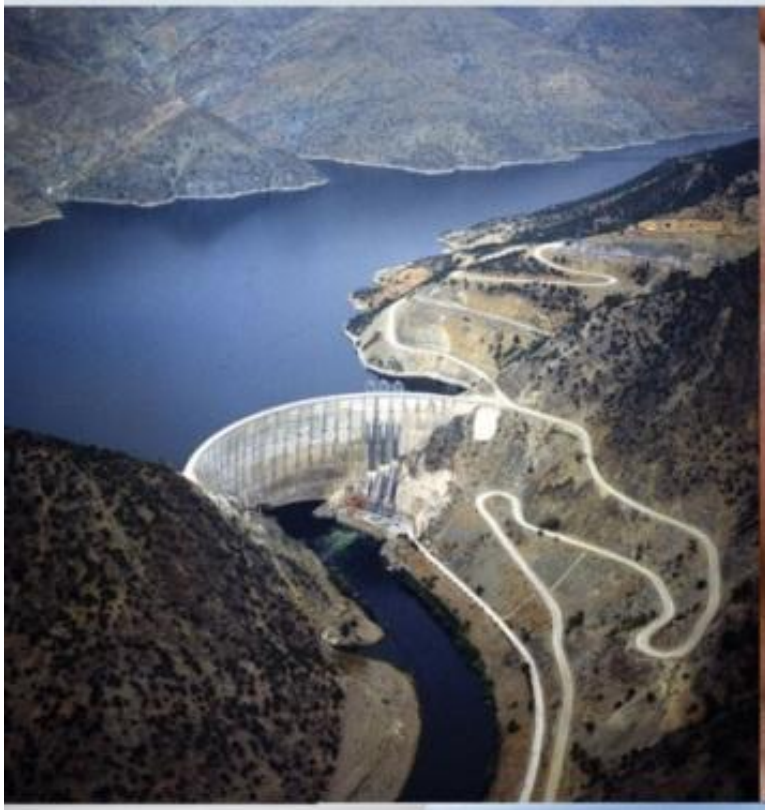


ORSAM WATER BULLETIN

Weekly Bulletin by ORSAM Water Research Programme

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





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Mithat Paşa Caddesi 46/4 Kızılay-Ankara TURKEY
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❖ New World Water Council President Promises Continuity With Change and Innovation

On 19 November 2012 the World Water Council announced that its members have elected a new Board of Governors. The Board will oversee and guide the Council's work for the coming three years.

The elections took place during the triennial General Assembly for which 240 participants had gathered in Marseille, France.

Through majority rule voting, the members elected the 36 Governors from 64 candidatures and the Governors unanimously appointed Benedito Braga to serve as President of the World Water Council.

The new President thanked the members for electing him and congratulated the previous Board and its President, Loic Fauchon, for the important advances made on water issues.

"This mandate will be characterized by continuity with change and innovation," Mr. Braga said before appointing the Vice President, Mr. Dogan Altinbilek, from the Turkish Contractors Association and the Bureau representing the Chinese Government, UNESCO-IHE, World Wildlife Fund (WWF) and the City of Marseille.

András Szöllösi-Nagy, UNESCO-IHE Rector is member of the Board and acts as WWC Bureau member.

For the coming mandate, the Council will continue to work in three strategic directions: water security for human essential needs, water security for economic development and water security for environmental sustainability.

"New World Water Council President Promises Continuity With Change and Innovation", 19/11/2012, online at: http://www.unesco-ihe.org/About/News/New-World-Water-Council-president-promises-continuity-with-change-and-innovation?utm_source=twitterfeed&utm_medium=linkedin

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❖ Wasting water could spark a crisis in KRG

The average person in Kurdistan uses six times more water than someone in Sweden, figures show

In Kurdistan Region a large amount of drinking water is being wasted by consumers. The lowering of underground water has dramatically endangered the Region.

Shops have raised concerns regarding people wasting thousands of liters of precious water on car washing.

Many believe that the government has to intensify the monitoring process raise the price of water in order to control consumption and prevent wastage.

Mohammed Qadir, 29, a citizen, does not fill his water taps every night, a habit which most people should practice.

"This is not just my problem but a problem which affects all people of Kurdistan. I do believe that in the coming ten years water will be a great problem, as this is what I have heard from experts on TV reports," Qadir told The Kurdish Globe.

Statistics about water

Research conducted by Water Protecting Center figured out that there are around 50 car washing shops.

"Each washing shop consumes 50,000 liters of drinking water. Which means they waste around 2, 500, 000 [2 million and 500 thousand] liters of pure water every day," the research showed.

Rasheed Jarjees, director of the center, believes that the car washing shops should build a store to reuse the water in order to protect underground water. He added that relevant parties from Kurdistan Regional Government, KRG, should force people to utilize smart electronic devices to calculate the rate of consumed water.

He added that the center could not monitor all the factories, houses and washing shops but the numbers are precisely studied and analyzed academically.

Lack of a law

There is no a law in Kurdistan to organize consuming drinking water, if there was a law previously it

is not currently used.

