgartel Jr.: Middle East peace can be helped by water agreements

Clean water. Necessary for life, refreshing on hot summer days, and increasingly vital to the development of peaceful relationships in the Middle East. Indeed, the benefits of successful hydrological management trickle down to the populace and do not encounter the typical obstacles prescribed for territorial settlements and state recognition.

Ahead of the recent round of Middle East peace negotiations, uncertainty once again arrived as the word of the moment. A recent New York Times article points to Palestinian incitement, a threatening "culture of hate" which threatens the core of the negotiation process: the recognition of an Israeli state.

These circumstances are gravely unfortunate; however, it does not constitute a failure of top-down efforts, only an inability to develop essential support for secure relationships between Israel and Palestine. I believe this calls for new solutions that transcend the top-down approach, namely, undermining Palestine's attempts to project grass-roots hatred onto the Israeli people.
An early October interview between PBS correspondent Charlie Rose and Israeli Prime Minister Benjamin Netanyahu included a discussion of obstacles to peaceful Arab-Israeli relationships. Netanyahu discussed his concerns over whether the "top-down recognition of the Jewish state will stick," citing the popular Palestinian opposition to the recognition of an official Jewish state. This nods toward forces such as historical and domestic conflict, which work to escalate social mistrust between Israeli and Palestinian people. Where, then, lies the necessary development of cooperation between these states?

Regional water management has arisen as such an area for diplomatic and secular cooperation. Particularly, the 1994 Israeli-Jordanian Peace Treaty, in which water played a crucial role for establishing open networks of diplomacy, outlined the development of water infrastructure cooperation between Israel and Jordan through the creation of joint committees.
Recently, this has manifested into the creation of a multilateral desalination and canal network extending from the Red Sea to the Dead Sea. According to recent Time magazine news articles, this

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newly developed infrastructure would supply Israel with 80 million cubic meters of additional water, Jordan with about 90 million cubic meters, and Palestine with 30 million cubic meters.
Socioeconomic variables also spur the necessity of hydropolitical cooperation between Arab states and Israel.

Current statistics from the World Bank and the Office of the United Nations High Commissioner for Refugees measure Jordan's infrastructural water losses at between 46 percent and 55 percent and in excess of 60 percent to 70 percent in the northern Mafraq province, which houses more than 100,000 of Jordan's 500,000-plus documented Syrian refugees from the Syrian Civil War. Arab (specifically Palestinian and Syrian) refugees relegated to these harsh desert landscapes from northern Syria to southern Jordan continuously drain valuable water resources from already strained infrastructure. The result is an increasing water scarcity which threatens the economic stability of all parties involved.
These difficulties have a lessened effect on Israel, the one technological diamond in the rough, where a Reuters report cites that more than 400 million cubic meters of water, or 80 percent of all household water, is recycled through an extremely advanced national water network.
The hegemonic strength of Israel's water infrastructure proves to be not only more advanced than other Arab states but also placed strategically at the hub of multiple water resources. Increasingly, this supports Israel's ability to exercise diplomatic engagement with other water-scarce Arab states; this strategic element also allows Israel the opportunity to develop Arab infrastructure, which is needed to weather the refugee and socioeconomic crises in the region.

Thus, current diplomatic frameworks should continue to support the growing trend for states afflicted by similar issues to cooperate on similar issues: such as water management. The current opportunity to develop this infrastructure of trust is integral to the security of both states and the chance for increased Arab-Israeli cooperation, where the development of secure water relations has proven to provide the institutional groundwork for the advancement of peace.

This would simultaneously support the belief that a mutual stake in regional issues, such as water management, encourages grass-roots cooperation among Israeli citizens, Palestinian refugees, and water-deficient people across the Middle East.

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Christopher Baumgartel Jr., a Dana Scholar at Muhlenberg College, is a freshman currently majoring in international studies with a concentration in global development.

"Christopher Baumgartel Jr.: Middle East peace can be helped by water agreements", 09/01/2014, online at: http://www.mcall.com/opinion/ithink/mc-israel-middle-east-water-peace-ithink-0110-20140109,0,4837679.story

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❖ Water emergency declared in East Palestine

EAST PALESTINE, Ohio - The Village of East Palestine is under a water emergency, and is asking residents to conserve water. Residents are also being asked to boil water that is coming out of their taps for at least two minutes if they use their water, however bottled drinking water, and potable water is available at the Clark Street Fire Station.

Officials explain the sub zero temperatures caused water main breaks. Village Manager Pete Monteleon explains those breaks took a toll on the village's water wells that supply water to almost 5,000 residents, and about 150 businesses. Monteleon says Saturday at about 8:00 a.m. the water superintendent realized the pumps had stopped and they were pulling up air so workers had to shut down the water systems at that point. That led to not just a call for conservation, but a call to use water only for emergency situations.

The water department has been working to find out what the problem is with the well that went down and is working to try and get that well back on line. Water Supervisor John Jurjavic tells us workers were busy pulling a well, trying to see what is wrong with it, and if they can get it back on line. Workers were successful getting one well up and partially running. That well is pumping about 250 gallons of water a minute, which may sound like a lot but is a drop in the reservoir tank when you consider residents use about 450,000 gallons of water a day.

Residents are being asked to continue to conserve water, and if they use the water to boil it for two minutes after the water comes to a boil. The fire station on Clark Street has water that can be used for flushing toilets, and after boiled, it can be used to do dishes. The inconvenience has brought out the best in some folks like John Herbert who was not only helping he and his wife but others. Herbert told us being without water was not a huge inconvenience for he and his wife since they have lived in parts of South Africa, Botswana, Libya, the Sahara and Kahahari deserts, when he worked for the Smithsonian.
He took an 80 year old friend about a dozen bottles of water, and potable water from the fire department for flushing toilets.

The fire chief at East Palestine has made arrangements so his department can fight fires while the water emergency continues. Chief Brett Todd tells us he has made other arrangements for tankers since his department can not depend on fire hydrants. Todd tells us the fire department has three tankers on stand by and surrounding jurisdictions are more than willing to assist. The chief tells us Negley's fire department is in the village, and Waterford is on stand by. A tanker of water has also been taken to the local nursing home to help address residents needs.

"Water emergency declared in East Palestine", 11/01/2014, online at: http://www.wfmj.com/story/24422871/water-emergency-declared-in-east-palestine

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❖ Walmart donates water to East Palestine

EAST PALESTINE, Ohio - The Columbiana County Emergency Management Agency has been coordinating efforts to help residents in East Palestine. E-M-A Director Luke Newbold tells us the Salem Walmart has donated 3 pallets of water to East Palestine residents. Each family that needs water can pick up free drinking water at the fire station on East Clark Street.

Columbiana Commissioner Mike Halleck also stopped by to find out if there were any needs commissioners could help meet. Halleck told WFMJ he didn't believe East Palestine was at a state of emergency at this point, but that if that happened the county could help make resources available on an as needed basis.

Columbiana's E-M-A Director, Luke Newbold tells us getting water to East Liverpool has been difficult as so much water is being shipped to West Virginia to help residents who are also without water. Walmart has responded to East Palestine's need for help by tracking down water at a store in Pennsylvania, and will be trucking an additional 1-thousand cases of water to East Palestine. The water is expected to arrive early Sunday morning.

"Walmart donates water to East Palestine", 12/01/2014, online at: http://www.wfmj.com/story/24425486/walmart-donates-water-to-east-palestine

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❖ Despite winter storms, Dead Sea water level continues to fall

In comparison, Lake Kinneret celebrated an increase of 11 cm. in the same time period.

As rainstorms barreled through Israel in December, drenching fields and filling up reservoirs, the Dead Sea's water level continued to drop.

By early January, the Dead Sea fell to 427.82 meters below sea level, three centimeters lower than the 427.79 m. below sea level measured the month before, according to Dead Sea and Arava Science Center researcher Eli Raz, citing raw data from the Water Authority's Hydrological Services.

In comparison, he stressed, Lake Kinneret celebrated an increase of 11 cm. in the same time period.

