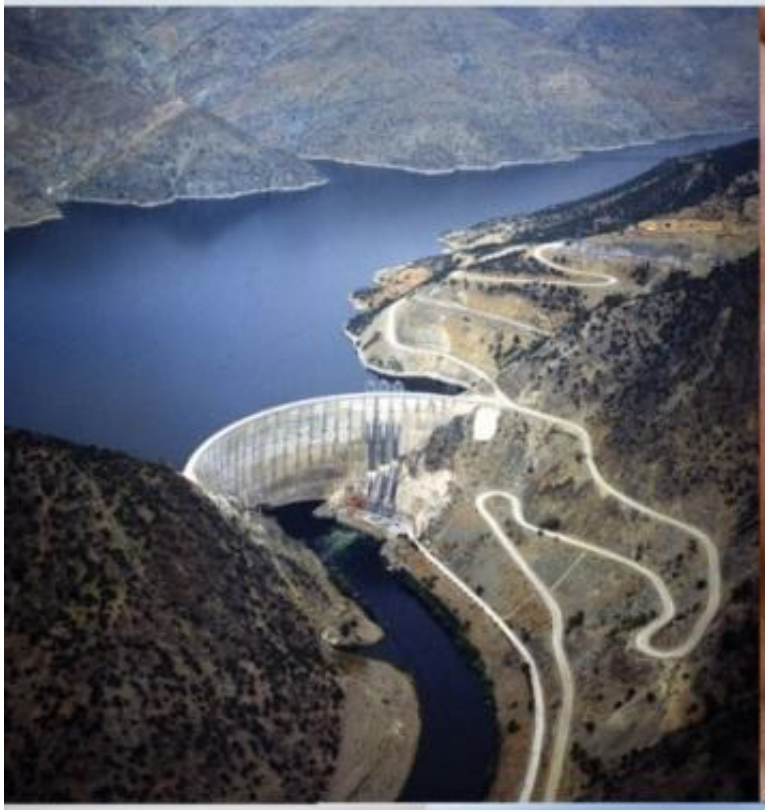


ORSAM WATER BULLETIN

Weekly Bulletin by ORSAM Water Research Programme

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





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❖ Turkey plans to cooperate with Israel on water

Turkey trade officer at the Israeli consulate in İstanbul said that nine Turkish companies participated in the Water and Wastewater Management Conference (WATEC) in Tel Aviv this week to have talks with Israeli companies.

Turkey and Israel, which have been at odds since the Mavi Marmara incident, are planning to cooperate in the water industry, an Israeli official has said.

"In 2014, Turkey and Israel are having plans to work together on water. This would be a perfect cooperation over the needs of the two countries," said Niv Morag, manager of the Israel Export and International Cooperation Institute (IEICI), a non-governmental organization promoting Israeli trade relations with overseas companies.

Murat Alpaşa, Turkey trade officer at the Israeli consulate in İstanbul, told Today's Zaman that nine Turkish companies participated in the Water and Wastewater Management Conference (WATEC) in Tel Aviv this week to have talks with Israeli companies.

"Turkish companies would benefit from Israeli water technologies," Alpaşa said.

Morag said that the cooperation would be among private companies of the two countries, not between the two governments.

Relations between Turkey and Israel -- countries that once enjoyed solid ties on all levels -- deteriorated in May 2010 and have remained strained since Israeli naval commandos stormed the Mavi Marmara, a ship carrying humanitarian aid in an attempt to breach Israel's blockade of Gaza, killing eight Turkish activists and a Turkish-American. The ship was in international waters when the Israeli commandos struck.

The IEICI manager also said that a small delegation is planning to visit Turkey in the coming months to have talks with Turkish counterparts.

"The dates are not settled yet, but 2014 has been agreed on by the two sides," he said.

Alpaşa mentioned that Zorlu Group met with Israeli Energy Minister Silvan Shalom on Tuesday.

"Turkey plans to cooperate with Israel on water", 24/10/2013, online at:
http://www.worldbulletin.net/?aType=haber&ArticleID=121379

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❖ Iraq's dwindling rivers; A Mesopotamian odyssey

AZZAM ALWASH'S face is deeply tanned, his nose peeling like it did when he was an outdoorsy 11-year-old. "I am proud of my sunburn," he says, having recently arrived in Iraq's southern port city of Basra after a hot, month-long expedition to sail three traditional boats from the river Tigris's source in south-eastern Turkey. Mr Alwash, an environmentalist, and his NGO, Nature Iraq, wanted to honour their country's heritage and draw attention to the dwindling water levels in its rivers.

While parts of Iraq are desert, two waterways feed lush farmland and swathes of marsh full of water buffalo. The Greeks called it Mesopotamia, meaning "between the rivers". Some of the earliest agriculture began here, and the Euphrates and Tigris have historically been arteries of trade and travel between Arabs, Kurds and Turks. Now, a series of dams constructed in Turkey since the 1960s have reduced the amount of water and made it saltier, contributing to drought and desertification. Another, bigger dam planned for the Turkish village of Ilisu will generate hydroelectricity for Turkey, but deplete Iraq's water further. "Agriculture is going to die in the land where it was born," laments Mr Alwash.

So his colleagues and friends set to work on three boats. The *guffa*, which traditionally sometimes lasted just a single long river voyage, is made from straw woven over pomegranate branches and waterproofed with pitch. The *tarada*, a long slim canoe, was made by a boatbuilder in Basra, one of the few who still remembers how. The *kelek*, inflated goatskins attached to a raft, was constructed in the Turkish town of Hasankeyf, near the river's source. An elderly local who claimed to have made his first *kelek* journey to Basra in 1927 taught Mr Alwash and his fellow sailors how to steer theirs.

Photographs of Iraq from a century ago show the cities' banks teeming with these craft. But these days they are an unfamiliar sight and on this occasion elicited a mixed reception. The little flotilla, bolstered by support trucks and modern rafts, made its way to Turkey's border with Syria, at which point the boats were moved overland to avoid the fighting. The voyagers re-joined the river in Iraq, only to be held up at the dilapidated Mosul dam. Forbidden from crossing the lake, they again packed up and drove to Baghdad, the Iraqi capital, where they were met by a deluge of bureaucracy before being allowed to sail on. Further south, they received warmer welcomes and sat with farmers to discuss the drought problem. Mr Alwash, who favours negotiating with Turkey on resources, plans to

take the farmers to the Iraqi capital to meet politicians, "so they know that while in Baghdad they are arguing about security and power-sharing, Iraq is in danger."

"Iraq's dwindling rivers; A Mesopotamian odyssey", 22/10/2013, online at:
http://www.economist.com/blogs/pomegranate/2013/10/iraqs-dwindling-rivers

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❖ Iraqi water project halted in suspected al-Qaeda attack

Suspected al-Qaeda gunmen attacked a drinking water project in al-Radhwaniyah, southwest of Baghdad, causing extensive damage, the Iraqi Interior Ministry said Friday (September 20th).

"Suspected al-Qaeda gunmen attacked the worksite of the A7 drinking water project which the government supervises," said Col. Hikmat Mahmoud al-Masari, director of media and communications at the ministry.

They placed and detonated explosives around excavation and drilling equipment on site, at workers' and engineers' sleeping quarters and around an electric generator, he told Al-Shorfa.

The gunmen fled the scene after the attack, which caused extensive damage and completely halted the project, al-Masari said.

"Iraqi water project halted in suspected al-Qaeda attack", 20/10/2013, online at: http://al-shorfa.com/en_GB/articles/meii/newsbriefs/2013/09/20/newsbrief-03

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❖ UN expresses willingness to cooperate with Iran to prevent Lake Orumiyeh from drying up

UNDP Resident Representative: "Lake Orumiyeh is not only national heritage, it belongs to the world"

Baku. Real Jafarli – APA. The United Nations expressed its willingness to cooperate with Iran to prevent Lake Orumiyeh from drying up.

On October 20, UNDP Resident Representative in Tehran Gary Lewis sent a letter to Head of the Iranian West Azerbaijan Province's Environment Organization Hassan Abbasnejad in this regard, APA reports quoting IRIB. The letter says that Lake Orumiyeh is not only national heritage: "This lake belongs to the world. Therefore, future generations will decide which methods will be used to eliminate the environmental crisis in Lake Orumiyeh."

Gary Lewis said they are ready to enhance cooperation between UNDP and Iran's Environmental Protection Organization to protect the Iranian lakes: "The only way out of the current situation around Lake Orumiyeh is the detailed management of water basins of the lake."

Lake Orumiyeh 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 Orumiyeh 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.

"UN expresses willingness to cooperate with Iran to prevent Lake Orumiyeh from drying up", 22/10/2013, online at: http://en.apa.az/xeber_un_expresses_willingness_to_cooperate_wi_201496.html

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❖ Iran: Ahwaz residents protest against Karun River diversion

Thousands of residents of the southern Iranian city of Ahwaz formed a human chain by the bank of the Karun River in Ahwaz, the capital of the Khuzestan Province of Iran, protesting the diversion of its river.

The majority ethnic Arab Ahwaz residents, protesting for the second time in two weeks, spoke out against the Karun River diversion which would run through a series of dams and water canals, connecting Zenda Rud River in Esfahan.

In a move largely seen as one part in a series of initiatives to exert pressure on the Arabs of Ahwaz, the diversion would effectually cut off drinking water for the population of Ahwaz and yield increases in illnesses.

The resulting water scarcity would cripple the local agricultural economy and cause widespread desertification, factors that are behind the systematic and forced migration of the Arabs in Ahwaz.
The 5-km long chain was made up of men and women carrying signs in Arabic, Persian and English that read, "Karun is for Khuzistan," "I am a farmer, I would not give a drop of water of Karun," and "We will save Karun."

Maasouma Ibtikar, director of the Iranian Environmental Protection Agency, spoke out against the diversion after receiving hundreds of comments on her Facebook page asking her to speak out against the environmental massacre. She said she opposed running the vital river dry and depriving the residents from drinking water.

Sharif al-Husseini, parliament member and Ahwaz representative visited the demonstrators on site, and announced his support to their movement.

He said he had spoken to Iranian President Hasan Rouhani in parliament sessions and privately and had asked for his intervention to forbid the diversion.

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Ahmad Shaheed, special rapporteur on human rights in Iran confirmed that the Ahwaz region is subject to environmental disasters as a result of neglecting the rivers which consequently run dry, causing a lack of drinking water and widespread desertification in addition to the pollution cause by nearby oil companies and petrochemical plants.

"Iran: Ahwaz residents protest against Karun River diversion", 26/10/2013, online at: http://english.alarabiya.net/en/News/middle-east/2013/10/26/Iran-Ahwaz-residents-protest-against-Karun-River-diversion-.html

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❖ Ahwazi: Iran's Dam Project Cause For Protest

In mid-October 2013 Awhazi Arabs staged a protest against Iran's mega-project to construct dams and tunnels to divert water away from the River Karoun. The river is essential for farming, drinking water and the local ecology, but due to the dam projects, around half of the water flow is now waste water.

Below is an article published by Ahwaz News Agency:

The drying of the River Karoun is becoming a rallying point for Ahwazi Arabs, who have accused the Iranian regime of presiding over an ecological disaster on a par with the destruction of the Amazon.

Environmental campaigners in Ahwaz City formed a human chain along the Karoun this week [week of 19 October 2013] in protest at the river diversion project. The mega-project involves the construction of dams and tunnels to divert water away from Iran's largest river which flows through the city and is essential for farming, drinking water and the local ecology.

Controversy surrounds the Koohrang-3 tunnel, which is currently under construction and is set to transfer 255 million cubic metres of water per annum to Zayandeh Rood in Isfahan. The diverted waters will be used for agro-industrial projects, instead of irrigating traditional Arab lands where food staples are grown, such as rice and wheat. Already, three tunnels transfer around 1.1 billion cubic metres of water from the Karoun and its tributaries to Isfahan every year.

Currently, there are seven dams and tunnels diverting Karoun's water with a further 19 dams under construction as well as 12 dams on Karkheh river basin and five dams on Jarrahi river basin. Twelve of these dams have built in Lorestan province in the Karoun and Karkheh basins, which store 800 million cubic metres for local use. Two dams have built in Ilam province on Karkheh river basin with annual storage capacity 1.04 billion cubic metres. Three dams have been built in Kohgiluyeh and Boyer-Ahmad province on Jarrahi River with annual capacity of 1.24 billion cubic metres. So far, 25 dams with total capacity of 10.44 billion cubic metres have into operation in the Karoun basin. These dams are located in Chahar Mahaal and Bakhtiari province, Lorestan province and the north part of Al-Ahwaz (Khuzestan).

Due to the dam projects, around half the Karoun's water flow is now waste water. This will reach 90 per cent when Iran's dam building project is completed, according to Iranian scientists. The Karkheh and Jarrahi tributaries are now almost dried up and Ahwazi activists fear the Karoun - Iran's only navigable river - will now dry up. Already, the region's marshlands on which many Ahwazi Arabs traditionally depend for their livelihoods are a fraction of their former size due to the dam projects.

One of the groups campaigning against the destruction of the Karoun, the Patriotic Arab Democratic Movement in Ahwaz (PADMAZ), has claimed that as a result of the dam projects "the Ahwazi environment will be destroyed and Ahwazi Arab will be forced to move to other cities in addition to

contracting intestinal and renal diseases and different kinds of cancer... This will speed up the Iranian colonial plan of ethnic cleansing of Ahwazi Arabs."

"Ahwazi: Iran's Dam Project Cause For Protest", 23/10/2013, online at: http://www.unpo.org/article/16515

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❖ Cyprus and Israel to further cooperation on water resources

Cyprus and Israel have decided to take further steps towards increased cooperation on managing water resources.

The decisions were taken today during a meeting Agriculture, Natural Resources and Environment Minister Nicos Kouyialis, currently visiting Israel, had with the Israeli Minister of Energy and Water Resources Silvan Shalom.

According to an official press release, Kouyialis attended on Wednesday the International Fair WATEC 2013 in Tel Aviv, where Shalom honoured him for the Cyprus Republic's contribution in saving water resources, in the presence of other Ministries and official delegations from 26 countries.

Before the official ceremony for the honorary distinction, the Ministers of Cyprus and Israel had a meeting, during which they determined further steps of cooperation between the two countries on water resources issues, in the framework of the Memorandum of Understanding signed on August 8, this year, between Cyprus, Greece and Israel, for the cooperation of the three countries in the fields of energy and natural resources.