People use and waste a lot of waterin Kurdistan. It is estimated that in the Kwestan quarter each person use 800 liters of water daily, while in Denmark one person uses an average of 120 liters of water daily and in Sweden one person uses 300 liters of water daily. According to the survey, women waste the most water, and they say they are not ready to change their behavior.

Lowering the rate of pure water in Eastern and Southern quarters of Erbil, capital of Kurdistan, is very obviously noticed.

A decade ago if the government drilled 100 meters they reached water but now they need to drill more than 300 meters to reach water. A water protecting activist recently said lowering water is adangeroussignal that the water crisis may happen in Kurdistan too.

Drinking water quality

Swedish Global Reporting conducted a survey in a quarter of Erbil city in 2009 to question citizens about water.

Twenty-five students of Salahaddin University carried out the survey, questioning 609 people over 16 years of age on knowledge, attitude, and behavior concerning water, government, and media. The Global Reporting staff conducted 11 in-depth semi-structured interviews with 11 of the participants.

The majority of those questioned said they drink tap water, but more than 60% said they worry about the quality of the water. They said the water situation has improved dramatically in recent years in comparison to the 1990s when the water situation was terrible and many quarters in Erbil city did not have access to drinking water.

Participants expressed concern over water quality because of its taste and the white foam it produces after boiling. While 95% of those questioned thought the white foam is dangerous, it is actually calcium, which is very good for the body, particularly for women.

"Sometimes the water color is not good. Sometimes it is a bit red. I let the water run for about five minutes until it is clean," said one participant. "The white foam causes anxiety. Many believe that it is unhealthy, that it is some kind of bacteria, and some think it can cause kidney stones," said another participant.

"They waste more than they actually use. If you walk down the street you can see clean water coming out of the houses. In Erbil it is what we spend most on after electricity," said a man.

"Without punishment, people's behaviors will not change," said an official from the General Director of the Kurdistan Region Water and Sewage Division.

The UN statistics

According to official figures from the United Nations around 884 million persons have no access to drinking water and around 2 billion and 600 thousand persons are deprived of pure drinking water.

In addition, around half a million children die every year because of dirty water and lack of public services like lack of sewerage services.

In 2011, Kurdistan needed365 million cubic meters of drinking water and the KRG could provide all, but it does not have the appropriate plan to prevent wasting water.

"Wasting water could spark a crisis in KRG", 21/11/2012, online at: http://www.kurdishglobe.net/display-article.html?id=61CEE801C9A71C13CB6098B9C18D6CC0

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❖ Iraq to witness seasons of severe drought

Despite the floods of water that swept Baghdad streets on Monday, Weather Sciences Department at Al Mustansiriyah University warned that Iraq will witness seasons of severe drought due to the continuous and intense drop of water level in Dijla and Euphrates Rivers.

Rain floods that poured most of Iraqi provinces in water came in contradiction with the seminar of Al Mustansiriyah University Weather Sciences Department which is studying the status of water resources in Iraq. The seminar pointed out to a shortage of water resources accompanied with great fears of an intense drop of water level in Dijla and Euphrates Rivers. This situation is due to the reduction of water flows from neighboring countries, the study stressed.

Dams built up by neighboring Turkey and water flow constructions of neighboring Iran are a direct cause to the reduction of Iraq water resources.

Certain academics revealed in this regard the possibility of artificial rain project which works to induce rain from clouds using artificial techniques.

If executed, this project could compensate for the lack of rain in recent years in Iraq. Experts on the other hand rule out the success of this plan due to its very high cost while the government disregards such projects.

"Iraq to witness seasons of severe drought (alsumaria.tv/) ", 21/11/2012, online at: http://www.alsumaria.tv/news/66741/iraq-to-witness-severe-seasons-of-drought/en

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❖ Minister: Iran and Azerbaijan must agree on water use from Araz River

If Iran wants to use water from the Araz River to fill drought stricken Lake Urmia, it must coordinate this issue with Azerbaijan, Azerbaijani Minister of Ecology and Natural Resources Huseyn Bagirov said on Wednesday.

"The decision on this issue can only be taken on the basis of the existing agreements," the minister told the media.

A project to direct 600 million cubic meters of water from the Araz River into Lake Urmia was launched during a visit of Iranian President Mahmoud Ahmadinejad and members of the government to Tabriz in 2010. It was planned to allocate $1.2 billion to implement this project.

Bagirov said that there is agreement on the joint use of the Araz River by Azerbaijan and Iran.

"If the Iranian side officially appeals to us, all aspects of the issue, not only from the environmental, but also political, economic and other aspects may be thoroughly analysed.

"The agreements signed between Azerbaijan and Iran have determined the environmental norms and water volumes that can be used by the parties, as well as which equipment and facilities can be established and built on this river," he said.

According to official figures, some 70 per cent of Lake Urmia spanning 6,000 square kilometers is shallow. Currently, a liter of lake water contains up to 400 grams of salt. Previously, the amount of salt per liter of water was 160-170 grams.

The drying of the lake has an impact on the flora and fauna of the region, which alarms international organizations and regional countries.

The United Nations Development Programme (UNDP) has allocated $ 135 million to Iran to address environmental issues of the shoaling Lake Urmia.