The additional drop in water level of the Dead Sea brings the basin to 0.93 m. below its level one year ago, the Hydrological Services data said.

However, the December drop was significantly less for the month in 2013 than it was during the same period in 2012, when the basin fell 11 centimeters, Hydrological Services reported.

The slow in water-level decrease in December in comparison to the previous two months was due to the particularly rainy weather conditions – and therefore a significant entry of floodwaters, including from the Lower Jordan River – Raz explained.

The low temperatures experienced throughout much of the month slowed the rate of evaporation from the basin, he said.

Although this December the Dead Sea may have decreased less than it did last December, the drop nonetheless perpetuates an ongoing trend of an alarmingly plummeting water level for the Dead Sea, which lost 8 centimeters in November and 14 cm. in October, Raz explained.

Only a decade ago, the basin's water level was 416.77 m. below sea level, 11.05 m. higher than the level today.

Taking December's drop into account, the average annual drop in water level for the Dead Sea is now 1.105 m., Raz said.

While the Kinneret, on the other hand, did experience a rise during December 2013, this figure is much smaller than the northern basin's 50-centimeter increase in December 2012, Hydrological Services reported.

Other basins around the country fared much better from the December onslaught of precipitation, with groundwater in the Yarkon- Teninim aquifer rising between 13 and 39 cm., Hydrological Services said.

Meanwhile, groundwater levels also rose in most of the coastal aquifer.

The Western Galilee Naaman and Kabri basins featured rises of 22 and 16 cm., respectively, Hydrological Services said.

"Despite winter storms, Dead Sea water level continues to fall", 08/01/2014, online at: http://www.jpost.com/Enviro-Tech/Despite-winter-storms-Dead-Sea-water-level-continues-to-fall-337432

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❖ Jordan 'still considering' water import from Israel

The purchase of water from Israel "is still being considered and studied," Saad Abu Hamour, Jordanian head of the Jordanian-Israeli water committee, said on Thursday.

Jordan is still considering a proposal to buy more water from Israel, an official said, dismissing Israeli media reports that his country had already contacted the Israeli government for a deal to that effect.

The purchase "is still being considered and studied," Saad Abu Hamour, Jordanian head of the Jordanian-Israeli water committee, told Anadolu Agency on Thursday.

Earlier in the day, Israeli financial newspaper TheMarker said that both Jordan and the Palestinian Authority are seeking to buy Israel's excess desalinated water.

According to the paper, Jordan seeks to purchase more 10 to 20 million cubic meters of water a year, mainly to meet the needs of Syrian refugees who had fled the conflict in their country to the neighboring kingdom.

According to official figures, around 1.3 million Syrians took refuge in Jordan since the conflict broke out in their country three years ago.

Abu Hamour admitted that his country was considering such a move, citing "growing pressures" by the refugees in the northern provinces.

Jordan needs 10-15 million cubic of water to meet the growing demands of the four northern provinces, he added.

As part of a 1994 peace agreement between Israel and Jordan, the former supplies the latter with 50 million cubic meters of water every year.

"Jordan 'still considering' water import from Israel", 10/01/2014, online at:
http://www.worldbulletin.net/?aType=haber&ArticleID=126618

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❖ President Rajapaksa holds bilateral discussions with Israeli Prime Minister Netanyahu

Sri Lankan President Mahinda Rajapaksa and Israeli Prime Minister Benjamin Netanyahu held bilateral discussions at the Prime Minister's Office in Jerusalem, Israel on Wednesday 08 January. President Rajapaksa arrived in Jerusalem this morning together with First Lady Shiranthi Rajapaksa for two days as the final destination on his Middle East official visit.

The bi-lateral discussions mainly focused on the areas of agriculture, Information technology (IT), water management, trade and employment. During the talks between President Rajapaksa and Israeli Prime Minister Benjamin Netanyahu, both leaders agreed to expand bilateral relations in a number of sectors, including trade, agriculture and water.

Israel is known for the drip irrigation technology for the agricultural sector to cope with the water crisis in the region. Another water-related technology that was discussed was desalination, a process through which potable water is produced from sea water. Israel Premier agreed to provide technological assistance, including support to expand the scope of utilizing the drip irrigation system in Sri Lanka. IT and employment were other areas identified for strengthening cooperation between the two countries.

There are roughly 7000 Sri Lankans currently working in Israel as care workers. The two leaders agreed to work towards increasing employment in this sector as well as seasonal employment in agriculture. Israel pointed out that Israeli farmers are quite satisfied with quality of Sri Lankan employees working in the country. President Rajapaksa also thanked Israeli Prime Minister for the humanitarian assistance provided to Sri Lanka in the aftermath of the 2004 tsunami.

President Rajapaksa is the first Sri Lankan head of State to visit the State of Israel since its inception in May 1948.

The Israeli delegation comprised of Israeli National Security Advisor Yossi Cohen, Chief of National Information Directorate Liran Dan and Non-Resident Ambassador to Sri Lanka in New Delhi Alon Ushpiz, Ambassador of Israel to the United States Ron Dermer.

The Sri Lankan delegation comprised of Minister of External Affairs Prof. G. L. Peiris, Monitoring MP of the Ministry of External Affairs Sajin Vaas Gunawardena, Parliamentarians Roshan

Ranasinghe, Secretary to the President Lalith Weeratunga and Sri Lanka's Ambassador in Tel Aviv, Israel, Sarath Wijesinghe.

"President Rajapaksa holds bilateral discussions with Israeli Prime Minister Netanyahu", 10/01/2014, online at: http://www.sriexpress.com/news/other-countries/914-president-rajapaksa-holds-bilateral-discussions-with-israeli-prime-minister-netanyahu.html

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❖ Conflict over water in cross-border river basins – the need for peaceful cooperation

Mighty River Jordan matters more than any other river – for three religions, for the people living alongside it, for thousands of years of history and as both a joint resource and a dividing line for countries in today's rather difficult political environment. But the respect given to it does not reflect this importance. There is overuse and pollution all along the river, and once it reaches the Dead Sea, massive overuse of its water upstream has reduced it to a rivulet of sewage. The little water left is unable to maintain the level of the Dead Sea; in past years it was falling at a rate of 1.33 meters per year.

But now there is now some hope for better cooperation. In December 2013 the governments of Israel, Palestine and Jordan announced a joint water project with a desalination plant at the Red Sea, from which the potable water will be shared by Israel and Jordan. Some 100 million cubic meters worth of salty brines will be pipelined to the Dead Sea, to compensate at least for some of the massive overuse of the water of river Jordan. Part of the agreement also foresees some more fresh water for the Palestinians.

This rather positive development reminds me of the first discussion on water at the World Economic Forum in Davos that I had organised in 2005. Avishay Braverman, a leading Israeli politician, and then President of Ben Gurion University of the Negev, was one of the invited panelists. He spoke about the battle over water – some were even seeing the risks of war over water – in the Middle East and elsewhere. But he made it very clear: "***Water is not the reason for war; it is only an excuse for war***."

So let me take a broader look at this issue, beyond this sign of hope from the Middle East, to a river with comparable spiritual, emotional, societal and political importance, namely the Nile.

Recently the rivalries between Egypt and Ethiopia on its water have drawn worldwide attention.

The Nile, as one of the longest rivers in the world, passes through 11 countries: Democratic Republic of Congo, Burundi, Rwanda, Tanzania, Kenya, Uganda, Eritrea, Ethiopia, Sudan, South Sudan and Egypt. Two main tributaries, the White Nile and the Blue Nile, meet at Khartoum and flow northwards through the Sahara desert. Between 80-90% of the Nile's flow comes from the Blue Nile and the other rivers (such as Atbara) which originate in the Ethiopian Highlands, while the White Nile contributes 10-20 % of the annual Nile discharge (State of the Nile Basin 2012).

In the northern part of the Nile basin, where Egypt, Sudan and South Sudan lie, there is virtually no rainfall in the summer. In contrast, the southern portion, which encompasses the Ethiopian Highlands, has heavy rains during the summer months. But up to now, most of the water withdrawal from the Nile River has been used for irrigation in Egypt, Sudan and South Sudan, while upstream countries such as Ethiopia were barely using Nile waters.

