



ORSAM WATER BULLETIN

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



ORSAM WATER BULLETIN

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❖ **Iraq: Government bars entry of water purification items**

As the anti-human siege on Camp Liberty, in an inhuman measure incongruent with the established routine of the camp, it is several days now that the Iraqi forces are barring entry of essential items for water purification and lubricants for the generators that provide camp's electricity. Depriving the camp from these basic items causes serious problems in the supply of drinking water and electricity to the camp. Numerous referrals by the residents and their letters to UNAMI representatives to resolve this problem have gotten nowhere in the past days.

This new anti-human restriction is clearly being implemented by orders from the clerical regime and comes on the heel of Iraqi forces preventing even one liter of gasoline to get to the camp for the past two months to be used in the distribution of food and the commute of patients and injured in the camp.

This tyrannical and criminal siege is in flagrant violation of international humanitarian and human rights laws and is a blatant breach of the Memorandum of Understanding signed between the United Nations and the Government of Iraq whose perpetrators may be prosecuted and punished.

Noting the repeated and written commitments of the United States and the United Nations in securing the security and wellbeing of Camp Liberty residents, the Iranian Resistance calls for urgent action to revoke the medical and logistical siege on the camp and to secure free access of residents to essential goods and services.

"Iraq: Government bars entry of water purification items", 11/02/2015, online at:
<http://www.scoop.co.nz/stories/WO1502/S00111/iraq-government-bars-entry-of-water-purification-items.htm>

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❖ Israeli DM Demands Water for Palestinian Town

The city of Rawabi (pictured) is a flagship Palestinian project. It is a modern, planned town of 40,000 homes aimed at moving Palestinian society forward.

But while the first apartments are ready to be occupied, they remain empty. Israel's Water Authority has thus far refused to connect Rawabi to the Israeli water network.

Israeli Defense Minister Moshe Yaalon isn't pleased by the situation, and has been working on behalf of getting Rawabi connected to the water system and operating as a symbol of what Palestinian society can become if it focuses on advancement rather than conflict with Israel.

Legally, Rawabi can only be connected to the Israeli water network by a decision of the joint Israeli-Palestinian Water Committee (JWC), but this committee has not met in over five years.

With the help of IDF Maj.-Gen. Yoav Mordechai, military coordinator for the Palestinian-controlled territories, Yaalon is looking to bypass the JWC, and has ordered that Rawabi and several Jewish communities in the area be connected to the water network immediately.

But Yaalon has found opposition in fellow Likud politician Infrastructure Minister Silvan Shalom, who insists on formal approval for the project by the JWC. It is the Palestinian side that since 2010 has refused to appear at the JWC meetings, and Shalom said that Rawabi could instantly receive approval for water if only the Palestinian Authority would change its attitude and again start working together with Israel.

‘Israeli DM Demands Water for Palestinian Town’, 15/02/2015, online at: <http://www.israeltoday.co.il/NewsItem/tabid/178/nid/26050/Default.aspx>

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❖ Israel must connect the new Palestinian city of Rawabi to the national water grid

The new Palestinian city of Rawabi, near Ramallah, inspires envy. Not necessarily because of the extraordinary success that was achieved in planning an entire city meant to provide decent, affordable housing for thousands of Palestinian families couples, nor on account of the stunning views it affords. No, this is the envy of Israeli settlers and politicians, for whom every Palestinian success is an Israeli failure.

The zero-sum game that characterizes relations with the Palestinians is played out not only in the international arena, but also in every inch of the territories and East Jerusalem. Rawabi, the construction materials for which were provided primarily by Israeli manufacturers and suppliers, has been waiting for months to be connected to the national water grid. Around 1,000 apartments that have been purchased there are move-in ready, but for a lack of running water.

The official excuse for the punishment meted out to the buyers is that the Israeli-Palestinian Joint Water Committee hasn't met for years, and since every permit for supplying water requires the unanimous approval of this panel's members, there's no way to approve Rawabi's connection to the water system. An ancillary claim is that the Palestinians have refused to convene the water committee because they don't want to approve the supply of water to Israeli projects and to the settlements.

At first glance, these claims are correct. After all, the Joint Water Committee was set up pursuant to the Oslo Accords, and the requirement that both sides must agree to both Israeli and Palestinian projects was meant to produce an appropriate and fair allocation of the water. But in reality, these claims don't hold water: There is no record of any Israeli project that has ever been thwarted for lack of a JWC permit.

More important, this reliance on the Oslo Accords as a source of authority for allocating water is ridiculous. After all, this agreement also requires Israel to remit to the Palestinian Authority the taxes it collects on the PA's behalf. The Israeli government, which long ago declared the Oslo Accords dead and buried, and which ignores many of their provisions, adheres to them scrupulously when they allow it to punish the Palestinians. The result is that Israel violates the Oslo Accords' provisions

for giving the PA the tax money it owes, but complies when they allow it to withhold water from Rawabi.

Israel's Coordinator of Government Activities in the Territories is in favor of connecting Rawabi to the water grid. It would not affect the security balance and would provide an excellent solution to the housing shortage in the West Bank. The cabinet must issue an immediate order to carry out the connection and allow home buyers to move in without further delay.

"Israel must connect the new Palestinian city of Rawabi to the national water grid", 17/02/2015, online at: <http://www.haaretz.com/opinion/1.642850>

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❖ It's A Miracle! Israeli Invention Creates Water Out of Thin Air

Attempts to create viable drinking water solutions in arid countries have failed for years. However, thanks to Israeli tech company WaterGen, you can now drink water right out of thin air.

With WaterGen's newest portable device, water vapor in the air is turned into potable drinking water. Inspiration for the device came from a similar prototype the company made for use by [IDF troops in the field](#).

The device, which is worn in portable backpacks, allows soldiers to purify water that has been found either from a natural body of water, irrigation water or water that is not sanctioned for use such as water tanks on captured roof tops.

The unit pulls water from the air, purifies it while removing dust and other particles, and creates pure drinking water, alleviating many of the logistical problems involved in transporting water.

The portable units can filter up to 10 gallons of water per day, while ground units can filter up to 120 gallons per day.

While WaterGen first focused solely on having their device used by the IDF, it soon garnered interest from the US, UK and French forces in Afghanistan, Iraq and North Africa, as a more economically feasible way of transporting water.

In these Middle Eastern locales, transporting a liter of water can cost up to between \$15 to \$17 dollars per liter.

"It's A Miracle! Israeli Invention Creates Water Out of Thin Air", 16/05/2015, online at: <http://www.breakingisraelnews.com/30031/israeli-invention-creates-water-thin-air-technology-and-business/#1qGZpXt3SPQYbdMX.97>

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❖ Israeli ministers clash over connecting West Bank city to water

Defense Minister Moshe Ya'alon ordered earlier this week to hook up large apartment buildings in the new West Bank Palestinian city of Rawabi to water, bypassing the Israeli-Palestinian Joint Water Committee, which has not met in five years.

Ya'alon, along with the Coordinator of Government Activities in the Territories, Maj. Gen. Yoav Mordechai, ordered Israel's Water Authority to provide water to the city – the first planned Palestinian city in the region.

Hundreds of Palestinians purchased apartments in the new buildings, however were unable to move in because the city lacked running water, Jerusalem Post reported.

However, Infrastructure Minister Silvan Shalom, whose office controls the Water Authority, refused Ya'alon's instruction, saying that water and sewage projects in the West Bank require JWC approval, pinning the blame on the Palestinians who refused to convene the committee in recent years.

According to security officials cited by the Jerusalem Post, Ya'alon and Mordechai are looking into ways to advance projects frozen because of the JWC's extended dormant period.

Rawabi is expected to eventually house 40,000 residents.