“Minister: Iran and Azerbaijan must agree on water use from Araz River”, 21/11/2012, online at: http://www.azernews.az/azerbaijan/46520.html

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❖ Iran, Azerbaijan to discuss use of River Araz water to fill Lake Urmia

The issue of using water from the River Araz to fill drought stricken Lake Urmia will be discussed with Azerbaijan. Afterwards, a project will be implemented within the agreements, general director of the Trans boundary Rivers and Shared Water Resources Bureau under the Iranian Ministry of Energy Jabbar Vatanfada told İRNA today.

"We hope that Azerbaijan will agree to the use of waters from the River Araz to fill Lake Urmia in the interests of the environment and good neighbourly relations," he added.

According to the official statistics, some 70 per cent of Lake Urmia is shallow. Currently, a litre of lake water contains up to 400 games of salt. Previously, the amount of salt in a litre of water was 160-170 grams.

The area of Lake Urmia is about 6000 square kilometres. The lake drying up has an impact on the flora and fauna of the region.

The United Nations Development Programme (UNDP) has allocated $135 million to Iran to resolve its environmental problems with shoaling at Lake Urmia.

The Iranian government allocated $900 million for this purpose in September 2011.

A project of directing 600 million cubic meters of water from the River Araz into Lake Urmia was launched during a visit of Iranian President Mahmoud Ahmadinejad and members of the government to Tabriz in 2010. It was planned to allocate $1.2 billion to implement this project.

Protest actions were held in Tabriz and Urmia in connection with the shoaling of Lake Urmia in 2011. Dozens of Iranian Azerbaijanis were arrested.

Responding to a question on the joint construction of the Meghri hydroelectric power station with Armenia, Vatanfada denied some Azerbaijani media information that a reservoir will be built for this hydroelectric power station. Additional water resources from trans boundary rivers will be required for this reservoir.

He added that this will not be required for the hydroelectric power station. The existing watercourse will be enough.

He also stressed that the Meghri hydroelectric power station will be similar to that being built together with Iran and Azerbaijan in the Ordubad region of the Nakhchivan Autonomous Republic. A

special tunnel is being constructed for these stations. The river water is directed to the hydroelectric power station through this tunnel and then returns to the river.

"Iran, Azerbaijan to discuss use of River Araz water to fill Lake Urmia", 19/11/2012, online at: http://en.trend.az/news/politics/2089480.html

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❖ Ecology Ministry issues statement on Lake Urmia

The Ecology and Natural Resources Ministry has issued a statement regarding the proposal of Iran to pour the water of the Aras River into the Lake Urmia.

Deputy Minister Firdovsi Aliyev has told journalists that there is the Helsinki convention on protection of transit rivers and international lakes, to which Azerbaijan joined in 2000, and provisions of the convention are viewed attentively, Gun.Azreports.

He noted that since this issue is political, it has been handed over to the Foreign Ministry. The issue can be reviewed after a final decision.

According to the deputy minister, there are several proposals here. But without disclosing these proposals, Aliyev said nothing had been agreed yet.

"Azerbaijan is one of the countries in need of water. Therefore, this issue will be approached in accordance with interests of the state."

"Ecology Ministry issues statement on Lake Urmia", 20/11/2012, online at:
http://www.news.az/articles/environment/72272

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❖ A Global Treaty on Rivers:Key to True Water Security

No broad-based international agreement on sharing rivers currently exists, even though much of the world depends on water from rivers that flow through more than one nation. But that may be about to change, as two separate global river treaties are close to being approved.

Is peace about to break out on the world's rivers?

It is amazing that until now there has been no global agreement on sharing international rivers. From the Mekong to the Jordan and the Niger to the Euphrates, there has been nothing to stop upstream countries from building giant dams that cut off all flows downstream. Yet in the coming weeks we could have two such treaties.

First, the continuing bad news: Belligerent countries are still exerting their hydrological muscle. Just this month, Laos began construction of the first dam on the main stem of the lower Mekong River in Southeast Asia. It hopes that the Xayaburi dam will help it become the region's hydroelectric powerhouse.

On the upper Mekong, China has already built four giant dams, including one taller than the Eiffel Tower. These dams are all being constructed without the approval of downstream neighbors, including the 60 million people in Cambodia and Vietnam who fear the barriers will block fish migration and deprive them of fertile silt for their rice fields.

Meanwhile in Africa, Ethiopia last year began work on the Renaissance Dam on the Nile, which will be the largest hydroelectric dam in Africa. Again, downstream nations Egypt and Sudan had no say. And in the Middle East, fears grow that Turkey could use its control of the Euphrates as a weapon in any future border conflict with war-torn Syria, a downstream nation that is heavily dependent on the river.

More than 40 percent of the world's people live in 263 river basins that straddle international borders. The Danube, Rhine, Congo, Nile, Niger, and Zambezi rivers all pass through nine or more countries.

Transboundary rivers contain 60 percent of the world's river flows — for two-thirds of them, there are no agreements on water sharing.