Now, the upstream countries are increasingly looking into the potential of the Nile as a source of water and power supply, in order to develop their domestic economy including agricultural activities. Ethiopia announced its Ethiopian Grand Renaissance Dam project in 2011. The project is located about 40km east of the border with Sudan. When completed, it will be one of the largest dams in Africa, with a capacity of 63 billion cubic meters. Ethiopian officials claim that the project is "win-win", whereas Egyptians disagree, and some Egyptian politicians were even reported as saying that "it might be better to bomb the dam or to arm Ethiopian guerrillas to pressure the government in Addis Ababa" (Financial Times article, 'Water: Battle of the Nile').

Similar to the Middle East, these countries might look for common cross-border water strategies and management schemes to avoid further conflict. One aspect might be adopting tools such as the water cost curve strategy proposed by 2030 Water Resource Group to improve efficiency in local water use.

Among the many aspects to be considered are irrigation efficiencies. Let me illustrate this with FAO data on irrigation water requirement and agricultural water withdrawal between 1993 and 2007 for the countries in the basin. Agricultural water withdrawal accounts for 93.6% of total water withdrawal. The country with the highest irrigation efficiency among these 11 countries is Egypt, at 76.5%, following by Uganda at 52.2%. The irrigation efficiency in the rest of the countries is only around 20%.

Another one is the loss of water from the river due to evaporation: for instance, less than half of the water entering the Sudd region, a vast swamp in South Sudan, flows out of it into the White Nile. The rest disappears through evaporation and evapotranspiration. More water is lost between Sudd and Assuan, and then, in particular, in Lake Assuan. Research therefore suggests that from a water economy view it would be better to withdraw water for irrigation upstream than downstream before large parts of it are lost through evaporation (Whittington et al., 2004). Goods with the water embedded in food grown further upstream could then be traded to supply downstream consumers (see my previous post on virtual water trade).

A consensus, involving technical, economic, and political measures, could be the way out of the current situation that threatens peace and development in this region. Those who have a stake, rather than those who have a political agenda, should come together to form such a consensus. But these may well be theoretical concepts; no doubt, the issue requires further discussion; I would welcome any thoughts and comments.

P.S. The internet site of leading British newspaper The Guardian just published a list of the top five water stories of 2013. In number one position is an interview by Jo Cofino entitled "*Nestlé's Peter Brabeck: our attitude towards water needs to change". It summarises and further develops a number of points made on these LinkedIn Influencers' pages.*

"Conflict over water in cross-border river basins – the need for peaceful cooperation", 08/01/2014, online at: http://www.linkedin.com/today/post/article/20140108093236-230883806-conflict-over-water-in-cross-border-river-basins-the-need-for-peaceful-cooperation

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❖ Israel Looks Beyond the Blue EU Horizon

For many years it has been obvious that the European Union (EU) does not wear Israel in its heart's core or enfold it in its arms. If its members have not totally subscribed to the Palestinian Narrative of Victimhood, they have been sufficiently swayed to impose a partial boycott against Israel. The EU in June 2013 published "guidelines" for its member nations saying that it would not confer grants, scholarships, prizes, or financial loans on Israeli entities operating outside the so-called Green Line (the 1949 armistice lines), including east Jerusalem and the Golan Heights. Any Israeli entity seeking funding from the EU must submit a declaration that it has no direct or indirect links to the West Bank.

This issue was central to the months of negotiations between the EU and Israel on the latter's participation in the EU's Horizon 2020 project. This project, the EU's largest research and innovation program to last six years with a funding of 80 billion euros, was launched on January 1, 2014. After prolonged and tense negotiations a compromise formula was reached making it possible for Israel to participate fully in the project, the only non-European country to do so as a full partner. Israel is expected to contribute between 600 million and one billion euros to Horizon 2020, and in return its universities, researchers, and companies can compete for grants and other funding from the EU.

This is not the first instance of collaboration between the two sides in research and development. In 2012 the Israeli Migal-Galilee Technology Center received a $4.4 million grant from the EU for research on environment, health, and aging. The new agreement enables Israel to be involved in scientific collaboration in the most advanced research and development in the world.

However, the agreement came with a compromise formula in two appendices. The EU stated that the June 2013 guidelines regarding the Israeli settlements reflected European policy and would remain. Israel wrote it did not accept the validity of the guidelines but it will abide by the arrangement that no scientific funding by the EU will go to the disputed areas. Israel's position is that the fate of those areas will be decided by final status negotiations. Israel noted the two sides disagreed on the settlements but it insists that acceptance of the appendices on the EU guidelines does not constitute a legal or political precedent.

Cutting off ties with the EU would be detrimental to Israeli scientific research. But can the agreement be regarded as capitulation by Israel and acquiescence in the EU's partial boycott? Warning signs are already there in at least three cases where European firms have succumbed to the pressure of the Palestinian boycott campaign.

In Holland, the large water company Vitens in December 2013 cancelled its contract with Mekorot, the Israeli water company which supplies water to Israeli cities in the West Bank. Perhaps hypocritically, Vitens nevertheless cooperates in the Gaza Strip with a water company controlled by Hamas, which even the EU has designated a terrorist body. Another Dutch company, Royal Haskoning DHV engineering company, has cancelled building an Israeli sewage plant because it was across the Green Line.

The transport division of the French multinational company Veolia had participated in the building and maintenance of the Jerusalem Light Rail system, owned a 5% share in the rail company, and had a contract to build eight lines across the city. Bowing to Palestinian pressure and EU guidelines, Veolia has withdrawn from all Israeli transport and sold its rail shares.

It is clear that Israel cannot reduce trade ties with the EU or discontinue scientific cooperation. The EU-Israel Association Agreement in force since June 2000 is the legal basis for trade between the two. That trade is and will remain considerable: in 2011 it amounted to almost 30 billion euros. The EU is Israel's major source of imports (34.5%) and the second largest market for exports (26.1%) behind the U.S. Since January 2010 an agreement on agricultural products and fish has been in force.

But, ignoring the advice of Irving Berlin's song, Israel cannot put all its eggs in one basket. There is a world elsewhere, especially countries that are unlikely to succumb to BDS pressure and do not treat the Palestinian issue as the world's most significant cause to which they should pay obeisance. Israel has recognized it must strengthen trade, scientific, and hopefully political, relations with other states beyond Europe. It is now doing so with China, India, and Russia.

In contrast to the cautious approach of the nations and businesses in the EU, China has been eager to enter into negotiations with Israel. It is more interested in Israeli technology that in alleged problems of Palestinian rights. A Chinese-Israeli agreement has been reached for the creation in 2014 of the Nanxun Innovation Industrial Park in the city of Huzhou. The park will be concerned with research

and development in a number of fields: energy conservation and environment protection, medical instruments, electronic information, and clean energy. Already, cooperation between the two countries exists in the Water Industrial Park in Dangguan.

A Chinese-Israeli task force for economic growth has been set up that will be concerned with issues of agriculture, water management, global transportation, and heath care. Though China did not establish normal diplomatic relations with Israel until 1992, it now has closer links. Bilateral trade in 2005 was $3 billion; in 2012 it increased to $8 billion, and is forecast to increase substantially.

Israeli trade with India has also been increasing: in 2013 it amounted to $6 billion.

Industrial relationships have been strengthened, particularly with the establishment of an industrial investment fund with Gujarat in Northwest India. These initiatives add to the existing cooperation in solar and thermal power, pharmaceuticals, water recycling and desalination, and in advanced agriculture technologies. The two countries are working towards a Free Trade Agreement.

Similarly, Israel is increasing trade with a considerable number of other countries, especially those with high growth. With Russia trade is relatively small, amounting to $2 billion, half of it in diamonds a year; Russia is interested in Israeli technology and intellectual property and negotiations for a free trade treaty are now continuing.