“Israeli ministers clash over connecting West Bank city to water”,14/02/2015, online at: <http://www.i24news.tv/en/news/international/middle-east/61156-150214-israeli-ministers-clash-over-connecting-west-bank-city-to-water>

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❖ Water running dry for Palestinians as Israel turns off the taps

(MEMO) – In the northern Jordan Valley last week, Israeli forces destroyed a [1,000 metre pipeline](#) built to provide water to Palestinian communities. In East Jerusalem, tens of thousands of Palestinians have been cut off from a regular supply of running water for nearly a year. In Gaza, the water infrastructure has been decimated and in the homes that do receive water it is still undrinkable. Water and who controls it has become a key part of Israel’s occupation, with the Palestinian territories; West Bank, East Jerusalem and Gaza, in a constant struggle for the vital resource.

Before the birth of Israel, Chaim Weizmann, who would become the country’s first president, [said](#) in 1919:

“[It is] of vital importance not only to secure all water resources already feeding the country, but also to control them at their source.”

Rafael Eitan, chief of staff and minister of agriculture and environment, said some years later:

“Israel must hold on to the West Bank to make sure that Tel Aviv’s taps don’t run dry.”

Current Israeli Prime Minister Benjamin Netanyahu said in 1998: “And when I talk about the importance to Israel’s security... It means that a housewife in Tel Aviv can open the tap and there’s water running to it, and it’s not been dried up because of a rash decision that handed over control of our aquifers to the wrong hands.”

In 1967, the year the occupation began, Israel put the plan Weizmann had talked about as early as 1919 into action. All Palestinian water resources were declared Israeli State Property and Palestinians had to apply for permits to develop their water resources. After nearly 30 years, the Oslo Accords were signed, supposedly bringing an end to the situation. Another 20 years on, it is apparent that they instead formalised and legitimised an existing discriminatory arrangement – an arrangement still in place today.

In the West Bank, the Jordan River, one of the main water sources, has been diverted upstream into Lake Kinneret/Tiberias/Sea of Galilee – lakes inside Israel, while Palestinians are physically barred from accessing its river banks. Palestinians have access to one fifth of the mountain aquifer, the other

main source, while Israel abstracts the balance, and in addition overdraws by more than 50 per cent, up to 1.8 times its share under Oslo.

The Separation Wall, roadblocks, checkpoints and other Israeli ‘security measures’ further restrict Palestinian communities’ access to water resources and filling points. Meanwhile [Israeli settlers](#) living in the same territory are supplied with an abundance of water; the consumption of more than 500,000 Israeli settlers in the West Bank is about six times higher than that of 2.6 million Palestinians in the West Bank.

To boost insufficient supplies, the Palestinians must buy water from Israel’s national water company “[Mekorot](#)” – the same water that Israel extracts from the mountain aquifer and which the Palestinians should be able to extract for themselves.

Jamal Juma, coordinator of the Stop the Wall campaign, an organisation which is part of a network of groups challenging Mekorot, said: “The real water problem in Palestine is not about scarcity of water. There is more annual rainfall in Ramallah than in London and per capita consumption of water in Israel is higher than the average consumption in Europe. The water problem in Palestine is created by Israel, through systematic theft of water and denial of access to water. Mekorot is the core player in implementing what we call Israel’s water apartheid.”

For East Jerusalem residents the situation is slightly different. East Jerusalem fell under Israeli jurisdiction after Israel annexed the whole of the city. The Jerusalemite Palestinians pay taxes to Israel and also technically qualify for Israeli healthcare, social benefits and services – including running water. However, the neighbourhoods of Ras Shehada, Ras Khamis, Dahyat A’salam and the Shuafat refugee camp have been suffering from a severe water crisis since last March when residents went three weeks without any water supply. They have been forced to buy water bottles at a high cost, and must limit their consumption by using electric pumps and industrial containers.

In Gaza, the water infrastructure is in pieces as a result of repeated wars and a blockade which has prevented repairs and maintenance. By the end of the latest bombardment over the summer, around 26 water wells had been completely or partially destroyed, while 46 kilometres of the water supply networks had been damaged, according to a [statement](#) by the Palestinian Water Authority. The water distribution network suffered an estimated [\\$34.4 million worth of damage](#).

Waste water treatment is another longstanding problem in Gaza. Many residents are not connected to a sewage system and domestic waste flows into cesspits, contaminating groundwater. Electricity shortages and damages to waste water treatment facilities during “Operation Cast Lead”, Israel’s 2008-2009 military offensive, made the situation worse – some 90 million litres of untreated sewage flows into the Mediterranean daily.

Prior to the recent attack, 97 per cent of residents in Gaza were connected to a public water system. However, 90 per cent of this was undrinkable and so residents were forced to buy water treated in governmental or private factories, or factories run by charities. The public water system means households can have running water; however electricity and fuel shortages prevent the water from being pumped through the system.

Access to water is a highly politicised and manipulated resource in Palestine. As Palestinian communities suffer – albeit through the destruction of their wells, through water that doesn’t come through the taps, or sewage that flows into the street – it is clear that, in Palestine, water is not a right.

“Water running dry for Palestinians as Israel turns off the taps”,11/02/2015, online at: <http://www.intifada-palestine.com/2015/02/water-running-dry-palestinians-israel-turns-off-taps/>

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❖ **Middle East: UN launches appeal for Palestinians as humanitarian needs surge**

12 February 2015 – The United Nations Resident and Humanitarian Coordinator for the occupied Palestinian territory today launched an appeal to boost funding for more than a million Palestinians who continue to face grim conditions on the ground and an uncertain future.

In a press release issued earlier today, James Rawley, who also functions as the UN’s Deputy Special Coordinator for the Middle East Peace Process, presented the [2015 Strategic Response Plan](#) in an effort to raise the \$705 million required to help 1.6 million Palestinians in Gaza and the West Bank with their sharply increasing humanitarian needs.

“2014 was a tragic year for Palestine,” Mr. Rawley explained. “Approximately 100,000 people are still unable to return to their homes in Gaza, and in the West Bank, thousands more live in chronic insecurity, at risk of losing their homes and livelihoods as a result of demolitions.”

According to UN estimates, a lack of donor support for the Plan would result in the continued displacement of over 22,000 families while up to 1.6 million people across the occupied Palestinian territory would be deprived of adequate water and sanitation services, and food assistance. Access to basic healthcare and education would also be compromised, Mr. Rawley added.

As a result, the 2015 Strategic Response Plan will seek to carry out a total of 207 projects presented by 77 organizations, including 64 national and international Non-governmental Organizations (NGOs) as well as 13 UN agencies, with almost 80 per cent of the funding aimed at providing shelter and enhancing food security. Over 75 per cent of the requested funds target needs in the war-torn Gaza enclave.

Despite UN efforts to assist in its recovery, Gaza continues to reel from last summer’s conflict with Israel, in which nearly 2,200 Palestinians and 70 Israelis died during the 50 days of fighting.

In addition, the violence saw the wide-scale destruction of property. According to a recent UN assessment, over 100,000 homes were damaged or destroyed, affecting more than 600,000 people. Many people still lack access to the municipal water network and blackouts of up to 18 hours per day are common.

“Alongside the humanitarian response, we need fundamental changes, particularly in Gaza which is teetering on the brink of another major crisis,” Mr. Rawley continued. “Above all, the fragile

ceasefire needs to be solidified, the blockade lifted, human rights respected, and a political solution reached for the entire Palestinian territory.”

“Middle East: UN launches appeal for Palestinians as humanitarian needs surge”, 12/05/2015, online at:
<http://www.un.org/apps/news/story.asp?NewsID=50066#.VOMFYfmsVz8>

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❖ IDE's Israel seawater RO desalination plant sets world record for water production

Feb. 10, 2015 -- IDE Technologies, a global water treatment specialist, announced that its seawater reverse osmosis desalination plant in the coastal city of Ashkelon, Israel, has reached a world record with its water production process.

The facility, which was the largest and most advanced desalination plant in the world when it completed, has produced and delivered 1 billion m³ of high-quality tap water since the start of its operation in 2005.

With a capacity of up to 330,000 m³ per day, the plant produces around 13 percent of the country's domestic consumer demand -- equivalent to 5 to 6 percent of Israel's total water needs.

