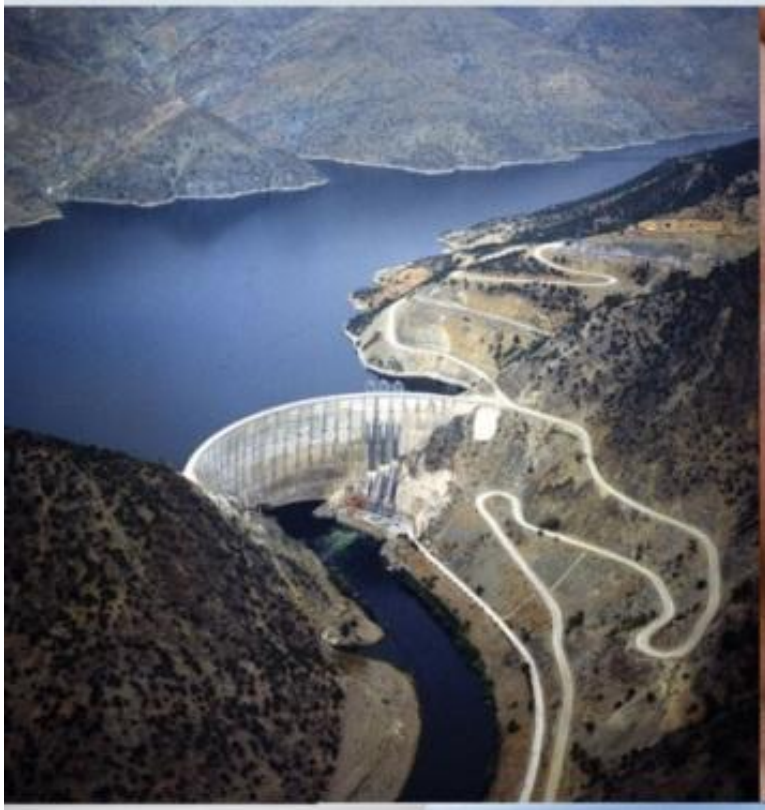


ORSAM WATER BULLETIN

Weekly Bulletin by ORSAM Water Research Programme

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





Issue 162

ORSAM WATER BULLETIN

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❖ Water shortage threatens country as supply declines to 50 percent

Data from the State Waterworks Authority (DSİ) and the Turkish State Meteorological Service (DMİ) show that if Turkey doesn't see adequate precipitation before March, water scarcity can be expected to hit the country, as the overall supply has already declined to 50 percent of what it should be.

Experts agree that in order to avoid facing a shortage in the water supply, hydroelectric production must be stopped and potable water must be stored immediately. According to DSİ sources, rainfall has declined by 64 percent in certain areas, with the largest drop of 70 percent seen in the eastern Anatolia region. A significant decline in rainfall is also evident in the Yeşilırmak, Kızılırmak, Çoruh, Ceyhan, Seyhan and Asi river areas, as well as Lake Van. In addition, the basins of Konya, Fırat, Dicle and Aras are among areas where a scarcity of water can already be seen.

According to DSİ and DMİ statistics, precipitation in the desired amounts is not expected in January, and if similar figures are also seen in February and March, the country will face the threat of an insufficient water supply. The water levels measured at reservoirs show that there has been a decline in the supply of at least 47 percent between October and January.

The experts agree that it needs to not only rain but snow, in order to better feed underground water sources. They emphasize that the drop in the water supply in 2013 compared to previous years is significant, noting that the supply has decreased by about 30 percent when compared to an average of several years and by 40 percent in comparison to 2012.

Turkish Electricity Production Company (TEİAŞ) data also indicate that water volume in the country's reservoirs decreased as of November. The total volume of water declined from 2.2 billion cubic meters in November of 2012 to 1.8 billion cubic meters in same month of 2013. In December of 2012, there was a total of 5.3 billion cubic meters that declined to 2.9 billion cubic meters in same month of 2013.

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"Water shortage threatens country as supply declines to 50 percent", 16/01/2014, online at: http://en.cihan.com.tr/news/Water-shortage-threatens-country-as-supply-declines-to-50-percent_4177-CHMTMzNDE3Ny8z

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❖ Iranian farmers protest over water shortages

NCRI - Hundreds of Iranian farmers have staged a mass protest in the central of province of Isfahan in anger the lack of a water supply for their crops.

Farmers waved banners outside the state-run Water Organization on Monday to demand water after heavy snowfalls filled dams in the region.

They warned if their demands are not met by February 4 they would hold protests by thousands.

Last year, furious farmers set fire to three buses carrying security forces, before several were killed and injured in violent clashes near the city of Isfahan.

Officials have warned that farmers' protests over water shortages could trigger a massive social uprising that could threaten the stability of the regime.

"Iranian farmers protest over water shortages", 15/01/2014, online at: http://www.ncr-iran.org/en/news/iran-protests/15758-iranian-farmers-protest-over-water-shortages

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❖ 52% of global population to live in 'water-stressed areas' by 2050

A combination of rising global population, economic growth and climate change means that more than half of the world's inhabitants will live in 'water-stressed areas' by 2050, research from MIT shows.

Around 5 billion – or 52% – of the world's projected 9.7 billion people will live in areas where fresh water supply is under pressure by 2050, the study suggested.

Researchers also expect 1 billion more people to be living in areas where water demand exceeds surface-water supply. Large portions of these regions are already struggling with water resources – most notably India, Northern Africa and the Middle East.

The study tested the effects of climate change and socioeconomic changes separately before combining them. Population and economic growth was found to be the biggest socioeconomic changes contributing to increased water stress.

These changes will lead to an additional 1.8 billion people living in water-stressed regions, when compared to today. Developing nations, which typically have higher population growth and economies that are advancing at a faster pace, will be the most affected by this phenomenon.

Adam Schlosser, assistant director of science research at the Joint Program on Global Change and lead author of the study, said, "Our research highlights the substantial influence of socioeconomic growth on global water resources, potentially worsened by climate change.

"Developing nations are expected to face the brunt of these rising water demands, with 80% of this additional 1.8 billion living in developed countries."

In contrast, the influences of climate change alone would have a larger impact on water resources in developed countries. Researchers said, "This is because, for instance, changes in precipitation patterns would limit water supplies needed for irrigation."

Combining both scenarios leads to a "more complicated picture". For example, India would see a significant increase in precipitations, leading to improved water supplies, but a growing population and economy means water demand will outstrip surface-water supply.

Schlosser added, "There is a growing need for modelling and analysis like this, which takes a comprehensive approach by studying the influence of both climatic and socioeconomic changes and their effects on both supply and demand projections."

The study also noted that adaptive measures, such as water-storage capacity and cultivated land use, would play an important role in preparing and avoiding future risks.

Separate research has previously suggested that climate change is putting 40% more people across the world at risk of water scarcity.

"52% of global population to live in 'water-stressed areas' by 2050", 14/01/2014, online at: http://blueandgreentomorrow.com/2014/01/14/52-of-global-population-to-live-in-water-stressed-areas-by-2050/

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❖ Dead Sea Shrinks Further Despite Middle East Rains

The level of the shrinking Dead Sea dropped even further this winter despite drenching rains that filled up reservoirs elsewhere across Israel and the occupied West Bank.

Hydrologists say the widespread rain and snow even refilled most of the coastal aquifer while failing to replenish the Dead Sea.

Siphoning of the sea and its Jordan River source for agricultural use and industry, as well as evaporation, have caused the shoreline to retreat by as much as a mile in some spots over the past few decades.

By early January, the super-saline lake had dropped by more than an inch from what had been measured a month earlier, reaching a level 3 feet lower than just a year before.

The retreating shoreline has destabilized the ground, causing massive sinkholes that have devoured entire villages.

"Dead Sea Shrinks Further Despite Middle East Rains", 17/01/2014, online at:
http://www.earthweek.com/2014/ew140117/ew140117b.html

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❖ The Not Quite Dead Sea

How a controversial international project could save the eighth wonder of the world

One of the most spectacular natural landscapes in the world, the Dead Sea is the world's largest day spa, where people from all over the world throughout history have traveled to bask in its natural pure waters and mud, renowned for their legendary curative and therapeutic powers. In fact, the Dead Sea was actually recently nominated to be the 8th wonder of the World.

This unique creation for centuries has been fed by the Jordan River, with no outflow. Combined with high temperatures and low humidity, approximately seven million tons of water evaporates from the Dead Sea daily! This exceptionally high rate of evaporation leaves behind the world's richest source of natural salts and minerals, which are well known for relieving pains and sufferings caused by arthritis, eczema, psoriasis rheumatism, headache and foot-ache, while softening and nourishing the skin, all of which has created a multi-million dollar Dead Sea cosmetics industry.

Today, however, for all its majestic beauty and legendary healing powers, the Dead Sea is dying a slow death, its surface area shrinking by 30% the past twenty years. Why? Quite simply, for years agricultural industries in Israel and Jordan have been diverting water from the Jordan River for their own needs. This, along with the dumping of sewage by these countries and the Palestinian Authority, has turned the Jordan River to a slow, muddy polluted flow that doesn't even reach the Dead Sea anymore during the summer months.

In addition, companies like Dead Sea Works are removing water from the sea at a rate of about 150 million cubic meters per year to access the lucrative minerals beneath the water. The minerals are used to produce chemical products for export, especially potash, which can be used to make glass, soap and fertilizer. For some perspective, at the time of Israel's founding in 1948, about 1.4 billion cubic meters of water per year flowed into the Dead Sea. That total has shrunk to 100 million cubic meters!

The consequences of the sea's retreating groundwater have been devastating. As salt deposits that had supported a surface layer of sand are washed away, thousands of dangerous sinkholes have been left in their wake, which have destroyed beaches, nature reserves and agricultural fields in the area. Route 90, the Israeli highway that runs north-south along the Dead Sea's western shore, has had to be re-routed several times because of sinkholes opening up in its path.

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Today, two main ideas have been considered for saving the Dead Sea. The first is quite simple: to restore flow to the sea from the Jordan River. While steps have been taken, such as treating and re-using sewage around the lower Jordan and reducing withdrawals, it has not been enough to significantly reduce the usage of Jordan River water itself for agricultural and domestic needs. Given the scarcity of alternative water sources in the area, this reality seems unlikely to change anytime soon.

The other idea is the controversial Red-Dead project, a joint operation between Israel, Jordan and the PA to build a series of pipelines, canals, tunnels, and desalination plants that would bring water about 180 kilometers (112 miles) from the Red Sea, near the southern Israeli city of Eilat, to the Dead Sea.

While it seems like a worthy endeavor, environmental assessments warn of the unknown risks of mixing the waters of the two seas, including "changes to the appearance and water quality" of the Dead Sea, as well as damage to the region's overall ecology, leading both the Environmental Protection Ministry and Friends of the Earth Middle East to both vehemently oppose the plan. In addition, some critics contend that the whole idea of the Red-Dead project is merely a pretext to transport water from the Red Sea hundreds of miles north to Amman, the Jordanian capital, which is facing a serious water shortage.

Despite these concerns, with billions of tourist dollars potentially lost by a continued decline in water levels, it looks as if Israel is going forward with it. Last month Regional Cooperation Minister Silvan Shalom signed off on a pact with representatives from the PA and Jordan to green-light the beginning of the construction of the estimated $10 billion project.

According to the agreement, approximately 100 million cubic meters of water per year will be carried northwards to help replenish the Dead Sea. The Jordanians will receive 30 million cubes for their own southern region and an additional 50 million cubes of grey-water from the Kinneret for the north. Meanwhile, the Palestinian Authority will receive approximately 30 million cubic meters from the Kinneret – either desalinated water or grey-water at production cost – which will increase water supplies for Judea and Samaria residents.

"The Not Quite Dead Sea", 16/1/2014, online at:
http://www.israelnationalnews.com/News/News.aspx/176390#.UtpA_9Jait8

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❖ Peace on the ground, through ecological conservation

For Prof. Saleem Ali, a 'peace park' between Israel and Jordan makes perfect sense – it's bureaucracy that blocks the way.

To Prof. Saleem Ali, transforming a slab of greenery sandwiched between northern Israel and Jordan into a shared ecological park would be nothing less than a rational step toward generating peace dividends in a fundamentally tense neighborhood.