"Cyprus and Israel to further cooperation on water resources", 24/10/2013, online at: http://www.financialmirror.com/news-details.php?nid=31309

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❖ British, Israeli firms join hands to deny Palestinians water

The British engineering company Arup has unveiled plans to join the Israeli regime's national water company Mekorot in carrying out water projects across the world, irrespective of water scarcity in the occupied Palestinian territories.

Mark Fletcher, a senior executive at the British company, said the partnership could begin in Myanmar by working on projects, including water recycling, desalination, and general water supply.

"Mekorot is looking to work in different places, we are a global firm and we are keen to develop the relationship," said Fletcher, director of the global water business at Arup.

According to Fletcher, the British company will also be looking forward to import several Israeli projects including Applied CleanTech, which has developed a sewage mining system that recycles useful fibres, as well as Mapal Green Energy, which is developing energy efficient technologies to manage wastewater.

The declared partnership comes at a time when the Israeli occupation is blocking Palestinians from enjoying their rightful share of water resources in the Occupied Territories as well as the besieged Gaza Strip, according to Richard Falk, a UN special rapporteur on Palestine.

The UN special rapporteur says the Israel regime has also been destroying water collection facilities of Palestinians, alleging that they operate without valid permits.

This is while that the Israeli blockade of Gaza has also exacerbated water scarcity and the lack of adequate sanitation facilities in the Strip.

Meanwhile, almost 90 percent of the water entering Gaza is deemed as unfit for human consumption as it is polluted with raw sewage and rising seawater infiltration.

Falk has strongly censured the Israeli army's attacks on water and sanitation facilities in the

Palestinian territories during its incursions. Israel has completely destroyed at least 306 water wells in Gaza since 2005, according to the UN official.

In the occupied West Bank too, an estimated 500,000 Israeli settlers enjoy approximately six times the amount of water used by the 2.6 million Palestinians living there, Falk says.

"British, Israeli firms join hands to deny Palestinians water", 24/10/2013, online at: http://www.presstv.ir/detail/2013/10/24/331118/water/

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❖ 90 percent of Gaza's water unfit for drinking, says Falk

Richard Falk, a UN special rapporteur on Palestine, has used a new report on corporate complicity with the Israeli occupation to sound the alarm over how Israel is blocking Palestinians from access to their rightful share of water resources. Falk says Israel must halt the demolition of water collection facilities on the pretext that they operate without valid permits.

The Israeli blockade of Gaza has exacerbated water scarcity and the lack of adequate sanitation facilities. Delays and restrictions on the entry of materials through the Israeli-controlled Kerem Shalom crossing have stalled a number of water and sanitation infrastructure projects.

The Gaza Strip is almost completely reliant for its water on the underlying coastal aquifer. Israel uses a disproportionate share of water from this source for its own benefit.

Pollution caused by raw sewage and rising seawater infiltration make 90 percent of the water unfit for human consumption. Last year, the UN reported that the coastal aquifer could become unusable in 2016 with the deterioration becoming irreversible by 2020.

Tap water polluted

Polluted tap water has forced many families to buy expensive water from external vendors. As a result, the average consumption in Gaza has dropped to between 70 and 90 liters per person per day, which is below the 100 liters recommended by the World Health Organization.

Falk strongly condemns the targeting of water and sanitation facilities during Israeli military operations. Israel has destroyed at least 306 wells in Gaza since 2005. The repeated destruction of water and sanitation infrastructure has contributed to water scarcity in Gaza.

Israel also blocks Gaza's inhabitants from using water from Wadi Gaza, a natural stream that originates in the Hebron mountains and flows to the Mediterranean Sea.

Israel denies Palestinians in the West Bank their rightful share of water from an underground mountain aquifer, according to Falk. It also prevents Palestinians from accessing water from the

Jordan River. Under customary international law both water resources must be shared equitably. However, an estimated 500,000 Israeli settlers in the West Bank (including East Jerusalem) enjoy approximately six times the amount of water used by the 2.6 million Palestinians living in the West Bank.

Settlers seize springs

Palestinians also lose water resources through Israel's demolition of "illegal" water collection facilities and as a result of deep-water drilling activities by Israeli water companies. In addition, Falk received reports that Palestinian springs have been taken over by settlers and fenced off.

The unequal distribution of water resources has been sustained by the Joint Water Committee (JWC), which oversees and authorizes water projects in the occupied West Bank. Israel has used its veto power in the JWC to constrain the development of water infrastructure for Palestinian communities, particularly in Area C of the West Bank. Area C is a zone comprising more than 60 percent of the West Bank, which is under full Israeli political and military control.

All Palestinian water projects located in Area C need to obtain approval from the Israeli Civil Administration — the body overseeing Israel's occupation of the West Bank — in addition to the JWC's approval.

Between 1995 to 2008, the JWC rejected half of the Palestinian proposals for water projects while it rejected only one out of 135 Israeli proposals. Only four out of thirty Palestinian wastewater treatment plant proposals were approved by the JWC and their construction has been repeatedly delayed. There is only one functioning Palestinian wastewater treatment plant in the West Bank, which can treat less than 3 percent of sewage.

Meanwhile, Israeli authorities profit from the occupation by treating almost 21 percent of sewage from the West Bank in facilities inside Israel. Those facilities are paid for by Palestinian tax revenues withheld by Israel. The treated wastewater is then reused for the exclusive benefit of the Israeli agricultural sector.

Falk criticizes the Palestinian Authority for not having been able to uphold Palestinian water rights and to embrace the right to develop water and sanitation facilities. Support from international donors for *ad hoc* solutions, such as financing desalination plants and sanitation facilities to meet the immediate needs of the Palestinian population, must go hand-in-hand with pressure on Israel to end its discriminatory policies.

"90 percent of Gaza's water unfit for drinking, says Falk", 23/10/2013, online at: http://electronicintifada.net/blogs/adri-nieuwhof/90-percent-gazas-water-unfit-drinking-says-falk

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❖ Water issue in focus at latest peace talks

RAMALLAH — Palestinian and Israeli negotiators have held a new round of peace talks in Jerusalem, a Palestinian official said, saying it had focused on the issue of water resources. Monday's session was attended by Israeli Justice Minister Tzipi Livni and Palestinian negotiators Mohammed Shtayeh and Saeb Erakat, the official said. The official did not elaborate, but the question of water rights is one of the core issues that must be settled in any peace deal. Israel controls most of the underground water resources in the West Bank, and the Palestinians want a more equitable share of them. US Secretary of State John Kerry said on Monday that negotiations, which take place under an American-imposed media blackout, have "intensified." Speaking in Paris, Kerry said that, since the end of July, 13 direct meetings have taken place, including three in the past four days.

"The pace has intensified, all the core issues are on the table and they have been meeting with increased intensity," Kerry said. Kerry will be meeting Israeli Prime Minister Benjamin Netanyahu in Rome today. Meanwhile, Israeli troops yesterday killed a fighter said to be behind the 2012 bombing of a Tel Aviv bus, officials said, as the Palestinian movement confirmed his death. The militant was killed as troops stormed an area between the West Bank villages of Bilin and Kufr Ne'meh, 10 kilometres northwest of Ramallah, sparking a gunfight which ended at a cave, Palestinian witnesses and medics said. The army confirmed the incident, naming the dead man as Mohammed Assi and describing him as an Islamic Jihad militant responsible for the November 2012 bombing of a Tel Aviv bus that wounded 29 people. — AFP

"Water issue in focus at latest peace talks", 22/10/2013, online at: http://main.omanobserver.om/?p=23585

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❖ China, Israel have similar water problems, says visiting Chinese official

Economic cooperation continues on large scale since agreement with Guangdong province in 2011.

Despite its gigantic size and copious water supplies, China is similar to Israel in its thirst for water, Li Guoying, China's vice minister of Water Resources, emphasized at a conference in Tel Aviv on Tuesday.

Li was speaking at a session on "Israel-China Cooperation in Water and Environmental Technologies" at the Water Technology and Environmental Control (WATEC) Exhibition and Conference, organized by the Israel Trade Fairs Center and Kenes exhibition company.

Participating in the trilingual Chinese-English- Hebrew session were a couple of hundred visitors from China interested in doing business with Israel's water industry.

Although China contains about a sixth of the world's water supply, considering its huge population, this represents an insufficient quantity, Li explained.

"Israel and China are far away from each other, and the situation of the two countries is different," Li said. "But for water use and water we have the same target, and we want to use the water for more scientific and industry and environmental purposes."

While China already employs a wide range of water sector technologies, Li stressed that he is interested in continued collaboration with Israel.

"We want to share with Israel to develop this," he said. "I hope to enhance cooperation between China and Israel."

Wang Junmin, deputy party secretary of Shandong province, said that during his stay here, he is studying how Israel depends on water technology to strengthen the country and hopes to do the same to enhance Shandong.

"Water is the base of economic development," Wang stated.

With a population of 96 million people, Shandong is located in China's east, next to the sea, and thrives on agriculture, he explained. The province signed cooperation agreements last year with Israel toward industrial development, and Wang said he looks forward to cooperating on water conservation and to reuse mechanisms, as well as strategies, for water in agriculture. In particular, he expressed hopes that Israeli enterprises will open their doors in Shandong.

Pan Huageng, president and general manager of the Dowell Technological & Environmental Engineering Co., recalled that two years ago, he addressed WATEC and spoke of a future Sino-Israeli International Water Industrial Park to be based in China's Guangdong province.

"In two years, we made our promise true and we did more than we promised," Pan said.

In 2011, Guangdong province signed economic agreements with Israel, and in 2012 a cornerstone-laying ceremony for the park occurred, Pan said, adding that construction of the full site is underway, and by 2014, the province will be able to accommodate in-house companies. The Chinese representatives are doing all in their power to attract Israeli companies to develop technologies there, he said.

"This park is supposed to be the center of the new industry," Pan stated. "We will continue our promise. We will make it a center of innovation."

"China, Israel have similar water problems, says visiting Chinese official", 23/10/2013, online at: **http://www.jpost.com/Enviro-Tech/China-Israel-have-similar-water-problems-says-visiting-Chinese-official-329478**

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❖ World Bank project to "save" Dead Sea will destroy it, say Palestinian groups

Water experts and Palestinian environmental and agricultural groups are urging Palestinian Authority and Palestine Liberation Organization leaders to halt cooperation with a World Bank project to pump water 200 kilometers from the Red Sea to the Dead Sea.

The Palestinian groups and water experts say the plan, officially known as the Red Sea-Dead Sea Conveyance Project (RSDSCP), will do irreversible environmental damage and help Israel further dispossess Palestinians of their water rights.

Saving the Dead Sea?

The Dead Sea is a unique salt lake that lies in a deep trough more than 300 meters below sea level. It is fed by the Jordan River and is bordered by Jordan, the occupied West Bank and present-day Israel.

The Dead Sea has been shrinking rapidly due to Israel's diversion of the head waters of the Jordan River.

As a result of this diversion, the Jordan River, in which Christian tradition holds that Jesus was baptized, has been reduced to a stream made up only of "sewage and effluent from fishponds," according to Tel Aviv University environmental sciences professor Marcelo Sternberg.
Supporters of the World Bank project, including Israel and Jordan, say the plan will replenish the Dead Sea using ocean water.

Project proponents also say the plan will provide hydro-electric power to run desalination plants to provide fresh water to the parched region.

While the project has been planned for years, no final agreement has been reached among the concerned governments to begin work.

In August, Jordan announced it was unilaterally proceeding with an early phase of the plan.

Irreversible damage and dispossession

"It has become clear beyond doubt that the project is an unacceptable attempt to force the Palestinian population to consent to their own dispossession and to compromise on their own rights," the statement from the Palestinian groups says.
"Instead of addressing Israel's water theft" from the Jordan River, "the project aims to maintain the unjust *status quo* of the river and allegedly 'save' the Dead Sea through large scale Red Sea water transfer," the groups add.
Among more than twenty bodies endorsing the statement are the Palestinian Environment NGO Network, Stop the Wall, Palestine Hydrology Group, Palestinian Agricultural Relief Committees, Union of Agricultural Work Committees, the Institute of Environmental and Water Studies at Birzeit University and the Palestinian Centre for Human Rights.

World Bank ignores concerns

If implemented, the plan will "actually destroy the unique features of the Dead Sea and its ecosystem" reducing it to "a dead, engineered pool of Red Sea water," destroying this Palestinian and world heritage site.

According to the statement, the World Bank feasibility studies have consistently ignored Palestinian concerns and breached its own ethical guidelines. "[T]he entire conduct of the World Bank lack[s] credibility and transparency," the groups say. "Throughout the process, the Bank has systematically turned a blind eye to Israeli violations of Palestinian water rights."

The World Bank has a long and notorious history of financing environmentally-destructive mega-projects, particularly big dams.

False promises of fresh water

Palestinians living under Israeli occupation suffer catastrophic shortages of water, while Israeli settlers have plentiful supplies, often enjoying lush lawns and swimming pools.

Under what some have termed "water apartheid," Israeli settlers use on average six times more water than Palestinians.

But the Dead Sea project's promises of plentiful fresh water are also false, according to the statement, and the little that may result would only provide a cover for Israel's ongoing theft and over-exploitation:

the project attempts to replace the river's natural fresh water appropriated by Israel from the upper Jordan River with desalinated Red Sea water sold at high costs to severely water-dispossessed Palestinians and at pitiful quantities. Even these sales remain merely an "option" and the World Bank studies plan to 'supply' only Jericho, which is currently the only water-rich place in the occupied West Bank. With every drop of water that Palestinians purchase, they capitulate to their own deprivation.

Instead of this expensive and destructive project, the statement calls for Israel to "be held accountable for the damage" it is causing to vital Palestinian water sources, especially the West Bank's Eastern Aquifer which supplies one million Palestinians.

"World Bank project to "save" Dead Sea will destroy it, say Palestinian groups", 21/10/2013, online at: http://electronicintifada.net/blogs/ali-abunimah/world-bank-project-save-dead-sea-will-destroy-it-say-palestinian-groups

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❖ Palestine-Israel peace talks focus on water resources

Israel controls most of underground water resources in West Bank, Palestinians want more equitable share of them.

RAMALLAH- Palestinian and Israeli negotiators have held a new round of peace talks in Jerusalem, a Palestinian official said, saying it had focused on the issue of water resources.

Monday's session was attended by Israeli Justice Minister Tzipi Livni and Palestinian negotiators Mohammed Shtayeh and Saeb Erakat, the official said.