The plant has also set a new benchmark by achieving one of the world's lowest prices for desalinated water and ultimately expanded by approximately 20 percent in 2010.

During the last nine years, the plant has consistently addressed the water needs of more than 1 million people across the region.

“IDE's Israel seawater RO desalination plant sets world record for water production”, 10/02/2015, online at:
<http://www.waterworld.com/articles/2015/02/ide-s-israel-seawater-ro-desalination-plant-sets-new-world-record.html>

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❖ **Knesset Decides: No More Cutting Off Water over Debt**

From March 31, a committee will hear requests by water corporation to disconnect clients; clients will appear before it, too.

The Knesset's Economics Committee voted Thursday to forbid water corporations from cutting off water supply to clients over debts. The changes will go into effect on March 31.

"I am glad that at long last, we have put an end to the disgrace of water disconnection in the state of Israel, which usually harms the economically weaker populations, which are unable to pay the monthly fees," said Committee Chairman MK Avishai Braverman (Labor).

"I read yesterday about a mother who said that there is no water in the shower for her son when he returns from the army, and that there is not enough water to swallow a pill, and the heart aches," he added. "I cannot think of a more basic right than water."

The change was made possible when the Water Authority accepted the committee's position, after a year of deliberation. Braverman thanked Labor MKs Eitan Cabel and Itzik Shmoley, as well as the Association for Civil Rights in Israel, a New Israel Fund organization (NIF), and Yedid, which is also linked to the NIF through its founder-director, for assisting in lobbying for the change.

According to the new regulations, an advisory committee to the Water Authority will be established. It will include two representatives of the public, one of whom is a social worker and another who is an expert on household economy and income tests, as well as two representatives of the Water Authority, one of whom is a lawyer who is eligible to serve as a Magistrates' Court judge.

The water corporations will appeal to the committee only with regard to debts over NIS 1,000. The corporations will have to prove that they tried to collect the debt in every possible way except for disconnection, and the client will have the right to appear before the committee and make his case.

“Knesset Decides: No More Cutting Off Water over Debt”, 12/02/2015, online at:
http://www.israelnationalnews.com/News/News.aspx/191279#.VOMIp_msVz8

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❖ Israel Eyeing Water Market

BENGALURU: The Indian water market is going to boom and will continue to grow constantly, said a top Israeli government official.

“We are here to share our know-how in this sector,” said Michael Jungreis, director, Business Development, Mekorot Development and Enterprise Ltd, an Israeli government-owned company. Jungreis was part of a 15-member Israeli delegation comprising government officials and representatives of private water companies. They are here on a two-day visit to Bengaluru to showcase the country’s expertise in water management and promote Israeli products and services.

Speaking on the growing importance of India as a vital water market for Israel, Jungreis said, “The quality of life in India is going up. So is the per capita income. As a consequence, people will not put up with intermittent water supply.” Israel’s Director General of the Ministry of Economy, Amit Lang, said in a press release that the Israeli Ministry of Economy had identified India as a target country for international cooperation.

“Israel Eyeing Water Market”, 12/02/2015, online at: <http://www.newindianexpress.com/states/karnataka/Israel-Eyeing-Water-Market/2015/02/12/article2664961.ece>

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❖ Israel offers expertise to clean up Ganga

A preliminary offer on this was made when Amit Lang, Director-General of the Ministry of Economy, Israel, met Indian officials.

In an effort to deepen economic cooperation, Israel has offered its expertise and technological capabilities to India in its ambitious drive to clean up the Ganga.

A preliminary offer on this was made when Amit Lang, Director-General of the Ministry of Economy, Israel, met Indian officials on Tuesday.

Mr. Lang is leading a large trade delegation to continue talks on the Free Trade Agreement (FTA), which both countries had initiated in 2007, as well as expand cooperation in the field of water management, waste water treatment and more. Mr. Lang said the “agenda of the visit is mainly to introduce technologies to India.”

On the delay in concluding the FTA, Mr. Lang said, “We have few challenges on the Indian side.” “Israel has no real concerns... It is an open market,” he added. The Israeli delegation has submitted a proposal to the Indian side on the issue.

The FTA will be further discussed when External Affairs Minister Sushma Swaraj visits Israel in the next few months.

Israel has made significant technological advancement in desalination and drip irrigation with the world’s largest desalination plants and recycles 90 per cent of water for agricultural needs. India-Israel ties received a major boost when Prime Minister Narendra Modi met his Israeli counterpart Benjamin Netanyahu last September.

“Israel offers expertise to clean up Ganga”, 11/02/2015, online at: <http://www.thehindu.com/news/national/israel-offers-expertise-to-clean-up-ganga/article6880034.ece>

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❖ Israel offers to boost India's clean water supply

New Delhi, Feb 10 (IANS): Israel is looking to boost India's supplies of clean water, a resource that is projected to become increasingly difficult to obtain in the future.

A delegation of Israeli water companies, led by the director general of its ministry of economy, Amit Lang, Tuesday met with Indian companies here to explore collaborations.

"A major item on our agenda is to offer Israeli expertise for India's Clean Ganga project, for which we have met the government's water secretary here," Lang told reporters on the sidelines of the business meeting.

Israel, which has the world's largest and cheapest desalination plant in the world, offers a range of technologies ranging from desalination and recycling to smart metering of water and drip irrigation, he added.

Among the Israeli companies at the conference were some, who are already in collaboration with India, like NaanDan Jain Irrigation that is constructing a \$55 billion fully-automated 12,000-hectare drip-irrigation project in Karnataka.

An agreement was signed in 2012 between the two nations aimed at fostering cooperation, with a focus on urban water management.

Regarding the free trade agreement (FTA) being negotiated by both sides for the last three years, Lang said he had impressed upon the India's commerce secretary that an FTA with Israel is unlike that which India is negotiating with developed economies because there are less than a handful of Israeli companies as large as the Indian ones, and, thus, pose no threat to the indigenous industry.

"Israel offers to boost India's clean water supply", 10/02/2015, online at:

http://www.daijiworld.com/news/news_disp.asp?n_id=295955

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❖ Guizhou agriculture to benefit from Israeli links

Israel has agriculture technologies that can be applied to Guizhou's agricultural development, said Xiao Rongjun, the deputy director of Guizhou Agriculture Commission, at the 2015 Israel-Guizhou agriculture seminar held in Guiyang, the capital city of southwest China's Guizhou province, on Wednesday.

"Israeli agricultural technologies lead the world, especially drip irrigation technologies in the field of fruit and vegetable cultivation, and seed breeding, aquaculture and stock farming," said Xiao.

Guizhou, which is in the initial stage of agriculture development, stands to gain huge benefits from the technologies from Israel, which will enhance the quality of agriculture products, according to Xiao.

Cobi Yanovsky, the deputy general consul at the Israeli consulate in Chengdu, who introduced three Israeli agricultural enterprises, said, "Guizhou is one of the most developing provinces in China. We see a great development potential."

Guizhou like Israel has arid areas and problems of water conservation.

Yanovsky said: "We know how to cultivate in dry areas with scientific solutions. The cooperation potential with Guizhou leads us here, and we will promote relevant technologies and solutions that Guizhou needs".

Israel will encourage enterprises to visit Guizhou and cooperate with Guizhou companies in agriculture field, according to Yanovsky.

In the past 60 years, farm land has decreased dramatically in Israel, but agricultural productivity is increasing, according to Eitan Neubauer, the counselor of technology and agriculture at the Israeli embassy in China.

"Israel has made great achievements in the field of water management, waste water treatment, irrigation, fertilizer, agriculture machinery, seed and stock farming," said Neubauer.

The Guizhou seminar was attended by more than 50 Guizhou enterprises involved in stock farming, aquaculture, farm machinery, and food processing.

An agreement between the Israeli embassy and Guizhou Agriculture Commission will see 66.7 hectares set up as an agriculture demonstration zone in Zunyi, in the northern part of Guizhou.