This is dangerous. Guinea threatens to barricade the River Niger, which could dry out the inner Niger delta, a wetland jewel on the edge of the Sahara in neighboring Mali. In September, Vladimir Putin visited the mountain states of Tajikistan and Kyrgyzstan in Central Asia, where he announced financial backing for more dams on the Amu Darya and Syr Darya rivers to generate hydropower in those countries. But he ignored opposition from downstream Uzbekistan and Kazakhstan who fear the dams will deprive them of summer flows to irrigate their cotton crops.

Water is today the most important global resource that does not have any international agreement, says World Bank lawyer Salman M.A. Salman. Abstractions of water from rivers have tripled in the past 50 years, mostly for irrigation. The entire flows of some rivers are now being taken for human use. And the natural flows of many others are disrupted by hydroelectric dams that only allow water to pass when the dam owners want electricity.

What treaties there are, often date back to colonial times. In international law, the Nile is governed by deals drawn up by the British in 1929 and 1959, which give all the water to downstream Egypt and Sudan and none to the eight upstream nations. Those laws are discredited, and in 2010, six upstream nations led by Ethiopia reached their own accord — a treaty that Egypt and Sudan have not joined.

Back in 1997, the UN adopted the Convention on the Non-Navigable Uses of International Watercourses. It did not lay down hard and fast rules for sharing waters, but it was a statement of principle that nations should ensure the "sustainable and equitable use of shared rivers."

Only three countries voted against: China, Turkey and Burundi — all of them upstream countries on major rivers. China is the water tower of Asia. Its Tibetan plateau is the source of the Indus, Brahmaputra, Irrawaddy, Salween, and Mekong rivers. But in refusing to sign the treaty, China asserted that it had "indisputable territorial sovereignty over those parts of international watercourses that flow through its territory."

To come into force, the treaty required 35 nations to ratify it in their legislatures. To date only 28 countries have done so. Other refuseniks include the U.S. and Britain, an original sponsor of the treaty. But the momentum for ratification is picking up. Eight of the 28 ratifiers did so in the last three years. France has become a cheerleader for the convention. Jean-Pierre Thebault, France's environment ambassador, told a meeting I attended in Helsinki in September that he hoped enough nations would join for it to come into force in time for the UN's International Year of Water Cooperation in 2013.

Meanwhile the treaty has a counterpart: the Helsinki convention. This began as a 1992 deal on river cooperation between European nations under the UN Economic Commission for Europe. But at a meeting in Rome set for Nov. 28-30, its members are likely to vote to allow any nation to join. Early potential signatories include Iraq and Tunisia.

France's Thebault says the two treaties could complement each other. For while the 1992 treaty is a statement of principle about water sharing, the Helsinki convention is "bolder," with formal arrangements for drawing up deals.

The Rome meeting of the Helsinki convention is also likely to extend its purview to drawing up rules for sharing underground water reserves. It could, for instance, help save the ancient water beneath Jordan and Saudi Arabia, which the two countries are currently racing to pump out before the other does. Likewise, it could manage the Nubian aquifer beneath Libya, Egypt, Sudan and Chad, which is currently being tapped by Libya;

and the Guarani aquifer that straddles the borders between Brazil, Paraguay, Uruguay and Argentina.

Whether global governance of water can help the aquatic environment is another matter. WWF, which has lobbied for countries to ratify the UN treaty, wants future river deals to keep some water as "environmental flows" to maintain freshwater fisheries and wetlands. But the danger is that the opposite could happen. If downstream nations are more confident of how much water will reach them, they may build more dams to capture it.

This has happened on the Indus River, where a 1960 treaty brokered by the World Bank shared out the river and its tributaries between upstream India and downstream Pakistan. The result has been more dams and an ecological disaster downstream. The Indus dries up for months at a time, the coastline is retreating, its giant delta is peppered with dead mangroves, and salty seawater has invaded farms.

But hopes are nonetheless high that greater sharing of the world's rivers could be imminent. David Grey, a water policy expert formerly with the World Bank and now at Oxford University, says there is growing recognition of the need for global oversight of the world's water. He says it could, at the least, end the habitual hydrological secrecy of many upstream nations, who treat river flow data as state secrets.

Speaking in Vienna last month, Grey pointed out that India rarely tells Bangladesh what flows are coming down the Ganges. The result is

disruption to farming and unnecessary damage and deaths from flooding. Likewise, he believes better sharing of Nile flow could assuage Egyptian fears about the capacity of upstream dams on the Nile to cut off its vital supplies. But in reality, Grey said, there is so much water in the Nile that "you could take as much water out of the river in east Africa as you want, and Egypt would never notice the difference."

Water peacemakers argue that sharing water isn't necessarily a zero-sum game. Both sides can gain. In recent weeks, authorities in the U.S. and Mexico have carved out a new agreement on sharing the Colorado River, which irrigates much of the arid Southwest before passing over the border into Mexico and delivering a tiny saline trickle through its desiccated delta into the Gulf of California.