"The commitment from the people is there," Ali, a professor of environmental planning and Asian studies at the University of Vermont's Rubenstein School of Environment and Natural Resources, told The Jerusalem Post on Wednesday.

"If you would ask the average citizen if a peace park would be a good idea they would say yes," he said. "But if you would ask them if it would practically happen, they would laugh it off."

A preeminent expert on environmental peace parks, Ali is the editor of the 2007 book Peace Parks: Conservation and Conflict Resolution, which considers whether environmental conservation can contribute to peace-building in conflict stricken regions.

Although maintaining tenure as a University of Vermont professor, Ali is currently serving as the director of the Center for Social Responsibility in Mining at the University of Queensland's Sustainable Minerals Institute in Brisbane, Australia. Advocating cooperation on an environmental level as an impetus for peace, Ali views a peace park between Jordan and Israel as ideal, assuming that the bureaucratic obstacles can be successfully tackled.

"The environment is politically appealing to peace agreements and has been underutilized," Ali said. "It certainly is not the only way but is one that has been underutilized and under-appreciated."

The park in question is a longstanding proposal of Friends of the Earth Middle East (FoEME), a regional environmental organization with directors in Israel, Jordan and the Palestinian Authority. Aiming to become accessible to visitors from both sides of the river without a need for visas, the 800-hectare Jordan River Peace Park would stretch from Gesher in the south and Road 90 in the west on the Israeli side, to Shounah and Bakoura in the east on the Jordanian side and to slightly past the Yarmuk River in the north.

At the park's center-west would be an already existing "Peace Island," an area at the junction of the Yarmuk and Jordan rivers where the Israeli-Jordanian peace treaty was signed in 1994.

While the Peace Island falls within Jordanian territory, Jordan leases the land to Israeli farmers at Kibbutz Ashdot.

Within the island is a hydroelectric power station that supplied electricity to both sides of the Jordan River from 1932 to 1948. According to FoEME plans, this power plant would be adapted for reuse as a visitors' center.

As part of its attractions, the park would also include a bird sanctuary at a partially reflooded former reservoir, as well as eco-lodges at the former homes of hydroelectric plant workers.

The historic train station of the former Ottoman Hejaz Railway would be rehabilitated for visitation, and the three bridges – Roman, Ottoman and British – spanning the Jordan River at the Gesher Compound would also peak the interests of tourists, the FoEME plans say.

In January 2007, the mayor of Muaz Ben Jabal on the Jordanian side and the mayors of the Beit She'an Valley Regional Council and the Jordan Valley Regional Council on the Israeli side, signed a memorandum of understanding in support of the peace park plans. The plans have yet to receive approvals on a national level, however.

"The reality is that the local government will always get trumped if you don't deal with it on a higher government level," said Ali, who last visited the area in question with FoEME in 2010. "Ultimately, in order to cross the border, the local government can't do anything."

By and large, Ali voiced wholehearted support for the FoEME Jordan River Peace Park plan and all of the ecological and historical elements to be included within its bounds. Convincing the respective national governments to support the plans might, said. For example, Americans and Brazilians were critical contributors to the success of a demilitarized peace park built in the Cordillera del Condor conservation region between armed rivals Ecuador and Peru, Ali explained.

"There's lots of precedents for this kind of approach being used, even in cases of armed conflict," he said, referring to the Ecuador-Peru example, among others, such as the Selous-Niassa Wildlife Corridor between Mozambique and Tanzanian and the Emerald Triangle, at the crossroads of Laos, Cambodia and Thailand.

"The Golan Heights would have been the ideal comparison if there was to be a Syrian- Israeli peace park, but that one is now history because the whole state [of Syria] has collapsed," Ali added.

The location of a peace park in the Jordan River area is ideal for a number of reasons, both on an environmental and a diplomatic level – as this is the exact spot where the signing of the Israeli-Jordanian peace treaty occurred and where Kibbutz Ashdot members are still leasing agricultural land from Jordanians, he explained.

"It's physically a very beautiful area," he said. "The value of the area symbolically and ecologically is very important."

The presence of the former Rotenberg power plant, which provided electricity to the region for years, also provides what Ali described as a very interesting "energy-water connection." In addition, a polluted Jordan River that is now undergoing extensive rehabilitation runs through the planned area for the park.

"The restoration aspect also ties into that theme of healing – you're healing the river and healing the wounds of the past," Ali said.

Although the Jordan River Peace Park would be located on Israeli and Jordanian territory only, its presence in the upper Jordan Valley would be in close proximity to the West Bank portion of the valley, claimed by the Palestinians. The fate of the Jordan Valley has been particularly contentious as of late, following a Ministerial Legislative Committee vote at the end of December to annex the West Bank portion of the Jordan Valley to Israel.

Regardless of in who's hands the Jordan Valley remains, Ali stressed that such decisions should not have an effect on the future of the shared ecological park.

"If it is truly a peace park, then you would think that the sovereignty issue is put aside," he said.

Ali compared the situation to that of Antarctica, where so many different countries have laid claims to various portions, but "for the greater good of science" have forgone differences there.

"The same kind of legal framework could be used in this context," he said. "We can use this opportunity for ecological conservation and cooperation and for people to meet."

Such cooperation is already occurring between Israeli and Jordanian students who study and perform research together much farther south, at the Arava Institute for Environmental Studies, Ali mentioned.

Also encouraging of late is a trilateral water agreement signed among the three parties in early December, which facilitates the swapping and increased sales of the resource among them, he added.

"Here you are trying to share and there you are trying to trade, but at least it's another example of communication and cooperation on environmental matters," Ali said.

Yet in order for such an agreement to pay off in the long run, the parties must ensure that the cooperation opportunities are "leveraged creatively," he stressed.

Recalling the Indus Water Treaty signed in 1960 by India and Pakistan, Ali warned that while that agreement allowed for more dams and the generation of more water for Pakistanis, in the end "it had very little of a peace dividend."

"I would have thought an agreement like that would pay a peace dividend," said Ali, who is the son of Pakistani-born immigrants to America.

In an effort to see Pakistani and Indian relations improve, Ali is currently involved in planning the "Punjab-2-Punjab Good Water Neighbors Project," an ecological peace project between the two countries shaped by FoEME's model for rehabilitating the Jordan River. One of the major focal points of this project will be a transboundary cleanup of the Ravi River, one of the five rivers in the Indus River basin.

While Ali admitted that he has remained "a bit disillusioned" about the progress of the Israeli-Jordanian peace park after he witnessed what he described as "inertia within the political system," he said he has hope for both the park and regional peace in general. Ali also serves on the advisory board for the Israeli-Palestinian Confederation, a grassroots, non-governmental organization that has established a virtual confederation between the two parties as an unconventional means of solving conflict.

"Things can change – it depends on leadership," Ali said.

According to Gidon Bromberg, Israel director of FoEME, things are in fact changing and moving forward.

"There is progress taking place in an approach that is moving forward in a bilateral fashion," he told the Post, also on Wednesday.

FoEME has signed a memorandum for cooperation with the Jordan Valley Regional Council, wherein lies the site of Naharayim – the Israeli land segment adjacent to the hydropower plant, which lies in Jordanian territory. The Tourism Ministry has already committed funds to this area, and FoEME is matching those funds through private donations, Bromberg explained.

Construction on facilities in Naharayim should start later this year, and the site will be known as the future northern entrance to the Jordan River Peace Park.

"What we now see is actual implementation," Bromberg said.

FoEME is also raising private funds for the rehabilitation of the Gesher and Bekoura sites, and the Jordan Valley Authority has created a committee for the purpose of advancing the area as a Jordanian national park – within the framework of linking it to the larger Jordan River Peace Park, he explained.

As far as a third party goes, Bromberg said that FoEME has presented the peace park idea to the US State Department, suggesting that "it would be a good signal to the broader peace effort if Israel and Jordan would take the opportunity to publicly declare support for a peace park."

"We know that [US] Secretary of State [John] Kerry is looking beyond the Israeli Palestinian leg, broader signals of support in the Arab world," Bromberg said. "We have identified this and are speaking to all the authorities on both sides."

With its enormous tourism potential, both sides could only gain financially through the establishment of such a park, he continued, likening the site to "a sort of shared Petra for the North."

Although municipalities and regional authorities have given the green light toward moving forward with the peace park, Bromberg agreed with Ali that support on a national level is also critical.

"We definitely still require the political will of the national level on both sides, to agree on the type of political relationship that would allow for the development of a bubble of free movement for mutual gain," he said.

Establishing ecological peace parks can be effective bridges for peace in large part due to people's inability to control nature and the environment, Ali explained. Despite incessant human efforts to tame nature, it is "ultimately the natural system that determines human behavior" – natural disasters, transboundary rivers or climate change alike, he continued.

"All these factors defy political borders; we have limited control over them," Ali said. "The environment creates a super-ordinate goal, beyond people's particular tribal instincts, and allows people to see a more panoramic vision of the future."

"Peace on the ground, through ecological conservation", 18/01/2014, online at: http://www.jpost.com/Features/Front-Lines/Environment-Peace-on-the-ground-through-ecological-conservation-338480

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❖ The Red-Dead Seas Canal: A Zionist Israeli Victory Over Jordan and Palestine

The two seas canal agreement, connecting the Red and Dead sea, was summed up best by Silvan Shalom, Israel's minister for development of the Negev and the Galilee, who jubilantly described it, following the 9 December signing ceremony at the World Bank headquarters, as "a historic agreement that realizes… the dream of [founder of modern Zionism Theodore] Herzl".

The canal was another strategic triumph for Israel's conniving diplomacy, even after the project was reduced to about one-tenth of its original size due to serious economic and environmental concerns raised by the World Bank.

The Zionist-envisioned project was repackaged and sponsored by Jordan as a must to save the Dead Sea, and building a large desalination plant providing Israel and Jordan with eight billion to 13 billion gallons of fresh water annually.

According to Israeli and international environmentalists, Israeli government's policies of over pumping from the Sea of Galilee and Jordan River – serving Jews-only colonies – was the main cause for the loss of nearly 30 per cent of the Dead Sea's mass in the last 50 years.

…while under the agreement the Palestinian Authority will purchase water from Israel, Israel continues to expropriate the occupied West Bank's water aquifers for the benefit of illegal Jewish colonies for free.

Herzl's repackaged vision includes articles tacitly granting Israel exclusive water rights in the supposedly shared Sea of Galilee and Jordan River water. This is because the agreement empowers Israel to transfer nearly 13 billion gallons of fresh water from those bodies to Jordan and to sell the Palestinian Authority 8 billion gallons of drinking water at preferential prices.

Even more cynical is that while under the agreement the Palestinian Authority will purchase water from Israel, Israel continues to expropriate the occupied West Bank's water aquifers for the benefit of illegal Jewish colonies for free.

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In addition to political concerns, environmentalists have warned that introducing new water from the Red Sea will bring a host of new invasive photosynthetic organisms, which could lead to drastic negative consequences affecting the unique natural system of the Dead Sea.

In fact, international and Israeli environmentalists have suggested that an alternative, re-establishing the Jordan River to its natural state, would have been a better solution to the decline of the Dead Sea than the proposed canal.

While it would receive roughly half of the desalinated water from the project, the 100 miles brine pipeline will run exclusively through Jordanian territory to circumvent objections by Israeli environmental groups.

The agreement provides Israel a free safety net to escape responsibility for the Dead Sea's environmental calamity while realizing an old Zionist military-strategic vision by adding a natural water course on Israel's eastern borders.

Lacking proper environmental oversight, a rupture in the high saline pipeline – running along a known active earthquake fault – would cause irreparable damage for a main source of Jordan's fresh groundwater in Wadi Araba.

The agreement provides Israel a free safety net to escape responsibility for the Dead Sea's environmental calamity while realizing an old Zionist military-strategic vision by adding a natural water course on Israel's eastern borders.Economically, this project places Israeli water companies in a unique position to gain the most in building the waterway and associated desalination and power generation plants.

Jordan, on the other hand, is taking the biggest long-term risk since a probable structural failure in the canal system would lead to an incurable disaster for both the agriculture and ecosystem in the Jordanian valley.

By purchasing Israeli water, the Palestinian Authority is sanctioning Israel's theft of its water aquifers from occupied West Bank, while allowing Israel to continue syphoning the only lifeline for the Dead Sea.