“Guizhou agriculture to benefit from Israeli links”, 12/02/2015, online at: <http://www.ecns.cn/business/2015/02-12/154767.shtml>

❖ **Bringing water to dry regions: The search for reliable sources of drinking water**

Scientists are crafting radical new approaches that may one day rejuvenate the world's water-starved regions.

The Arava desert, a salty wasteland dotted with tufts of scrub, gets only about an inch of rain each year. And yet cows at dairy farms collectively produce nearly 36 million litres of milk annually. Orange bell peppers flourish in a long swath of greenhouses that skirts the Jordanian border. Kibbutzim (collective communities) with vineyards somehow manage to churn out Shiraz and Sauvignon Blanc, unfazed by the desert sun.

The clusters of farms and wineries in the Arava are a testament to Israel's acumen in water technology. One of the most parched places on Earth has found a way to beat water woes once so severe that Israel's national mood rose and fell with the changing level of the Sea of Galilee, one of their most critical water sources.

That expertise helps explain why the University of Chicago sought out Israel's Ben-Gurion University to help tackle one of the world's most worrisome problems – water scarcity. In laboratories in Chicago and the Israeli desert, scientists are crafting radical new approaches that may one day rejuvenate the world's water-starved regions.

One project uses a common ink jet printer to apply layers of chemicals to a water filter to repel bacteria and keep the filter clog-free. Another turns radioactive isotopes into tracking devices to trace water movement through aquifers, a development that could lead to the discovery of vast new strata of groundwater. Still another effort strives to create filtering membranes that operate on a molecular level, using electrically charged, cilia-like hairs to repel filter-fouling microbes. The goal is to complete research by the latter part of 2015.

By 2030, nearly half of the world's population will be living in regions saddled with severe water stress, the United Nations projects. Three quarters of the world is covered by water, but less than 3% is fresh water. Areas with annual water supplies below 1,000 cu m per person are regarded as water-scarce.

Lesson from Israel

Israel is the ideal place to turn to for water research expertise. Since its independence in 1948, Israel has had to find ways to build its society and economy in one of the most water-starved places on the planet. Its game plan for surmounting water scarcity had several pillars. It built a water supply line known as the National Water Carrier that transported water from the Sea of Galilee to the rest of the country, including the barren wastelands of the Negev and Arava deserts. It ingrained water conservation deep in the population's mindset – for years, Israelis rationed their water use, and even as young children, they were taught to conserve.

“From the age of three, we learned to shut off the faucet while brushing our teeth,” said Udi Tirosh, business development director at IDE Technologies, an Israeli corporation that builds and operates desalination plants in Israel and around the world.

The most significant initiative was Israel's embracing of desalination technology. It now has five desalination plants producing 500 million cu m of water each year, about half of the country's drinking water needs. In desalination, water is drawn out of the sea and then pumped through a series of filters to separate the brine and yield fresh water.

“Desalination gives you the power to control your supply,” Tirosh said. “Up until a few decades ago, you were waiting for rain or digging a well. Now that you can desalinate, it's game-changing. You can produce efficient water from the sea, which is important because rivers, lakes and aquifers can dry out.”

There are now more than 17,000 desalination plants in 150 countries, and expanded use of the technology could drastically ratchet up water supplies for water-starved nations. But desalination isn't problem-free. The bane of desalination plants is bio-fouling, the build-up of microbes on filter surfaces. It makes an already costly approach to creating drinking water even costlier.

To solve the problem of bio-fouling, the researchers at Ben-Gurion and University of Chicago are creating new strand-like molecules less than one-10,000th of the diameter of a human hair, and attaching those strands to the surface of a desalination filter. The strands are electrically charged both positively and negatively, and that combination repels bacteria.

“It’s important to have widespread use of desalination, so it’s important to bring the cost down,” said Matthew Tirell, a professor at University of Chicago. “The potential of this research is to have very long-lasting membranes where the cost of the membranes comes down by a factor of two.”

Ben-Gurion’s role is to find a way to ramp up the scale of production of the strand-covered filters. At its Sede Boker campus in the heart of the Negev desert, biological chemist Christopher Arnusch is relying on an everyday office mainstay – the ink jet printer – to help improve water filtration. He has found a way to use the printers to apply anti-bacterial coatings to filters, a breakthrough that allows scientists to economically affix the right mix of chemicals to sheets of filters a metre wide.

“When you get this slimy, bacterial material on membranes, it makes them ineffective and reduces their shelf life,” Arnusch said. “And it costs more energy to run the systems.”

Searching for water

Another Ben-Gurion scientist, Eilon Adar, is looking for new sources of water. His team is using naturally occurring radioactive isotopes to track the movement of groundwater through aquifers as deep as 1.6km below the surface, relying on a special laser device to detect the number of krypton isotopes in a water sample. Krypton isotopes are used because they begin to decay once they move from surface water to underground strata. The number of isotopes found tells scientists how long the water has been underground. With that information, they can plot the oldest to youngest samples on a map and determine the water’s flow through the aquifer, and ultimately the aquifer’s size and characteristics.

Adar says the research has an intriguing practical application – finding water in the bedrock beneath the world’s deserts. “You cannot sustain a growing population with diminishing amounts of water. So we move into arid and semi-arid basins. And we all know that, under deserts around the world, there are huge groundwater reservoirs.”

Adar’s research can also help in Israel, where desert enterprises – from dairy farms to wineries to fish hatcheries – distill their struggles into a single, common plight: lack of water. Israel’s evolution as a wellspring for water technology know-how explains why farms in the Arava thrive. Israel is the birthplace of drip irrigation technology, which conserves by delivering a trickle of water directly to

plant roots. Israeli researchers also have fine-tuned how much pure water needs to be added to brackish water drawn from Arava aquifers in order for a given plant species to thrive.

Today, farmers in the Arava grow almost everything found in the nation’s grocery store produce sections: mangoes, pomegranates, grapes, watermelons, tomatoes, potatoes, corn, bell peppers and eggplants. At a kibbutz farm in Samar, the challenge is to keep from overheating dairy cows, livestock that normally would not survive in a desert climate. The solution – showers, seven times a day during summer months, and three or four times a day during the rest of the year.

The wineries of the Arava and Negev face their own daunting obstacles: water and soil that’s too saline, a desert sun that bakes vines with temperatures above 46°C during harvest time. And yet, at Kibbutz Neot Semadar, a winery in the southern end of the Arava desert, an oasis blooms. Gardens of lavender line pools filled with large goldfish. Orchards yield apricots, almonds, apples and plums. And despite the climate, the Shirazes, Merlots and Chardonnays hold up well, locals say.

“Over time, Israel’s farmers have become extremely efficient at using water,” says Jack Gilron, a scientist at Ben-Gurion’s Zuckerberg Institute for Water Research. “For them, water’s scarcity became the spur for how to do water more efficiently.” – Chicago Tribune/Tribune News Service

“Bringing water to dry regions: The search for reliable sources of drinking water”,09/02/2015, online at: <http://www.thestar.com.my/Lifestyle/Features/2015/02/09/Bringing-water-to-dry-regions-The-search-for-reliable-sources-of-drinking-water/>

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❖ Mideast climate change: Hotter, drier and more dangerous

Desertification in the region has provided fertile ground for the rise of extremists such as ISIS, postulates leading Israeli geostrategist Arnon Soffer

Climate change deniers received a stunning blow this year from none other than [Pope Francis](#), who announced a papal encyclical calling for action on global warming in 2015. But even if the world's billion-plus faithful heed him, stop flying in planes and start walking to work, global warming will continue to gain traction. And the forecast for the Middle East is frightening: It will be hotter, drier and probably more dangerous as [burgeoning populations](#) struggle over dwindling resources, warns geostrategist Arnon Soffer, professor emeritus from the University of Haifa.

Soffer declines to look more than 20 years into the future on the grounds of pointlessness: Who, for instance, foresaw the Holocaust, which changed world history? Though when pressed to peer into a more distant future, he does point out that if global warming continues on its present trajectory, life in the Middle East and possibly the planet as a whole could become unsustainable for humans: We will fry.