The official did not elaborate, but the question of water rights is one of the core issues that must be settled in any peace deal.

Israel controls most of the underground water resources in the West Bank, and the Palestinians want a more equitable share of them.

US Secretary of State John Kerry said on Monday that negotiations, which take place under an American-imposed media blackout, have "intensified."

Speaking in Paris, Kerry said that, since the end of July, 13 direct meetings have taken place, including three in the past four days.

"The pace has intensified, all the core issues are on the table and they have been meeting with increased intensity," Kerry said.

"It is no secret to anybody that this is and remains a difficult process, there is no shortage of passionate sceptics," he added.

Kerry will be meeting Israeli Prime Minister Benjamin Netanyahu in Rome on Wednesday.

"Palestine-Israel peace talks focus on water resources", 22/10/2013, online at: http://www.middle-east-online.com/english/?id=62094

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❖ Pace of Peace Talks Has "Intensified,' Says Secretary of State John Kerry

Negotiators Have Met 13 Times Since Late July

U.S. Secretary of State John Kerry said "all the core issues are on the table" in peace negotiations between Israel and the Palestinians that have intensified.

A meeting Monday in Jerusalem centered on the issue of sharing water resources, an unnamed Palestinian official told the French news agency AFP. Israeli and Palestinian negotiators have met three times in the past four days.

Kerry confirmed on Monday in Paris that negotiators have met 13 times since the end of July, when U.S.-brokered peace talks between Israel and the Palestinians were restarted after a hiatus of several years.

"The pace has intensified, all the core issues are on the table and they have been meeting with increased intensity," said Kerry, who is scheduled to meet with Israeli Prime Minister Benjamin Netanyahu in Rome on Wednesday.

Kerry announced Monday that Qatar would provide $150 million in debt relief to the Palestinian Authority, saying that "for everybody to live up to the challenges of making peace, we have to support them."

Also Monday, Kerry briefed the 22-member Arab League on the progress of the peace negotiations.

"Pace of Peace Talks Has "Intensified,' Says Secretary of State John Kerry", 22/10/2013, online at: http://forward.com/articles/186018/pace-of-peace-talks-has-intensified-says-secretary/

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❖ World's largest SWRO desalination plant operational

The world's largest seawater reverse-osmosis plant, the 624,000 m³/d Sorek plant in Israel, is now fully operational.

The plant's constructor, IDE Technologies, made this announcement on 15 October 2013.

The Sorek plant, which currently supplies 540,000 m³/d to Israel's water distribution system, sets significant benchmarks in desalination capacity and water cost, resulting in substantial savings for the local water market while alleviating the country's water shortage problem. With a financial scope of US$ 400 million and constructed under the build-operate-transfer model, the Sorek plant is located south of Tel Aviv.

The plant, for the first time in a large-scale facility, uses 16-in membranes in a vertical arrangement. This lowers investment costs by decreasing the number of pressure vessels, piping headers, and the amount of control and instrumentation equipment, as well as increasing the capacity of the plant and reducing its footprint.

In addition, the plant's pressure-center design reduces energy consumption due to the increased efficiency of large high-pressure pumps and energy-recovery devices. Additional measures such as pipe-jacking of long and large diameter pipelines, as well as sludge treatment and its disposal to specific permitted areas, have been implemented to minimize the impact on the terrestrial and marine environments.

"Ushering in a new standard in the global desalination industry, the Sorek plant reinforces our leading position in the industry's mega-SWRO space," said Avshalom Felber, CEO of IDE Technologies. "This plant builds upon several other successful desalination joint ventures, including our large-scale SWRO projects in Hadera and Ashkelon, which demonstrate our expertise and competence as a trusted partner, providing leading technology, project management, engineering and construction knowhow, and financial strength."

"World's largest SWRO desalination plant operational", 21/10/2013, online at:
http://www.desalination.biz/news/news_story.asp?id=7292

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❖ Israeli water technology meets China's needs

BEIJING, Oct. 23 (Xinhuanet) -- A large delegation of Chinese officials are in Israel this week for the Water Technology Conference where the latest in hydro innovation is being showcased. And some of the front water technologies that are on display might just suit China's needs.

High level Chinese officials from the ministry of economy, ministry of water resources and Shandong province were in Tel Aviv this week for a major Water Technology Conference. China-Israel cooperation on water problems has grown rapidly in recent years, bringing fresh drinking water through desalination, new irrigation techniques for farmers and major efforts to reduce pollution. One of the many joint ventures is the Guangdong China-Israel Industrial Park.

"Israel has very advanced water treatment technology. In China we have a huge market, in fact it's one of the biggest water treatment markets in the world. So the park here is to serve as a platform to connect Israeli technology and the Chinese market," said Pan Huageng, chairman of Guangdong China-Israel Industrial Park.

On display were the new methods developed here that has made Israel a world leader in water, waste and irrigation technology.

"Israel was not blessed with water. We don't have much water in Israel. We've got a lot of desert so we had to generate our own water. Over 50% of our municipal water is desalinated water. 80% of the agriculture water is re-used," Israeli Minister of Economy Naftali Bennett said.

The Israeli company IDE built China's largest desalination plant in Tienjin, producing 200,000 cubic metres of fresh water every day. IDE operates 400 plants in 40 countries.

"We were extremely lucky in Israel to have a severe shortage of water for many years. This really brought Israel to develop technologies very early on. The first desalination test plants in the world 50 years ago were in Israel," Ron Yachini from IDE Technologies said.

Two-thirds of Israel is desert, so for more than half a century people here have been grappling with water issues. Today, Israel's technology sector is one of the most active in the world. The combination of technology and water has made Israel one of the global addresses for water solutions.

Israel technology is already deployed throughout China in drip irrigation, waste water management and desalination and from the high interest that's being shown in today's conference, it seems that Israeli footprint is only going to grow larger.

"Israeli water technology meets China's needs", 23/10/2013, online at: http://news.xinhuanet.com/english/video/2013-10/23/c_132824407.htm

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❖ Palestinian water engineer: Regional cooperation on water possible on private-sector level

Khaled Shukri Haramy made remarks at session on regional water cooperation at WATEC conference in Tel Aviv

For those Palestinians and Israelis working together on the ground in the water sector, cooperation has become a necessity – but on a business- to-business level rather than at governmental scale.

"Individuals and entrepreneurs find it easier to cooperate than governments," Khaled Shukri Haramy, head of engineering for the West Bank branch of Black and Veatch, told a conference in Tel Aviv on Tuesday afternoon.

Haramy was speaking at a session on regional water cooperation at the Water Technology and Environmental Control (WATEC) Exhibition and Conference in Tel Aviv, organized annually by the Israel Trade Fairs Center and Kenes exhibition company. To build water infrastructure from naught in the Palestinian Authority, representatives from many outlets – including Israeli manufacturers – have had to "work together," but on a private-sector, and not a governmental, level, Hamary explained.

"For business people, it's very simple [to cooperate]," Haramy said. "And there's benefit for both [sides].

When you have a win-win situation, you always get somewhere.

Hamary is involved in the ongoing overhaul of the Palestinian water sector on a macro level, funded for years by USAID. The current stage of the program will encompass more than a decade, and it involves a basic water infrastructure overhaul to bring potable water to areas of the West Bank still lacking the resource. Many suppliers, Hamary has found, have been Israeli manufacturers.

"The will sort of exists – everyone wants to help," he said. "It's a major step forward to the better

understanding to people."

Another, much newer cooperative project taking place in the West Bank is a group of pilot programs that has been running for about a year in the village of Auja, separating gray from black wastewater, explained Avraham Israeli, president of the Israel Water Association. Others involved in the project include Dr. Clive Lipchin of the Arava Institute of Environmental Studies and Mansour Hind of the Palestinian Wastewater Group of Engineers.

"Together, we got into this project," Israeli told The Jerusalem Post. "The gray water is recycled and going back into greenhouse irrigation.

It's a very good example of how cooperation and technology can bring at least local solutions."

One of the innovators aiming to be involved in the larger program is Mapal Green Energy, whose fine floating- bubbles aeration system does not require expensive treatment-facility construction nor the use of energy intensive systems, according to the firm. By incorporating its technology into the future Auja project, Mapal claims, energy consumption of a municipal wastewater treatment facility there would be reduced by 70 percent, with operation and management costs reduced up to 80 percent due to the mobile nature of the system.

"Mapal is pleased with the opportunity to take part in an initiative that will improve the quality of life in the area, for both residents of Israel and its neighbors," said Mapal CEO Zeev Fisher.

Panelist Dr. Loay Hidmi, director of water supply and sanitation at Jordanian firm SaafConsult, emphasized how crucial it is to upgrade water technologies and to do so in the form of regional collaboration. "Everyone understands what water means," Hidmi said. "It's simple, it's vital, it's important. That's why it provides for us an excellent forum on which to start communication."

"Palestinian water engineer: Regional cooperation on water possible on private-sector level", 24/10/2013, online at: http://www.jpost.com/Enviro-Tech/Palestinian-water-engineer-Regional-cooperation-on-water-possible-on-private-sector-level-329703?utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=06dc1a6df6-RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_c1265b6ed7-06dc1a6df6-250657169

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❖ NGOs call on PA to withdraw from World Bank project

BETHLEHEM (Ma'an) -- A coalition of Palestinian NGOs on Monday called on the Palestinian Authority and Palestine Liberation Organization to withdraw from a World Bank-sponsored project with Jordan and Israel, a statement said.

Palestinian civil society organizations demanded that the PA halt cooperation with the Red Sea - Dead Sea Conveyance Project, claiming that the initiative forces the "Palestinian population to consent to their own dispossession and to compromise on their own rights."

The RSDSCP was signed in 2005 and designed to save the Dead Sea from environmental degradation, to desalinate water and to provide affordable electricity for Jordan, Israel and the PA.

The World Bank describes the project as a "symbol of peace and cooperation in the Middle East."

Over 20 NGOs signed a petition calling for a rejection of the project.

"Any lack of a clear position by the Palestinian leadership on this outrageous project, any stand of ambiguity or positive criticism towards it, contributes to the impunity that for far too long has allowed Israel to appropriate Palestinian water and deny Palestinians their rights," a statement read.

The coalition of NGOs claim that the project undermines Palestinian water rights and legitimizes Israel's unilateral control of water resources.

The project also lacks "credibility and transparency" due to systematically ignoring Israeli violations of Palestinian water rights and failing to listen to Palestinian concerns.

The salty desert lake, some 422 meters below sea level, and its environs were designated as Area C, under full Israeli control, under the 1993 Oslo Accords.

Around 94 percent of the Jordan Valley and Dead Sea area is off limits to Palestinian use and development.

Endorsing organizations and individuals:

1. Palestinian Environment NGO Network (PENGON)

2. MAAN Development Center

3. Palestinian Wastewater Engineers Group (PalWEG)

4. Stop the Wall

5. Palestinian Farmers Union

6. Applied Research Institute Jerusalem (ARIJ)

7. Land Research Center

8. Media Environmental Center

9. Palestine Hydrology Group (PHG)

10. Palestinian Agricultural Relief Committees (PARC)

11. Union of Agricultural Work Committees (UWAC)

12. Environmental Education Center (EEC)

13. Institute of Environmental and Water Studies - Birziet University

14. Palestinian Center for Human Rights (PCHR)

15. Palestinian Environment Friends (PEF)

16. Arab Center for Agricultural Development (ACAD)

17. Earth and Human Center for Research and Studies (EHCRS)

18. Palestinian Farmers Association

19. The Arab Agronomists Association (AAA)

20. Prof. Dr. Hilmi S. Salem, Palestine Technical University - Kadoorie (PTUK)

21. Clemens Messerschmid, Hydrologist

22. Prof. Dr. Samir Afifi, Environmental & Earth Sciences Department, Islamic University of Gaza

"NGOs call on PA to withdraw from World Bank project", 21/10/2013, online at:
http://www.maannews.net/eng/ViewDetails.aspx?ID=639741

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❖ Israeli water tech exports top $2b annually

Israeli companies are displaying innovations in desalination, wastewater treatment, control, and water quality systems at Watec.

Representatives from more than 100 countries have arrived in Israel to participate in the Watec 2013 Water Technology and Environmental Control Exhibition and Conference in Tel Aviv this week. They will visit dozens of pavilions of Israeli water technology and cleantech companies, which are displaying innovations in desalination, wastewater treatment, round-the-clock control and warning systems, water quality systems, and more.

Water technologies exports totaled $2 billion in 2012, and the Export Institute says that exports rose 170% over six years. Export Institute CEO Ofer Sach forecasts $2.2 billion in water technologies exports this year.

The Export Institute says that Israel has 280 water technologies companies, 150 of which are exporters. The 20 largest companies had $1 billion in exports in 2012.

Sachs estimates the global water market at $700 billion, mostly investment in the construction and upgrading of infrastructures in Asia, Latin America, and Africa. "Israeli companies have not yet tapped the latent business potential in these markets, but the water industry is nonetheless considered one of the future growth engines of Israeli exports," he said.
Among the innovations to be unveiled at Watec is by SmarTap Ltd., which has developed an app to control the water flow and temperature of showers. It also notifies the user about how much water was saved and used during the week. The system can manage water use by multiple users (such as at hotels, sports centers, and hospitals), warn of leaks, faulty showerheads, and remotely locate breakdowns.
Water-Gen Ltd. has developed battery-operated mobile water-from-air and water purification technologies for military and civilian use. One system can supply water to troops during operations, and future uses include humanitarian aid. The 11-kilogram backpack device filters water from contaminated sources, including deliberately poisoned sources. The device was jointly developed with the Ministry of Defense.

TaKaDu Ltd. is due to soon commercialize its application which enables residents to directly notify their local water company of breakdowns in the municipal or home systems, such as leaks from irrigation pipes, burst mains, and improper water flow to homes.

Applied CleanTech Ltd. has developed an energy-saving sludge recycling system. The system separates the solid waste in sewage treatment plants, reducing the amount of sludge, which is then automatically repackaged into dry, odorless raw materials for the plastics industry. The system is running a pilot at the Safed Sewage Treatment Plant.

Mapal Green Energy Ltd. has developed a floating fine-bubbles aeration system for waste water treatment plants, which slashes their energy consumption.

Blue I Water Technologies Ltd. has developed a water quality application for household, municipal, and industrial use.