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"The Red-Dead Seas Canal:A Zionist Israeli Victory Over Jordan and Palestine", 13/01/2014, online at: http://www.aljazeerah.info/Opinion%20Editorials/2014/January/13%20o/The%20Red-Dead%20Seas%20Canal,%20A%20Zionist%20Israeli%20Victory%20Over%20Jordan%20and%20Palestine%20By%20Jamal%20Kanj.htm

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❖ Egypt-Ethiopia Nile dam talks hit dead end

Technical negotiations among water ministers from Egypt, Sudan and Ethiopia have reached a dead end after all parties refused the proposals set forth to solve the crisis that revolves around the repercussions Ethiopia's Renaissance Dam have on Egypt's water security. These repercussions were discussed during three rounds of negotiations in the Sudanese capital Khartoum.

The third round of negotiations held in Khartoum on Jan. 4 — and attended by technical delegations represented by water ministers from Egypt, Sudan and Ethiopia — did not yield any clear results. Egypt withdrew from the meeting, describing the Ethiopian stance as "intransigent," as Ethiopia refused the Egyptian proposal that ensures Egyptian water security, as noted in a statement issued by the Egyptian Ministry of Water Resources and Irrigation.

Al-Monitor secured a copy of the statement, which stated: "The dispute between Egypt and Ethiopia during the negotiations is related to two points. First, Ethiopia refused the participation of international experts in the new mechanism put in place to follow up on Ethiopian studies about the consequences of the Renaissance Dam. These studies will be conducted in accordance with the report of the international committee. Second, Ethiopia refused to discuss the document on 'principles of confidence-building' between the countries of the eastern Nile basin — namely Egypt, Sudan and Ethiopia. Egypt proposed this document to provide guarantees for the downstream countries against any negative effects that may be generated from the construction of the dam."

In a phone interview with *Al-Monitor*, Egypt's Water Minister Mohammed Abdel Moteleb said: "We tried to set forth more than one initiative to build the trust Ethiopia always talks about when promising not to cause Egypt any harm. However, we will not attend or participate in any technical negotiations concerning the Renaissance Dam until we make sure Ethiopia is proposing genuine initiatives that are in line with the Egyptian view, so that these meetings will be meaningful.

"Egypt has concerns and reservations over the Renaissance Dam. It is not logical to build a dam that big without completing the technical and environmental studies required by the international committee. Ethiopia agreed to these studies and signed [the committee's] final report."

He went on: "Egypt agreed on attending the three rounds of negotiations, so that it could not be accused of rejecting cooperation. We are always striving [to hold] a dialogue that is based on the

principles of not causing harm and creating benefits for all parties. Currently, we do not have the luxury of giving up any drop of water from Egypt's share of Nile water."

An informed Egyptian security source concerned with the issue of the Nile basin told *Al-Monitor*: "Egypt will follow new courses to solve its crisis with Ethiopia in regard to the Renaissance Dam. It will adopt measures to push the issue forward on the international level. Egypt will not accept for its historical share of the Nile water, which is preserved by agreements and provisions of international law, to be diminished."

"We do not rule out [the possibility of adopting] any technical, political or security measures to solve this crisis. We are waiting for the referendum on the constitution to be over. After that, we will launch a series of official and nonofficial movements," the source affirmed. He pointed out the "possibility of referring to international courts and filing a claim with international institutions, such as the UN, to preserve Egypt's rights."

A diplomatic source, closely tied to the Egyptian Cabinet, told *Al-Monitor*, "Egypt has already launched diplomatic movements to convince donor countries to stop the financial aids serving the construction of the dam until it is assured that it will not harm Egypt." The source affirmed, "This campaign will be put in focus after the completion of parliamentary and presidential elections, and once relative stability has been achieved."

Interim President Adly Mansour held a closed meeting with the National Defense Council on Jan. 8. The meeting was attended by Defense Minister Abdel Fattah al-Sisi and Prime Minister Hazem el-Biblawi, who discussed the crisis of the Renaissance Dam and the deadlock surrounding the technical negotiations. The council reiterated the importance of "not wasting the water rights of Egypt and not accepting any violation against Egyptian national security."

Former Water Minister and Nile Basin Studies Unit head Mohammad Nasreddin Allam, told *Al-Monitor*, "We are currently drafting an international claim comprising five parts, which will be filed to donor countries, international institutions and organizations entitled to settle this dispute. Such a dispute can threaten peace and security in the East African region."

"The memorandum will comprise a legal part documenting the historical rights of Egypt to the Nile water, and another part stating the Ethiopian violations of the law and international agreements, after it constructed a large dam without taking into consideration the safety of downstream countries. It will also include a call to form a fact-finding committee to prove the dangerous impact of the dam on

Egyptian water security, as stipulated by the regional dispute settlement mechanisms, the UN pact and the African Union Peace and Security Council," Allam added.

Allam also affirmed, "The memorandum will call for the immediate halt of all construction works at the site until the fact-finding committee fulfills its task."

Despite the warning messages Egypt is conveying to affirm it will not give up on protecting its share of Nile water, the Egyptian prime minister was optimistic about the possibility of negotiating again and resolving the crisis. He said during a press conference on Jan. 9, attended by *Al-Monitor*, "Negotiations do not end in one session. Things will continue to progress, and the issue of the dam remains until now open for discussion."

A technical source who attended the latest negotiations commented on the prime minister's statement, telling *Al-Monitor*, "Negotiations reached a deadlock. The Ethiopian water minister publicly refused during an official meeting the request of Egypt to host negotiations in Cairo, claiming that the security situation in Egypt was the reason for his refusal."

"Egypt is now wasting its chance. Calling for more negotiations is time-consuming because Ethiopia is proceeding with the constructions as a de facto situation," the source warned.

For his part, Ethiopian Water and Energy Minister Alemayehu Tegenu said in a statement on Jan. 13: "The construction of the Renaissance Dam is taking place without any hassles or difficulties. The project will be finalized according to the decided time frame," reiterating that "the project is not facing technical or funding problems."

The escalation and crisis involving trust continues to prevail among Egyptian and Ethiopian officials. Every party is trying to show a strong stance. This time, however, the balance is tipping in favor of Ethiopia since it is completing the project while Egypt is preoccupied with its internal problems, despite Egyptian officials talking about adopting all security and political measures to preserve the rights of Egypt to the Nile water.

"Egypt-Ethiopia Nile dam talks hit dead end", 17/01/2014, online at: http://www.al-monitor.com/pulse/originals/2014/01/egypt-ethiopia-renaissance-dam-negotiations-dead-end.html

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❖ Enormous scale of Nile 'mega lake' revealed

(Phys.org) —The eastern Sahara Desert was once home to a 45,000 km2 freshwater lake similar in surface area to the largest in the world today

A study led by the University of Exeter has revealed that the mega lake was probably formed more than one hundred thousand years ago in the White Nile River Valley in Sudan.

Dr Tim Barrows of the University of Exeter and colleagues used a dating approach based on exposure to cosmic rays to measure the amount of the isotope beryllium-10 in shoreline deposits. Its abundance can be used to calculate how long rocks or sediments have been exposed at the surface of the earth.

Using this method, the researchers dated the shoreline sediments to about 109,000 years ago.

Dr Barrows, of Geography, said: "The eastern Sahara Desert is one of the most climatically sensitive areas on Earth, varying from lake-studded savannah woodland to hyperarid desert on a timescale of only thousands of years.

"In currently semiarid Sudan there is widespread evidence that a very large freshwater lake once filled the White Nile River valley. Our study presents the first quantitative estimate for the dimensions of the lake and a direct age for when it formed."

The researchers believe the lake could have formed when the White Nile River – one of two main tributaries of the Nile that flows through Egypt – became dammed during seasonal floods under a more intense monsoon than the area currently experiences.

It would have been of comparable size by surface area to some of the largest freshwater lakes on Earth today, such as Lake Baikal in Siberia, Lake Michigan in the US and Lake Tanganyika in East Africa.

"Enormous scale of Nile 'mega lake' revealed", 17/01/2014, online at: http://phys.org/news/2014-01-enormous-scale-nile-mega-lake.html

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❖ Lesotho: Countries Cooperating to Bring Clean Water to Lesotho

Washington — Governments and organizations from the United States, Africa, Europe and the Middle East are working hand-in-hand to provide clean water to homes and businesses in Lesotho.

The Metolong Dam Water Supply Program, one of Lesotho's largest infrastructure programs since the country's independence in 1966, aims to provide a reliable source of water to nearly 125,000 people. The roughly $400 million project is "a prime example of donor coordination that will ultimately benefit the Basotho people," the U.S. Millennium Challenge Corporation (MCC) says.

According to the MCC, rapid growth in Lesotho's capital of Maseru has strained the region's water supply. Both residential and industrial customers suffer water shortages during the dry season, stifling economic growth in the country's commercial hub.

International donors have committed funds to build different parts of the water supply system:

- As part of the MCC's recently completed $363 million compact with Lesotho, the U.S. agency funded construction of the water-treatment facility, command reservoir and associated pipelines for the Metolong Dam Water Supply Program. Funding also went toward project design and the project-management unit.

- The dam itself is being built with financing from the Kuwait Fund for Arab Economic Development, the Saudi Fund for Development, the OPEC Fund for International Development and the Arab Bank for Economic Development in Africa.

- The European Investment Bank is financing a major pipeline connecting the dam to a reservoir above Maseru, as well as secondary pipelines.

- The World Bank is financing secondary lines and other infrastructure.

- South Africa's government is constructing a visitor center and housing for the system's operators.

- Lesotho's government will spend almost $33 million on infrastructure.

When completed in 2014, the new dam along the Phuthiatsana River will stand 73 meters high and 210 meters long. It is projected to provide enough water for the region's growing population into the next decade.

"The Metolong Dam represents both the future of water security in Lesotho as well as a model of coordination on large-scale development projects. And, ultimately, it is the people of Lesotho who will most benefit from such coordinated efforts," the MCC says.

“Lesotho: Countries Cooperating to Bring Clean Water to Lesotho”, 16/01/2014, online at:
http://allafrica.com/stories/201401171039.html

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❖ Nairobi aims to address rising water shortages with new dams

As the Kenyan government embarks on the construction of two new water dams to meet the rising demand for fresh water in Nairobi, industry experts say this will only solve the problem in the short term unless better management of available water resources is implemented.

The government invited bids from local and international companies in advertisements published in local newspapers on December 30th for the construction of the Maragwa and Ndarugu dams. The deadline for bidding is March 14th, after which the government will chose a company within a week's time.

The new dams are expected to increase the water supply in Nairobi and ease pressure on the Ndakaini dam, which supplies 80% of the city's water, according to Mbaruku Vyakweli, corporate affairs manager for Nairobi City Water and Sewerage Company (Nairobi Water).

Construction of the two dams is scheduled to be completed within 42 weeks of the start date and is part of the government's sustainable water master plan for the city, the Bulk Water Supply for Nairobi, which aims to enable 80% of the city households to access clean and uninterrupted piped water.

"The new dams will help end the perennial dry taps problem in the city," Vyakweli told Sabahi. "Additional water reservoirs will equip us with adequate water volumes for distribution in all parts of the city. This will allow us to suspend the strict water distribution programme we currently operate under."

Two other smaller dams that supply water for the city, Sasumua and Ruiru, provide about 15% of the city's water, but they are "unreliable during dry season when their water levels go down", Vyakweli said.

Because of water scarcity, Nairobi Water operates a weekly water-rationing programme.

"With a growing city population which now stands at three million, only 50% have direct access to piped water and only 40% receive water continuously," Vyakweli said.

The rest of the residents buy water from water vending kiosks in neighbourhoods that acquire water illegally from Nairobi water distribution pipes, according to Vyakweli. "[Illegal connections] actually account for roughly 20% of unaccounted for water and this affects our distribution volume," he said.

The daily water demand in the city is 632,940 cubic metres per day against a supply of 482,940 cubic metres, leaving a deficit of 150,000 cubic metres, he said.

Since the demand for water in Nairobi is projected to increase to 908,415 cubic metres per day by 2017, the government plans to build more dams, boreholes and water catchment areas as part of its long-term plan, said Malaquen Milgo, chief executive officer for Athi Water, one of eight water boards under the Ministry of Environment, Water and Natural Resources.