The U.S. Environmental Protection Agency for one predicts that unless humanity takes drastic action to amend its climate-changing ways, the average global temperature will rise by 11.5 degrees by the year 2100. (If humanity does take drastic action, the EPA projects a temperature increase of 2 degrees by that same year.)

Temperatures in the Middle East have not changed much yet, but they will; and the region is already experiencing weather extremes and, generally, an accelerated process of desertification.

Too hot to go outside

In the short run the natural life, flora and fauna, in the existing deserts will be less affected by climate change than plants in the semi-arid regions of the Middle East, which include Israel. Also, Middle Eastern plants and animals evolved to be “climate copers,” long used to wildly varying precipitation from year to year.

But, barring drastic action, within the lifetimes of today's children, it will be impossible to leave shelter during the heat of the day, Soffer predicts. Being outside in the sun will be deadly. And plants and animals will face the same stresses as the region's people.

Nor need we look 50 or 100 years into the future to see acute danger. The Middle East, says the professor, who among other things advises the Israel Defense Forces and government on demographics, is already reeling from the double whammy of climate change and growing populations. These factors are combining and are already exacerbating the struggle over resources – water, food and energy.

When people think about the world's growing populations, they usually think of India and China. But demographically speaking, what has been happening in the Middle East has no precedent, Soffer notes. Take the population of Egypt: It doubled in the 30 years before 1958, and then by 1981 it doubled again. But a poor nation like Egypt can't double its resources in less than 30 years: "It's mission impossible. The entire Middle East is in a state of chaos," says the professor. And meanwhile, the [Blue Nile is running low on water](#).

Much of the Middle East is hot and arid to begin with, and it's becoming even drier. Plus, many scientists predict further desertification as precipitation in the region becomes rarer, and its patterns change too.

Spreading deserts and ISIS

Forecasts for rain are a lot iffier than for temperature. Generally, the forecast for a warming world is actually for more precipitation, as the hotter climate causes more water to evaporate from the oceans – and what goes up must come down. But that rainfall won't be evenly distributed around the world. Some countries used to heavy precipitation will apparently get more: Britain, for instance, is bracing for torrential rains.

Meanwhile, the entire Fertile Crescent has already been getting less and less rain. In Israel, the winter (rainy season) of 2013-2014 was the driest in its recorded history.

“Countries on the boundaries of the desert will be more desert-like and the desert countries will, within decades, become practically unfit for human habitation,” Soffer and Berkovsky predict in their book “Geopolitics and Climate Change in the Middle East.”

As less rain falls, aquifers will dwindle and the quality of their water will deteriorate. Desalination is all right for rich countries like Israel, where a weekend’s worth of water might cost as much as a cup of coffee, says Soffer drily. But that is no solution for the third world: “They can’t afford it,” he says bluntly. Nor is it even possible. “The entire amount of water the world desalinates in a year is about what Egypt needs in a month,” he explains. Ergo, desalination is not the answer.

And thus, as water becomes scarcer and its cost rises, the countries of the Middle East will increasingly resort to struggling over this diminishing resource. Will? Soffer says this has actually been happening for years. With all due respect to egalitarian cravings, he associates the Arab Spring and even the rise of the Islamic state, or ISIS, less with vile tyrants and more with climate change.

The “Mediterranean zone” is characterized by dry summers, which may last as long as nine months, and a wildly variable winter rainy season. The Intergovernmental Panel on Climate Change actually predicts that as the planet warms, winter precipitation may slightly increase but overall, the soil will be drier because the hotter temperatures will drive more evaporation.

Israel is in the region that will undergo desertification, which the IPCC foresees encompassing North Africa, the countries around the Mediterranean basin, and swathes of Asia as well. Meanwhile, IPCC figures indicate that temperatures in the Middle East did not substantially change from 1901 to 1996, though if one includes Asia, the increase is 0.7 degrees Celsius. But the global trend is unarguable and the Middle East will not be spared. In any case, the average temperature isn’t the point, argues Soffer: We need to look at [extreme events and this region is suffering those in spades](#).

“The winter of 2013-2014 brought us that [crazy snowstorm](#),” Soffer recalls, adding that even Cairo was blanketed in white. Israeli highways were blocked by thousands of cars simply abandoned in snowdrifts, and whole towns were cut off for days. Some areas of Syria saw the heaviest snowfall in decades, which further exacerbated the misery of citizens already suffering from civil war.

Not one single drop of rain fell on the border of Syria and Turkey last winter, adds the professor, driving home the point. The villagers there have no desalination plants or water tankers.

“When it doesn’t rain and they have no water, like our patriarch Abraham – they have to migrate,” says Soffer. The upshot is that from North Africa to Syria, decades-old autocratic regimes have been weakened. Leadership voids were created he adds, and since nature abhors a void – enter ISIS, a magnetic force for people disenfranchised and growing increasingly desperate for solutions that their own governments cannot provide.

“Mideast climate change: Hotter, drier and more dangerous”, 11/02/2015, online at: <http://www.haaretz.com/life/nature-environment/premium-1.641785>

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❖ Egypt seeks to protect its water resources

A new national campaign launched in early 2015 to protect the Nile River from encroachments and pollution has already begun to bear fruit, Egyptian officials said.

By January 27th, Egypt's Ministry of Water Resources said it had removed 687 cases of encroachment by illegal structures on the river, out of a total of about 50,399 targeted cases.

Egyptian Prime Minister Ibrahim Mahlab announced the launch of the campaign on January 5th to stop encroachments along the course of the Nile in various governorates and to reduce pollution, which has reached unsafe levels as waste and sewage are often dumped into the river.

The campaign does not focus solely on the course of the Nile, which cuts through 1,500 kilometres of Egypt, but also all the tributaries and lakes into which it feeds, Salem Imam of the ministry's General Authority for Shore Protection told Al-Shorfa.

"The campaign aims primarily to stop encroachment by unauthorised construction along [the Nile's] course and halt waste dumping in order to reduce its pollution level," he said.

'CULTURE OF PRESERVATION'

Alongside its removal campaign, the ministry will work to promote a "culture of preserving the Nile" in collaboration with the Ministry of Education, intellectuals, writers, journalists and religious institutions, as the issue concerns all Egyptians alike, Imam said.

The Ministry of Water Resources also asked the European Union for assistance in the form of cameras and surveillance equipment, so officials can monitor encroachments accurately and work to remove them immediately, he said.

In addition, he said, the ministry dedicated a hotline (15116) to receiving complaints about encroachments along the course of the Nile.

At the grassroots level, the ministry circulated a message titled "The Nile Document", asking citizens to sign it to raise awareness, involve them in the campaign and encourage them to preserve water resources, rationalise consumption and prevent the wastage of water, Imam said.

"Pollution in the Nile River is very high due to the dumping of waste, sewage and various leftovers in addition to scrap waste from some factories," Shawqi Essam of the Central Laboratory for the Analysis of Water told Al-Shorfa.

"The level of pollution exceeds medically and scientifically allowable levels," he said, adding that such pollution has led to the spread of many microbes in the water that cause food poisoning.

"Food poisoning comes not only from direct use of the water by citizens but also indirect use, for example its use as drinking water for animals and livestock, such as cattle, sheep and buffalo, which ingest stomach microbes then transmit them to humans," Essam said.

'MANDATORY BUFFER ZONE'

Adel Salama of the Soils, Water and Environment Research Institute, which was tasked with following up on encroachment removal work, said the initiative has begun taking "practical steps by conducting a survey of all areas".

The survey identified 50,399 cases of encroachment as targets for the campaign, he said.

Work is under way to remove them at the hands of special teams from the Ministry of Water Resources assisted by water police units, Salama told Al-Shorfa.

Eight thousand cases of encroachment were identified in 2014, approximately half of which were addressed in the course of the same year, he said, adding that a circular was distributed to all new construction sites near the Nile informing property owners that they must halt all work for re-inspection and issuance of permits.