Israel is involved with Mexico in high-tech irrigation and cyber security. The EU might note that the Mexican billionaire Carlos Slim, through his telecommunication company America Movil, is investing $60 million in Mobli, the Israeli photo and video sharing platform startup company. The EU might also note that investors in Mobli, who include Leonardo DiCaprio and Serena Williams, have not succumbed to Palestinian pressure to boycott any Israeli places or businesses.

Now that relations between Israel and the Obama administration have become less warm than in previous years, Israel is adroitly cultivating political as well as economic ties with countries in different parts of the world, including Russia, Asia, the Gulf states, and Saudi Arabia.The partner nations in this harmonious peaceful process advantageous to all sides put to shame those countries, including EU member states, and organizations within them, whose deference to anti-Israeli elements has prevented or restricted similar harmonious relationships. Those latter countries and organizations

not only have succumbed to foreign pressure; they have also limited their own financial growth and development.

"Israel Looks Beyond the Blue EU Horizon", 09/01/2014, online at:
http://www.americanthinker.com/2014/01/israel_looks_beyond_the_blue_eu_horizon.html

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❖ Encountering peace: The people's water

Well, that is the situation today – now there is more than enough water to go around.

One of the core issues in the Israeli-Palestinian conflict is water. This issue has gotten very little press and apparently even less attention at the negotiating table. But before there is a framework agreement acceptable to both sides, there will be discussions on how to deal with water.

In 1989, through the Israel Palestine Center for Research and Information (which recently changing its name to Israel Palestine Creative Regional Initiatives), I organized the Israeli Palestinian Water Experts Roundtable. This joint forum met regularly from 1989- 2006 and even organized two international Israeli-Palestinian academic conferences on water, bringing together hundreds of water experts from the region and the world. When we first began discussing the water conflict and ways to resolve it, there was an acute water shortage. I clearly remember the experts saying that if there was more water, it would be much easier to resolve the conflict.

Well, that is the situation today – now there is more than enough water to go around.

The Oslo water agreement recognized Palestinian water rights, without defining them, and then created a model of reallocation of water, adding some more water to the Palestinians from what they received prior to Oslo. That agreement was made in 1995 and was intended to last only a few years, until a permanent status agreement was reached. The Palestinians demanded that Israel recognize their water rights because they assumed that sovereignty, which they would eventually have, would award them the water located in the mountain aquifer underneath the West Bank.

The problem is that water flows and in this case, the underground water flows from the east to the west, and Israel was utilizing most of the mountain aquifer water even prior to 1967, when it took control of the West Bank. The Palestinians and the Israelis made the error in the Oslo agreement of only relating to the mountain aquifer water as a “shared resource,” and gave authority to a joint water committee to authorize all water projects for the Palestinians.

This was a mistake because Israel essentially was granted veto power on all Palestinian water

projects, while Israel could do whatever it wanted in the West Bank areas under its control (Area C equals 62 percent of the area), and even beyond that, Israel could do whatever it wanted throughout the rest of the country – without taking the Palestinians into consideration at all. In an area as small as the land between the River and the Sea, called the Land of Israel or Palestine, all of the water is a shared resource, not only the so-called mountain aquifer.

This includes the Jordan River, the coastal aquifer, all river basins and wadis – all of it belongs to all of the people living between the River and the Sea regardless of their national identity of ethnicity.

When negotiating the issue of water, the tendency will be to engage in another reallocation model that will grant the Palestinians more water. There will be arguments of issues of control and of pricing and in the end, even if the Palestinians end up with more water, they will feel cheated and the paths to continued conflict over water will be laid down. This is not a sustainable agreement that will produce peaceful relations.

The best way to reach a water agreement that will be equitable and sustainable and will produce peaceful relations is to change the entire way we relate to the water issue. First, all of the water between the River and the Sea belongs to all of the people living between the River and the Sea. All people have the same rights to enjoy that water and to have it delivered to their homes, farms and factories.

The way that this can be accomplished, which is completely feasible and in the process will create more plentiful, cleaner water and efficient systems of delivery, is to create a bi-national (Israeli-Palestinian) public- private water company which would own all of the water and operates the water system for both states, Israel and Palestine. The public part of the company would be the bi-national regulatory body, which governs the operations of the company, and oversees its proper functioning in the interest of both publics.

The company itself, which would be professionally run by the best people in Israel, Palestine and abroad, would be mandated to provide fresh, clean water to all consumers living between the River and the Sea. There would be no discrimination in the price of water based on nationality or ethnicity;

there would be differential pricing on how the water is used, not who uses it. The lowest-priced water, at affordable prices, would be for domestic use, and the company would have to make sure that all consumers have access to water 24/7 throughout all parts of Israel and Palestine.

The company would be a nonprofit – there would be no dividends to allocate to tycoons – but it would have income from the sale of water. The company would have a closed budget and all revenues would be invested in expanding services, improving the quality of water and distribution networks, and increasing quantities as the populations expand. Because of the great need for water infrastructure in Palestine, the company would make significant investments to ensure that all Palestinian consumers have water delivered to their homes. The international donor community could be expected to continue to assist generously in improving the infrastructure on the Palestinian side as well.

No genuine peace agreement can contain a water agreement that continues discriminatory policies in water allocation. The water does not belong to the State of Israel or to the future State of Palestine, it belongs to all of the people living on the land, and no one has more rights to it than anyone else.

The writer is co-chairman of the Israel Palestine Center for Research and Information (IPCRI), and the initiator and negotiator of the secret back channel for the release of Gilad Schalit. His new book, Freeing Gilad: The Secret Back Channel, has been published by Kinneret Zmora Bitan in Hebrew, and The Negotiator: Freeing Gilad Schalit from Hamas, has been published by The Toby Press.

"Encountering peace: The people's water", 08/01/2014, online at: http://www.jpost.com/Arts-and-Culture/Arts/Encountering-peace-The-peoples-water-337528

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❖ Water: The bridge to peace

Oregon State students, researcher travel around the world to study water resources, conflict resolution

The water resources graduate program at Oregon State University offers a fresh approach to communication, negotiation and conflict resolution of heated global disputes over seemingly murky waters.

"Water: It's that one thing (that) connects everybody together," said Julie Watson, a Ph.D. candidate with an emphasis on water resources and environmental justice in the department of geography. "If we learn everything we can about water, we can be problem solvers, conflict resolvers and work toward bettering human rights and achieving the end of suffering."

Watson, who has always had a strong interest in international politics and problem solving, strives to make a difference in the world.

She came to OSU to earn a master's degree in the water resources policy management program, which is housed in the water resources graduate program.

Aaron Wolf, a professor of geography in the College of Earth, Ocean and Atmospheric Sciences and an internationally recognized tour-de-force on global water negotiations, is Watson's graduate adviser.

Wolf's research focuses on assessing conflict and cooperation in water resources. This work takes him all over the world. Throughout recent years, Wolf has carried out extensive negotiations in Israel, Palestine and Jordan.

Wolf has measured all the trans-boundary basins of the world (water sources that cross borders). He found that two-thirds of the interactions over water are cooperative rather than conflict-riddled.

According to Watson, this was a big deal. Former UN Secretary General Kofi Anan made a statement back in 2000 that "there would be wars over water in the future."

"Are there going to be water wars?" was the question Wolf sought to answer.

Wolf's findings revealed that, in fact, people tend to cooperate more than not on issues surrounding water.

Water acts as a bridge for dialogues to commence on alternate issues such as human rights, agricultural practices and creating sustainable peacebuilding methods.

Teaming with Wolf's ground-breaking conclusions, Watson's current Ph. D. research addresses the questions, "If people are cooperating over water, why haven't we attained all the millennium development goals, why are there still millions of people who do not have access to safe drinking water, why are there still environmental justice problems all over the world?"

Watson is currently developing a scale to capture justice-related issues and human rights issues revolving around water resource conflicts.

The idea of this research is that it could be implemented everywhere.

Watson will use a case study from her work with Wolf in Southeast Asia on the Mekong River Basin in China. Watson hopes to travel to China for her research sometime during winter term.