"Israeli water tech exports top $2b annually", 22/10/2013, online at:
http://www.globes.co.il/serveen/globes/docview.asp?did=1000887770&fid=1724

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❖ Settlers Flood Farmlands With Sewage Water

[Tuesday October 22, 2013] A number of extremist Israeli settlers used sewage water to flood Palestinian farmlands in the Al-Khader town, south of the West bank city of Bethlehem.

Head of the Al-Khader Local Council, Tawfiq Salah, stated that settlers of the Efrat settlement, built on lands that belongs to the Al-Khader residents, drowned the lands with sewage water, flooding grapevines and other agricultural lands.

Salah said that the lands are located in Al-Abyar and the Al-Bassa areas, close to the settlement.

He further stated that this attack is not the first of its kind, and that the same areas have been repeatedly targeted by the settlement causing significance to farmlands, in addition to posing health hazards and foul smell.

Salah added that the settlers and the soldiers have been escalating their assaults, closing agricultural lands in Ein Al-Qassis and Ein Masour areas, west of the Al-Khader, by placing sand hills, preventing the residents from reaching their lands.

"Settlers Flood Farmlands With Sewage Water", 22/10/2013, online at: http://www.imemc.org/article/66286

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❖ Africa faces water crisis despite discovery of huge aquifers

NAIROBI, Kenya, Oct. 23 (UPI) -- The recent discovery of two vast aquifers in northern Kenya and a third in Namibia has given weight to scientists' claims the African continent is sitting on immense underground reservoirs of water.

But the scientists also warn that Africa faces more droughts because of climate change and could have 25 percent less water by the end of the century, setting the state for possible water wars.

Egypt and Ethiopia, for instance, are facing off over the long-contested waters of the Nile River because Addis Ababa is building a giant $4.3 billion hydroelectric dam, which will cut the flow to Egypt, whose 84 million people depend on the Nile to survive.

The U.S. global security consultancy Stratfor cautioned the September discovery of the aquifers in the drought-plagued Turkana desert of northwestern Kenya near the borders with Uganda and South Sudan raises "the possibility of cross-border conflicts over water rights in the future."

The Lotikipi Basin Aquifer and the smaller Lodwar Basin Aquifer were among five aquifers located by Radar Technologies International of France, in collaboration with the Kenyan government and the United Nations with funding from Japan.

The East African aquifers were discovered using advanced satellite technology and confirmed by drilling. The size of the other three Kenyan acquifers still has to be determined by drilling.

Lotikipi, roughly the size of Rhode Island, contains an estimated 7.3 trillion cubic feet of water with an annual recharge rate of 42.4 billion cubic feet through rainfall in Kenya and Uganda.

All told, some 8.8 trillion cubic feet of underground water was found, with an expected annual recharge rate of 110 billion cubic feet -- an amount roughly equal to 15 percent of the 741 billion cubic feet of water currently available to Kenya each year.

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The Turkana region is populated largely by nomadic tribes, who lack regular access to water. Kenya's economic hubs of Nairobi and the Indian Ocean port of Mombasa are around the Lake Victoria and Athi basins, which hold around 60 percent of the country's water resources.

So there's likely to be considerable debate over how to use the new aquifers in terms of national development resources that Kenyan officials initially claimed could supply the entire country with water for the next 70 years.

But Stratfor observed that with a growing population already surpassing 41 million, Kenya, riven by tribal rivalries and heavily reliant on foreign aid for development, is likely to find the new water resources not enough to "support continued population and economic growth."

It noted: "Competition for the new reserves can be expected. Currently, agriculture dominates water usage, accounting for roughly 80 percent of Kenya's water consumption, but oil and manufacturing will likely vie for the resource. ...

"Sustainability will require improvements in both infrastructure and resource management, neither of which will come easy. ...

"Overuse of water resources by agricultural, municipal or oil sectors would further limit the region's potential for long-term growth," Stratfor observed.

Africa's water woes also have been mitigated by the July 2012 discovery of a major aquifer named Ohangwena II under the Namibia-Angola border on Africa's southwestern coast.

On the Namibian side, the 10,000-year-old aquifer covers an area roughly 43 miles by 25 miles.

Because of climate change over the eons that turned the Sahara into a desert, scientists say many of the aquifers deep under the sands were last filled with water 5,000 years ago.

Project manager Martin Quinger, from the German Federal Institute for Geoscience and Natural Resources, says the aquifer could supply northern Namibia "for 400 years" and will help people adjust to climate change.

The 400-year estimate is probably overly optimistic, but scientists writing in the journal Environmental Research Letters recently argued the total volume of water in African aquifers is 100 times the amount found on the surface and probably purer because it's untainted by pollution.

That could be good news for the estimated 300 million people on the planet who are believed to have no access to safe drinking water.

The BBC reported in April 2012 scientists from the British Geological Survey and University College London were able to map Africa's hidden underground water reserves.

Helen Bonsor of BGS estimates there's enough water there to "provide a buffer to climate variability."

"Africa faces water crisis despite discovery of huge aquifers", 23/10/2013, online at: http://www.upi.com/Business_News/Energy-Resources/2013/10/23/Africa-faces-water-crisis-despite-discovery-of-huge-aquifers/UPI-13121382553986/?utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=4c7519e0d7-RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_c1265b6ed7-4c7519e0d7-250657169

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❖ Southern Africa drought woes hurt GDP growth in region

Zambia, Angola cut GDP forecast because of drought

* Despite resource wealth, agriculture remain big employer

* Normal rains expected for 2013/14 season - famine network

By Olivia Kumwenda-Mtambo and Shrikesh Laxmidas

JOHANNESBURG/LUANDA Oct 24 (Reuters) - Spells of drought in southern African this year have hit agricultural output and hurt economic growth in countries such as Zambia and Angola, underscoring the lingering importance of farming to the resource-rich region's prosperity.

Cutting their 2013 economic growth estimates, both oil producing Angola and copper producer Zambia have cited drought as a reason for lowering the forecasts.

Zambia, Africa's largest copper producer, sees its economic growth for 2013 lower than the earlier forecast of above 7 percent after expanding 7.2 percent in 2012. The International Monetary Fund said in September Zambia's economic growth was projected at 6 percent in 2013.

Copper production has traditionally been the backbone of Zambia's economy but decades of state mismanagement of mines led to a fall in output. Lusaka privatised its copper and cobalt mines more than a decade ago to attract foreign investments.

Despite efforts to revamp the mining sector, agriculture remains crucial to the economy, making up 18.7 percent of the GDP compared with 11.1 percent for mining.

Erratic rain is now hurting production of crops such as maize, which sustains millions of poor Zambians and is an export commodity for the country.

"The southern part of the country had prolonged periods of no rain. In other areas rain was erratic and this had a negative impact on our maize production," Agriculture Minister Robert Sichinga said.

Reduced harvests can also stoke inflation, especially for foodstuffs, which hits poor households the hardest.

"WORST DROUGHT IN DECADES"

Angola and Namibia are having "one of the worst droughts in 30 years", according to UNICEF, the U.N. children's agency.

"Livestock and crops have perished and many households are selling assets and skipping meals," UNICEF said.

Angola, Africa's second-biggest oil producer, cut its GDP growth forecast for this year to 5.1 percent from a previous estimate 7.1 percent. Just like Zambia, Angola's President Jose Eduardo dos Santos said last week "a long drought" was partly to blame for the weaker growth forecast.

Cunene, the southern province of Angola, is the hardest hit. Its governor said in May it had not had rain for two years. The semi-arid province, which shares a border with Namibia, depends largely on subsistence farming and cattle-raising.

Before independence from Portugal in 1975, Angola was largely self-sufficient in food and was the world's fourth largest coffee exporter.

A 27-year civil war that ended in 2002 left the sector in tatters and agriculture and fishing now makes up around 10 percent of Angola's GDP, compared to 45 percent for oil. However, it still employs two out of three Angolans, according to the World Bank.

Industry associations have said Angola was allocating insufficient funds to boosting farming after only 1 percent of this year's total public spending was earmarked for agriculture.

ERRATIC RAINS

Rainfall patterns in southern Africa are becoming erratic as climate change takes its toll, threatening production of staple and cash crops in the region.

Farmers, who for centuries have known when to expect rains, are now finding planning difficult as the region experiences a mixture of early, late and above normal rains.

Climate experts have said as weather patterns change, the outlook for rain-fed agriculture was particularly bleak in southern Africa's Limpopo river basin, which covers parts of Botswana, South Africa, Mozambique and Zimbabwe.

South Africa last month declared a drought in its North West Province, an important maize growing region in Africa's biggest producer of the crop.

But the short-term outlook is hopeful.

According to FEWS NET, a USAID-funded famine network, southern Africa is expected to get normal to above normal rain from October to March next year, which should bring relief to some if not most of the drought-striken areas.

Zimbabwe, which faces its worst food shortages in four years after a drought, was gearing up for the new growing season but lack of farm inputs may hamper production.

"We are going to struggle in terms of crop production and the economy will continue to be in dire straits," Zimbabwe's Commercial Farmers Union president Charles Tuffs told Reuters. (Additional

reporting by Chris Mfula in Lusaka and MacDonald Dzirutwe in Harare; Writing by Olivia Kumwenda-Mtambo; Editing by Ed Stoddard and Alison Williams)

"Southern Africa drought woes hurt GDP growth in region", 24/10/2013, online at: http://www.trust.org/item/20131024114023-2o42l/?source=hptop&utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=4c7519e0d7-RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_c1265b6ed7-4c7519e0d7-250657169

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❖ Adoption of Regional Strategic Action Plan on the Nubian Sandstone Aquifer

The following post is by Raya Marina Stephan, a water law specialist and consultant, and Chair of the Publication Committee of the International Water Resources Association. Ms. Stephan can be reached at raya.stephan [at] yahoo.com.

On 18 September 2013, the Ministers in charge of water resources in the four States of the Nubian Sandstone Aquifer System (NSAS) (Chad, Egypt, Libya & Sudan), and the Chairperson of the Joint Authority for the Study and Development of the Nubian Aquifer, signed an important document, the Regional Strategic Action Plan (SAP).

The NSAS is one of the largest aquifer systems in the world, composed of non-renewable groundwater. It extends over 2,000,000 km^2 and contains about 540,000 km^3 of water, out of which 15,340 km^3 is believed to be exploitable.

Cooperation over the NSAS dates back at least to 1989 when Egypt and Libya established among themselves a Joint Authority (JA) for the Study and Development of the Nubian Sandstone Aquifer System. In 1992, the two States adopted the agreement "Constitution of the Joint Authority for the Study and Development of the Nubian Sandstone Aquifer Waters" (see Annex 7 in the GEF Project Document). Sudan joined the collaboration in 1996 and Chad officially affiliated in 1999. This agreement is one of the few agreements worldwide over a transboundary aquifer. While the number of identified transboundary aquifers globally exceeds 315 (IGRAC 2012), only four have an interstate agreement. Besides the NSAS, there are: the agreement on the Genevese Aquifer (French, English), the Ministerial declarations on the North Western Sahara Aquifer System, and the agreement on the Guarani Aquifer (Portuguese, Spanish, English). It is also relevant to mention the 2009 memorandum of agreement and road map adopted by the States of the Iullemeden aquifer system (Niger, Nigeria and Mali), however little progress has been made on this effort so far.

The agreement on the NSAS, as its name indicates, is an agreement creating the Joint Authority (JA), which is intended to serve as a joint institution/commission for the management of the shared aquifer.

The agreement provides the basic rules for its functioning, and its responsibilities are quite wide and large. For instance, the JA can, conduct studies on the Nubian aquifer, is entitled to develop programs and plans for the utilization of water, and can propose and execute a common policy for the development and utilization of the water resources of the aquifer. The JA can also ration the consumption of water from the Nubian Sandstone Aquifer in the member countries and, therefore, holds real management responsibilities. The agreement is, thus, more an institutional agreement than merely a water management one.

The first project (1998-2002) on the Nubian aquifer, the "Regional Strategy for the Utilization of the Nubian Sandstone Aquifer System" executed by the Center for Environment and Development for the Arab Region and Europe (CEDARE), resulted in an improved scientific knowledge of the aquifer system and the consideration of the socio-economic conditions in the riparian States. During this project, the JA acted as the Project Steering Committee and was relatively active holding yearly meetings.

In 2006, the four States engaged in a second project – Formulation of an Action Programme for the Integrated Management of the Shared Nubian Aquifer – funded by the Global Environment Facility (GEF) and executed by the International Atomic Energy Agency, with a support from UNESCO (see project website). The overall objective of the project is to establish a rational and equitable management of the NSAS for sustainable socio-economic development and the protection of biodiversity and land resources. To achieve this goal, national multidisciplinary teams in the riparian States were constituted and, with the support of a team of international experts, prepared the Shared Aquifer Diagnostic Analysis (SADA) to jointly identify, understand, and reach agreement on the priority issues, threats, and root causes of the NSAS. The SADA identifies the following key transboundary concerns:

Declining water levels related to abstractions

Damage or loss of the ecosystem and biodiversity that are linked to the aquifer at oases

Water quality deterioration from pollution (industry, agriculture and urban)

Following adoption of the SADA, national team of experts identified the common NSAS vision and key water resource objectives as well as the ecosystems linked and dependent on the aquifer. Finally, a common set of management actions addressing the key NSAS transboundary issues were prepared, which lead to the recently-signed SAP. The adopted vision for the NSAS under the SAP is:

"To assure rational and equitable management of the NSAS for sustainable socio-economic development and the protection of biodiversity and land resources whilst ensuring no detrimental effects on the shared aquifer countries."

The signing of the SAP document at the ministerial level represents an important step forward in building the cooperation process among the NSAS countries. It is the common and joint commitment to the identified shared vision for the cooperative management of the NSAS by the States and the JA, as well as the commitment to implement the actions.

"Adoption of Regional Strategic Action Plan on the Nubian Sandstone Aquifer", 18/10/2013, online at: http://www.internationalwaterlaw.org/blog/2013/10/20/adoption-of-regional-strategic-action-plan-on-the-nubian-sandstone-aquifer/

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❖ Egypt, Ethiopia and Sudan Mull New Probe Nile Dam Impact

Ethiopia, Sudan and Egypt agreed to examine the regional impact of a $4.2 billion dam being built on a Nile river tributary in Ethiopia after experts said earlier studies were inconclusive.

A meeting of water ministers and delegates in Sudan's capital, Khartoum, on Nov. 4 will discuss conducting a new study of the hydropower project's downstream effect and more detailed appraisals of its environmental and social impact, said Fekahmed Negash, head of the Ethiopian Water Ministry's Boundary and Transboundary Rivers Affairs Directorate.