These proposed improvements "will enable authorities to carry out repairs on older dams without subjecting city residents to acute water rationing", he told Sabahi.

Water efficiency strategies needed

But more water, without any immediate use of water efficiency strategies or efforts to reduce urban demand and change consumption habits, will not solve the problem, according to Alex O. Awiti, an ecosystems ecologist and director of the East African Institute at Aga Khan University.

"Why not start by insisting on installation and use of low flush toilets which would reduce water use per flush by 50%?" Awiti told Sabahi. "Modern vacuum toilets use 0.5 litres of water per flush while conventional flush toilets in the Kenyan market use 10-13 litres per flush, consuming nearly 40% of domestic water … this is where the authorities should start."

He said private buildings should be required to submit water conservation plans on how they can complement public water reserves through rooftop harvesting and storage of rainwater.

Christopher Misati Ondieki, hydrology and water resource senior lecturer at Kenyatta University, said apart from adding more dams, it would be prudent to address low water pressure in the pipeline network, which he attributes to illegal water diversions and vandalism of the infrastructure.

"Leaks in the distribution system are attributable to the deteriorating status of pipes due to corrosion and age," he said, adding that the problem can be solved if authorities improve their capability to better control illegal water connections and crack down on carwashes that rely on illegal water.

Illegal water vendors are rampant in the city, particularly in the slums where a 20-litre jerry can sells for between 15 to 20 shillings ($0.17 to $0.23).

The city's poor and unreliable water supply has even pushed some landlords to fill the gap and help provide this basic service to tenants on their own.

"I hire a water truck weekly for my flat tenants. If I do not do this, nobody will want to rent my flats," said David Chesire, 67, a landlord who owns a four-storey residential building in Kitengela, about 40 kilometres from Nairobi.

Nonetheless, Cheshire said many of his tenants would prefer tap water because they trust its quality.

"I buy water from tankers who say they source it from private boreholes," Chesire said. "I also do not like the practice because it is expensive to me and inconveniences my tenants, but there is nothing I can do since I cannot ensure that dry taps will always have running water."

"Nairobi aims to address rising water shortages with new dams", 17/01/2014, online at: http://sabahionline.com/en_GB/articles/hoa/articles/features/2014/01/17/feature-01

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❖ Tanzania Tackles Biggest Challenge of Safe Water With More Funds

Tanzanian President Jakaya Kikwete said he has placed sharper focus on expanding access to clean-water supplies in order to address one of biggest challenges facing his government.

"This is a sector we have resolved to give special attention this year and in the coming two years," Kikwete said in a speech e-mailed on Jan. 11. "We will take deliberate preferential action in budgetary resource allocations to benefit this sector."

About 43 percent of Tanzanians in rural areas and 19 percent in towns and cities don't have access to reliable, safe water sources, Kikwete said. "Providing clean water to the people of **Tanzania** close to their homesteads remains to be one of the biggest challenges facing our government," he said.

About 12 percent of deaths in Tanzania, which has East Africa's biggest economy after **Kenya**, were related to water, sanitation and hygiene in 2004, according to **UN Water**, the **United Nations**' coordination mechanism for water-related issues, which cited World Health Organization data.

"Tanzania Tackles Biggest Challenge of Safe Water With More Funds", 13/01/2014, online at: http://www.bloomberg.com/news/2014-01-13/tanzania-tackles-biggest-challenge-of-safe-water-with-more-funds.html?utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=5c6de97381-RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_c1265b6ed7-5c6de97381-250657169

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❖ China's water squeeze worsens as wetlands shrink 9 pct

(Reuters) - China's wetlands have shrunk nearly 9 percent since 2003, forestry officials said on Monday, aggravating water scarcity in a country where food production, energy output and industrial activity are already under pressure from water shortages.

China has more than a fifth of the world's population but only 6 percent of its freshwater resources, and large swathes of the nation, especially in the north, face severe water distress.

Since 2003, wetlands sprawling across 340,000 sq. km. - an area larger than the Netherlands - have disappeared, officials of China's State Forestry Administration (SFA) told reporters.

"The investigation shows that China is facing various problems with wetlands protections," Zhang Yongli, vice director of the forestry body, told a news conference, adding that loopholes in protection laws imperil the shrinking wetlands.

The lost wetland areas have been converted to agricultural lands, swallowed by large infrastructure projects or degraded by climate change, the forestry administration said.

Wetlands lost to infrastructure projects have increased tenfold since the government's last survey in 2003, Zhang added.

Water has emerged as a major issue in China. Its scarcity endangers economic growth and social stability, and China has set aside $660 billion for projects to boost supply this decade.

Wetlands store a large amount of China's freshwater resources, and receding wetlands will leave less water available in the long term, Debra Tan, director of Hong Kong-based non-profit China Water Risk, told Reuters.

"This will add to the pressure and increase competition for water going forward," she said. "China will be looking to grow more food, and more food in wetlands, as urbanization continues."

Nearly 70 percent of China's energy production depends on water-intensive coal power. Despite pursuing alternatives, its coal use is expected to grow between 2 and 3 percent a year for the next five years, an analyst at UOB Kay Hian said.

A study by the World Resources Institute last October showed 51 percent of planned coal-power plants in China were in regions with severe water shortages, potentially pitting energy production against agriculture and basic needs for clean water.

Although 9 billion yuan ($1.5 billion) was earmarked to protect wetlands during 2005 to 2010, just 38 percent of those funds were actually allocated, said forestry official Zhang.

For 2011 to 2015, China plans to use 12.9 billion yuan to protect its wetlands.

"China's water squeeze worsens as wetlands shrink 9 pct", 13/01/2014, online at: http://www.reuters.com/article/2014/01/13/us-china-water-idUSBREA0C08220140113?utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=7a8b00c91f-RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_c1265b6ed7-7a8b00c91f-250657169

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❖ Report: Water Is a Top-three Global Risk, Says World Economic Forum

Too much, too little, too dirty. For the third consecutive year, reckless use and abuse of water is seen by global authorities as having the potential to seriously disrupt social stability, upend business supply chains, imperil food and energy production, and generally make life miserable for billions of people, according to the World Economic Forum's annual Global Risks report.

The various threats to the planet's supply of fresh water rank third – behind debt crises in key economies, and persistent unemployment – on the list of convulsive planetary threats of greatest concern to more than 700 business, government, and nonprofit leaders who responded to the Geneva, Switzerland-based think tank's annual survey. The latest Global Risks report, released today, is the ninth in a series that dates to 2006.

The various threats to the planet's supply of fresh water rank third on the list of convulsive planetary threats of greatest concern.

The security and quality of the world's water, however, goes even deeper than its bronze-level citation. At least three of the top ten risks identified in the World Economic Forum's survey are principally problems fundamentally involving water:

1. The failure to avert or adapt to climate change.
2. Floods and droughts fostered by extreme weather events.
3. Water scarcity and pollution at the root of food contamination and supply crises.

The Global Risks report uses a broad analytical lens. Its 60 pages of spider web charts and bold colors serve to highlight the complexity and interconnections between risks and regions. The strands are so tightly woven that no government, business, or charity acting alone can solve them, said the report's co-author Margareta Drzeniek-Hanouz, director and lead economist of the World Economic Forum's Global Competitiveness and Benchmarking Network.

"The issues are so big that they cannot be resolved by the business sector or the political sector alone," Drzeniek-Hanouz told Circle of Blue. She added: "The report's overarching recommendation is for public-private collaboration."

Produced and stored within well-defined basins, problems involving water are generally viewed as having effects confined to a specific community or region. But the authors of the Global Risks study argue that water shortages and bursts of surpluses caused by flooding are systemic risks that reach much further.

Resource depletion increases the pressure on political systems, cultures, and economies.

The report cites research, for example, showing that a terrible drought in Syria from 2006 to 2011 set the table for the country's civil war. Crop failures in the countryside prompted farmers to move to cities where existing economic and social pressures boiled over. Conflict was not an inevitable outcome, the report's authors said, but resource depletion increases the pressure on political systems, cultures, and economies.

In 2010, drought and poor harvests in Russia, a large grain producer, led to export restrictions. Higher prices rippled through commodity markets, increased costs for bread, and added a tailwind to the Arab Spring revolt. A year later flooding in Thailand snapped global supply chains and caused car and computer manufacturing to crater.

Smaller, local skirmishes over water also are becoming more frequent. Just this week, two people were killed in South Africa during a protest over water shortages. Though the root cause in this case was mismanagement of water, the importance of a reliable supply was tragically confirmed.

The Global Risks report also takes note of longer-term trends involving the security of the world's fresh water reserves. Climate change is a slow-motion lurch toward atmospheric conditions that will fundamentally change life on Earth in the coming decades, the authors said. A warming world will likely increase the likelihood of both engulfing floods and chronic drought. It will lift the oceans and put a treasure chest of property at risk – assets with an insured value of more than $US 10 trillion on the U.S. Atlantic and Gulf Coasts alone.

Roughly 600 million people also live in areas less than 10 meters (32.8 feet) above sea level. Low-lying Bangladesh and the Mekong River delta – two of the most densely populated regions on the planet – are endangered. Pacific Island nations are already seeing their homelands eroded and, in preparation for the day their homes will need to be abandoned, are testing the legal bounds of asylum.

In the continental interiors, extreme weather often takes the form of devastating scarcity or overwhelming abundance of water. Droughts destroy crops, and floods demolish homes. If dry conditions endure, a host of repercussions follow. Forests become a tinderbox awaiting a spark. Rivers shrivel, cutting hydropower generation, reducing the amount of water to cool power plants, and putting countries with a poorly managed electrical grid at risk for blackouts, as happened in Venezuela in 2009 and 2010. Worst of all, the competition for scarce food and water supplies heats up – sometimes with world-changing results.

Shifts in the Global Winds

Since 2006, when the first Global Risks report was made public, much has changed. The early editions emphasized macroeconomic risks: oil price shocks, a collapse in asset prices, or a decelerating Chinese economy. Chronic diseases, both in the rich world and in developing countries,

made the list as did infectious pandemics. Risks were ranked according to economic losses and number of deaths, which gave greater weight to those risks more easily measured in dollar terms. Environmental risks such as water supply, climate change, and natural disasters were considered "core" risks but were firmly in the second-tier.

In the latest report, macroeconomic threats still rank high. After all, anxiety about global debt tops the list. But water and climate change have pushed upward. The report still uses economic loss and deaths as guidelines, but they are not assessed as overtly. Perception matters more.

Respondents were asked to assess 31 pre-selected risks based on the risk's likelihood and severity in the next decade. For the first time, respondents were instructed to select the five risks they thought most concerning. Women and people younger than 30 were more likely than men and people older than 30 to perceive environmental risks more seriously. More young people have been included in the survey in recent years – one possible explanation for water's rise.

The report encourages its respondents to consider the long term. Yet the window for avoiding the gravest threats is closing as the atmosphere gets warmer. Recent research on water scarcity makes that clear.

An increase in global average temperatures by 2 degrees Celsius compared to today will increase the number of people living with absolute water scarcity by 40 percent, according to a study published in December from dozens of researchers in China, Europe, Japan, and the United States. Absolute scarcity is defined as less than 500 cubic meters per person per year within a country. The increase in those living with scarcity is in addition to what would be expected from population growth.

"Every degree matters now," said Jacob Schewe, the report's lead author, and a scientist at the Potsdam Institute for Climate Impact Research.

"The fundamental impact that climate change has on global water resources is becoming very clear now."

"The fundamental impact that climate change has on global water resources is becoming very clear now," Schewe added in an email to Circle of Blue. "We need reliable, quantitative knowledge about these impacts in order to support adaptation. But ultimately, there will be limits to what societies can adapt to, so climate change mitigation is crucial as the risk of water scarcity increases with rising temperatures."

How to achieve that? The risk report asserts that a weakening U.S., a growing China, and a jumbled middle requires new forms of global decision-making if systemic risks such as climate change are to

be addressed. In fact, respondents selected a failure in global governance as the risk most connected to all others.

The report's recommendations in this regard are thin and generic – buzzwords about multi-stakeholder action and "agile and responsive multilateral governance." However, the purpose of the report is to be "a platform for discussion," said Drzeniek-Hanouz. Perhaps attendees at the forum's annual winter meeting in Davos, Switzerland next week will ponder a stronger recipe.