The mandatory buffer zone between any property and the bank of the Nile will be set at 30 metres, Salama said.

"Any structure or fence that does not conform to these requirements will be removed," he added.

"Egypt seeks to protect its water resources", 10/02/2015, online at: http://al-shorfa.com/en_GB/articles/meii/features/2015/02/10/feature-03

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❖ Controversy continues over Nile Congo river projects

CAIRO — After years of controversy surrounding the topic, the Egyptian government made a final decision on Jan. 19 concerning the proposed project to link the Nile and Congo rivers, aimed at providing the country with additional water shares. The government decided to halt any studies on this topic with a private sector company in charge of implementing the project, and officially announced that the project [would not be included](#) in its water plan.

This stirred the Egyptian public opinion, especially after farming union leaders announced their [support for the project](#). They had hoped it would alleviate their suffering from the recurrent water crises, which [affect drinking water](#) as well. Egypt's water quota has remained at [55.5 billion cubic meters](#) a year, and there is a crisis threatening a decrease in this amount, as the Nile headwater states are insistent on a [redistribution](#) of the river's water quotas. This is in addition to the threats posed by the new Ethiopian dams, especially the [Renaissance Dam](#), which is expected to [deprive Egypt](#) of a large part of its water share when the first stage is completed in 2015.

The Egyptian government's decision to cancel the project was based on a report prepared by the Ministry of Water and Irrigation and submitted to President [Abdel Fattah al-Sisi](#) in January. The report noted [22 obstacles](#) that would make the implementation of the project very difficult, if not impossible. The report included the obstacles that Al-Monitor discussed in an article in October 2013 titled "[Egypt's 'lost dream' of linking Congo, Nile Rivers.](#)"

According to the government report (of which Al-Monitor obtained a copy) to halt the project, the proposal submitted by the team from the Africa Development Project and link the Congo River (which represents Sarco, a private company in charge of implementing the project) is based on transporting 110 billion cubic meters of water annually from the Congo River Basin to the Nile Basin, by linking the two rivers. This would represent about twice the amount of Egypt's current Nile water quota. However, the project is not internationally recognized as being feasible and the work presented by the company is still at the proposal stage; the stage of exploratory study has not been reached. Moreover, the proposal lacked essential technical details, and the project would require elevating water from the Congo River 800 meters (2,625 feet) to reach the Nile River Basin. This would be very difficult given the nature of the terrain separating the Nile and Congo basins.

The government report warned that, in addition to the technical obstacles that make linking the two rivers a fantasy, there are other obstacles represented by the exorbitant cost of the project which cancel out its economic feasibility. Moreover, the work team ignored the legal dimensions of the proposal, since the Congo River spans several countries and the principle of requesting to transfer water outside of its natural basin is in violation of international norms.

In an exclusive interview with Al-Monitor, Alaa Yassin, the adviser to the minister of irrigation for dams and the Nile Basin, said, “The implementation of this project is not possible, and [would] have serious consequences for Egypt.” He added, “[Egypt] may ask other Nile countries to transfer water to us, similar to the proposal presented to transfer the Congo River’s water.”

Meanwhile, the debate regarding the [economic feasibility](#) of the project has intensified between water experts, with some supporting it and others opposing it.

The company, which was going to implement the project, has [launched a campaign](#) against officials from the Ministry of Water and Irrigation, accusing them of obstructing the project and not adequately reviewing initial studies.

Ibrahim Fayoumi, the engineer in charge of the Africa Development Project and link the Congo River, challenged officials in the Ministry of Water and Irrigation. He told Al-Monitor that he and his team concerned with carrying out studies will not be defeated by this governmental rejection and will not stop moving forward toward implementation. “We will meet with officials from the Ministry of Water and Irrigation again, after we succeed in delivering water to the Egyptian border at Aswan, from Congo through South Sudan,” he said.

Fayoumi said he has received blessing from both Congolese President Joseph Kabila and South Sudan President Salva Kiir Mayardit to implement the project, yet he did not deny that this governmental rejection in Egypt might cause panic among African countries involved in the project.

In response to these accusations that the Ministry of Water and Irrigation was obstructing the project, Wael Khairy, chairman of the Central Administration for Bilateral Cooperation with the Nile Basin in the ministry, said that these allegations are false. He told Al-Monitor that government experts who reviewed the studies presented by the working team from the company chosen to implement the project agreed that implementation was not possible, especially since the project was slated to pass through regions with civil conflict and tribal areas.

“There have been problems facing the completion of the Jonglei Canal project, which has been halted for four decades and involves moving only 4 billion cubic meters of water a distance of 360 kilometers [224 miles] from South Sudan to Egypt in its first phase. We must first consider this before we think of a proposal to transfer 110 billion cubic meters a distance of more than 3,000 kilometers [1,864 miles],” Khairy said.

“The Congolese Water Resources Act prohibits the transfer of water from the Congo River outside the nation’s borders, and for this reason multiple proposals from foreign entities to transfer Congo River water outside Congo have failed,” he added.

Adel Abu Bakr, the legal adviser for the project’s work team, denied that the Ministry of Water and Irrigation had unduly assumed the role of the Egyptian Foreign Ministry in its report on the project, in its discussion of legal motives resulting from linking the two rivers. He stressed that the Ministry of Water and Irrigation was only reviewing technical issues, leaving the legal and political issues to the political leadership.

The technical difficulties facing the implementation of this project are still a subject of controversy in Cairo. Fears of violating the principle of international law that prevents the transfer of water from any river shared by more than one country to another river was the main obstacle that drove the Egyptian government to formally refrain from supplying Egyptians with water from the Congo River. Egypt did not want its participation in the project to serve as a pretext for any of the Nile headwater countries to sell their water, especially in light of the [repeated Israeli requests](#) to extend the Nile’s water to Tel Aviv.

“Controversy continues over Nile Congo river projects”,12/02/2015, online at: <http://www.al-monitor.com/pulse/originals/2015/02/egypt-halts-project-link-congo-nile-rivers.html#>

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❖ Ethiopia, Egypt, Sudan discuss Nile dam

ADDIS ABABA – Officials from Ethiopia, Egypt and Sudan on Wednesday held an unannounced meeting to discuss a multibillion-dollar dam being built by Addis Ababa on the Nile River.

The tripartite meeting was held behind closed doors amid a total media blackout, an Anadolu Agency correspondent reported.

Along with experts from the three countries, Wednesday's meeting was attended by Egyptian Foreign Minister Sameh Shoukry, Egyptian Irrigation Minister Hossam Moghazi, Ethiopian Foreign Minister Tedros Adhanom and Sudanese Irrigation Minister Moataz Moussa.

Ethiopia and Egypt are trying to narrow their differences over the dam project.

The two countries agreed to resume tripartite talks – along with downstream Sudan – after Egyptian President Abdel-Fattah al-Sisi and Ethiopian Prime Minister Hailemariam Desalegn met in Equatorial Guinea last summer.

Meetings of a tripartite technical committee, set up in 2011, resumed last August following an eight-month hiatus due to ongoing differences between Cairo and Addis Ababa.

Last September, the tripartite committee decided to hire research firms tasked with assessing the project's anticipated trans-boundary and environmental impact.

Egypt fears the dam will negatively affect its traditional share of water from the Nile, its only source of water.

Ethiopia, for its part, says the project is indispensable to its own national development and the economic welfare of its burgeoning population.

“Ethiopia, Egypt, Sudan discuss Nile dam”, 11/02/2015, online at: <http://www.turkishpress.com/news/422902/>

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❖ Trouble swells on the Mekong

Special report: Dams are disrupting natural water flows and endangering a way of life, writes Paritta Wangkiat

When construction of the Xayaburi dam's second stage began late last month, fishermen in villages along the Mekong River grew concerned that unpredictable man-made tides will further decimate fish populations...

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“Trouble swells on the Mekong”, 16/02/2015, online at: <http://www2.bangkokpost.com/news/general/475742/trouble-swells-on-the-mekong>

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❖ Laos Faces Pressure to Stall Decision on Lower Mekong River Dam

Laos is facing increasing pressure to delay construction of a 260 megawatt dam on the Lower Mekong River because of concerns about its environmental and social impacts. A gathering last week in Laos highlights the continuing controversy surrounding the project.