The 6,000-megawatt Grand Ethiopian Renaissance Dam, set to be Africa's largest when 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.

In a June report, a group of international experts said Ethiopia's analysis of the dam's impact was "very basic, and not yet at a level of detail, sophistication and reliability that would befit a development of this magnitude, importance and with such regional impact."

Next month's meeting "will be on the way forward on the implementation of the recommendations of the International Panel of Experts," Fekahmed said Oct. 18 by phone from Ethiopia's capital, Addis Ababa.

As suggested by the panel, which included two specialists from each country and four international experts, the assessment will weigh the impact of other Ethiopian dams planned on the Blue Nile, which originates in Ethiopia and is the largest tributary of the Nile, Fekahmed said.

Dam Reservoir

Ethiopia is the source of 86 percent of the water that flows into the Nile, the world's longest river that runs 4,160 miles (6,700 kilometers) through 11 countries from Burundi in the south to Egypt, where it empties into the Mediterranean Sea. Ethiopia has said it will take five to six years to fill the 74 billion cubic-meter (2.6 trillion cubic-feet) reservoir created by the dam.

Ethiopia won't stop construction of the dam, which will produce electricity partly for export, Ethiopian Prime Minister Hailemariam Desalegn told reporters in Addis Ababa. The project can benefit the region if all sides show "political commitment" to it, he said Oct. 4.

Sudan backs the dam, which will "bring many benefits and blessings for us," Sudanese Information Minister Ahmed Bilal Osman said in June.

Structural Concerns

Concerns raised by the panel about the structure of the dam being built in western Ethiopia, 30 kilometers (18 miles) from the Sudanese border, have been addressed by contractor Salini Costruttori SpA, according to Fekahmed. The Rome-based company is able to adjust its design during construction as it has a contract to manage the entire project, he said.

The panel's call to assess the stability of the rocks on which the foundations of the main dam and an auxiliary dam will rest was a "reminder" to Salini to "take care of this in the design," Gideon Asfaw, an Ethiopian civil engineer who sat on the panel, said in an interview.

"Whatever you find there is an engineering solution to it," he said in Addis Ababa on Oct. 11. "There is no cause for alarm regarding the geological formation or the foundation design."

"Egypt, Ethiopia and Sudan Mull New Probe Nile Dam Impact", 21/10/2013, online at: http://www.bloomberg.com/news/2013-10-21/egypt-ethiopia-and-sudan-mull-new-probe-nile-dam-impact.html?utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=3e5aa1261a-RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_c1265b6ed7-3e5aa1261a-250657169

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❖ Is Egypt Trying to Block Israel's African Union Bid?

CAIRO — Egyptian fears have been rekindled regarding the spread of Israeli influence in the Horn of Africa, and more particularly the Nile Basin, following information obtained by Egyptian security agencies that Ethiopia, Kenya and Nigeria were attempting to promote Israel's candidacy as an observer member in the African Union (AU). These states were also urging other AU states to include a discussion of this request on the agenda for the African Summit in January 2014 in Addis Ababa.

Israel had submitted a request to the AU in 2003 for membership as an observer state, but at the time AU members did not approve its request. Meanwhile, Egypt is currently facing sanctions by the AU Peace and Security Council, which suspended Egypt's activity in the AU after the ouster of elected President Mohammed Morsi via unconstitutional decisions.

A diplomatic source at the Egyptian Foreign Ministry told *Al-Monitor*, "Cairo has information about Israel formally moving [via African mediators] toward resubmitting its request for observer status in the AU. Egypt had successfully thwarted this very request when Israel first submitted it 10 years ago."

The source, who requested anonymity, added, "Ethiopia, Nigeria and Kenya were the most eager of African nations to see the resolution passed, with member states of the AU ultimately voting in favor of accepting Israeli membership [in 2003]." He explained the current moves to have Israel's request resubmitted to the AU as "emanating from shared interests that link those countries with Israel."

Media reports have said that the implementation of Israeli military contracts had begun with Ethiopia, Nigeria and Uganda. The contracts included the sale of unmanned aircraft used in operations against insurgents, as well as economic support programs and grants accorded to those countries' agricultural and industrial sectors.

"We are carefully watching Israeli movements in Africa and have plans to confront any measures that might harm Egyptian interests. We have embarked on a set of unofficial actions to oppose Israel's request and try to block the deliberation of the matter at the upcoming African Summit until Egypt's membership to the AU is restored and we can officially start dealing with the issue," an Egyptian security source specializing in African affairs told *Al-Monitor*.

"Cairo currently relies on intensive contacts and actions through the Arab League, in order to establish a common stance by all Arab member countries of the African Union, condemning and

rejecting the Israeli request, as well as the latter's practices in Palestine, while affirming our lack of trust in it," explained the same source.

The AU, during the yearly meetings of its summit in January in Addis Ababa, had regularly issued statements deploring and condemning violations committed by Israel in Palestine. The resumption of peace talks recently between Israel and Palestine under the auspices of US Secretary of State John Kerry, however, calmed and stabilized the relationship between Africa and Israel.

In this regard, an official source with the Arab League's African Affairs Division told *Al-Monitor*, the "position inside the Arab League might not necessarily lean in Egypt's favor on this matter. Some Arab countries, such as Qatar and Morocco, have direct interests with African states. These are interests in which Israel is meddling through various means, lest we forget that Morocco is home to a sizable Jewish community."

"The position of some African Arab countries cannot be determined in this regard. Egypt is merely intensifying contacts aimed at pressuring African countries to reject Israel's request," the source relayed. He said, "Egypt's position currently lacks strong support and its African interests are not being safeguarded by other nations."

On a diplomatic level, official instructions were sent by the Egyptian presidency and Foreign Ministry to the country's embassies in African nations, asking them to intensify contacts that seek to monitor any developments regarding the Israeli request. They also sought to present a set of new proposals that highlight Egypt's interest in bolstering its relations with African countries, an Egyptian diplomatic source stationed in one of the African countries told *Al-Monitor*.

"Egypt's main concern about Israel being granted observer status in the AU revolves around fears that such a move would be used to harm Egyptian interests in the Nile Basin. Egypt is already engaged in an escalating dispute in this region sparked by the Entebbe Agreement, which would deprive Cairo of the quota of Nile water to which it has historically been entitled, previously fixed at 55.5 billion cubic meters by the 1959 agreement," the source added

The same source said Ethiopia and Kenya's official push, along with their call for active member states to vote in favor of Israel joining the AU, confirmed Egyptian concerns about Israel's intentions. At present, security information points to efforts aimed at exploiting ongoing problems and conflicts centered on the Nile Basin as Israel bolsters its relations with second- and third-tier African leaders to safeguard its own interests and undermine Egypt's influence in Africa.

Ambassador Mona Omar, the envoy for the Egyptian president to African countries, told *Al-Monitor*, "Israel obtaining status as an observer member in the African Union would allow it to be present during African summit meetings. This, in turn, would allow Israel to influence decisions, by offering grants and aid, or through putting pressure on member states and pushing them to vote for or pass specific resolutions."

Egyptian attempts to oppose Israel's request for membership in the AU center around bilateral talks and actions inside the Arab League, as well as the careful monitoring of Israeli moves at a time when the current Egyptian administration has to contend with its activities being suspended at the AU. The government is also dealing with continued internal instability, centered on the writing of a new constitution. These factors all reduce Cairo's chances of restoring its influence in Africa, which would be made even more complicated if Israel is granted observer status at the AU.

"Is Egypt Trying to Block Israel's African Union Bid?", 22/10/2013, online at: http://www.al-monitor.com/pulse/originals/2013/10/egypt-israel-african-union.html

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❖ China's Unrelenting Hydropower Growth

Hydropower

In an effort to move toward cleaner renewable energy, China is turning to huge hydropower projects and is currently adding 15 gigawatts of capacity each year, the *Guardian* reported. While the projects may cut coal's share of energy production, they could also cause the displacement of thousands of people and alter river environments.

Egypt, Ethiopia and Sudan will begin a detailed, joint analysis of Ethiopia's Grand Renaissance Dam meant to fill in the gaps left by previous impact studies, *Bloomberg News*reported. The dam has been a source of contention between the Nile River countries.

Groundwater

For the next five years, farmers in northwestern Kansas are agreeing to pump out 20 percent less groundwater as part of a pilot program to slow the depletion of aquifers, *NPR* reported. Groundwater levels have been dropping rapidly due to the vast amount of water being drawn for irrigation.

Nitrogen applied as agricultural fertilizer can stay in the ground longer than was previously thought, meaning it has a longer time to leak into groundwater, according to Canadian researchers, UPI reported. High levels of nitrates in groundwater used for drinking water supplies have been identified as a problem in some agricultural areas of North America.

"China's Unrelenting Hydropower Growth", Codi Yeager-Kozacek**,** 22/10/2013, online at:
http://www.circleofblue.org/waternews/2013/the-stream/stream-october-22-chinas-unrelenting-hydropower-growth/

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❖ China sweeps aside civilians in rush for hydropower

European expertise is helping China expand its hydroelectric capacity on a scale that dwarfs similar global initiatives

The great grey wall cuts across the valley of the Jinsha river, a tributary of the Yangtze. Downstream from the dam, the yellow water gushes down the spillway from China's third most powerful hydroelectric plant. It races on past the city of Xiangjiaba, on the border between the Sichuan and Yunnan provinces, a featureless place with a maze of factories and chimneys built into the urban fabric. Its only claim to fame is the wall 200 metres high that now overshadows it.
The structure, into which 14bn cubic metres of concrete have already been poured, is due to be completed next year. Fitted with an impressive boat lift, it will drive eight giant 800MW turbines, currently the largest in the world.

Xiangjiaba is no match for the array of 32 turbines on the massive Three Gorges Dam, with installed capacity of 22,000MW. But it does confirm China's enthusiasm for hydroelectric facilities, including really big ones, regardless of the environmental cost – in climate disruption and landslides –and the number of people displaced to make way for the work. According to official figures, the Xiangjiaba structure entailed the departure of more than 100,000 people.

On 28 September a new invitation to tender was published, for 16 1,000MW turbines, though it is not known for which dam they are intended. No single structure has ever delivered so much power.

Following the publication of China's 12th five-year plan (2011-15), the state council set a goal for energy policy, including ambitious hydropowertargets. The challenge of boosting renewable energy to a 15% share of the country's primary energy consumption depends largely on hydropower. The prime concern is to reduce pollution from coal-fired power stations, which is poisoning the atmosphere of Chinese cities. At present coal accounts for a much larger share of the energy mix than solar, wind or even nuclear power.
Just doubling hydropower (from 190,000MW to 380,000MW) would give renewables a 10% overall share. In theory, on completion of this titanic effort, just over 70% of China's total hydropower potential would be exploited, according to the International Hydropower Association's (IHA) annual report published in April.

Further upstream on the Jinsha another wall is going up at Xiluodu. With 13,600MW nameplate capacity, it will be substantially larger than Xiangjiaba.

"Every year the Chinese increase their hydropower capacity by 15GW," says Yves Rannou, the head of the China division at Alstom, the French engineering firm, a figure the IHA confirms for 2012. This is an impressive achievement compared with new capacity being built in other parts of the world, apart from Asia: 1.9GW in North America, 1.8GW in South America, 0.5GW in Europe and 0.3GW in Africa. It should be borne in mind that France, for instance, has a total hydropower capacity of 25GW.

Downstream from the Xiangjiaba dam, on its righthand side, a tunnel disappears into the rock face. It leads to a cavity like the nave of a cathedral, filled by a dull roar. Without waiting for the structure to be finished, the Jinsha is already driving four Alstom turbines and their generators. They were brought up the river on barges as far as a quay just below the dam.

The four monsters, each weighing more than 2,000 tonnes, were manoeuvred into position by suitably gigantic cranes, mounted on tracks that run down to the riverside.

On 17 September Alstom officially opened a new hydropower industrial site in Tianjin, north-east China. Airbus operates a large assembly unit on the same technology park. The engineering firm is keen to consolidate its position in this booming market. At the ceremony, CEO Patrick Kron predicted that between now and 2035 half of the world's new hydropower plants would be built in China, with south-east Asia accounting for 85% of the total. He added that hydropower was "clean, renewable and particularly easy to store".

Though hydropower represents a relatively small share of Alstom's revenue (10%), growth on this scale justifies the €100m ($130m) investment the firm has made in China, in the larger context of cutbacks. "We need to streamline our operations. But we can do it, even in China, without adopting a strategy of retreat," Kron explained on the sidelines of the ceremony.

The French firm is by no means the only one interested by the turbine and generator part of future hydropower plants. Its rivals Andritz and Voith, respectively from Austria and Germany, are also on the lookout for work. Voith markets integrated solutions comparable to Alstom's technology. It has a factory in Shanghai, originally built as part of a joint venture with Siemens and Shanghai Electric

Corporation. Voith now owns an 80% share of the undertaking and is quick to point out that it equipped China's very first hydropower facility, at Shi Long Ba, in 1910.

But foreign engineering firms have little room for manoeuvre. For example, Xiangjiaba's four other hydroelectric units have been produced in China. Two powerful firms, Harbin Electric and Dongfang Electric, which together claim a 40% share of Chinese-installed capacity (as against 20% for Alstom) have become serious competitors, after learning the trade from foreign partners. Asked to compare the strengths and weaknesses of Chinese and French suppliers, the head of the China Three Gorges Corporation, which is operating the Xiangjiaba dam, Nie Yuanlong, smiled politely before noting that Alstom's prices were "slightly higher".

Quality, a key selling point for both Voith and Alstom, may enable them to maintain a slight strategic lead over Harbin and Dongfang in the struggle to deliver increasingly powerful hydroelectric units. But with heavy industry in China plagued by surplus capacity, unlikely to improve if domestic growth slows, competition could well be increasingly fierce.

"China sweeps aside civilians in rush for hydropower", 22/10/2013, online at: http://www.theguardian.com/world/2013/oct/22/china-hydroelectric-dam-three-gorges?CMP=twt_fd&utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=3e5aa1261a-RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_c1265b6ed7-3e5aa1261a-250657169

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❖ China Tries to Clean Up Toxic Legacy of Its Rare Earth Riches

TIANJIN, China — In northern China, near the Mongolian border, radioactively contaminated leaks from two decades of rare earth refining have been slowly trickling underground toward the Yellow River, a crucial water source for 150 million people.