An existing treaty, signed in 1944, is very one-sided, giving Mexico the right to only a tiny amount of the flow, which Mexico finds it difficult to use because it has few storage structures and because many irrigation canals were damaged in an earthquake. Under the new deal — which has been approved by U.S. regional authorities and awaits federal sign-off — Mexico would be able to store some of its water allocation in Lake Mead, the huge U.S. storage reservoir on the river in Nevada and

Arizona. Meanwhile, U.S. water authorities will be allowed to invest in lining irrigation canals across the border in Mexico to save water. Those authorities will then be entitled to keep back the equivalent amount of water on the American side of the border and use it for their own purposes.

With this arrangement, everybody gets more water. There might even, U.S. regulators hint, be more left for the Colorado's dried-out delta. It is an optimistic sign of how water peace could take hold — and one worth clinging to, amid the wreckage of the current hydrological anarchy on the world's rivers.

"A Global Treaty on Rivers:Key to True Water Security", 19/11/2012, online at: http://e360.yale.edu/feature/a_global_treaty_on_rivers_key_to_true_water_security/2594/

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❖ Gaza's Other War

Israel and Gaza have been torn apart by missile strikes this week, but Gaza's rapidly depleting aquifer is about to make things even more precarious.

Of all the things the governments of Israel and Gaza have against each other, the fate of a water treatment plant would seem like the least of the problem. A little-noted UN report released in August argued the opposite: that the rockets flying between the two sides may be less destructive than long-standing wrangles over water.

Gaza in 2020 is sober reading even as government resource reports go. Being a desert, sources of water are few, straining an aquifer that feeds the tiny strip as well as parts of Israel and Egypt. According to the U.N. Environment Program, only ten percent of the aquifer's water remains potable, and it will become entirely useless in as little as three years, beyond which point it will take centuries to replenish itself. From the UN study:

With no perennial streams and low rainfall, Gaza relies almost completely on the underlying coastal aquifer, which is partly replenished by rainfall and runoff from the Hebron hills to the east, with the recharge estimated at 50 to 60 million cubic metres (MCM) annually.
Current abstraction of water from the aquifer, at an estimated 160 MCM per year to meet current overall demand, is well beyond that.
As groundwater levels subsequently decline, sea water infiltrates from the nearby Mediterranean Sea. Salinity levels have thus risen well beyond guidelines by the World Health Organization (WHO) for safe drinking water. This pollution is compounded by contamination of the aquifer by nitrates from uncontrolled sewage, and fertilizers from irrigation of farmlands.
Today 90% of water from the aquifer is not safe for drinking without treatment. Availability of clean water is thus limited for most Gazans with average consumption of 70 to 90 litres per person per day (depending on the season), below the global WHO standard of 100 litres per person per day. The aquifer could become unusable as early as 2016, with the damage irreversible by 2020.

arious attempts to solve the problem have met with middling results. A passel of NGO and UN-led initiatives have sought to develop desalinization capacity and water treatment plants. Typically, the projects have run into import issues—parts for water treatment facilities are hard to get into Gaza without running afoul of security rules that ban import of many industrial materials.

If the U.N. estimate is accurate, that gives leaders in Gaza and Israel three years to hammer out the details of their coexistence before it becomes impossible for the strip, which is smaller than Los Angeles, to provide potable water to its 1.6 million people. Last summer, the British charity Oxfam claimed that Gaza residents were spending as much as a third of their monthly family income buying water on a fierce private market, and reports including this useful one from the *Jerusalem Post* noted that Gaza's water authority had faced price increases from the territory's chief provider of clean water—Israel.

"Gaza's Other War", 20/11/2012, online at: http://www.psmag.com/blogs/the-101/gazas-other-war-is-over-water-49656/

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❖ Report: Majority of reservoirs near petrol facilities polluted

Water Authority report indicates underground water basins adjacent to gas, petrol warehouse facilities severely contaminated; only 3 of 15 reservoirs tested found to be clean

A survey by the Israel Water Authority has found great quantities of petrol traces in underground water reservoirs that are adjacent to petrol warehouse facilities.

The report, which refers to pollution levels measured in 2011, tested 15 water basins and found that 12 of them were severely polluted.

The Water Authority differentiates between two types of petrol pollution: "Stains" – which are large oil spots floating on top of the water; and "particles" or which petroleum solvents, which are released into underground water from either oil spots or petrol that has been absorbed into the ground.

The Water Authority began testing basins that are in close proximity to petrol facilities in 2004. Between 2004 and 2011 155 sites were tested, with 36 sites presenting stains and 94 sites presenting particles. Only 94 sites were clean.

In some cases, stains stretching between 11 sq. feet and 1.2 acres were found. In 2011, multiple drilling projects were launched with aim of removing the oil from the polluted basins.

Underground water purification facilities are installed in 51 of the sites found to be polluted, and the Water Authority is monitoring the remaining 79.

"These particles are highly toxic and carcinogenic and they can affect people either by drinking water or by inhaling toxic fumesrising from polluted underground water," Guy Reshef of the Water Authority said.

"This is why it's so important that we detect these pollutions, monitor them and treat them," he added.

Reshef added that the various companies, including Israel Oil Refineries, Petroleum and Energy Infrastructures (PEI) and Paz, were cooperating with the cleanup efforts and that the situation has been steadily improving.