"Report: Water Is a Top-three Global Risk, Says World Economic Forum", 16/01/2014, online at: http://www.circleofblue.org/waternews/2014/world/water-top-three-global-risk-says-world-economic-forum-report/

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❖ Mekong Countries Call for Ministerial Talks on Don Sahong Dam

Mekong River-region countries called Thursday for ministerial-level discussions on the proposed Don Sahong dam in Laos after officials disagreed over whether the country should be required to consult its neighbors before moving ahead with the controversial project.

Representatives to the Mekong River Commission (MRC)—the intergovernmental body responsible for coordinating use of the waterway's resources by Cambodia, Laos, Thailand, and Vietnam—made the decision to elevate the level of their discussions during the group's first talks on the 260-megawatt hydropower project.

During the meeting, Cambodia, Thailand, and Vietnam raised concerns about Don Sahong's impacts downstream, insisting the project be put through a formal consultation and technical assessment, according to a statement issued after the meeting.

Laos, however, maintained that the project should go through MRC procedures that only require it to provide neighbors information about the project, the statement said.
Transboundary impact

The 260-megawatt dam is to be built across the Mekong's Hou Sahong channel about one mile (2 kilometers) north of the Cambodian border in the Siphandone area where the Mekong splits into multiple braided channels.

A key point of the disagreement revolves around whether the dam will block fish migration routes, with neighboring countries saying that damming the Hou Sahong will have a greater impact than Laos has acknowledged.

"We view that the project documents are incomplete and the studies do not cover transboundary issues in countries such as Cambodia," said Te Navuth, head of Cambodia's MRC delegation, according to the statement.

"If the alternative routes [for fish migration] don't function well, the dam will have impacts on food security and nutrition on Cambodia."

Alternative routes

Laos maintains the channels adjacent to the Hou Sahong can be used as alternative fish migration routes.

"The Hou Sahong has been a key migratory route in the dry season, but the fact is that there are several channels that support fish migration in the wet season and research indicates that other channels can be modified to improve migration in both directions all year round," head of the Lao delegation Daovong Phonekeo said.

Using the procedures for notification instead of consultation, Laos formally announced its plans for the dam to the MRC in September, saying it expects to begin construction in November and complete it in 2018.

Call for further study

Global green group International Rivers has called the dam a "ticking time bomb" for Mekong fish, saying it poses a regional security threat for the some 60 million people in Southeast Asia who rely on fish and other products from the river for their nutrition and their livelihoods.

Vietam argued that the impact of the project on fisheries would be significant.

"It is not possible to replace the modified channels for upstream fish migration with the existing Hou Sahong," the head of Vietnam's delegation to the MRC Le Duc Trung said.

"Further study on social impacts from loss of fisheries should be conducted."

The 'battery' of Southeast Asia

Laos, which aims to become the "battery" of Southeast Asia by selling hydropower electricity to its neighbors, is also in the process of building the Xayaburi dam, the first dam across the main stem of the Lower Mekong.

It insists, however, that the Don Sahong is not a mainstream dam, saying it will use only 15 percent of Mekong flows.

Under MRC rules, member countries are required to engage in "notification" procedures for year-round intrabasin water-use projects and interbasin diversion projects on the Mekong's tributaries, and for wet-season water use on the mainstream.

"Prior consultation" procedures—the ones Laos's neighbors are calling for—apply to proposed water use projects on the mainstream in the dry season, diversion of water from the mainstream to other basins during the wet season, and diversion of surplus water to other basins in the dry season.

A third set of rules known as "specific agreement" procedures are required projects diverting water from the mainstream to other basins in the dry season.

International donors to the MRC including Australia, the EU, Japan, and the U.S. have called on Vientiane to hold interregional discussions before the project can proceed.

"Mekong Countries Call for Ministerial Talks on Don Sahong Dam", 16/01/2014, online at: http://www.rfa.org/english/news/laos/don-sahong-01162014190232.html

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❖ Mekong River Commission to Meet on Controversial Lao Dam

An international body which oversees development on the Mekong River will hold a special meeting this week to evaluate the impact of the controversial Don Sahong dam proposed by Laos for construction on the river's mainstream, an official said Tuesday.

The discussion will be held in the Lao capital Vientiane on Thursday by the Mekong River Commission's (MRC) Joint Committee, made up of representatives from member nations Thailand, Laos, Vietnam, and Cambodia, MRC spokesperson Surasak Glahan told RFA's Lao Service.

"All four countries will discuss what the next step in the Don Sahong project will be because three countries—Cambodia, Vietnam, and Thailand—had earlier requested that the project first pass a consultation process before Laos notified [MRC] member countries that it would proceed."

Cambodia, Vietnam, and Thailand—which share borders with Laos on the Lower Mekong—have voiced objections to Vientiane's September announcement to the MRC that it would proceed with construction on the 260-megawatt hydropower project without taking into consideration the concerns of its neighbors.

According to MRC policy, any plans made for development on the Mekong mainstream must be submitted for prior consultation, though recommendations are not considered binding.

In addition to formal complaints to the government of Laos by its fellow MRC members demanding prior consultation on the dam, international donors to the joint body—including Australia, the EU, Japan, and the U.S.—have also called on Vientiane to hold interregional discussions before the project can proceed.

Glahan said that a joint agreement would be reached based on answers to questions from delegates representing all of the four member countries during Thursday's meeting, following which details of the decision would be made public.

He said that the MRC has sent all of the data it has collected about the proposed project to dam

builder Mega First Berhad of Malaysia, which will use it during further development of the site.

The project has also faced mounting criticism from environmental watchdogs, nongovernmental organizations, and local communities who say it will disrupt fish migration on the Mekong and threaten regional food security.

Critics say the dam, located near the iconic Khone Falls area of southern Laos, will block the only section of the Mekong River where fish can pass in large numbers during the dry season.

Lao officials and experts working on the dam have claimed that much of the criticism of the project stems from misinformation and outdated reports.

Second Mekong dam

Laos has said it wants to become the "battery" of Southeast Asia by selling electricity to its neighbors, prioritizing hydropower as a key way to promote economic growth and alleviate poverty.

But environmental groups have raised concerns that the strategy is risky and that the projects often fail to protect local people's access to the water resources they depend on.

Green groups such as International Rivers also have hit out at Laos for plowing ahead with construction on the Xayaburi dam, the first across the mainstream of the Lower Mekong River, without adequate study of its environmental impact.

The dam, along with the Don Sahong, poses a regional security threat for the some 60 million people in Southeast Asia who rely on fish and other products from the Mekong for their nutrition and their livelihoods, environmental and conservation groups say.

Once completed in 2018, the U.S. $3.5 billion Xayaburi dam, located in northern Laos, will generate electricity mostly for export to Thailand.

Laos has a total of over 70 dams under construction or in the planning or consideration stages, many of them on waters flowing into the Mekong.

According to Thailand's Manager Online, a total of 23 dams were completed in Laos by the end of 2013 and 10 more were under construction that are expected to be finished this year.

"Mekong River Commission to Meet on Controversial Lao Dam", 14/01/2014, online at: http://www.rfa.org/english/news/laos/dam-01142014172440.html

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❖ Mekong's Future Remains Uncertain as MRC Reaches Stalemate Over Don Sahong Dam

Bangkok, Thailand: Regional cooperation was placed on hold yesterday, as Mekong River Commission (MRC) member countries reached a stalemate at a special session held over procedural deliberations regarding whether or not the Don Sahong Dam is required to undergo regional decision-making. According to a press release by the MRC, whilst Laos claims only notification is required for the project, Thailand, Cambodia and Vietnam have expressed concerns over the project's transboundary impacts and have stated that the project should undergo the 'prior consultation' process, to allow for a regional decision over whether to build the dam. As the MRC's Joint Committee was unable to reach an agreement, they elevated the decision to the ministerial level, in order to determine how to proceed with the proposal.

"This stalemate over the Don Sahong Dam illustrates the precarious state of future cooperation in the Mekong," said Ms. Ame Trandem, Southeast Asia Program Director for International Rivers. "The 1995 Mekong Agreement requires each country to make a good faith effort to reach agreement in order to sustainably manage the Mekong River. Nevertheless, the spirit of the Agreement has been violated once again by Laos' stubborn insistence on disregarding its neighbors concerns over the Don Sahong Dam."

In September 2013, Laos announced to the MRC and neighboring countries its plan to build the Don Sahong Dam. By simply notifying neighboring countries of its intentions to build the Don Sahong Dam, Laos bypassed its responsibility under the 1995 Mekong Agreement to submit the project through the MRC's 'prior consultation' process. As a result, Thailand, Cambodia and Vietnam each officially sent letters to the Lao government requesting that the project undergo prior consultation. International donors to the MRC, as well as the MRC Secretariat itself, have also advised that the project be subject to prior consultation.

"As yesterday's special meeting was unable to resolve the procedural dispute between the four countries, the Don Sahong Dam risks facing the same fate as the Xayaburi Dam - where the ministerial level was tasked with solving the problem and then faced political gridlock as Laos repeatedly refused to allow discussions to advance," said Ms. Pianporn Deetes, Thailand Campaign Coordinator for International Rivers. "Because the 1995 Mekong Agreement and its procedures are

riddled with ambiguities and lack teeth, the Mekong River faces a dangerous trajectory, in which unilateral interests are hijacking regional cooperation and well-being."

Due to problems that arose during the Xayaburi Dam's prior consultation process, donors to the MRC issued a Joint Statement in January 2013 that called for "all ambiguities regarding the application of the PNPCA [prior consultation] be resolved before any further mainstream project proceeds." Some of the problems included ambiguities over how to extend the consultation process, whether one country had the right to close the process, and how to ensure that concerns raised are adequately addressed.

At yesterday's meeting, Thai, Cambodian and Vietnamese representatives voiced concerns over the Don Sahong Dam's transboundary impacts to the river's fisheries and the project's unproven mitigation measures. The Don Sahong Dam is located less than 2 km away from the Cambodian border, on one of the most important channels in the Mekong River that allows for year-round fish migration. While international law requires a transboundary impact assessment for projects that pose significant harm on other countries, a transboundary impact assessment has not been carried out for the Don Sahong Dam.

During the meeting, Vietnam's Joint Committee representative Dr. Le Duc Trung stated "We view that impacts on fisheries will be significant." Cambodia's Joint Committee representative Mr. Te Navuth added "We view that the project documents are incomplete and the studies do not cover transboundary issues in countries such as Cambodia. If the alternative routes (for fish migration) don't function well, the dam will have impacts on food security and nutrition on Cambodia."

"Laos must stop ignoring its regional responsibilities and begin cooperating in good faith. Rather than gamble with the Mekong's fish, the MRC and its donors must take a hardline approach by demanding an immediate halt to any further construction and work towards the Don Sahong Dam and other mainstream projects," continued Ms. Trandem. "The Mekong River does not belong to one country; it is a common resource and is vital for the food security of millions. Until the MRC can fix its governance problems or create a new platform for regional deliberations over the shared river, the future of the Mekong River is in dangerous hands."

In April, the MRC will hold its Second MRC Summit, in which the four governments are expected to reaffirm their political commitment and address challenges faced in regional cooperation and the

sustainable management of the Mekong River Basin. Should the MRC's ministers fail to immediately resolve the issues that have arisen with the Don Sahong and Xayaburi dams, it's unlikely the Summit will reach its objectives.

"Mekong's Future Remains Uncertain as MRC Reaches Stalemate Over Don Sahong Dam", 15/01/2014, online at: http://www.internationalrivers.org/resources/mekong%E2%80%99s-future-remains-uncertain-as-mrc-reaches-stalemate-over-don-sahong-dam-8206

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❖ South Asia taps into water cooperation

The countries of South Asia are facing increased challenges regarding the availability and quality of water supplies, exacerbated by a lack of cooperation between countries that fuels tensions instead of seeing their shared water resources as an opportunity for joint development and management. Recent developments are more auspicious in this regard with the formation of two sub-regional alliances that may herald greater regional cooperation, though Pakistan is conspicuous by its absence from these new relationships.

Water is of pressing concern for the countries of South Asia. Population growth, rapid urbanization, and the prospect of climate change are placing huge strains on both water accessibility and quality, with household water security classified as "hazardous" by the "Asian Water Development Outlook 2013", a report from the Asian Development Bank.