In Jiangxi province in south-central China, the national government hasseized control of rare earth mining districts from provincial officials after finding widespread illegal strip-mining of rare earth metals.

And in Guangdong province in southeastern China, regulators are struggling to repair rice fields and streams destroyed by powerful acids and other runoff from open-pit rare earth mines that areoften run by violent organized crime syndicates.

Communities scattered across China face heavy environmental damage that accumulated through two decades of nearly unregulated rare earth mining and refining. While the Chinese government has begun spending billions of dollars to clean up the damage, the environmental impact is becoming an international trade issue, with a World Trade Organization panel in Geneva expected to issue a crucial draft report on Wednesday.

Arriving three years after an international tempest over the rare earths trade and 19 months after the World Trade Organization litigation was actually filed, the coming decision may not make a big difference to the rare earth industry itself, industry executives and officials said. But the case does seem to have had the unintended effect of helping to goad China into a major environmental cleanup.

China, the world's dominant producer of rare earth metals, quietly and unilaterally imposed taxes and annual tonnage limits on its rare earth exports seven years ago. It then gradually raised the taxes and lowered the tonnage limits in subsequent years, slowly throttling supplies to overseas manufacturers.

China contends that these export restrictions are needed to protect its environment. The United States, the European Union and Japan have challenged China's taxes and quotas at the World Trade Organization. They note that China has done little to limit rare earth consumption within its borders.

The rare earth case "will be a landmark case in terms of both export restrictions and the environment," said James Bacchus, the former two-term chairman of the W.T.O. appeals tribunal in Geneva.

China has made ample supplies available to manufacturers within China that produce crucial components for a host of products like laptop computers, compact fluorescent bulbs, wind turbines and electric cars. Some Western and Japanese companies have moved factories to China to make sure that they have access to rare earths.

The W.T.O. panel faces some of the trickiest issues in international trade. Environmentalists have been wary of the trade organization ever since its predecessor, the General Agreement on Tariffs and Trade, rejected an American ban in the early 1990s on the import of tuna caught in ways that are hazardous to dolphins.

The Chinese export restrictions have become less important over the last several years for two reasons. Alternative rare earth mines have gone into production in the United States and Australia, reducing China's share of global production to 85 percent, from 95 percent three years ago. And companies have become much more efficient about economizing on rare earths, especially the costliest ones, the so-called heavy rare earths like dysprosium.

The change is visible in the supply warehouse here of one of the world's few factories producing rare earth powders for use in very powerful magnets. Whether in smartphones or missiles, the most advanced applications for rare earths tend to involve the manufacture of miniature but crucial components using the powerful magnetic qualities of rare earths.

The rare earth complex here in Tianjin is owned by Molycorp, an American company, although the factory buys its processed rare earths almost entirely from Chinese refineries. The warehouse has neatly arranged stacks of barrels of rare earths. The bright blue barrels holding neodymium, another highly magnetic rare earth, are only two feet high and a little more than a foot in diameter, but weigh more than 550 pounds because of the material's extraordinary density.

Sitting by itself on a wooden pallet is a single gray can of dysprosium, a rare earth that sells for $243 per pound. Dysprosium prices soared as high as $1,135 per pound two years ago in a speculative bubble that followed China's imposition of an unannounced embargoon rare earth shipments to Japan from September to November 2010, during a territorial dispute.

That spike in prices has prompted companies to economize in use of rare earths. Molycorp now mixes half as much dysprosium into its magnetic powders as it did even a year ago. Many of its customers have decided that their magnets do not need dysprosium, which is added in trace quantities to help rare earth magnets retain their magnetism at temperatures above the boiling point of water.

"People in Sichuan think they would die without their chili peppers, but they can live without them," said Chen Kerong, the production director at the Molycorp factory here. "People love dysprosium, but they can live without it, too."

The global oil industry has similarly begun using less lanthanum, another rare earth, during oil refining. Only 1.5 percent of the latest catalyst formulations for oil refining are now lanthanum, down from 4 or 5 percent three years ago.

But the case before the World Trade Organization appears to have made a difference already by prompting a broad environmental cleanup. In a white paper issued in June last year, China's cabinet described at length the environmental harm caused by the rare earth industry, an admission that although embarrassing for Beijing may have buttressed its case at the W.T.O. that the rare earth industry is a dirty business for which export restrictions are justified. "Excessive rare earth mining has resulted in landslides, clogged rivers, environmental pollution emergencies and even major accidents and disasters, causing great damage to people's safety and health and the ecological environment," the white paper said.

Chinese officials have repeatedly denied that their newfound concerns for the environmental consequences of rare earth mining and refining are driven by a desire to help avoid defeat at the W.T.O., although the cleanup could help on that.

Whole villages between the city of Baotou and the Yellow River in Inner Mongolia have been evacuated and resettled to apartment towers elsewhere after reports of high cancer rates and other health problems associated with the numerous rare earth refineries there.

The most hazardous refineries are those that crack the tight chemical bonds that tie rare earths found in mineral ores to a variety of hazardous materials, notably radioactive thorium. Many tons of extremely concentrated sulfuric acid are used to break the chemical bonds. Then the valuable rare earth metals, which are not radioactive themselves, can be purified. But a hazardous stew of toxic chemicals and low-level radioactive waste is left behind. Most of that waste has been dumped into the world's largest mine tailings pond, which covers four square miles near the Yellow River on the western outskirts of Baotou.

Built in the 1950s under Mao Zedong, the tailings pond lacks a liner to prevent the leaking of radioactive waste and toxins into the groundwater, where they have been gradually seeping toward the Yellow River. There is no evidence that the waste and toxins have reached the river, but the Chinese government plans to spend hundreds of millions of dollars pumping out as much contaminated groundwater as possible and pumping enormous quantities of fresh water into the earth to dilute what is left before it reaches the Yellow River.

On orders from Beijing, state-controlled enterprises have dismantled Baotou refineries and rebuilt them at an enormous mining complex at Bayan Obo in the Gobi Desert, which mines about half the world's rare earths. Chinese state-controlled media have reported that tens of thousands of goats and other livestock there have died and many baby goats have been born severely deformed, possibly because of radioactive contamination from the rare earth industry.

Located in an arid area nearly uninhabited except for mine workers, the refineries have been rebuilt there with extensive wastewater treatment facilities, according to industry officials in Beijing.

The W.T.O. panel will send its confidential draft report on Wednesday to China and the countries that brought the case, which will then be allowed to suggest changes before the final decision is made on Nov. 21.

Whoever loses the decision is likely to appeal to the trade organization's appellate body — two-thirds of decisions are appealed, and sometimes even winners have appealed to obtain better-worded verdicts. Each party has six weeks to decide whether to appeal after the decision is published in mid-December, and then the appellate body has another three months to rule.

The betting in most of the rare earth industry and among international trade lawyers is that China will lose the W.T.O. case and will comply by removing its export quotas and export duties. But these changes may not make a big difference, because China has spent the past few years forcing mergers so that 99 percent of the country's legally mined rare earths are produced by just 10 companies, all with varying degrees of state control.

But if they push prices up too quickly, they could face competition from Molycorp, which has reopened a mine in the California desert, and from Lynas of Australia, which mines rare earths in Western Australia and refines and processes them in Malaysia.

Market forces may have more of an effect on China's ability to control the market in the coming years than export restrictions, said Dudley Kingsnorth, a former rare earths mining executive who is

now a business professor and the director of the Critical Materials Initiative at Curtin University in Perth, Australia.

"If it were decided five years ago," he said, "it might have had an impact."

"China Tries to Clean Up Toxic Legacy of Its Rare Earth Riches", 23/10/2013, online at: http://www.nytimes.com/2013/10/23/business/international/china-tries-to-clean-up-toxic-legacy-of-its-rare-earth-riches.html?utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=c621a317ec-RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_c1265b6ed7-c621a317ec-250657169

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❖ Pollen Study Points to Drought as Culprit in Bronze Age Mystery

TEL AVIV — More than 3,200 years ago, life was abuzz in and around what is now this modern-day Israeli metropolis on the shimmering Mediterranean shore.

To the north lay the mighty Hittite empire; to the south, Egypt was thriving under the reign of the great Pharaoh Ramses II. Cyprus was a copper emporium. Greece basked in the opulence of its elite Mycenaean culture, and Ugarit was a bustling port city on the Syrian coast. In the land of Canaan, city states like Hazor and Megiddo flourished under Egyptian hegemony. Vibrant trade along the coast of the eastern Mediterranean connected it all.

Yet within 150 years, according to experts, the old world lay in ruins.

Experts have long pondered the cause of the crisis that led to the collapse of civilization in the Late Bronze Age, and now believe that by studying grains of fossilized pollen they have uncovered the cause.

In a study published Monday in Tel Aviv: Journal of the Institute of Archaeology of Tel Aviv University, researchers say it was drought that led to the collapse in the ancient southern Levant.

Theories have included patterns of warfare, plagues and earthquakes. But while climate change has long been considered a prime factor, only recently have advances in science given researchers the chance to pinpoint the cause and make the case.

The journal reports that an unusually high-resolution analysis of pollen grains taken from sediment beneath the Sea of Galilee and the western shore of the Dead Sea, backed up by a robust chronology of radiocarbon dating, have pinpointed the period of crisis to the years 1250 to 1100 B.C.

Unlike studies examining longer-term processes that may require a pollen analysis of strata 500 years apart, this pollen count was done at intervals of 40 years — the highest resolution yet in this region, said Prof. Israel Finkelstein of the Institute of Archaeology at Tel Aviv University.

He added that the uniqueness of the study also lay in the combination of precise science and archaeological and historical analysis, offering the fullest picture yet of the collapse of civilization in this area at the end of the Bronze Age.

“Egypt is gone. Forever,” Professor Finkelstein said. “It never got back to that level of prosperity again.”

The first recorded hint of trouble in the north came in the mid-13th century B.C., according to the study, when a Hittite queen wrote to Ramses II, saying, “I have no grain in my lands.”

Several years ago, Professor Finkelstein and Prof. Steve Weiner of the Weizmann Institute of Science in Israel received a grant from the European Research Council to conduct research aimed at reconstructing ancient Israel.

The project consists of 10 tracks, including ancient DNA and molecular archaeology — an effort to identify what 3,000-year-old ceramic vessels might have contained.

For the climate change part of the project, Professor Finkelstein joined forces with Dafna Langgut, a palynologist — or pollen researcher — at Tel Aviv University, and Prof. Thomas Litt of the Institute of Geology, Mineralogy and Paleontology at the University of Bonn in Germany.

Recent studies of pollen grains conducted by experts in southeast Anatolia, Cyprus, along the northern coast of Syria and the Nile Delta came up with similar results, though with less control over the chronology, indicating that the crisis was regional.

Dr. Langgut described in an interview how the team extracted about 60 feet of cores of gray muddy sediment from the center of the Sea of Galilee in northern Israel, passing through 145 feet of water and drilling 65 feet into the lake bed, covering the last 9,000 years. At Wadi Zeelim in the southern Judean Desert, on the western margins of the Dead Sea, the team manually extracted eight cores of sediment, each about 20 inches long.

“We carried them on our backs,” Dr. Langgut said.

Pollen grains are one of the most durable organic materials in nature, she said, best preserved in lakes and deserts and lasting thousands of years. Each plant produces its own distinct pollen form, like a fingerprint. Extracting and analyzing the pollen grains from each stratum allows researchers to identify the vegetation that grew in the area and to reconstruct climate changes.

The laboratory work was carried out partly in Bonn and partly in Tel Aviv. To obtain the most precise results possible, Professor Finkelstein instructed the Tel Aviv scientists to focus on the period of 3,500 B.C. to 500 B.C. and analyze samples at intervals of 40 years. The process began in 2010 and took three years.

The results showed a sharp decrease in the Late Bronze Age of Mediterranean trees like oaks, pines and carobs, and in the local cultivation of olive trees, which the experts interpret as the consequence of repeated periods of drought.

The study also draws on a case study by Prof. Ronnie Ellenblum, a geographer and historian at the Hebrew University of Jerusalem, of another regional collapse 2,000 years later to explain why, unlike in the steppe regions, a decrease in precipitation would have such a destructive effect on established city-states in green areas like Megiddo. The droughts were probably exacerbated by cold spells, the study said, causing famine and the movement of marauders from north to south.

After the devastation came a wet period of recovery and resettlement, according to the experts — a new order that gave rise to the kingdoms of biblical times.

"Understanding climate is key to understanding history," said Professor Finkelstein, a co-author of "The Bible Unearthed," a book published in 2001 that viewed the Bible as a national epic and a product of the human imagination. Taking issue with traditional efforts to use archaeology to verify the historicity of the biblical record, the authors promoted archaeology as a means of reconstructing the history of ancient Israel.

But biblical stories like Joseph's interpretation of the pharaoh's dream about seven fat cows being eaten by seven gaunt cows, signifying a period of abundance followed by famine, Professor Finkelstein said, "reflects the idea that climate is not stable."

He added, "The authors of the Bible knew very well the value of precipitation and the calamity that may be inflicted on people by drought."

"Pollen Study Points to Drought as Culprit in Bronze Age Mystery", Isabel Kershner, 22/10/2013, online at: http://www.nytimes.com/2013/10/23/world/middleeast/pollen-study-points-to-culprit-in-bronze-era-mystery.html?_r=1&utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=c621a317ec-RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_c1265b6ed7-c621a317ec-250657169&

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❖ India Makes $360 Million Water Works Agreement With World Bank

India agreed to a $360 million loan from the World Bank for water works to modernize irrigation, rebuild dams and drainage systems and for groundwater studies in Uttar Pradesh, its most populous state.

The Finance Ministry said the credit agreement with the development bank for the second phase of a water project in the northern state that borders Nepal was signed yesterday, with a closing date for the works set for October 2020.

Uttar Pradesh is considered the heartland of India with almost one-sixth of the population, or 200 million people. The state, whose capital is Lucknow, includes the central plains of the Ganges River, its tributaries and the southern uplands.

"India Makes $360 Million Water Works Agreement With World Bank", 25/10/2013, online at: http://www.bloomberg.com/news/2013-10-25/india-makes-360-million-water-works-agreement-with-world-bank.html?utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=06dc1a6df6-RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_c1265b6ed7-06dc1a6df6-250657169

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❖ World Bank to provide $360 mn for UP water project

Project aims at strengthening the institutional and policy framework for integrated water resources management for the entire state

World Bank will provide $360 million loan for development of second phase of water project, including for modernisation of irrigation and drainage systems in Uttar Pradesh.