PEI said that they are monitoring the situation closely and that "Some of the facilities in our care date back to the British Mandate. We care greatly about the environment and so far, 30 drills have been ordered to remove (the oil) and reduce any environmental impact."

Paz said that "The company is treating the pollution found – which predates our ownership of the refineries – according to the Water Authority's guidelines."

"Report: Majority of reservoirs near petrol facilities polluted",21/11/2012, online at: http://www.ynetnews.com/articles/0,7340,L-4303425,00.html

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❖ Palestinians running out of drinking water as Israeli offensive continues

As the Israeli offensive entered its seventh day, Palestinians in the Gaza Strip are running out of basic necessities needed for their survival, including food and clean drinking water. Private vendors selling desalinated water have stopped water water due to ongoing air strikes and fear for their safety.

On 18 November, an Israeli air strike hit a water distribution truck in Beit Lahia, destroying it completely and killing the driver Suhail Hamada and his son.

"I have approximately two days stock of drinking water and food," Mahmoud Sa'adallah, 32, resident of Bait Lahia and a father of five says, "we will have no option but to drink the municipal water which is too salty". Mahmoud doesn't know how his children are going to survive in the coming days with the lack of basic necessities if the offensive continues. "My brother and neighbors, for whom the vendor was coming, have already started to drink from the tap".

The vast majority of the residents of the Gaza strip rely on purchasing desalinated water from private vendors as piped water coming from Gaza's sole source of fresh water, is too contaminated with chemicals. [1]

Disruption of supplies

Water supplies have been severely disrupted since the beginning of the offensive due to the destruction of water networks in different areas of the Gaza Strip, and the inability to operate water wells located in areas that are being frequently attacked by the Israeli military. As a result, around 50,000 people were left without water for two days. An under-construction water reservoir in the middle of the Gaza strip was also destroyed. The reservoir was expected to serve 150 thousand people in the Gaza Strip.

Transportation of fuel, needed to operate water and sanitation facilities during power cuts, has been hampered by the ongoing offensive. Eng. Omar Shatat from Coastal Municipalities Water Utility (CMWU) warns about environmental crisis if the offensive continues. Sewage floods are expected if maintenance staff and fuel can't reach sewage facilities.

Israel as the occupying power has the obligation to ensure that Palestinians have access to sufficient clean water, among other basic necessities. Also Israel during wartime has the obligation not to target civilian objects that are indispensable to the survival of civilian populations, including water facilities. Israel has constantly violated its obligations under International Humanitarian Law and International Human Rights Law. During Israel's military operation "Cast Lead" on December 27, 2008 alone, Gaza witnessed untold damage to water-related infrastructure with destruction of water wells, water and sewage networks, water tanks, household connections and waste water treatment plants. This caused 500,000 residents of Gaza (one third of the entire population) to lose complete access to clean running water and another 500,000 have their access reduced to several hours each week during the offensive. [2]

Crumbling infrastructure

Israel's destruction of infrastructure has brought to the brink of collapse the water and sanitation sector which was already dire after years of blockade. The destruction of the sewage system led to mass amounts of sewage flooding into ground water, which was already threatened by pollution, over-abstraction, intrusion of sea water. 90 million liters of sewage are now being discharged daily to the sea as the current waste water treatment plants are working beyond their designed capacity. [3] 90 percent of the Coastal Aquifer is now unfit for human consumption and it is expected to become completely unusable by 2016, and the situation will be irreversible by 2020 if no action is taken. [4]

Improving the water situation in Gaza remains very difficult since Israel prevents the entry of the materials needed for essential WASH projects. A year has passed since Israel declared the ease of the blockade. However, less than a fifth of WASH materials have been allowed in. Add to that the lack of fuel and the power cuts which affect the operation of the water and sanitation system. [5]

Notes

1 . EWASH Advocacy Task Force, "Factsheet 3: water quality in the gaze Strip", 2011.

2 . OCHA, "The Humanitarian Monitor: occupied Palestinian territories." No. 33 January 2009, pp. 8 <http://www.ochaopt.org/documents/ocha_opt_humanitarian_monitor_2008_12_1_15_english.pdf>

3 EWASH Advocacy Task Force, "Factsheet 3: water quality in the Gaza Strip", 2011.

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4 .Office of the United Nations Special Coordinator for the Middle East Peace Process "Gaza in 2020, A liveable place?", 2012.

5 . EWASH Advocacy Task Force, "Down the drain: Israeli restrictions on the WASH sector in the Occupied Palestinian Territory and their impact on vulnerable communities", 2012.

"Palestinians running out of drinking water as Israeli offensive continues", 21/11/2012, online at:

http://mondoweiss.net/2012/11/palestinians-running-out-of-drinking-water-as-israeli-offensive-continues.html

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❖ Red Sea project to be scaled down

AMMAN — The Ministry of Water and Irrigation on Wednesday announced that its ambitious Jordan Red Sea Project (JRSP) will be scaled down due to feasibility-related and financial obstacles.

"We don't have the capability to implement the JRSP under its estimated cost," Ministry of Water and Irrigation Secretary General Basem Tulfah said.