Exacerbating these challenges and the inadequacies of existing domestic water policies is South Asia's trans-boundary hydrological legacy, which fuels tensions between countries and, in turn, has thwarted the potential for joint water management when precisely such is required to judiciously exploit hydropower, better control risks such as flooding, and allay downstream concerns over water availability and contamination.

Epitomizing the state of affairs is that of the friction between India and Pakistan over the Indus, one of the region's main rivers: the former's upper riparian position is seen as a threat by Pakistan to the free flow of water, while India feels constrained by Pakistan, as a downstream user, in developing hydropower.

Although bilateral treaties have been signed between countries - most notably, the 1960 India-Pakistan Indus River Treaty and the 1996 India-Bangladesh Ganges River Treaty - this has not prevented the emergence of disputes: Pakistan took India to the International Court of Arbitration (ICA) in 2010 over the Kishanganga hydropower project in Jammu & Kashmir (the ICA ruled in favor of India in December 2013); while Bangladesh has similarly objected to an Indian hydropower project in Meghalaya, arguing that the dams could affect its water flow.

Relations between countries in South Asia have traditionally been beset by mistrust and rivalry, with water no exception in this regard, coming under their respective national security strategies rather than viewed as a resource for joint management and development. Failure to cooperate thus not only contributes to inter-state tensions, but also decrease the prospects for growth and prosperity in the region.

In spite of this, recent events may signal a much needed shift in focus toward greater regional cooperation. In April 2013, two sub-regional alliances were formed with the aim of cooperating over water resource management and hydropower. One alliance is composed of Nepal, India, and Bangladesh for collaboration over the Ganges. The other alliance, of Bangladesh, India, and Bhutan, is joining forces for electricity production from the trans-boundary waters of the Brahmaputra.

Despite the conspicuous absence of an "alliance" containing both Pakistan and India, these alliances may nonetheless herald a change in thinking on how their shared water resources are managed - with a shift from national policies or bilateral agreements to a more integrated regional policy on water resource sharing.

The countries of South Asia stand to benefit from common development strategies in regard to trans-boundary waters, rather than seeing them only as a security challenge. Such a "win-win" development-focused approach would not only lead to enhanced cooperation and improve trust-building, but also contribute to greater economic and human development.

While it is not yet clear to what extent the recently formed alliances are symptomatic of a change in how water resources are viewed, most significantly in India, evidence from the latest studies on global water resources and the Asian Water Development Outlooks shows that South Asia has few policy options for the future of its water resources.

The countries of the region bear many similarities in terms of environment, social conditions, and development needs. Cooperation and sharing of data could lead to early flood warnings and improved drought resilience; hydropower for electricity can be utilized by all states which would have a

positive impact on economic growth and improving people's livelihoods; and monitoring water quality and availability will improve sanitation and better meet downstream demands.

Trans-boundary waters are often considered in terms of conflict, but such waters also necessitate cooperation and harbor potential for mutual development. Indeed, reframing the issue of water in a more development-focused context would have the positive effect of easing cooperation between South Asian states - so lowering the risk of becoming gridlocked by highly sensitive security issues - and help them focus on their shared priorities.

The newly formed alliance between India, Bangladesh and Nepal could be a sign that South Asia is moving in the right direction, with the initial sub-regional steps that go beyond the usual bilateral agreements.

Although Pakistan's absence from such agreements makes it impossible to talk of a real regional development, such alliances are nevertheless to be welcomed. Indeed if these alliances will be at least partially successful, they will raise hopes for the involvement of Pakistan in more effective regional cooperation over water resources in the future.

"South Asia taps into water cooperation", 16701/2014, online at: http://www.atimes.com/atimes/South_Asia/SOU-02-160114.html

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❖ UNDP to construct six sand dams in the country

MEANS are being made to ensure that the country is water secure and resilient to the predicted draught for 2030 as six sand dams are to be constructed in drylands around the country this year.

A feasibility study has already been done and was presented to stakeholders during a meeting at Happy Valley Hotel yesterday. UNDP engaged a reputable consultant in doing the study. Excellent Development and Africa Sand Dam Foundation (ASDF) has a strategic partnership to promote the global potential of sand dams as a key enabler of land restoration in drylands.

solution

The Foundation has helped in the construction of sand dams in Kenya, a country with 90% of the world's sand dams. Excellent Development Executive Director Simon Maddrell said sand dams were a water solution to drylands. He noted that drylands covered 40% of the world's surface, supported 80% of the world's poorest people and 50% of the world's livestock.

Maddrell said when doing the feasibility study, they visited about 19 areas and spotted six locations for the sand dams. The dams will be constructed at Sidvokodvo River in Luve, Lugulo River at Kabhudla, Ntshanini River, Matsanjeni River and Upper Stillo River all in Shiselweni and Mpofu River in Hhohho.

engage

He said the next step now would be to engage the government and communities in designing the dams. The construction of the dams will commence next month and is expected to be complete by September. Maddrell said four officers (Public Works, Agriculture, Mineral Resources and Energy water department and UNDP) will be sent to Kenya on a learning trip about the use of sand dams.

The director highlighted that the advantage of sand dams was that there was zero evaporation. He explained that in Kenya where about 400 sand dams had been constructed, people had access to clean water all year round.

"Sand dams are the most cost-effective method of rainwater harvesting in drylands. They store up to 20 million litres of water within sand, where it is protected from evaporation and water disease vectors such as mosquitoes. They have minimal operations and maintenance costs and last for over 50 years," Maddrell said.

future

UNPD Project Manager – Adapting National and Transboundary Water Resources Management Project to adapt to the expected impact of climate change, Ncamiso Mhlanga, said the project was looking at adaptation to future impacts of climate change for the water sector.

He noted that in order to adapt as a country, they were piloting the project at different seasonal streams, mainly in the lowveld. He explained that the sand dam technology could be used for a number of things such as a low level bridge and also providing a source of water for the community.

"UNDP to construct six sand dams in the country", 17/01/2014, online at:
http://www.observer.org.sz/index.php?news=57841

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❖ Modern Civilization Could Vanish Due to Poor Water Conservation Warns Author

Ancient Anasazi Also Disappeared Due to Short-Sighted Water Policy Says Author CD Shelton on the Sharon Kleyne Hour.

Modern civilization, with its growing populations and shrinking per-capita water supply, could learn many lessons about water conservation from the ancient Anasazi culture of the United States Southwest. That was the conclusion of author and Biology Professor CD Shelton, PhD, in a recent interview on the Sharon Kleyne Hour Power of Water radio show. The Anasazi, according to Shelton, had a highly developed culture supported by an advanced water conservation system. But when faced with extended drought, they mysteriously vanished.

CD Shelton is a Professor of Biology and the author of dozens of fiction and non-fiction books related to conservation and the environment. His latest non-fiction book is Water: the Essential Ingredient for Life.

Sharon Kleyne is a well known water and health advocate who hosts the globally syndicated Sharon Kleyne Hour Power of Water® radio show on VoiceAmerica and Apple iTunes. Kleyne is Founder of Bio Logic Aqua Research, a fresh water and health research, education and product development center. The Research Center's global signature product, Nature's Tears® EyeMist®, provides a personal all-water mist to relieve dry eye discomfort.

During Shelton's discussion with Kleyne on the importance of water to life and civilization, Shelton cited the example of the ancient Anasazi, who lived in the Four Corners region of Arizona, New Mexico, Utah and Colorado, from 700 to 1130 CE. The Anasazi are also referred to as the "Pueblo I" and "Pueblo II" cultures.

The Anazasi are most famous for their elaborate cliff dwellings but also constructed extensive mesa-top pit buildings and other above-ground buildings.

Sharon Kleyne pointed out that according to her research, the Anasazi's advanced dry land farming methods enabled them to feed a growing population with minimal and highly variable annual rainfall, using check dams, terraces and mulch. According to Kleyne, this lasted until the "Great Drought," a 300 year period beginning in 300 CE. As water decreased, warfare increased and the Anasazi responded by moving their homes from the relative luxury of mesa tops to the sides of cliffs and to remote, high elevation areas.

The fate of the Anazasi is greatly in dispute but according to Shelton, there is no question that they abruptly left the area following a particularly severe 13 year drought. They tended to move frequently anyhow, Kleyne noted, because the resources at any given location could not sustain them for very long. The Great Drought, according to Kleyne, also wiped out the Mississipean cultures of the southeastern United States.

According to Shelton, there are lessons to be learned from the fate of the Anasazi that are applicable to our modern global water situation. Their techniques of water conservation and dry land farming were exemplary but could not sustain them through an extended, severe drought. More important, Kleyne adds, they were never able to survive without occasionally raiding their neighbors. This is not too different from the water wars and other conflicts that often accompany today's water shortages. Had the Anasazi learned to work together to increase their knowledge, Shelton and Kleyne believe, they might still be around.

"Modern Civilization Could Vanish Due to Poor Water Conservation Warns Author", 14701/2014, online at: http://www.prweb.com/releases/2014/01/prweb11486439.htm

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❖ Peak Water and Food Scarcity

January 14, 2014 (Investorideas.com Water Stocks Newswire) At the international level, water conflicts among countries dominate the headlines. But within countries it is the competition for water between cities and farms that preoccupies political leaders. Neither economics nor politics favors farmers. They almost always lose out to cities.

Indeed, in many countries farmers now face not only a shrinking water supply but also a shrinking share of that shrinking supply. In large areas of the United States, such as the southern Great Plains and the Southwest, virtually all water is now spoken for. The growing water needs of major cities and thousands of small towns often can be satisfied only by taking water from agriculture. As the value of water rises, more farmers are selling their irrigation rights to cities, letting their land dry up.

In the western United States, hardly a day goes by without the announcement of a new sale. Half or more of all sales are by individual farmers or their irrigation districts to cities and municipalities. The risk is that now-productive land will turn back into desert.

Colorado, with a fast-growing population, has one of the world's most active water markets. Cities and towns of all sizes are buying irrigation water rights from farmers and ranchers. In the Arkansas River basin, which occupies the southeastern quarter of the state, Colorado Springs and Aurora (a suburb of Denver) have already bought water rights to one third of the basin's farmland. Aurora has purchased rights to water that was once used to irrigate 19,000 acres of cropland in the Arkansas valley. The U.S. Geological Survey estimates that 400,000 acres of farmland dried up statewide between 2000 and 2005.

Colorado is not alone in losing irrigation water. Farmers in India are also losing water to cities. This is strikingly evident in Chennai (formerly Madras), a city of 9 million on the east coast. As a result of the city government's inability to supply water to many of its residents, a thriving tank-truck industry has emerged that buys water from nearby farmers and hauls it to the city's thirsty residents.

For farmers near the city, the market price of water far exceeds the value of the crops they can produce with it. Unfortunately, the 13,000 tankers hauling water to Chennai are mining the region's underground water resources. Water tables are falling and shallow wells have gone dry. Eventually even the deeper wells will go dry, depriving rural communities of both their food supply and their livelihood. The intensifying competition for water at the local level led India's Minister of Water Resources to quip that he is actually the Minister of Water Conflicts.

In the competition for water between farmers on the one hand and cities and industries on the other, the economics do not favor agriculture. In countries such as China, where industrial development and the jobs associated with it are an overriding national economic goal, agriculture is becoming the residual claimant on the water supply.

In countries where virtually all water has been claimed, as in North Africa and the Middle East, cities can typically get more water only by taking it from irrigation. Countries then import grain to offset the loss of grain production. Since it takes 1,000 tons of water to produce 1 ton of grain, importing

grain is the most efficient way to import water. Similarly, trading in grain futures is, in a sense, trading in water futures. To the extent that there is a world water market, it is embodied in the world grain market.

"Peak Water and Food Scarcity", 14/01/2014, online at: http://www.investorideas.com/news/2014/water/01141.asp

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❖ GCC to discuss water, electricity consumption crackdown

Gulf residents could soon face measures to reduce their water and electricity consumption – among the highest in the world – when officials from the six Gulf Cooperation Council states meet to discuss possible joint action.

The UAE, Kuwait, Saudi Arabia, Oman, Bahrain and Qatar are due to discuss joint legal measures to ration consumption of the essential commodities and subscriber services during a meeting in Kuwait City on Tuesday, one of the officials told *Kuwait Times*.

Gulf residents use an average of 300-750 litres of water per day per person.