"An agreement for credit of $360 million from World Bank for the Uttar Pradesh Water Sector Restructuring Project Phase-II was signed here yesterday," said a statement by the Finance Ministry.

The closing date for the project is October, 2020.

The project objective is to support Uttar Pradesh on capacity building of Water Users Association, rehabilitation and modernisation of irrigation, drainage systems and dams, development of basin river planning strategies, groundwater studies, knowledge base and flood management systems.

It also aims at strengthening the institutional and policy framework for integrated water resources management for the entire state and increase farm productivity and water productivity by supporting farmers in targeted irrigation areas, the statement said.

The agreement was signed by Nilaya Mitash, Joint Secretary in the Ministry of Finance and Onno Ruhl, Country Director, World Bank.

The project agreement was signed by Deepak Singhal, Principal Secretary, Department of Irrigation, Uttar Pradesh.

"World Bank to provide $360 mn for UP water project", 25/10/2013, online at: http://www.business-standard.com/article/economy-policy/world-bank-to-provide-360-mn-for-up-water-project-113102500637_1.html

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❖ Debated Teesta water sharing issue to gain further warmth

SILIGURI: Debated water sharing issue of trans- boundary river Teesta between India and its neighboring country Bangladesh is about to gain a new height of warmth soon. Chief minister of West Bengal has further reiterated her point against the treaty putting India's coalition government into difficult angle while Bangladesh is once again likely to press upon early resolution of the dispute during Asia-Europe Meeting(ASEM) of Foreign Ministers next month.

"We have opposed Teesta water sharing considering agriculture of northern west Bengal. But I know, few officials are releasing water during dry season to Bangladesh without permission. This is unacceptable," said West Bengal Chief Minister Miss Mamata Banerjee.

Going one step further, she has instructed top state police officials to initiate investigation to find out concerned officials responsible behind releasing of water to Bangladesh and to take strict punitive actions against them.

Though bilateral issue between two countries, the role of West Bengal remains very important in it as the glacier feed 315 km long river Teesta flows down to Bangladesh after flowing for more than 80 km through West Bengal state in India.

On the other side, it is difficult for India's Prime Minister Manmohan Singh also to keep Miss Banerjee out of the loop as her party, TMC, holds 19 MPs. Following present political scenario, TMC's MP count is expected to go up after next election. And, role of these comparatively smaller parties are going to become even more important in shaping up the ruling coalition at Delhi as no single party is likely to gain enough parliamentary strength to form Government of its own.

Teesta water is at the sentimental focal point in northern half of west Bengal since long. The multi purpose Teesta Barrage Project, taken up mainly to facilitate irrigation, has largely failed to meet up expectation. Afterinception in 1975 under West Bengal irrigation department, it was planned to be completed by 1986 at an estimated cost of Rs 69.72 crores. But even after 27 years of its expected completion date, and after eating up near Rs 1500 crore, the project with its revised cost of Rs 2988 crore is still too far from completion. Naturally, water is a ripe political issue in rural areas in northern West Bengal where TMC's supremacy is not yet as high as it is in southern part of the state.

TBP's first functional establishment is Gajoldoba barrage, around 15 km form Siliguri in north Bengal, that controls Teesta water flow between India and Bangladesh.

However, "Whatever be the reason, no one can claim 100% share of any transboundary natural water flow. Policy makers should deal with the issue more under the, lights of international water sharing protocols, logic and technical aspects than pushing the whole mater into political angles," said hydrologists.

"Debated Teesta water sharing issue to gain further warmth", 24/10/2013, online at: http://articles.economictimes.indiatimes.com/2013-10-24/news/43366016_1_teesta-water-teesta-barrage-project-west-bengal

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❖ Malaysia's indigenous block dam construction

Communities in Sarawak state protest against hydro electric project that they say will submerge their homes and land

Hundreds of Malaysian indigenous people have blockaded the construction site of a new dam which is set to force them from their homes in Sarawak state on the island of Borneo, activists have said.

Indigenous Kenyah, Kayan and Penan people began blocking the main entry road to the Baram dam on Wednesday afternoon, and continued the blockade on Thursday.

The Baram dam is the latest in a series of controversial hydroelectric mega-dams planned by the Sarawak provincial government as it pushes economic development in one of Malaysia's poorest states.

While the Baram dam is expected to generate 1,200 megawatts of power, activists claim it will flood 400 square kilometres of rainforest (154 square miles) and displace about 20,000 tribespeople.

Peter Kallang, chairman of the NGO, Save Sarawak's Rivers Network, said in a Facebook posting late on Wednesday that they were "camping at the blockade to show their determination against the construction of this bloody dam" after being inspired by a blockade that began last month against the filling of the nearby Murum Dam.

"The call is to stop the project and all activities related to the construction of the dam because State-owned Sarawak Energy (SEB) is already starting soil investigation," The group's vice-chairman Raymond Abin told AFP news agency.

The government of resource-rich Sarawak says it hopes a plentiful supply of hydropower from the state's powerful jungle rivers will attract new industries.

SEB, in charge of building the dam, has insisted that displaced villagers are being compensated fairly. It could not be reached for immediate comment on the Baram blockade.

Ecological catastrophe

Swiss-based activists at the Bruno Manser Fund, which has repeatedly accused Sarawak's longtime Chief Minister Taib Mahmud of corruption, said that the protests would add to scrutiny on Malaysia's human rights record.

"The latest blockades add pressure on the Malaysian government ahead of a key UN meeting in Geneva. Malaysia's human rights records will be discussed tomorrow by the Human Rights Council on the occasion of a country review," they said in a statement on Wednesday.

Taib has faced mounting accusations of enriching himself and cronies through a stranglehold on the state's economy, charges which he denies.

The province is home to the already-operating 2,400-megawatt Bakun dam, which Transparency International has condemned as a graft-plagued ecological catastrophe.

Despite Bakun providing more than double Sarawak's current energy needs, a series of other dams are in the works.

The Malaysian federal government revealed early this month it had to pay $133m in compensation to suppliers due to delays in the $2.3bn Bakun project, a rare official acknowledgement of problems in the highly controversial flagship hydropower initiative.

“Malaysia's indigenous block dam construction”, 24/10/2013, online at: http://www.aljazeera.com/video/asia-pacific/2013/10/malaysia-indigenous-block-dam-construction-20131024142536278330.html

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❖ Malaysian tribes protest mega-dam

Hundreds of Malaysian tribespeople blockaded the construction site of a new dam Thursday which is set to force them from their homes in Sarawak on the island of Borneo, activists said.

KUALA LUMPUR: Hundreds of Malaysian tribespeople blockaded the construction site of a new dam Thursday which is set to force them from their homes in Sarawak on the island of Borneo, activists said.

The Baram dam is the latest in a series of controversial hydroelectric mega-dams planned by the Sarawak government as it pushes economic development in one of Malaysia's poorest states.

Indigenous Kenyah, Kayan and Penan people began blocking the main entry road to the dam's location and the site where the dam's developer, state-owned Sarawak Energy (SEB), had stored its heavy machinery on Wednesday afternoon, according to NGO Save Sarawak's Rivers Network.

Save Rivers chairman Peter Kallang said in a Facebook posting late Wednesday they were "camping at the blockade to show their determination against the construction of this dam" after being inspired by a blockade that began last month against the filling of the nearby Murum Dam.

The group's vice-chairman Raymond Abin told AFP Thursday the blockade was still going on.

"The call is to stop the project and all activities related to the construction of the dam because SEB is already starting soil investigation," he said.

The building spree of hydroelectric dams has been dogged by controversy as activists allege massive corruption while indigenous people complain it has flooded rainforests and uprooted tens of thousands of people.

While the Baram dam is expected to generate 1,200 megawatts of power, activists claim it will flood 400 square kilometres of rainforest (154 square miles) and displace 20,000 tribespeople.

But the government of resource-rich Sarawak says it hopes a plentiful supply of hydropower from the state's powerful jungle rivers will attract new industries.

Sarawak Energy has insisted that displaced villagers are being compensated fairly. It could not be reached for immediate comment on the Baram blockade.

Swiss-based activists at the Bruno Manser Fund, which has repeatedly accused Sarawak's longtime chief minister Taib Mahmud of corruption, said that the protests would add to scrutiny on Malaysia's human rights record.

"The latest blockades add pressure on the Malaysian government ahead of a key UN meeting in Geneva. Malaysia's human rights records will be discussed tomorrow by the Human Rights Council on the occasion of a country review," they said in a statement Wednesday.

Sarawak tribespeople have staged increasingly frequent protests and road blockades in recent years over the dams.

Sarawak's chief minister Taib has faced mounting accusations of enriching himself and cronies through a stranglehold on the state's economy, charges which he denies.

Sarawak is home to the already-operating 2,400-megawatt Bakun dam, which Transparency International has condemned as a graft-plagued ecological catastrophe.

Despite Bakun providing more than double Sarawak's current energy needs, a series of other dams are in the works.

The Malaysian federal government revealed early this month it had to pay $133 million in compensation to suppliers due to delays in the $2.3 billion Bakun project, a rare official acknowledgement of problems in the highly controversial flagship hydropower initiative.

“Malaysian tribes protest mega-dam”, 24/10/2013, online at:
http://www.channelnewsasia.com/news/asiapacific/malaysian-tribes-protest/859650.html

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❖ Laos dam construction might affect Mekong River Commission

The Mekong River Commission (MRC), known as the Mekong Committee before 1995, is a noteworthy organization, as it has been performing trans-boundary water management, despite certain interruptions, since the time of the Cold War.

Nonetheless, there have recently been some developments affecting the existence and operation of this commission.

The mean annual discharge of the Mekong River is approximately 475 cubic kilometers, and it runs from the Tibetan Plateau through Yunnan Province in southwestern China. The river flows through Laos, Myanmar, Thailand, Cambodia and Vietnam before entering the South China Sea. It is the 10th largest river in the world in terms of volume discharged, and it is the largest river in Southeastern Asia. The Mekong River runs 4,200 kilometers from the Tibetan Plateau to the Mekong Delta in Vietnam. Also, the river flows through the Lower Mekong Basin for 2,400 kilometers. The basin of the Mekong River drains a total land area of 795,000 square kilometers.

The Mekong River has a substantial hydropower potential. The estimated installed hydropower capacity is 37,000 MW and 150,000-180,000 Gwh per year. Nonetheless, many hydroelectric power plants that are currently under construction or partially completed as water resources development projects on the river are situated only in China. The aforementioned extraordinary hydraulic cycle of the Mekong River forces the basin countries to cooperate on the construction of storage structures. These structures regulate the flows that lead to highly damaging floods, store water for irrigation during the dry season and help the generation of hydroelectric power. In the dry season, the average flow of the Mekong River's main stem is calculated at 2,000 cubic meters per second. This figure might be considered sufficient for any purpose by world standards (the Euphrates River's average is 1,000 cubic meters per second). However, the majority of the Mekong River's water must be released for ecological purposes and the protection of the Mekong Delta in Vietnam from salt intrusion. The basin countries have different views on the river. While Vietnam, the most downstream riparian country, attaches importance to the maintenance of ecological balance and agricultural activities as mentioned before, China, despite not being a member of the MRC, places importance on the generation of hydroelectricity. Laos, on the other hand, borders all the other Lower Mekong Basin

countries. Being rich in natural resources, Laos can be seen as a major factor in the region's long-term economic development. Hydroelectric potential is one of the most significant elements of these resources. In this regard, several dams are being considered for construction on the main stem of the Mekong River. But these dams will have major environmental effects at the local and national level. The Laos government is against the states of the Lower Mekong Basin's belief that it is necessary to seek a settlement on the dams to be built on the main stem of the Mekong River.

Besides the disputed Xayaburi Dam, the Don Sahong Dam, whose construction was announced for the Cambodian border, brought up new disputes. Laos alleges that the dam, which will be built solely for electricity generation, is not situated on the main stem of the Mekong River. While the Mekong Agreement for Cooperation for the Sustainable Development of the Mekong River Basin, which established the MRC in 1995, envisages the operation of an advisory mechanism between the basin countries regarding the dams to be built on the main stem, it leaves out the tributaries from this system.

Laos, on the other hand, is planning to build the dam at a point where the main stem of the Mekong River splits into several tributaries, and asserts that the dam will not be located on the main stem. Despite reactions to the construction of the dam both internally and from other countries, the Laos government seems determined. On the other hand, there is support from certain basin countries for the project. China and Thailand especially offer political support to Laos on the issue. The disagreements regarding structures on the main stem of the Mekong River among the riparian countries may have the potential to affect the MRC, which is the strongest example of cooperation among riparian states, despite certain interruptions, for almost six decades.

"Laos dam construction might affect Mekong River Commission", 27/10/2013, online at: http://www.todayszaman.com/news-329735-laos-dam-construction-might-affect-mekong-river-commission.html

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❖ Laos dam threatens fishermens' livelihoods

Project has been damned by environmentalists, who say 30-metre barrier will warp the ecosystem.

Khone Phapheng, Laos - For generations, Kampei Samneang's ancestors have walked on a homemade highwire that spans the largest waterfall in Southeast Asia.

In their search for enough fish to feed their children, they have been the only family that has ever dared to cross the slippery line over to a small island, just centimetres above the roaring waves.

Here, the fish are plentiful. "My father taught me how to do this; he was a very talented fisherman, and my grandfather showed me how to make the net. Now I am showing my children," Kampei said, sitting at the edge of the waterfalls before getting on the highwire.

A homemade fishing net is all he can carry with him. Any more weight, Kampei explained, would likely cause him to fall into the vast rapids underneath. "It's important that I am scared. I have crossed so many times, but if I lose my fear, I will fall and die," said the 50-year-old man, clad in yellow rubber flip-flops.

Other fishermen don't dare to cross and stay closer to the riverbank instead. They admire him for his bravery, Kampei said. "There are many fishermen here, so I have to go to the islands in the middle of the waterfalls to catch enough."

Diversity hotspot

Soon, however, the construction of the 30-metre-high, 256-megawatt Don Sahong Dam - scheduled to be completed in 2018 - might leave the fishermen's nets empty. Scientists and environmentalists say the dam will not only affect fisheries within its vicinity, but also put at risk the integrity of the entire Lower Mainstream Mekong River.