The JD10 billion JRSP, which was announced in 2009, entailed a plan to extract 2,150 million cubic metres (mcm) of water from the Red Sea every year.

To be able to carry out the project and attract investors and financers, the ministry decided to divide the mega-venture into three phases, and scheduled work on the first phase to start this year and end in 2018.

"Even after dividing the project into phases, we found that the cost of the first phase will be above our estimates and the price of the generated cubic metre will not be affordable to Jordanians," Tulfah told The Jordan Times in a phone interview.

Under the first phase of the JRSP, the ministry was planning to convey water from the Red Sea through pipelines to a desalination facility in Aqaba. Water generated from the plant was going to be distributed to the port city and surrounding development projects.

After completion of the three phases, the mega-venture aimed at desalinating 930mcm and channelling 1,220mcm into the shrinking Dead Sea. It also entailed generating 180-megawatt of electricity by projected hydropower stations.

In addition to providing the much-needed water, the JRSP featured an economic development programme, including the establishment of gated communities, resorts, industries and other projects, according to the ministry.

"Now, instead of desalinating 260mcm under the first phase, we plan to desalinate 70mcm per year to meet our water needs until the year 2025 or 2026," Tulfah said.

The government official stressed that the JRSP "has not been cancelled" but scaled down.

"The project will be implemented according to the build, operate and transfer system," Tulfah noted.

Meanwhile, Jordan Valley Authority Secretary General Saad Abu Hammour said on Wednesday that a specialised consultant company will be selected via "open competition" to prepare the project's final studies and tender documents.

"The Treasury will not incur any costs in implementing this phase," Abu Hammour said in a press statement e-mailed to The Jordan Times, underscoring that the decision to scale down the JRSP was taken after consulting with a team of experts.

"Red Sea project to be scaled down", Jordan Times, 22/11/2012, online at:
http://mideastenvironment.apps01.yorku.ca/?p=6384

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❖ Water authority to pump 50% less water from Kinneret this year

Not only has the water level been rising, but its quality has also been improving. The salinity of the lake has dropped by about 6 percent compared with last year, the water authority said.

By reducing its usual pumping from Lake Kinneret by 50% this year, the Israel Water Authority hopes it can raise the water level by about 60 centimeters by the end of the winter, it said yesterday.

The authority could reduce pumping from the lake, better known as the Sea of Galilee, partly because after years of relative drought, the the winter of 2011-2012 was a rainy one. Also, Israel is the world leader in using treated waste-water for agriculture, according to a report the authority released this week.

Israel uses 86 percent of its treated waste-water for agriculture, the report said. Israel is also increasingly using desalinated water from the Mediterranean Sea.

Desalination is used to improve the quality of treated waste-water, the report said. That's because one of the problems with using treated sewage has been its high salinity level, which can damage the ground and seep into groundwater.

Agricultural land that covers more than 1 million dunams, much of it in the Negev, is irrigated with this purified sewage.

If rainfall this winter is about at the level of the long-term average, the water authority plans to pump about 160 million cubic meters of water from the Kinneret this year, rather under half the 350 million cubic meters it pumps on average, the authority said.

This is the first year since 2008 that the amount of water in the Kinneret has not dropped below the lower red line, which indicates that the water has reached 213.18 meters below sea level, less than a meter above the level at which water cannot be pumped without damaging Israel's water supply.

The water level remains 3.5 meters short of the upper red line, a less severe warning signal.

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Not only has the water level been rising, but its quality has also been improving. The salinity of the lake has dropped by about 6 percent compared with last year, the water authority said.

Israel's desalination facilities treated more than 300 million cubic meters of water this year – nearly half the water needed for household consumption. That rate could double again within two years, once two additional desalination plants are completed, one in Ashdod and one south of Rishon Letzion, and the existing facilities increase the amount of water they already treat.

"Water authority to pump 50% less water from Kinneret this year", Haaretz, 20/11/2012, online at: http://mideastenvironment.apps01.yorku.ca/?p=6347

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❖ Unusually warm autumn raises climate change fears

BEIRUT: Autumn has been unusually hot this year, with October starting with three record-breaking highs of 37, 36 and 31 and the rest of the month soaring almost 6 degrees above the average monthly temperatures.

That heat wave plowed into November with temperatures last week soaring 10 degrees above usual levels, and for the month, the average is nearly 5 degrees higher than usual.

Those high autumn temperatures are likely to wreak havoc on the environment once winter arrives, climate experts say. Unusually warm weather can have an immediate negative impact on agriculture, tourism and nature and is likely to give people a firsthand experience of the negative consequences of global warming and climate change, they say.

“We will get short rains of much stronger intensity, which will create flash floods in a way,” said Vahakn Kabakian, climate change expert at the United Nations Development Program. “Agriculture will be impacted as well, because the dry season might be longer at the end of the summer.”

Lower temperatures in the fall cool the ground and prepare the high elevations for the heavy snowfalls in the winter which leave a deep snow pack that melts as spring arrives. That melt nurtures the various ecosystems running down the mountains. But with warmer seasonal temperatures this year, with lows and highs around 5 degrees higher than usual, weather experts say there is an increased chance for fierce rainstorms that drop more water than the earth can absorb and use.