The consumption is among the highest in the world, despite the region being one of the driest and supply reliant on desalination plants. The GCC states have the highest desalinated water capacity in the world, at more than 50 percent of total world production.

However, there is little public awareness about the need to conserve water and electricity, the official said.

Gulf governments are regularly working to increase capacity of desalination plants to keep up with demand, which is pressured by rising populations.

In 2010, Kuwaitis were threatened with water restrictions as their consumption neared total capacity levels.

The committee would consider a study about technologies available to ration water and electricity and introduce the importance of conserving these commodities into school curriculums, the official said.

UAE Energy Minister Suhail Al Mazroui earlier told *Kuwait Times* the Gulf states were studying options to connect water supplies between GCC countries, with water supply one of the biggest challenges facing Gulf countries.

He said the UAE was conducting consumption campaigns, purifying used water, building dams, and keeping water inside the ground to limit the dependence on desalined sea water.

The GCC countries will celebrate International Water Day on March 22 and the Gulf would host a rationalisation week to promote water and electricity conservation.

"GCC to discuss water, electricity consumption crackdown", 13/01/2014, online at: http://www.arabianbusiness.com/gcc-discuss-water-electricity-consumption-crackdown-534331.html

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❖ Prepaid water project, a wrong priority for GWC – IMANI

Policy think-tank, IMANI says the prepaid water project intended to be introduced in the country is a wrong priority for the Ghana Water Company (GWC).

The civil society group noted that the biggest problem facing the water company is not reduction in losses but rather the lack of investment and management of water resources.

Speaking to the Super Morning Show on Joy FM, Thursday, the Vice president of IMANI, Kofi Bentil said there is the need to take a serious look at introducing project management and engineering management skills to help increase the volume of water needed by consumers.

According to him, the current distribution systems are insufficient and dilapidated as real work is needed to be done in those areas to fix the problems of inadequate water supply to consumers.

Mr. Bentil further pointed out that if GWC focuses too much on prepaid metering and billing, leaving out supply and distribution of the commodity, the country may succeed in billing, using prepaid meters but fail in dealing with the water problems.

The Vice president of IMANI was reacting to Ghana Water Company's announced proposal to make water a prepaid utility just like electricity. The project is expected to be piloted this year.

IMANI is the second civil society group to kick against the proposal. The first was the Integrated Social Development Center, which warned water will not be accessible to the poor if the project goes ahead.

There are sketchy details about how the project will be carried out as the Ghana Water Company has not spoken since the announcement.

The body mandated to regulate utility companies, the Public Utilities Regulatory Commission (PURC) has hailed Ghana Water Company's announced proposal to make water a prepaid utility.

If this proposal is implemented, consumers will have to first pay before water flows through their taps.

Speaking to JoyNews, the PURC director of public affairs, Nana Yaa Jantuah said the proposal is a positive intervention that will reduce losses in the system.

"It is a very positive move. it is very laudable because this intervention is going to reduce the commercial losses especially with the illegal connection", PURC public affairs director indicated.

According to her, the Commission is expecting that the system will be transparent.

"What the PURC is concerned about is to see that water is not rationed in an erratic manner. Even if it would be rationed, it should be done in such a way that the rationing programme is published and consumers know when they will get water through their taps" Nana Yaa Jantuah stressed.

She therefore noted that if the prepaid metering is able to reduce their losses to the barest minimum from the current loss of 15% the company will make some money and be able to expand the system and make water sufficiently available to consumers.

"Prepaid water project, a wrong priority for GWC – IMANI", 16/01/2014, online at: http://www.ghanaweb.com/GhanaHomePage/NewsArchive/artikel.php?ID=298011

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❖ Hydropower Struggle: Dams Threaten Europe's Last Wild Rivers

Europe's last remaining wild rivers flow through the Balkans, providing stunning scenery and habitat to myriad plants and animals. But hundreds of dam projects threaten to do irreparable harm to the region's unique biospheres -- to provide much needed electricity to the people who live there.

How did Europe's rivers look before they were tamed -- back when they were allowed to flow freely through the beds they spent centuries carving out?

Most of the Continent's waterways, like the Elbe, the Rhine and the Danube, have long since been hemmed in. But examples of Europe's largely vanished wilderness remain. Such as the Vjosë, which flows unfettered through its valley in southwestern Albania, splitting off into tributaries that once again flow together in a constant game of give-and-take with solid ground.

"With every flood, the Vjosë shifts its course," says Ulrich Eichelmann, a conservationist with the organization RiverWatch, as he looks across to the narrow ribbon of alluvial forest that clings to the side of the valley. "The river fills the entire valley," says the 52-year-old. "Such a thing in Europe can only be found here, in the Balkans." Then he pauses. On the opposite shore, a cormorant takes flight.

The Vjosë: 270 kilometers (168 miles) of river landscape, from the Pindus Mountains of Greece all the way down to the Adriatic Sea. Not a single dam disturbs the water's course. No concrete bed directs its flow. And every pebble tells a story, says Eichelmann -- of pristine mountain enclaves, of waterfalls, gorges and lakes.

The 'Blue Heart of Europe'

The Vjosë is not alone. Several crystal clear, untamed rivers rush through many countries in the region. "The blue heart of Europe beats in the Balkans," says Eichelmann, who, together with environmental organization EuroNatur, works to preserve these natural water systems.

Experts say that approximately 80 percent of rivers in the Balkans remain in good or very good ecological condition -- a paradise for fish, freshwater molluscs, snails and insects.

But Europe's last wild rivers are now at risk. More than 570 large dams, complete with hydroelectric power plants (each with a capacity of more than one megawatt), are planned for the region (see graphic).

With money from international financial institutions -- among them Deutsche Bank, the World Bank and the European Bank for Reconstruction and Development (EBRD) -- dam construction is well underway.

Eichelmann describes a "gold rush mentality," with the "hydro-lobby" grasping for the last untapped energy market in Europe. Just before the Balkan states are forced to comply with ecological regulations as part of the process of joining the European Union, the industry is trying to establish a *fait accompli*: "Something that has long been banned in the EU, they're now trying quickly to pull off in the Balkans," says Eichelmann. It's a sell-off of untouched nature in the name of green energy and climate protection.

Albanian Building Boom

In Albania, the taming of wild waterways is already in full swing. The poverty-stricken country is currently in the grips of a construction boom. Three large dams have already been completed on the Drin River in the north. The Norwegian company Statkraft has acquired concessions for construction on the Devoll River. And the Vjosë, too, is under threat. Eight dams are planned. One is already under construction, where the river squeezes through a narrow gap near the village of Kalivaç. Excavators there haul heaps of gravel and sand; the dam is to be nearly 50 meters high and 350 meters wide (165 by 1,150 feet).

The man behind the construction of this dam is an Italian named Francesco Becchetti. Back in Italy, the 47-year-old owns a construction and waste removal empire. He also owns an Albanian television station. Those wishing to meet him must first submit to screening at the hands of one of his TV journalists, before being escorted down a dusty road to Kalivaç. There, the industrialist waits with his entourage -- over a dozen sturdy men crowded around a bevy of expensive sedans.

At the office unit on the construction site, Becchetti shows his plans for the Vjosë dam. He's brought along a thick stack of expert reports. His project has already swallowed up €70 million ($93 million)

he says, including money from Deutsche Bank. Meanwhile the financial institution has backed out of the joint venture.

During the walk to the half-finished construction site, the conversation turns to the Vjosë. Is Becchetti aware that he is dealing with one of Europe's last remaining wild rivers? No, answers the builder. "The dam won't be a problem for the environment," he says, "somebody had to explain this to me first, but we will add some steps for trout."

A fishladder for trout? To mitigate the total loss of a unique habitat? From the perspective of ecologists, it sounds like a bad joke. "If the Vjosë degenerates into a chain of reservoirs," fears Spase Shumka, from the department of natural sciences at the Agricultural University of Tirana, "the eel and mullet here, for example, would not be able to survive." The fish, endangered throughout Europe, currently migrate up to 200 kilometers (124 miles) up the Vjosë.

Countless birds, such as little ringed plovers, little egrets and great egrets are dependent on the rivers' floodplains, says Shumka. And many fish species found only in the Balkans, such as the Pindus stone loach, could be brought to the brink of extinction.

No Choice but Hydropower?

In the Albanian capital of Tirana, however, it quickly becomes clear that nature conservancy is not high on the Albanian government' priority list.

Minister of Energy and Industry Damian Gjiknuri lives in the government quarter along Dëshmorët e Kombit Boulevard. He made an honest effort during his first few months in office to raise understanding for nature conservation. But the country's energy supply is an issue closer to his heart.

"Albania is still importing 35 to 40 percent of its electricity needs," says Gjiknuri. In order to change that, Albania has no other choice but to pursue hydroelectric power. The potential is enormous: "We have the possibility to generate 10 times more electricity from hydropower."

For the same reason, the state-owned energy company Elektrani na Makedonija (ELEM) wants to build two dams in neighboring Macedonia -- in the middle of a national park.

The 73,000-hectare (180,000-acre) Mavrovo nature reserve lies on the border of Albania and Kosovo and is one of the oldest national parks in Europe. It contains old-growth beech forests, where wolves and bears still prowl. Its streams are home to otters, trout and freshwater crayfish. The pride of the region is the Balkan lynx; only about 50 specimens of the feline species continue to roam the woods -- extinction is well in sight.

"Hydropower Struggle: Dams Threaten Europe's Last Wild Rivers", 17/01/2014, online at: http://www.spiegel.de/international/europe/hydropower-dams-threaten-river-wildlife-in-balkans-a-943318.html

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❖ Privatization of Water, First Issue for EU Citizens Initiative

The European Union is experimenting with a new mechanism that allows average citizens to have a say in policy-making.

Introduced in 2012, the EU Citizens' Initiative allows citizens to propose policies if they can get 1 million signatures spread across at least seven of the 28 member countries.

"It's rare that we have something this new," Olga Kurpisz, a policy officer at the European Commission, told *Reuters*."This is a very new instrument. It's an historic experience, which is taking place in the EU. It's difficult. The outcome is unknown."

After a proposal is submitted and they meet with the organizers to understand it in depth, the Commission has three months to make a decision on whether they will act on it and explain their reasoning.

The first issue is now in front of the EU, and it's about whether water should be supplied to citizens by private companies or public utilities.

The organization Right2Water, gathered 1.8 million signatures, and formally submitted a proposal that says water services should be solely in the public domain. "Water is a public good, not a commodity," they say and the "human right to water" to be enshrined in EU law, reports Reuters.

"The goal of European Citizens' Initiatives is to spark pan-European debates on issues that concern citizens across Europe, and get those issues onto the EU agenda. Right2Water has certainly achieved that," says Marcos Sefcovic, Vice President of the European Commission.

A public hearing is expected to take place next month in the European Parliament. Portugal and other EU countries are considering selling their public water companies to pay off debt, and others already have water supplied by private companies.

"Privatization of Water, First Issue for EU Citizens Initiative", 14/01/2014, online at:
http://www.sustainablebusiness.com/index.cfm/go/news.display/id/25440

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❖ EU citizens force water debate onto agenda

BRUSSELS (Reuters) - Water and who should provide it - the public or private sector - has become the first issue to be pushed onto Brussels' policy agenda via a new mechanism meant to involve ordinary people in EU decision-making.

The EU Citizens' Initiative was introduced in 2012 following changes to the EU treaty that were designed to bring law-making closer to the EU's 500 million people.

It gives citizens the right to make policy proposals on any issue as long as they have secured 1 million signatures spread across at least seven of the EU's 28 member states - although it does not guarantee lawmakers will pass legislation.

Late in December, organisers of the Right2Water initiative formally submitted their proposal after exceeding the threshold.

They say the human right to water should be enshrined in EU law and that public, not private companies should be responsible for providing water services.

A public hearing on the proposal, expected in February in the European Parliament, could be heated as some member states, such as Portugal, are aiming to sell off state water companies to pay off debt, while others already have private ownership.

The Commission, the EU's executive, said it was too early to say what the outcome of the citizens' initiative will be.

"It's rare that we have something this new," Olga Kurpisz, a policy officer at the Commission, said. "This is a very new instrument. It's an historic experience, which is taking place in the EU. It's difficult. The outcome is unknown."