The member states of the [Friends of the Lower Mekong](#) came together with the countries of the region last week for the first time since the group was created in 2009 -- marking a new step in diplomatic pressures on the Laos government to delay or halt construction of the Don Sahong Dam.

Environmental impact

The planned \$600-million project in the Siphandone (Khone Falls) area of southern Laos is less than two kilometers from the Cambodian border. It would create valuable electricity to fuel growth in the region, but environmentalists and neighboring countries worry it could damage an ecological system crucial for feeding millions of people in Southeast Asia.

The dam would be the second proposed for the Lower Mekong after the \$3.8 billion Xayaburi Dam in northern Laos, itself a focus of public debate and controversy over its potential impact on the environment.

The Laos Government agreed to a six month period of regional consultations on the Don Sahong Dam. But these concluded in late January and Lao officials have indicated they are preparing to start construction soon, despite concerns from groups who say the dam should be studied further.

The meeting of the Friends of the Lower Mekong (Australia, New Zealand, the European Union, Japan, the Republic of Korea, the Asian Development Bank, the World Bank, and the United States) in the southern Laos town of Pakse centered on issues of water resources, energy needs and food security.

Carl Thayer, a political scientist at Australia's University of New South Wales, says the meeting, led

by the United States, appeared aimed at sending a message to Laos to reconsider building the Don Sahong Dam.

“I think it’s The Friends of the Mekong and organized diplomatically because the Don Sahong is not as expensive as the Xayaburi Dam - and its impact is potentially enormous. So it’s easier - in one sense - for Laos to give away something small," Thayer explained. "And concentrate on the big money numbers - if it’s going to become a major political issue.”

Thayer said both Cambodia and Vietnam have been lobbying strongly for the dam project to be reconsidered given the potential adverse impact on fisheries and water flow.

Scientists said the dam would block the main river channel, preventing the migration of fish during the dry season, and threatening the highly endangered Irrawaddy dolphin.

Concerns: human rights, economy, culture

Director of the Cambodia-based Khmer Institute of Democracy, Sorya Sim, said international involvement in the decision-making process is needed because of how the dam will affect the river as it flows through other countries.

“Building a dam is not a one country issue. It’s connected to the region and about human rights, the environment, economic and culture. So it’s a good idea to have an international input whether it’s American, or European or Asian - no problem," said Sorya Sim. "As long as you have more input and the political and legal structure there when to go ahead.”

But scientists employed by the dam’s construction company, Malaysia-based Mega First Corp, have dismissed the concerns raised by environmental groups, including Vietnam’s fears that it could worsen the already increasing salinity in the Mekong Delta.

Pianporn Deetes, Thailand campaign coordinator with the U.S.-based environmental group, International Rivers, says it appears that the consultation process overseen by the intergovernmental

body, the Mekong River Commission, is broken down, reducing the chance that all affected countries will sign off on the construction.

“Even though the other three governments did not really agree with the project but the host [Laos] government still insists that it has sovereignty rights to develop the project,” Pianporn Deetes noted. “And very important is that the trans-boundary impact has been ignored. So who is paying this cost? [It] is the millions of people whose livelihood depends largely on the Mekong River Resources.”

The Friends of the Lower Mekong said fresh initiatives are under way to promote sustainable energy, including alternative sources, and funding for studies on the impacts of hydro-power on the communities and the environment and supporting development of a national power grid for Laos.

“Laos Faces Pressure to Stall Decision on Lower Mekong River Dam”, 09/02/2015, online at:
<http://www.voanews.com/content/laos-facing-pressure-to-stall-decision-on-dam-in-lower-mekong-river/2634541.html>

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❖ The current of discord on the Mekong

Trouble may be brewing on the Mekong. The cumulative socio-political and environmental impact of dams on the Mekong raises serious cause for concern. There is a race to the bottom to secure economic growth from a burgeoning hydropower boom in Laos, Cambodia and Vietnam. Meanwhile, China's increasingly dominant control of water to the north is causing problems with its neighbours.

The dams will put at risk the food security and livelihoods of tens of millions of people — especially in Cambodia's lowlands and Tonle Sap Great Lake, the world's most productive inland fishery, and in the Mekong Delta, Vietnam's rice bowl and home to nearly 19 million people. While Laos has technically complied with the principle of prior notification, consultation, and cooperation as described by the 1995 Mekong River Commission (MRC) Treaty, it has used misleading information to advance its hydro projects.

In 2012, for example, Vientiane claimed that engineers involved in Laos' dam-building would design fish passages that would allow fish to travel freely across the Mekong River branches in Laos. However, the MRC has not had the opportunity to review and test Laos' fish passage design. Scientists contend that this design is inadequate because of its one-size-fits-all approach to diverse fish species and its focus on upstream rather than downstream fish migration. And the MRC has no legal authority to prevent violations of the Mekong Treaty.

But what is more concerning is the shifting geo-strategic landscape surrounding the dam conflict.

China's increasingly dominant role in controlling upper Mekong waters has worsened relationships with its neighbours. Vientiane and Phnom Penh are building dams based on the assumption that China will allow more water to flow during the dry season. But China can theoretically release or stop releasing water if and when it pleases. A lack of transparency about water management has led China's neighbours in Southeast Asia to believe that water control may not only serve China's water needs but also be utilised as a form of coercion over them.

China and the lower Mekong countries tend to make policy based on an outdated interpretation of international water law that emphasises a 'first come, first served' approach, rather than cooperation

among all countries along the river. Without a comprehensive cooperative framework to manage water disputes, these disputes could spill over into diplomatic and political arenas.

There is no clear evidence that Beijing has been dictating to Vientiane on decisions over the recent Xayaburi and Don Sahong dam projects. Indeed, the problem lies with Laos itself. It has undermined the cooperative framework of the MRC, while downstream governments have largely failed to stand up to it. There isn't a strong history among the Mekong countries of using formal mechanisms, including international law, to resolve problems that transcend national boundaries.

And Vietnam is itself divided. While some in the Vietnamese government are vocally opposing dam-building on the Mekong, other Vietnamese who have close economic and political ties with Laos' leaders are not. Vientiane has taken advantage of this lack of consensus in Vietnam to advance its interests at the expense of its neighbours.

Downstream in Vietnam, there is also concern about the broader strategic uncertainties linked to the race to the bottom among the Mekong countries. China's influence expands from the north on Vietnam's Mekong Delta to the South China Sea. Vietnam believes these waters to be its exclusive economic zone and in the past there has been escalation of conflict between Vietnam and China. The two nations are stuck in a vicious cycle of historic, deep-seated distrust. Beijing is attempting to make Cambodia and Laos buffer states between China and Vietnam. If it does so successfully, China will become the paramount regional hegemon that can change the rules of engagement and 'discipline' Vietnam and other Southeast Asian states.

It is unclear how Beijing's aggressive rise in South China Sea may spill over to water politics in the Mekong and vice versa. In Vietnam, there is popular resistance to Chinese interference in domestic politics: Vietnamese nationalists attack attempts to 'sell' the country to foreign forces. But organised opposition to China does not obviously exist in Laos or Cambodia, leaving Beijing free to try to influence policymaking in these countries.

Relations are deteriorating among the lower Mekong countries and within ASEAN over the dam conflict, while Beijing continues to exploit this division for its own geopolitical interests. Ultimately, to ameliorate the race to the bottom among the Mekong countries, technical solutions must be

connected to efforts to improve the broader strategic landscape, the MRC procedures, and stakeholders' attitudes and behaviours toward regional cooperation.

“The current of discord on the Mekong”, 07/02/2015, online at: <http://www.eastasiaforum.org/2015/02/07/the-current-of-discord-on-the-mekong/>

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❖ South Africa's Eskom imposes second day of rolling blackouts

Feb 15 (Reuters) - South African power utility Eskom imposed a second day of rolling blackouts on Sunday to ease pressure on the national grid and build up diesel supplies and water reserves in hydropower dams.