Watson's interest in environmental justice and water was initially sparked by a global academic group conference trip with Wolf based in Israel in December 2012. The focus was on water securitization.

At the conference, Israelis and Palestinians discussed the different ways that they see water.

According to Watson, Israel sees water as a national defense, a high-level issue that you have to protect and secure, whereas Palestinians are thinking about water from a human rights perspective.

In Watson's travels around Israel, she came across things that shocked her.

Within a local Bedouin settlement, she recalls seeing the people's water supply foaming and with dead animals resting within it.

"I can't believe I'm seeing this … the experience was totally shocking for me coming from the United States, where of course everything just comes out of the tap clean," Watson said. "Seeing that there were people living like this, and I didn't even know what was going on — it made an impact."

Watson said that working closely with Wolf, a rock star figure in the global water scene, gives Watson the opportunity to make some really cool contributions toward resolving global water conflicts.

Even though Wolf is the OSU researcher out there in the world actually solving all the problems, just being on the periphery has given Watson some great opportunities.

Career prospects for Watson following the completion of her Ph.D. are looking quite good. Water is considered a global issue, more vital than oil according to the United Nations Educational, Scientific and Cultural Organization.

Watson envisions using her water resource graduate degrees to work with non-governmental agencies within an environment where everyone is being creative and working collaboratively together to come up with innovative solutions for the important problems on water, environmental justice and human rights that our world faces today.

"Water: The bridge to peace", 07/01/2014, online at: http://www.dailybarometer.com/news/article_211cc73a-7836-11e3-9294-001a4bcf6878.html

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❖ Jordan, Palestinians seek to buy Israel's excess desalinated water

Israel recently disclosed that its desalination capacity exceeds the country's water needs. By Avi Bar-Eli | Jan. 9, 2014 |

Both Jordan and the Palestinians are seeking to buy Israel's excess desalinated water, TheMarker has learned.

Israel recently disclosed that its desalination capacity exceeds the country's water needs, and the Jordanian government contacted Israel in a bid to take advantage of that. Last week, the Finance Ministry and the Water Authority decided to cut desalinated water production by 30% this year, because rain has been relatively plentiful over the past two years.

Israel intends to produce 360 million cubic meters of desalinated water this year, of its 510 million cubic meter capacity. This is expected to save the country 191 million shekels ($54 million).

Jordan apparently wants to double the amount of water it buys from Israel, effective immediately. This would work out to another 10 million to 20 million cubic meters of water a year.

The Palestinian Authority also sent out feelers regarding the option of purchasing more water from Israel, but a conflict over the PA's outstanding 1.15 billion shekel bill to the Israel Electric Corporation apparently precluded even talks on the matter.

Part of the reason Jordan is thought to need more water is the steady flow of Syrian refugees entering the country. Around one million Syrians have fled to Jordan since the civil war began three years ago.

Officials in Jerusalem are reportedly discussing the Jordanian request, and are expected to meet with counterparts in Amman soon to address details.

As part of the bilateral peace agreement, Israel sells Jordan 35 million cubic meters of water a year from Lake Kinneret. In addition, Jordan allows some 20 million cubic meters of water from the Yarmouk River to flow into Israel during the winter, of which some 5 million to 10 million cubic

meters returns to Jordan over the summer. Israel also uses around 7 million cubic meters of water produced on the Jordanian side of the Arava desert.

Israel provides Jordan with 15 million to 20 million cubic meters of water a year, net.

Jordan buys the water Israel is required to sell it at cost, $0.04 per cubic meter. For anything above this amount, Israel charges Jordan $0.45, for an estimated 30 million shekels a year.

It is believed that Jordan would pay significantly more for any additional water purchased from Israel, given the higher marginal cost of desalination. In addition, the request may run into technical issues, given the limited pipe infrastructure between Israel and Jordan.

Israel sells 60 million cubic meters of water to the Palestinians every year, in accordance with international agreements. It charges the PA 2.80 shekels per cubic meter for the first 50 million cubic meters and 3.50 shekels per cubic meter for anything above that amount.

The PA pays Israel 150 million shekels annually for water, deducted from the taxes Israel collects on behalf of the PA.

Israel Electric Corp., in contrast, bills the PA for its power use directly. The PA is 1.1 billion shekels in arrears to the utility, as TheMarker recently reported.

The PA reportedly refuses to pay the debt. Palestinian Finance Minister Shukri Bishara recently proposed, in a letter to the Israeli government, that half the debt be forgiven, with payment of the remaining 550 million shekels spread over a period of 20 years.

Israel rejected the offer.

"Jordan, Palestinians seek to buy Israel's excess desalinated water", Haaretz, 10/01/2014, online at: http://mideastenvironment.apps01.yorku.ca/2014/01/jordan-palestinians-seek-to-buy-israels-excess-desalinated-water-haaretz/

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❖ Water cooperation in the Arab world: myth or reality?

January 03, 2014 12:08 AM

By Rola Majdalani, Joelle Comair

In this period of profound turmoil and transformations that the Arab world is witnessing, regional cooperation for over even the most basic subjects remains elusive and cooperation over something as complex as shared water resources seems hopeless. However, in a changing and increasingly uncertain world, our survival depends on just such finite and vulnerable water resources to sustain life. The importance of water cooperation lies in the fact that it is essential to human life; it cuts across all borders and demands the concerted efforts of all stakeholders at every level. That is why the year 2013 was designated by the U.N. General Assembly as the International Year for Water Cooperation, aiming to raise awareness of the challenges of increased and competing demand for water access, allocation and services and the potential of cooperation in containing such challenges.

The Arab region in particular faces many pressing development challenges, including food security, adaptation to climate change, energy security, migration and regional conflicts, all of which are linked to the management of water resources in one way or another. The region is one of the driest on earth and water scarcity is a major issue. The increasing demand for water, as well as unsustainable patterns of use over the past years, have led to the resource's reduced availability and the degradation of its quality. These challenges are expected to worsen, owing to the anticipated negative impacts of climate change on water supplies, particularly when an estimated 66 percent of the substance's total renewable resources of all Arab countries originate outside their borders. Consequently, competition over shared water resources has been intense and has often contributed to regional conflicts. Cooperation over water is thus not only a necessity for sound management, but also an important measure for preventing conflict.

Reaching a common understanding on the use and ultimately the joint management of shared basins, particularly when supported with sound and objective information, clear international or regional legal instruments and an effective institutional setup for knowledge sharing and cooperation, can actually be a game changer. It can dispel mistrust among riparians and bring them to the negotiating table in order to formulate a shared vision for a shared precious resource. While historically

transboundary water cooperation has not been easy, several examples from across the globe demonstrate that shared waters can support political dialogue on broader issues, such as economic integration and sustainable development. One example is the Southern African Development Community that coordinates transboundary water cooperation for 15 basins across Southern Africa. The SADC regional approach has shown great success in facilitating negotiations on river management, following a protocol that fosters cooperation in the protection and utilization of shared watercourses and has mostly lead to win-win settlements and contributed to greater regional integration and poverty alleviation. Another examples is the Mekong River Commission in Southeast Asia, which has led to decades of cooperation on river basin management among the lower Mekong countries. In Europe as well, degrading water quality and transboundary pollution prompted a move toward greater cooperation over the Danube River Basin.

In the Middle East, countries of the ESCWA region have taken important steps toward regional cooperation on water, even though the road remains long and challenging. The United Nations Economic and Social Commission for Western Asia Committee on Water Resources, which offers an effective inter-governmental platform for regional dialogue and cooperation on water, has been instrumental in advancing Integrated Water Resources Management principles and tools. One significant initiative launched recently was the "Inventory of Shared Water Resources in Western Asia," prepared in collaboration with the German Federal Institute for Geosciences and Natural Resources (BGR) and constituting the first U.N.-led effort to assess shared surface and groundwater resources in Western Asia in a comprehensive, unified and standardized manner. It contains a wealth of information on the status of these shared resources and provides a good scientific base to engage ESCWA member countries in informed dialogue for improved and sound water management. Dialogue actually started from the preparatory phases of the Inventory among representatives of ESCWA member countries through intense and ongoing discussions on methodology, data sharing, validation and vetting of basin chapters as they evolve. In some instances, this lengthy and delicate process brought to the surface divergent viewpoints and opinions among countries on their shared water resources and other interlinked issues; but in the process, it has triggered discussions that rarely occur in other contexts among these neighboring countries of the region, and this constitutes an important first step toward consolidating cooperation in the field.