Under the rules, the Commission has three months to analyse the proposal. It can either agree to it in

principle, say it needs more time to consider it, or reject it. If it does that, it has to give reasons, which can be legal or political.

Those who organised the initiative are adamant that water, as "a common good", should be in public hands.

"It's hugely threatened by multinationals. Multinationals are there to make profit and reimburse shareholders, rather than to satisfy citizen's needs," said Anne-Marie Perret, president of the Right2Water Citizens' Committee.

Representatives of the private-sector water industry say recognition of the human right to water in EU law would be helpful, but argue privatisation is often the most cost-effective way to deliver supplies.

AquaFed, the International Federation of Private Water Operators, which represents more than 300 companies in 40 countries, quotes Britain as an instance of privatisation delivering a critical service cost-efficiently.

The more than 1.8 million citizens who signed the Right2Water initiative came from across the European Union, but more than half of them were from Germany.

Perret said that was a happy accident. The committee had been struggling to get signatures, which need to be backed up by passport details, until a German comedian Frank-Markus Barwasser, known to his fans as the bumbling, hat-wearing Erwin Pelzig, independently raised the issue on German television.

"Eighty percent of Europeans don't want private water," Pelzig ranted in the comic sketch.

"EU citizens force water debate onto agenda", 13/01/2014, online at:
http://www.swissinfo.ch/eng/news/international/EU_citizens_force_water_debate_onto_agenda.html?cid=37727026

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❖ Reusing waste water is not a luxury but a need, says expert

Dubai // Upgrading safety standards and boosting public awareness will help to increase the share of reclaimed water used in agriculture.

The issue is particularly important for countries in the Middle East, many of which are facing severe water shortages, experts said on Tuesday at a conference in Dubai, organised by the Ministry of Environment and Water and the International Centre for Biosaline Agriculture.
The UAE, for example, produces the vast majority of its potable water through desalination, but the Government is now concerned about the high energy cost and other environmental impacts of the process.
Treating sewage effluent to the extent that it is safe for use in agriculture has been technologically possible for decades, they said.

"Reusing waste water is no longer a luxury, it is a need, especially in an area that is infamous for its water scarcity," said Dr Basel Al Yousfi, director of the Regional Centre for Environmental Health Action at the World Health Organisation. "I do not think we can afford to use any drop of water without maximum utilisation.
"We need to work not only on capacity building and working with government but also we need to work with the public to increase awareness that with enforced regulations and standards there is nothing wrong with reusing reclaimed waste water," he said.
The first international WHO guidelines on the issue were put forward in 1979 and updated a decade later.
"They both were traditional guidelines that were based on concentrations and specifications rather than the new concept that was put forward in 2006, which is based on ... risk assessment and management," Dr Al Yousfi said.
"Basically, no one size fits all. If our goal and target is to protect human health, then we will be looking at the life cycle of waste-water reuse from the moment of waste-water generation to the treatment, if needed, to the irrigation, to the production of the crops," he said.
The new approach distinguishes between crops that are produced to be eaten raw, and crops that are cooked, as well as crops grown for other uses, such as cotton or plants used for landscaping.

"Every case has a different way of handling rather than having a specification that is everything in one limitation," Dr Al Yousfi said.

While the WHO is working to promote the concept of risk assesment and risk management, it is still fairly new in the region, he said.

"It has been accepted in the West ... much more than it has been accepted here in the region, but we are working with governments and member states to increase awareness and also increase acceptance of such a concept," he said.

Making alternative water sources available for agriculture is important considering new pressures on water resources from increasing urban populations, industry and energy production, said Steven Schonberger, sector manager for water and agriculture for the Middle East and North Africa Region at the World Bank.

Agriculture takes about 70 per cent of total water withdrawal globally and the proportion is as high as 95 per cent in some developing countries. In the Middle East and North Africa, only 55 per cent of waste water is treated, and of that only 15 per cent is formally reused.

The UAE and some other GCC countries, as well as Jordan, are exceptions, with very high rates of treating and reusing waste water.

Mr Schonberger said reclaiming waste water was about better management of the water cycle.

"Whereas before that waste water would have gone into an aquifer or a river and we would wait years and years to use it again, now we cannot wait, we are going to treat it and send it straight to the farm," he said.

"Reusing waste water is not a luxury but a need, says expert", 15701/2014, online at: http://www.thenational.ae/uae/environment/reusing-waste-water-is-not-a-luxury-but-a-need-says-expert

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❖ Russia's Far East authorities plan construction of new dams

Authorities of the Khabarovsk territory in Russia's Far East plan to build new high-capacity dams over the next five or six years against floods similar to that which hit the region last year, the press service of the territory's administration said on Friday.

Russia's Far East was hit by heavy floods last summer and autumn. Meteorologists say the natural calamity was the worst to hit the region over the past 120 years.

Tens of thousands were evacuated and more than 100,000 were affected. Russia's Natural Resources Minister Sergei Donskoi estimated the cost of damages from the spill of the Amur river at more than 25 billion roubles (some $750 million).

The press service said the construction project would cost about 15 billion roubles ($450 million) and that Khabarovsk Governor Vycheslav Shport had already approved the programme of the project's feasibility study.

Most of the new dams are planned to be built on the Amur river, where water level peaked at more than 8.1 metres (26.5 feet) last September, beating the record mark of 642 centimetres (21 feet) registered in 1897. The critical water level near the region's largest city, Khabarovsk, stands at six metres.

This year, the territory's authorities plan to carry out research works for the future building of the dams, while actual construction is scheduled to start in 2015, the press service added.

"Russia's Far East authorities plan construction of new dams", 17/01/2014, online at: http://indrus.in/news/2014/01/17/russias_far_east_authorities_plan_construction_of_new_dams_32369.html

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❖ In California, Alarm Grows Over Shrinking Water Levels

AUDIE CORNISH, HOST:

Last week, we were shivering in depths of the polar vortex. Now another sign that Mother Nature is in charge. This time it's California, where right now it should be rainy season. Instead, there's growing alarm over a persistent lack of rain. The state is suffering its third consecutive dry year.

And as NPR's Richard Gonzales reports, there are calls for the governor to officially declare a drought.

(SOUNDBITE OF FOOTSTEPS)

RICHARD GONZALES, BYLINE: So, how dry is it in California? Just take a look at Folsom Lake, a reservoir that serves the suburbs north of Sacramento. The water level here is so low you can find evidence of communities dating back to the Gold Rush that were covered up when this reservoir was filled. Most of Mormon Island, an old mining town, is still under what's left of the water in Folsom Lake. Still, local residents like Laura Jarecki and her friend, Katrina Trumbull, can stroll on the dry lake bed that is usually covered by more than a hundred feet of water and examine a collection of old bottles, broken pottery, rusted nails, and door hinges.

LAURA JARECKI: There's this beautifully made rock wall that was hand-done that survives under the water all these years. And then when the water goes down, it does not fall apart. It's beautiful.

GONZALES: The water level here is lower than in the winter of 1976-77, which saw one of the worst droughts in the state's history. And now, local water managers are calling on their customers to start conserving, says Shauna Lorance, general manager of the San Juan Water District that serves the suburbs around this lake.

SHAUNA LORANCE: This is not operations as normal. This is a water emergency scenario. And based on that, we're requesting that our customers eliminate all outdoor water use.

GONZALES: That means no watering your lawn or landscape. And if there's no rain by February, Lorance says, the district will take further steps, such as banning car washing and the filling of swimming pools. It could also ask customers to reduce indoor use, kitchen and bath, by 50 percent.

Counties all over Northern California - Mendocino, Marin, Sonoma - are imposing or planning to impose similar conservation measures. In Fresno, the local Catholic bishop has even asked people to pray for rain.

And the $44 billion dollar ag industry wants people to know that the drought could hit consumers' pocketbooks as some California farmers may not plant at all. Gayle Holman is spokeswoman for the Westlands Water District, the largest agricultural water district in the country.

GAYLE HOLMAN: The availability of food that's grown right here on U.S. soil, we're going to see that crippled, not to mention that the economic engine that agriculture provides for the state of California is going to be greatly hindered.

GONZALES: That's partly why Senator Dianne Feinstein last month asked Governor Jerry Brown to officially declare a state drought emergency. That would help ease some environmental rules and other regulations governing water use and allocations. But Peter Gleick, a water specialist at the Oakland-based Pacific Institute, says water districts don't have to wait for the governor to act.

PETER GLEICK: Now is the time to be informing customers about what they can do to save water, to use water more efficiently. But it seems that the official water policy is hope for rain rather than take any progressive actions.

GONZALES: For his part, Governor Brown recently appointed a task force to advise him on the drought. But last week, he warned: Don't think that a paper from the governor's office is going to affect the rain. Richard Gonzales, NPR News. Transcript provided by NPR, Copyright NPR.

"In California, Alarm Grows Over Shrinking Water Levels", 14/01/2014, online at: http://wamc.org/post/california-alarm-grows-over-shrinking-water-levels

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❖ DHEC, DNR to study state's river basins, implement new water-use plan

Even in a state like South Carolina, with its relatively abundant fresh water supply, that precious resource only goes so far.

And state officials are starting to worry that an environmental "new normal" — increased instances of drought in recent years — along with higher demand, regional politics and other factors, could jeopardize the management and distribution of water.

In an effort to start fresh, engage all stakeholders and remove the politics from the water debate, the Department of Health and Environmental Control and the Department of Natural Resources are teaming up to conduct the first-ever comprehensive assessment of the state's water resources.

It's a two-pronged approach, according to DHEC Director Catherine Templeton. A request for proposals will be issued inviting environmental contractors to bid on a project meant to collect empirical data, she said. Meanwhile, a memorandum of understanding has been signed with Clemson University that assigns its Water Resources Center the task of developing "a robust stakeholder process" and "comprehensive framework" that improves the state's long-term water management prospects.

"DNR has statutory responsibility to have a water plan," Templeton said. And DHEC is responsible for administering surface water withdrawal permitting and reporting and ensuring the supply is safe. Early in 2012, soon after Templeton and Alvin Taylor assumed the leadership of their respective agencies, they got together to discuss the matter.

"You need a water plan, and I need to see it," Templeton told Taylor. "We need to operate with good science and integrity."

And they have to take into account all water users: power plants and utilities, recreational and environmental groups, individual consumers and others. Any time a study was done, it was criticized by whoever didn't like the results, Templeton said. The two agency heads decided to take the bull by the horns.

"We are blood brothers; we will not be divided," Templeton said. "We will not let anyone else fund (the project). First we will measure what we have, then we will figure out how to divide it."

Molly Gore, manager of corporate communications for Santee Cooper, said the utility's environmental staff welcomed the undertaking.

"Santee Cooper certainly supports an initiative like this, which will provide a thorough, comprehensive review of our state's water resources," Gore said. "We appreciate that they are involving stakeholders in the process and look forward to participating."

The announcement received an optimistic endorsement from Charleston Water Systems, too.

Andrew W. Fairey, Charleston Water's chief operating officer, said his utility participated in meetings early last year at which the goal of expanding and improving the state's water plan was discussed.

"We use surface water, so we're quite interested in it," he said. "The water industry in the state, in general, wants to see this done. We want to make certain we're a stakeholder in the process."

It's important to understand how water in each of the river basins is used, and the project could include the development of hydrodynamic computer modeling for each basin, generating data that can be used to assess and predict impacts, he said.

"The 2005 and 2007 droughts certainly brought attention to existing state water plans and the fact that there weren't very useful tools for doing water planning in the state," Fairey said.

And because South Carolina shares water sources with North Carolina and Georgia, it has become increasingly necessary to evaluate what neighboring states are doing, he said.

"It's a big effort," he said.

Templeton said the state Legislature was asked for $2.2 million in project funding, and about half the money now is in hand. She's hoping the rest will follow soon, she said.

Current water distribution may or may not be impacted by the results of this enterprise, and it's likely that not all stakeholders will be entirely satisfied, she said. But at least the process will be transparent and objective.

"We have been puritanical in stripping the politics from this," Templeton said. "We have ruffled a lot of feathers, but we have closer relationships with all these people. They might not agree with result, but at least they can trust that the process was fair."

"DHEC, DNR to study state's river basins, implement new water-use plan", 17/01/2014, online at: http://www.postandcourier.com/article/20140117/PC1610/140119461/1005/wading-in-the-water

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