The utility, which produces nearly all the electricity in Africa's most sophisticated [economy](#), initially cut nationwide demand by 2,000 MW out of a total 30,000 MW, but then reduced the outages to only 1,000 MW as the supply situation improved.

The blackouts will end at 2000 GMT, Eskom said.

South Africa is facing months of power shortages as engineers step up maintenance to overhaul power plants that have been run too hard over the last few years to compensate for a lack of investment in new generation capacity.

Two huge new coal-fired power plants are under construction but have been hit by technical and labour-related delays.

The power shortages are imposing a major burden on the economy and are cited as one of the main reasons for growth forecasts of little more than 2 percent this year.

“South Africa's Eskom imposes second day of rolling blackouts”,15/02/2015, online at:

http://www.reuters.com/article/2015/02/15/safrica-eskom-idUSL5N0VP0CL20150215?utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=40bcdd1676-RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_c1265b6ed7-40bcdd1676-250657169

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❖ Starved for Energy, Pakistan Braces for a Water Crisis

ISLAMABAD, Pakistan — Energy-starved Pakistanis, their economy battered by chronic fuel and electricity shortages, may soon have to contend with a new resource crisis: major water shortages, the Pakistani government warned this week.

A combination of global climate change and local waste and mismanagement have led to an alarmingly rapid depletion of Pakistan’s water supply, said the minister for water and energy, Khawaja Muhammad Asif.

“Under the present situation, in the next six to seven years, Pakistan can be a water-starved country,” Mr. Asif said in an interview, echoing a warning that he first issued at a news conference in Lahore this week.

The prospect of a major water crisis in Pakistan, even if several years distant, offers a stark reminder of a growing challenge in other poor and densely populated countries that are vulnerable to global climate change.

In Pakistan, it poses a further challenge to Prime Minister Nawaz Sharif, whose government has come under sharp criticism for failing to end the country’s electricity crisis. In some rural areas, heavy rationing has meant that as little as four hours of electricity a day is available.

In the interview, Mr. Asif said the government had started to bring the electricity crisis under control, and predicted a return to a normal supply by 2017. But energy experts are less confident that such a turnaround is possible, given how long and complex the problem has proved to be.

Now the country’s water supply looms as a resource challenge, intensified by Pakistan’s enduring infrastructure and management problems.

Agriculture is a cornerstone of the Pakistani economy. The 2,000-mile-long Indus River, which rises in the Himalayas and spans the country, feeds a vast network of irrigation canals that line fields producing wheat, vegetables and cotton, all major sources of foreign currency. In the north, hydroelectricpower stations are a cornerstone of the creaking power system.

A combination of melting glaciers, decreasing rainfall and chronic mismanagement by successive governments has put that water supply in danger, experts say.

In a report published in 2013, the Asian Development Bank described Pakistan as one of the most “water-stressed” countries in the world, with a water availability of 1,000 cubic meters per person per

year — a fivefold drop since independence in 1947, and about the same level as drought-stricken Ethiopia.

“It is a very serious situation,” said Pervaiz Amir, country director for the Pakistan Water Partnership. “I feel it is going to be more serious than the recent oil shortages.”

Shortages of resources have climbed to the top of the political agenda in recent years. Fuel shortages last month, for which government officials blamed mismanagement by the national oil company, caused lengthy lines outside fuel stations that embarrassed the government at a time of low global oil prices.

Mr. Sharif’s government was already grappling with the seemingly intractable electricity crisis, which regularly causes blackouts of 10 hours a day even in major cities. And Mr. Sharif has been visibly distracted by grueling political duels, with the opposition politician Imran Khan, who accuses him of stealing the 2013 election, and with powerful military leaders who have undermined his authority in key areas.

Mr. Asif, the water and energy minister, said the government had started to turn the corner. But he acknowledged that the country’s resource problems were, to a large degree, endemic. “There is a national habit of extravagance,” he said, noting that it extended across resource areas, whether gas, electricity or water.

“I will be very careful not to use the word ‘drought,’ but we are water stressed right now, and slowly, we are moving to be a water-starved country,” he said.

Evidence of chronic water shortages have been painfully evident in some parts of Pakistan in recent years. A drought caused by erratic rainfall in Tharparkar, a desert area in southern Sindh Province, caused a humanitarian emergency in the region last year.

“The frequency of monsoon rains has decreased but their intensity has increased,” said Mr. Amir of the Pakistan Water Partnership. “That means more water stress, particularly in winters.”

Water is also tied to nationalist, even jihadist, politics in Pakistan. For years, religious conservatives and Islamist militants have accused rival India, where the Indus River system rises, of constricting Pakistan’s water supply.

Hafiz Saeed, the leader of the militant group that carried out the 2008 attacks in Mumbai, India, Lashkar-e-Taiba, regularly rails against Indian “water terrorism” during public rallies.

Mr. Asif said that contrary to such claims, India was not building reservoirs on rivers that flow into Pakistan. “We will never let it happen,” he said, citing the Indus Water Treaty, an agreement between the two countries that was brokered by the World Bank and signed in the 1960s.

One major culprit in Pakistan’s looming water crisis, experts say, is the country’s inadequate water storage facilities. In India, about one-third of the water supply is stored in reservoirs, compared with just 9 percent in Pakistan, Mr. Amir said.

“We built our last dam 46 years ago,” he said. “India has built 4,000 dams, with another 150 in the pipeline.”

Experts say the country’s chaotic policies are hurting its image in the eyes of Western donors who could help alleviate the mounting resource crises.

“The biggest looming crisis is of governance, not water — which could make this country unlivable in the next few years,” said Arshad H. Abbasi, a water and energy expert with the Sustainable Development and Policy Institute, a research group based in Islamabad.

“Starved for Energy, Pakistan Braces for a Water Crisis”, 12/05/2015, online at:
http://www.nytimes.com/2015/02/13/world/asia/pakistan-braces-for-major-water-shortages.html?_r=1&utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=0096ebcabe-RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_c1265b6ed7-0096ebcabe-250657169

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❖ This Plant in Dubai Makes Half a Billion Gallons of Fresh Water a Day

With 1.8 billion people projected to live in areas afflicted by water scarcity by 2025, TIME visits the Jebel Ali plant in the United Arab Emirates where ocean desalination is getting a fresh look.

It's in your clothes and your food, the appliances in your home and the electricity that powers them. It's in television and the Internet and the air. It's in us—or more precisely, we're it, given that about 60% of our bodies is made of it. To call water the basis of life doesn't give credit enough, yet we often treat it like an afterthought. Until it's gone.

Already 1.2 billion people, nearly a sixth of the world's population, live in areas afflicted by water scarcity, and that figure could grow to 1.8 billion by 2025. Globally, the rate of water withdrawal—water diverted from an existing surface or underground source—increased at more than twice the rate of global population growth over the past century. Climate change could intensify desertification in already dry parts of the planet. The world is projected to hold 9 billion people or more by 2050—and they'll all be thirsty.

So in 2015 and beyond, the challenge of water scarcity will only grow, which could lead to global instability. But it doesn't have to be that way. Efficiency can stretch existing supplies (in the U.S., overall water use has fallen even as the population has grown). And an old technology, ocean desalination, is getting a fresh look as high-tech plants churn out millions of gallons of freshwater a day. The Jebel Ali plant in the United Arab Emirates, shown in this photo essay, can produce 564 million gallons (2.13 billion L) of water a day from the sea, a sign of the sheer scale that may be needed in a drier future. The truth is that we can do anything with water—except go on without it.

“This Plant in Dubai Makes Half a Billion Gallons of Fresh Water a Day”, 11/02/2015, online at:
http://time.com/3625511/this-plant-in-dubai-makes-half-a-billion-gallons-of-fresh-water-a-day/?utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=f755390d28-RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_c1265b6ed7-f755390d28-250657169

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