However, much remains to be done to strengthen cooperation on water resources in the region and ensure the continuity of this initiative. Practically speaking, cooperation can be defined as a "continuum of cooperative options" that extends from unilateral resolutions to joint action. In the context of shared basins, this means that cooperative mechanisms need to evolve into effective bilateral and multilateral agreements, joint technical committees or basin organizations to allow joint decision-making and proper implementation. These joint bodies should serve as a forum for the exchange of information on existing and planned uses of water installations that are likely to have a transboundary impact, elaborate joint monitoring programs concerning water quality and quantity and encourage cooperation on scientific research.

Knowledge improvement on shared basins through in-depth water resources assessment studies is also crucial in order to ensure informed and adequate decision-making. As the Inventory of Shared Water Resources in Western Asia shows, the resources in the region are many but poorly understood, especially when it comes to groundwater. Information on the status of shared water resources could be updated through joint water assessment studies and inventories including the collection of hydrological/hydrogeological, water quality and socio-economic data. The role of nonstate actors is equally important in promoting water cooperation, and recently many groups from the civil society, private sector and media have been increasingly active in this context. The involvement of such actors can add legitimacy and support legislation, providing valuable perspectives.

This accumulated wealth of knowledge has allowed ESCWA to develop a range of capacity building programs and tools, to support member countries in formulating sound and sustainable water strategies and regional cooperation mechanisms. Such initiatives include the Legal Framework for Shared Water Resources in the Arab Region, which brings together Arab countries around common principles to govern the cooperation, management and allocation of shared water resources. Another example is the Regional Initiative for the Assessment of Climate Change Impacts on Water Resources and Socio-Economic Vulnerability in the Arab Region (RICCAR), which provides a common and comparable scientific understanding of climate change impacts and associated vulnerabilities across the Middle East and thus informs policy dialogue, negotiations and exchange among Arab decision-makers.

The global and regional efforts to integrate water issues in national and international development policies have become indispensable to ending the potential crises and conflicts resulting from the shortage of water and the deterioration of its quality. Nurturing the opportunities for water cooperation, in particular in transboundary waters management, can help build mutual respect, understanding and trust among countries and promote peace, security and sustainable economic growth. As the international community is paying its tribute to Nelson Mandela, one of the most iconic figures of truth and reconciliation, we are reminded that cooperation is key to social justice and equity. Recognizing the need to sustainably manage our water resources, he famously said: "Water is central in the social, economic and political affairs of the country, the African continent and the world. It should be a lead sector of cooperation for world development." This quote illustrates his clear understanding of water's importance in our life and development. Cooperation on such a practical and vital issue as water management can help overcome cultural, political and social tensions and can also build trust and social peace between different groups, genders, communities, regions or states. As we ended the International Year of Water Cooperation in a period of profound regional transformations, the development of cooperative approaches for water resources management has thus become critical for the overall sustainable development of the region. Let it be a wakeup call for the region to acknowledge that the only way to move forward is to unite and cooperate for a shared sustainable future.

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"Water cooperation in the Arab world: myth or reality?", Daily Star, 10/01/2014, online at: http://mideastenvironment.apps01.yorku.ca/2014/01/water-cooperation-in-the-arab-world-myth-or-reality-daily-star/

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❖ Nile Disputes Threaten Africa's Largest Hydropower Project

The largest Hydropower project in Africa, the 6,000MW Grand Ethiopian Renaissance Dam, is under threat as Ethiopia and Egypt remain unable to come to an agreement over the flow of the River Nile.

The giant dam is being constructed on the Blue Nile River, the largest tributary of the Nile, and Egypt is fearful that it might restrict the flow of the river which provides almost all of the country's water. Historically, as one of the most powerful countries along the length of the Nile, Egypt has benefited from almost complete control, but recent attempts to secure almost all rights in the future have just been rejected by Ethiopia.

Egypt claims that it signed a 1959 agreement with Sudan that granted them the rights to 55.5 billion cubic metres of water from the total 84 billion cubic metres flowing through the river. However, Ethiopia and other upriver countries have rejected the agreement, which they were never a part of, and claim that Egypt's monopolisation of the Nile would deprive them of a vital resource that runs through their country.

In 2010, Ethiopia, along with five other countries based along the river Nile (Kenya, Uganda, Rwanda, Tanzania, and Burundi in 2011) signed a Cooperative Framework Agreement that

addressed issues of using the water in ways that do not cause significant harm to other countries reliant on the water. Basically these countries were fed up with always having to ask permission from Egypt before they could attempt to use the river in any development project. The agreement lays the foundations for creating a Nile River Basin Commission that would manage all water rights and development projects along the river.

Ethiopia claims that the $4.2 billion hydroelectric dam would benefit agriculture and any energy consumers in East Africa, while at the same time not affecting the flow of water downstream; even Sudan has shown its support for the project.

Egypt remains determined to retain its dominance of the River Nile, claiming that it is a matter of national security and that they actually need an even larger share of the water now due to the growing population. Politicians have even suggested the use of force against Ethiopia to prevent the dam from being completed.

Mohamed Abdel-Moteleb, the Egyptian Irrigation Minister, said that the country *"has escalatory steps to assert our historic rights to the Nile waters."*

Egypt suggested that a panel of neutral experts should be appointed to study the dam's impact on the river and the surrounding environment however Ethiopia was quick to reject this proposal. Eventually a committee was created, that included members from Ethiopia, Egypt, and Sudan, on the recommendation of international experts who were worried by the lack of understanding about the dam's downstream impact.

"Nile Disputes Threaten Africa's Largest Hydropower Project", 10/01,2014, online at: http://www.dailyfinance.com/2014/01/10/nile-disputes-threaten-africas-largest-hydropower/

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❖ Egypt, Ethiopia, Sudan end Nile dam talks without accord

Trilateral talks on a controversial dam project ended in Khartoum without an agreement.

Trilateral talks between Egypt, Sudan, and Ethiopia on a controversial Ethiopian dam project ended Sunday in Khartoum without an agreement.

Following the talks, Egyptian Minister of Irrigation Mohamed Abdel-Muttalib said the Egyptian side has put forward proposals for cooperation between the three countries.

"But the Ethiopian side refused to even discuss it," he added.

Sunday's talks were the third attempt by the three countries to reach an agreement on forming a committee that will be tasked with overseeing the construction of a huge Ethiopian dam on the Blue Nile.

Sudanese Minister of Water Resources and Electricity Moataz Moussa said a new round of talks will be held between the three countries.

He, however, gave no date for the next meeting, saying the date will be set after each party returns home for more consultations.

Ethiopia's plans to build the dam have raised fears in Cairo that the move would threaten Egypt's historical share of the historical river, which represents the country's primary water source.

In May, Addis Ababa diverted the flow of the river, further raising concerns in Cairo.

A tripartite committee of experts from Egypt, Ethiopia and Sudan was drawn up in 2011 and tasked with assessing the dam's possible environmental, economic and social effects on downstream countries Egypt and Sudan.

The committee, which includes ten water experts from the three countries along with international experts, recently called for further study of safety issues related to the dam's construction and the project's possible impact on the two downstream states.Ethiopia, for its part, insists the new dam will benefit Egypt and Sudan, both of which will be invited to purchase electricity generated by it.

"Egypt, Ethiopia, Sudan end Nile dam talks without accord", 05/01/2014, online at: http://www.worldbulletin.net/?aType=haber&ArticleID=126291

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❖ Ethiopia Rejects Egypt Proposal on Nile as Dam Talks Falter

Ethiopia rejected a proposal that would guarantee Egypt the rights to most of the Nile River's water, as disagreements cast doubt over future talks about **Africa**'s biggest hydropower project.