Worldwide, the Mekong River ranks second in fish diversity after the Amazon, with more than 1,000 new plant and fish species discovered in the past decade, according to the World Fish Center. About 60 million people in Thailand, Laos, Vietnam and Cambodia are dependent on the Mekong for their livelihoods, **according** to the World Wildlife Fund.

"The Don Sahong [Dam] ... will block migratory fish, which is 70 percent of Mekong fish, from swimming upstream and down on the only channel that allows the fish to reach the upper part of the Mekong," said Ame Trandem, the Southeast Asia programme director at advocacy group International Rivers.

She said the dam, which will require 95,000 truckloads of riverbed to be removed, will devastate the region's fish and dolphins, the tourism industry, and the hundreds of thousands of fishermen whose livelihoods depend on the Mekong .

Fish migration

Chhit Sam Ath, executive director of NGO Forum Cambodia, has advocated against building the Don Sahong and other dams planned on the Lower Mekong.

"If the Don Sahong is built, it will have a huge, negative impact on the fish of the Lower Mekong Basin. We expect a huge difference for the fish migration and the number of fish, because the flow of the river will be blocked," he said.

Mega First Corporation Berhad, the Malaysian company in charge of building the dam, has dismissed these concerns, saying there are other channels the fish can use to migrate. Yeong Chee Neng, director of the Don Sahong project, said the dam would improve local livelihoods and fisheries, as shown by an environmental impact assessment that he said he could not share with the public.

"It will be better because the dam will make it possible for more fish to swim up and down, and that has been proven by our consultants and experts," Chee Neng said. He explained that traditional fish traps will be banned, and that a new fish passage will be built to allow them to bypass the dam.

However, scientists and fisheries experts are concerned over what they say is lack of evidence that fish would migrate through new channels. In an open letter penned in 2007, 34 scientists from universities around the globe warned the damage from building the dam would "far exceed the net returns from the project", and that it was not in the best interest of the region's people.

The extinction of the sensitive Irrawaddy dolphin as well as the critically endangered Giant Mekong Catfish are almost certain, Trandem said - and the Khone Phaphen Falls, now one of the region's major tourist attractions, would likely be left with less water.

Although the $3.8m Xayaburi dam in upper Laos, which is already under construction and will produce 1,285 megawatts, is much bigger, the Don Sahong will cause more damage because of its location at a critical point for fish migration, Trandem said.

'A lot of money'

Other possibilities for the dam have not been explored, said Ian Baird, an assistant professor of geography at the University of Wisconsin-Madison, who helped coordinate the scientists' open letter and has researched the Don Sahong extensively. He said the dam was sited on the Hou Sahong

channel because when the project was first planned in the 1990s, researchers were still unaware of the channel's vital role for the ecosystem.

"Once the Malaysian company had invested a lot of money in investigating the project and preparing engineering designs, they learned during the [environmental impact assessment] that the channel was vital for fish migrations.

"But by then [they] didn't want to change their plans, since they had already invested a lot of money," Baird said.

Chee Neng said Mega First had been working on the plans for the dam for more than eight years, and he did not understand critics' complaints.

"If we wouldn't know what we are doing, we wouldn't do it. We wouldn't do anything that is not good for the people. I am a God-fearing person, and I have to answer to my God as well," he said.

As for fishermen such as Kampei, who have lived on their traditional fishing methods for generations, they were unaware of the possible danger to their livelihoods that the dam could bring.

Despite the threat from the dam, Kampei said he expects his children will follow in his footsteps. "If I don't teach my sons how to fish, how will they be able to support for their families?"

"Laos dam threatens fishermens' livelihoods", 24/10/2013, online at:
http://www.aljazeera.com/indepth/features/2013/10/laos-dam-threatens-fishermens-livelihoods-201310239545935 4386.html

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❖ Cambodian fury over proposed dam tempered by fear of authorities' iron fist

SRAE KOR, Cambodia (Thomson Reuters Foundation) - Near this fishing village on the banks of the Sesan River in northern Cambodia, a planned hydroelectric dam threatens to inundate an area almost half the size of Singapore - and submerge seven villages including this one, sparking fury among residents, tempered by fear.

The residents of Srae Kor oppose the dam, which would displace all 420 families from their homes, farms and ancestral burial grounds. However, they are also nervous about campaigning against a project led by a powerful businessman with close ties to the much-feared Prime Minister Hun Sen, who has never hesitated to unleash security forces to stamp out any hint of opposition to his plans.

Controversy over the 400-megawatt Lower Sesan 2 dam is the latest battle along Southeast Asia's waterways, which the region's most underdeveloped countries are using to harness energy. But this project stands out as one of the worst proposed dams on the lower Mekong River basin, with activists warning that it could threaten livelihoods and trigger a food security crisis, with effects likely to be felt as far away as the Mekong Delta in Vietnam.

Residents say the government is keeping them in the dark and are relying on radio reports to find out what might happen to them. Cambodia's Cabinet approved the dam in November 2012. Then in February, the parliament **passed** a $781-million guarantee for the purchase of electricity generated by the dam.

For the people of Srae Kor, anger and worry are setting in as the project gets under way.

"We have everything we need here so why do we need to leave?" asked Suth Vam, a 56-year-old farmer, as he pointed towards the grounds of the local temple built only two years ago and the neat houses beyond the temple lawn.

Yet despite their frustration, villagers, fearing for their safety, refused to take this reporter to another affected village upstream because their boats would have to pass land being cleared in preparation for the dam.

However, in the latest development, **local media** reported on Friday that logging at the site has been temporarily suspended and a commission will investigate the company clearing the land following accusations of illegal logging.

The villagers also warned against speaking too loudly about reporting on the issue because in the past journalists had been beaten up by company security guards tipped off by village spies.

The villagers, including their elected chief, have been threatened with arrest and assault for speaking out against the dam, they said.

DEVELOPMENT: AT WHAT COST?

The Mekong River flows through China, Myanmar, Thailand, Cambodia, Vietnam and Laos. Its**basin** is the world's biggest inland fishery – providing food and jobs for some 60 million people and valued at an estimated **$5.6 billion to $9.4 billion a year** – and is second only to the Amazon in biodiversity.

Experts estimate that about 30,000 to 50,000 Cambodians rely on the Sesan river – a tributary that contributes a quarter of the Mekong's total flow – for food, water, farming and other needs. The Sesan, along with the Sekong and Srepok rivers to its north and south, form the so-called "3S system" and boast 329 species of fish, or 42 precent of all Mekong fish species.

The Lower Sesan 2 dam would be located 1.5 km downstream from the confluence of the Sesan and Srepok, and 25 km before they join the Mekong. It would create a 335-square km reservoir, according to the project's Environmental Impact Assessment (EIA).

"When compared with other tributary dams and some of the mainstream dams, it would be most detrimental to fish biodiversity and productivity," Leeds University researcher Guy Ziv told Thomson Reuters Foundation.

It would reduce migratory fish stock by almost a tenth - greater than the combined impact of six other controversial dams planned for the lower Mekong basin, including the 1,260-megawatt **Xayaburi dam**in Laos, said a **2012 paper** Ziv co-authored.

The dam's current design would also trap the sediment and nutrients vital for the fertility of the Mekong Delta – a sediment buildup that would decrease the dam's energy production over time, according to Ziv.

Yet experts who have studied the project for the government found that the positive impact from economic development is greater than "a little environmental impact", said government spokesman Ek Tha.

"I am informed by the experts that there would be little impact on migratory fish and sediments, and they already have the answers on how to manage that," he said.

"We need to develop our country. We cannot just stand and watch our people complain about blackouts and the high cost of electricity."

LIGHTING UP CAMBODIA

With energy demand in the Asia Pacific projected to almost **double** by 2030, governments and dam developers are moving ahead.

Lower Sesan 2 is a 90 percent joint venture between Cambodia's Royal Group and China's Hydrolancang International Energy. The remaining 10 percent is owned by a subsidiary of state-owned Vietnam Electricity Group.

Royal Group - led by Kith Meng, a Hun Sen ally and the president of the Cambodia Chamber of Commerce - has businesses including hotels, casinos, a bank, an insurance firm, media outlets and telecoms, but this will be its first dam. The company did not respond to emails seeking comment.

In building the dam, Cambodia is exploiting a loophole in rules set out by the Mekong River Commission (MRC), a consultative body that works with lower basin countries but has been criticised as lacking teeth. The 1995 Mekong Agreement requires international consultations before constructing mainstream dams, but tributary dams necessitate only a "notification".

Meach Mean from 3S River Protection Network (**3SPN**), a local organisation working to protect the rivers, said the dam should be considered a transboundary issue as the Sesan flows through Vietnam and Cambodia.

In June, MRC's international donors **asked** the Cambodian government to voluntarily submit the project to consultation, but activists say the government has yet to respond.

It is also unclear where the electricity would go. The EIA say it would light up surrounding provinces with remaining units sold to Vietnam. Activists say it is likely to be a 50-50.

Currently **only 26 percent** of Cambodians have electricity and demand is growing beyond state-owned Electricité du Cambodge's current capacity. Private operators, meanwhile, charge exorbitant sums - $0.25 to $0.70 per kilowatt compared with $0.15 and $0.225 per kilowatt from the state, according to the EIA.

A decentralised system would be the most sustainable option as Cambodia currently lacks a grid, said Ame Tandrem, Southeast Asia programme director for International Rivers, which is calling for the dam to be scrapped. The dam would also be operating at only a quarter of its capacity during dry months, when energy demand is highest, she added.

Other alternatives proposed by environmentalists include four smaller dams - three on the Sesan - that would produce a similar amount of energy with much less impact on fisheries and the environment.

OPPOSE DAM? GO TO PRISON

"There's no clear information on the resettlement plan or how the community could get compensation, but the process of logging has already started," Mean from 3SPN said. The promised jobs for locals before the dam's construction have not materialised, added Mean.

In another village closer to the proposed dam site, residents found out about the dam only when a boatload of Vietnamese with equipment to check water and soil quality arrived in front of their homes in 2008. They still are not sure if and when they would have to move.

Thann Tim, the area's deputy chief, told them resettlement would occur this year, and dam construction would start in 2014, although he says, "I heard this from VOA (Voice of America radio), not the authorities or the company."

Sa Va, a villager, attended a 2009 meeting arranged by authorities, but he says they handed out equal measures of information and threats.

"We were told we have the right to demand compensation but cannot reject the dam. The man who planned the meeting said those who reject or oppose the dam will face court and go to prison," he said.

Yet villagers in Srae Kor say they will not leave unless they are forced to.

With 3SPN's help, they travelled to Phnom Penh to lobby lawmakers, who told them there was little they could do.

"We cannot tell our worries and complaints to the authorities, only to civil society," Srae Kor's deputy chief Beng Teng said. "The government does not listen to us."

"Cambodian fury over proposed dam tempered by fear of authorities' iron fist", 26/10/2013, online at: http://www.trust.org/item/20131025123458-oyc52/?source=hpagehead

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❖ Water-use decisions not so simple

As the Lower Colorado River Authority (LCRA) seeks permission from the TexasCommission on Environmental Quality to cut off inflows to Matagorda Bay, Ducks Unlimited reminds Texans of the intrinsic link between environment and economy along the Colorado River and the need for all users to share in conserving water.

For shrimpers, farmers, fishing guides and birding eco-tourism businesses, the economy is directly tied to ecosystem services, especially the freshwater supply.

For others, the economy is tied to business, industry, real estate or other jobs, but all of them require water.

Every individual, every occupation, every community depends on water, and there is presently not enough to meet all demands," DU Conservation Outreach Biologist Kirby Brown said during a LCRA board meeting in September.

"The reality of the immediate situation is that all users should conserve equally and as much as possible. In the longer view, we must look at all the triggers for water conservation. The ones we have now are clearly coming up short, and water conservation is the only immediate solution."

Brown encouraged Texans to remember that water is required for all life and livelihoods, and that all users must take part in conserving this limited resource.

"We are in a severe drought, potentially worse than the drought of the 1950s," Brown said. "Yet there continues to be a lack of understanding of the situation by our communities and the public. Cities use anemic water-conservation policies that continue to allow non-essential uses of water while criticizing and politicizing agricultural and environmental water uses and crying out that it's a 'critters' versus people debate. That's an oversimplified and ineffective approach to the problem, and it needs to be corrected. "

Water allocation decisions are not about "critters" versus people.

They are about a sustainable supply of water that can support all aspects of a complex, basin-wide regional economy and ecosystem.

Reflecting on the current water allocation policies in the state, Brown feels current water use priorities are outdated and unsustainable.

"How is watering the lawn weekly, or keeping golf courses and business grounds green, a matter of public health and safety or a beneficial use of water during these times of severe drought?" Brown asked.

"If the public doesn't start thinking along those lines and share water conservation responsibilities equally, then we are going to debate and argue the issue while the supply continues to dwindle and limit our economy."

Along the Texas Mid-Coast, rice farmers have been cut off for two years, but the Highland Lakes continue to go down.
Now the LCRA is proposing the cutoff of critical freshwater inflows to bays and estuaries, while an estimated 50 to 75 percent of the residential water currently being used is dumped on the ground for non-essential use.

"Cities and communities, which are justly worried about their economies in the face of limited water, are calling for halts in environmental and agricultural uses while not taking a hard look in the mirror at their nonessential uses," Brown said.

"Cities must recognize their water-conservation policies are not working and make responsible changes. Communities must believe there is a legitimate threat to public health and safety to address the serious drought. As long as residents can water weekly, they will continue to think 'What's the emergency?'"

In the meantime, the cutoff of water to rice farmers is crushing the rural economy of three coastal counties on the lower Colorado River and creating a food-supply deficit for more than 600,000 ducks on the Texas Mid-Coast.

Environmental flows currently being considered for cutoff are necessary for the habitat that supports 60 to 80 percent of the continental redhead duck population and critical fisheries.

Texas waterfowl hunting alone provides more than $204 million in annual economic input, and annual revenues from wildlife tourism, including hunting, fishing and wildlife watching in Texas top $5 billion.

"Ducks Unlimited understands that there is simply not enough water to meet all needs at present, and natural resources and downstream economies should and have shared in restrictions and conservation measures," Brown said.

"Common-sense waterallocation policy is required in these times. The luxuries of lush, green lawns and squeaky-clean cars each week are relics of a bygone era of conspicuous consumption possible in times of greater rainfall. Now, our ecosystems and the economies they support must come first."

"Water-use decisions not so simple", 23/10/2013, online at: http://www.pleasantonexpress.com/news/2013-10-23/Sports/Wateruse_decisions_not_so_simple.html

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