The 6,000-megawatt Grand Ethiopian Renaissance Dam on Ethiopia's **Blue Nile** River, set to be completed in 2017, has raised concern in Cairo that it will reduce the flow of the Nile, which provides almost all of Egypt's water. The Blue Nile is the main tributary of the Nile.

The $4.2 billion dam 30 kilometers (19 miles) from **Sudan**'s border will benefit agricultural and power interests in the region and not cause water losses downstream, Ethiopia says. Sudan supports the hydropower project designed to produce electricity for much of **East Africa** that began in April 2011.

Egyptian officials at a Jan. 4-Jan. 5 meeting that also included representatives from Sudan, introduced a "principles of confidence-building" document asking Ethiopia to "respect" Sudan and **Egypt**'s water security, said Fekahmed Negash, the head of the Ethiopian Water and Energy Ministry's Boundary and Transboundary Rivers Affairs Directorate. Discussing the issue would contravene an agreement signed by six Nile countries, he said in a phone interview on Jan. 6.

"We will not negotiate on this issue with any country," Fekahmed said from Ethiopia's capital, Addis Ababa. "That is why we say take it to the right platform" that includes other members of the Nile Basin, he said.

1959 Accord

Egypt argues its 1959 agreement with Sudan that gave Egypt the rights to 55.5 billion cubic meters out of a total of 84 billion cubic meters is the governing document on the Nile's water. The rest of the river's flow was for Sudan or lost to evaporation. Ethiopia and other upstream nations reject the accord they were not signatories to and say Egypt's domination of the Nile has unfairly deprived them of a vital resource.

Ethiopia also rejected an Egyptian suggestion to immediately form a panel of neutral experts to adjudicate any disputes arising from planned studies of the dam's hydrological and environmental impact, Ethiopian Water and Energy Minister Alemayehu Tegenu said. Experts can be hired if they're needed, he said in an interview Jan. 5 in Khartoum.

Egypt won't send a delegation to **Addis Ababa** unless Ethiopia's government signals its intent to resolve the areas of dispute, Egyptian daily **Al-Masry Al-Youm** quoted Egyptian Irrigation Minister Mohamed Abdel-Moteleb as saying on Jan. 6.

Talks Impasse

"We have exhausted all opportunities to negotiate with Ethiopia because of the intransigence of Addis Ababa," Abdel-Moteleb said.

Discussions will "continue," Ethiopia's Alemayehu said yesterday on his official Twitter account.

Egypt, Ethiopia and Sudan decided on Dec. 9 to form a committee comprising four members from each country to oversee the studies. The initiative was recommended by a panel of international experts who concluded in May that insufficient work had been done on the dam's downstream impact while the reservoir is filled and during operation.

Ethiopia has repeatedly refused Egyptian requests to pause construction of a key national project. "There is nothing that will stop it," Gideon Asfaw, head of Ethiopia's technical team in Khartoum, said about the dam.

Egypt "has escalatory steps to assert our historic rights to the Nile waters," Abdel-Moteleb was quoted as saying, without elaborating.

Equitable Principles

A Cooperative Framework Agreement has been signed by Ethiopia and five other Nile nations that adopts principles of "equitable and reasonable" use of waters that do not cause "significant harm" to other states. Once ratified by six legislatures, the accord paves the way for the creation of a Nile River Basin Commission that will manage water rights and development projects on the Nile.

Egypt considers preserving its claimed rights to the Nile a matter of national security and says it needs more than its 1959 share because of its growing population. In June, in a televised meeting with former President Mohamed Mursi, Egyptian opposition politicians discussed tactics to prevent Ethiopia finishing the dam, including the use of force.

"We need 80 billion cubic meters," Abdel-Moteleb said. "We will not let go of one drop of water."

"Ethiopia Rejects Egypt Proposal on Nile as Dam Talks Falter", 08/01/2014, online at: http://www.bloomberg.com/news/2014-01-08/ethiopia-rejects-egyptian-proposal-on-nile-as-dam-talks-falter.html?utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=fe1d405556-RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_c1265b6ed7-fe1d405556-250657169

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❖ China to Boost Spending on Water Conservation Projects in 2014

China's central government will boost spending on projects to conserve water this year as the world's most-populous nation grapples with ways to ensure adequate supply of the vital resource, an official said.

Water conservation investments totaled 439.7 billion yuan ($73 billion) in 2013, with 140.8 billion yuan coming from the central government and the remainder from local governments, water resources minister Chen Lei said, according to a **transcript** of a Jan. 4 speech posted on the ministry's website.

A rising population and rapid urbanization are pressuring water resources in China and the nation is currently undertaking a plan to move 44.8 billion cubic meters of water a year from the water-rich south to the north. China will make more efforts to promote preliminary work for water diversion projects in the provinces of Shaanxi, Anhui and Yunnan and will continue the work for the South-to-North Water Diversion project, Chen said.

Planning for medium- and large-sized reservoirs, especially in the southwestern, will also be accelerated, Chen said, according to the transcript.

A section of the South-to-North Water Diversion project last month started supplying water through its eastern route.

The route's first phase, designed to ease shortages in China's arid north and costing more than 50 billion yuan, delivers water from the Yangtze River in Jiangsu province to Shandong along the Beijing-Hangzhou Grand Canal, the state-run China Daily said on Dec. 10.

The diversion will benefit as many as 100 million people by supplying as much as 8.77 billion cubic meters of water annually to the eastern provinces of Jiangsu, Anhui and Shandong, the report said. The quantity of water supplied will be adjusted annually based on shortages in the provinces and inflows in the route's upper reaches, according to the report.

China to Boost Spending on Water Conservation Projects in 2014", 06/01/2014, online at: http://www.bloomberg.com/news/2014-01-06/china-to-boost-spending-on-water-conservation-projects-in-2014.html?utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=fba7d63632-RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_c1265b6ed7-fba7d63632-250657169

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❖ Pakistan losing 4% of economy to bad sanitation, water supplies

For the poor, water is a primary resource. The availability of water and proper sanitation is a global issue with over 884 million people suffering from poor conditions. Developing countries such as Pakistan suffer severe consequences.

This, according to Muhammad Irfan Tariq, the director of the Climate Change Division in the Pakistani government, means that investing in proper water and sanitation facilities is a crucial element for the social well-being of the country and should be a priority for the government.

Tariq was speaking at the second plenary session for the South Asian Cities Conference being held here over the weekend. It began with an elaborate presentation on the dire conditions of the country's water and sanitation sector. According to a study conducted by the Ministry of Environment, "Pakistan is losing 4% of its economy due to a lack of these facilities." Tariq believed that investment in this sector will have a huge impact on women, as special focus should be given to menstrual hygiene.

For whatever it is worth, the government did adopt a National Drinking Water Policy in 2009 and more recently a National Climate Change Policy in 2012. He stressed that budget constraints on the national and provincial levels have kept the urban water development low.

Highlighting the rapid urbanization in Sindh, Khalid M Siddiqui, who is working with the Sindh government, spoke about the alarming rate of depleting water sources in the province. As Sindh is a lower riparian province it overly depends on the Indus River water which has been gradually declining. "Seventy-nine per cent of the population uses surface water and over 50% of the population has no access to proper sewer systems."

Siddiqui outlined a list of challenges faced by the Sindh urban community and one of the central limitations he pointed was that even though national sanitation policies are in place the authorities are not adhering to them. To add to this, Sindh faces inadequate water treatment, high dependency on surface water and strong political interests that hamper a demand-driven water supply.

According to Siddiqui, a number of measures, such as ensuring strong private sector participation and establishing technically advanced water-testing laboratories, can be adopted

"Pakistan losing 4% of economy to bad sanitation, water supplies", 12/01/2014, online at: http://tribune.com.pk/story/657891/pakistan-losing-4-of-economy-to-bad-sanitation-water-supplies/

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❖ Laos holds Mekong livelihoods in its hands

The future of decision-making around the region's most vital resource - the mighty Mekong River - is once again under the spotlight.

The Mekong River Commission's (MRC) Joint Committee, comprised of representatives from Thailand, Laos, Vietnam and Cambodia, will hold a special meeting next week in Vientiane to discuss the controversial Don Sahong Dam, the second dam proposed on the lower Mekong mainstream. This is an important opportunity for Laos to heed calls from its neighbours in Cambodia, Vietnam and Thailand, who have requested...

For full text: http://www.bangkokpost.com/news/local/389005/laos-holds-mekong-livelihoods-in-its-hands

"Laos holds Mekong livelihoods in its hands", 11/01/2014, online at: http://www.bangkokpost.com/news/local/389005/laos-holds-mekong-livelihoods-in-its-hands

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❖ Chinese dam builders rush to Latin America

China's growing involvement in hydropower development in the region boosts clout but also leads to allegations of poor corporate responsibility

There has been a huge increase in Chinese dam projects in South America, which has expanded China's geopolitical clout in the continent but also drawn allegations of poor corporate social responsibility.

"China's involvement in hydropower development in Latin America has grown significantly since 2010. It's fair to say that Chinese dam-building companies are targeting the Latin American market," said Grace Mang, China programme director at International Rivers, a green non-governmental organisation in the United States.

Before 2010, International Rivers was aware of only two Chinese hydropower projects in Latin America, both in Belize, Mang said. Now, there are 22, of which three are completed, seven are under construction and 12 are on the drawing board.

The three completed Chinese dams are in Belize and Ecuador with a total installed capacity of 47 megawatts and costing more than US$30 million.

The seven being built are in Costa Rica, Ecuador and Honduras, with a total installed capacity of 2,087 MW and costing more than US$2.53 billion. Among them is the US$1.7 billion Coca Codo Sinclair dam being built by Sinohydro, a Shanghai-listed state-owned dam builder, and financed by the Export-Import Bank of China.

The 12 proposed hydropower projects are in Costa Rica, Ecuador, Guyana, Honduras, Peru and Argentina, with a total installed capacity of 5,069 MW. The total budget, which includes funding from Latin American sources, is more than US$12.25 billion, according to International Rivers.

These include two in Argentina to be built by Shanghai-listed China Gezhouba and Argentine firms with a total value of US$4 billion, which will be financed by China Development Bank and Bank of Communications.

It is a difficult market because Chinese firms are not familiar with local issues

GRACE MANG, INTERNATIONAL RIVERS

Latin America was the second-biggest hydropower market in the world after China, said Mang. "So it's no surprise that Chinese companies want to take a share of it. The Chinese government's desire to build better bilateral relations has resulted in dam projects such as the Coca Codo Sinclair project in Ecuador," she said.

Patricia Adams, executive director of Probe International, a Canadian non-governmental organisation, said China was expanding its dam-building into Latin America partly for geopolitical reasons.

For example, mainland state-owned firms had replaced those from Taiwan to build three dams in Honduras, which recognised the island, Adams said.

Chinese state institutions were involved in the hydro-sector planning of Ecuador, said Paulina Garzon, international financial co-ordinator of the Centre for Economic and Social Rights, an Ecuadorian non-governmental organisation.

The National Water Secretariat of Ecuador maintained close collaboration with the Ministry of Water Resources in China, while the Yangtze River Chinese Institute was in charge of the management plan of watersheds in Ecuador, Garzon said.

At least half of the financing provided by China to Ecuador since 2009, comprising US$10 billion of loans in return for Ecuadorian oil, had been earmarked for hydro projects, she said, adding that seven of Ecuador's 11 hydro projects were in the hands of Chinese companies.

The rise in Ecuador's debt to China, currently more than US$7 billion, had sparked concerns over an erosion of Ecuador's sovereignty, reported the Economist Intelligence Unit.

Adams said: "There is great resistance to dam-building in Latin America and special worry about Chinese dams because of the opaque nature of China's decision-making and poor quality in these dams. The construction industry is more plagued by corruption than any other and China's dam-building industry is well known for corruption."

In November 2012, local workers at Sinohydro's Coca Codo Sinclair dam project complained at a meeting with Ecuador's Minister of Labour Relations Francisco Vacas and members of the National Assembly that they had not received all their wages and had been subject to physical and verbal abuse and sexual harassment, local media reported.

A Sinohydro spokesman said the Latin American press report was inaccurate, and Vacas affirmed on November 26, 2012, the company's compliance with Ecuadorian labour regulations.

"Strong local opposition has contributed to the view that while Latin America is a market with a lot of opportunities, it is also a very difficult market because Chinese companies are not familiar with local issues," said Mang.

"Chinese dam builders rush to Latin America", 06/01/2014, online at: http://www.scmp.com/business/china-business/article/1398498/chinese-dam-builders-rush-latin-america

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❖ Geoengineering could bring severe drought to the tropics, research shows

Study models impact on global rainfall when artificial volcanic eruptions are created in a bid to reverse climate change

Reversing climate change via huge artificial volcanic eruptions could bring severe droughts to large regions of the tropics, according to new scientific research.

The controversial idea of geoengineering – deliberately changing the Earth's climate – is being seriously discussed as a last-ditch way of avoiding dangerous global warming if efforts to slash greenhouse gas emissions fail.

But the new work shows that a leading contender – pumping sulphate particles into the stratosphere to block sunlight – could have side-effects just as serious as the effects of warming itself. Furthermore, the impacts would be different around the world, raising the prospect of conflicts between nations that might benefit and those suffering more damage.

"There are a lot of issues regarding governance – who controls the thermostat – because the impacts of geoengineering will not be uniform everywhere," said Dr Andrew Charlton-Perez, at the University of Reading and a member of the research team.

The study, published in the journal Environmental Research Letters, is the first to convincingly model what happens to rainfall if sulphates were deployed on a huge scale.

While the computer models showed that big temperature rises could be completely avoided, it also showed cuts in rain of up to one-third in South America, Asia and Africa. The consequent droughts would affect billions of people and also fragile tropical rainforests that act as a major store of carbon.

"We would see changes happening so quickly that there would be little time for people to adapt," said Charlton-Perez.

Another member of the research team, Professor Ellie Highwood, said: "On the evidence of this research, stratospheric aerosol geoengineering is not providing world leaders with any easy answers to the problem of climate change."

The study considered what would happen if carbon dioxide levels quadrupled in the atmosphere – the sort of extreme situation in which geoengineering might be seriously considered. Without

intervention, temperatures rose by 4C, far above the 2C level considered dangerous by the world's governments.

But the temperature rise was reduced to zero if a massive geoengineering effort took place. The 60m tonnes of sulphur dioxide pumped into the stratosphere each year in the simulation is equivalent to five volcanic eruptions, each on the scale of Mount Pinatubo, the huge 1991 eruption in the Philippines that cut global temperatures by about 0.5C in the following year or two.

The sulphate particles in the model not only reflected incoming sunlight, cutting temperatures, but also absorbed heat rising up from the Earth's surface. This reduced the temperature difference between the lower and upper atmosphere, which is the engine that drives cloud formation and rainfall. The reduction in rainfall seen in the geoengineering model was as big as the increase in rainfall projected if global warming was unabated.

Dr Matthew Watson, a researcher at the University of Bristol andadvocate of further research into geoengineering, said: "The researchers chose an extreme climate scenario so we should not be surprised if that, and any geoengineering attempt to counter it, had severe and uneven impacts."

He added: "It remains the case that our only guaranteed way forward is to reduce the record levels of greenhouse gases we continue to pump into the atmosphere. It's vital that scientists continue researching geoengineering; but no government serious about climate change should see it as a quick fix."

"Geoengineering could bring severe drought to the tropics, research shows", 08/01/2014, online at: http://www.theguardian.com/environment/2014/jan/08/geoengineering-drought-tropics-climate-change-volcano?CMP=twt_fd&utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=fe1d405556-RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_c1265b6ed7-fe1d405556-250657169

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