“You won’t be able to retain the water,” Kabakian said.

That excess can run off into flash floods that overrun streets and flatten agricultural fields, devastating farmer’s winter crops. The change in temperature will also add to a slow process of environmental change that has ecosystems fighting to stay alive in the warmer weather.

This year’s warmer temperatures fit into a pattern of increasingly warm seasons that Kabakian said forces plants and animals into a competitive climb for the cooler temperatures that they need. The ecosystems already at the top have nowhere else to go and can die off, he said.

Ali Fakhry from IndyAct, an organization that focuses on environmental issues, says more people may develop an appreciation for the dangers of climate change this year as high temperatures may hit people where it hurts: in the pocketbook.

The change in climate and heavy rains could ruin the idyllic snow in the upper reaches that draws people from around the world during the winter tourism season. Warmer temperatures may shorten the skiing and winter chalet season and generally bring less money into the country.

"We can sense and see the economic impact on Lebanon that is affecting us," Fakhry said. "It will be the tourism season being affected."

Activists say that they hope that visceral impact can build support for new initiatives to help the country reduce its environmental degradation and help the Arab world do so as well.

The country already struggles with a number of environmental issues like industrial pollution, high levels of deadly particles along roads, deforestation and littering.

Activists say having Lebanon lead international environmental efforts is the best way to start mitigating the potentially disastrous effects of long-term climate change.

The country published an environmental preservation plan this year, but environmentalists say they need to start acting on those projects to show they are really behind their goals.

"We need the Lebanese government to take a positive position and the lead for Arab countries to pledge to reduce emissions of greenhouse gasses," Fakhry said.

"Unusually warm autumn raises climate change fears", Daily Star, 22/11/2012, online at: http://mideastenvironment.apps01.yorku.ca/?p=6386

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❖ Water-Sensitive Cities Discussed at Desertification Conf'

*The extensive work being done in conjunction with KKL-JNF to promote water-sensitive cities was presented at the International Conference on Drylands, Deserts and Desertification, which took place last week at the Sde Boker campus of Ben Gurion University***.**

The extensive work being done in conjunction with KKL-JNF to promote water-sensitive cities was presented at the International Conference on Drylands, Deserts and Desertification, which took place last week at the Sde Boker campus of Ben Gurion University. The conference covered a wide range of topics related to drylands, deserts and desertification, such as agriculture, urban planning, wastewater treatment, climate changes, water economy management, green construction and other topics. The four days of the conference included lectures, workshops and tours to relevant sites in the Negev, including a day of touring KKL-JNF projects in the Negev.

Participating in the conference were the best scientists in the field, professionals and students, Israelis as well as guests from different countries. They all had in common an understanding of the importance of coping with the phenomenon of desertification, and a desire to learn from innovative research studies and projects.

The symposium on the topic of water-sensitive cities was one of the important sessions at the conference, in which a number of leading scientists, members of the applied research team for creating water-sensitive cities in Israel, took part. This program is being implemented with the support of KKL-JNF Israel and JNF Australia.

Water-sensitive cities are characterized by the management of their water economies through the creation of sustainable solutions, utilizing suitable technologies and increasing public awareness. The conference addressed different aspects of water economy management, such as water system characterizations, technology, planning requirements and community involvement.

"Water-Sensitive Cities Discussed at Desertification Conf", 20/11/2012, online at: http://www.jpost.com/GreenIsrael/InternationalCooperation/Article.aspx?id=292724

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❖ Farmers opt for paddy variety that needs less water

Farmers in at least six districts, who were affected by deficient rainfall this year, have come forward to cultivate a hybrid variety of paddy, KRH-4, developed by the University of Agricultural Sciences (UAS), Bangalore, which requires less water compared to other varieties.

The paddy variety, developed after several years of research and field trials, is expected to yield 7.8 tonnes a hectare, which is more than double the yield from traditional varieties, according to UAS-B authorities.

Hundreds of farmers have expressed their willingness to cultivate KRH-4 paddy in over 5,000 acres of land in Mandya, Mysore, Hassan, Tumkur, Shimoga and Ramanagaram districts, N. Shivakumar, a breeder at the Paddy Division at the V.C. Farm here, told *The Hindu* on Sunday.

Promoting the variety

To promote the KRH-4 paddy, the UAS-B is cultivating the variety in 125 acres of land in various districts using the innovative and water saving method of System of Rice Intensification. Standing crop in most of the fields is in the 'milky' stage, which will be followed by grain-filling and maturity stages.

Scientists at the Zonal Agricultural Research Station, V.C. Farm, are expecting that yield from the KRH-4 variety to be at least two times more than that from the other varieties.

Crop demonstrations

UAS-B and V.C. Farm authorities have conducted live crop demonstrations in several villages in the six districts which were attended by hundreds of farmers cultivating traditional paddy varieties.

Mr. Shivakumar said more than 20 districts in the State had been badly affected owing to deficient rainfall. KRH-4 was a boon for farmers as it requires less water and fertilizer.

Cultivation of the variety in the 125 acres had been taken up in association with V.C. Farm, Krishi Vigyan Kendras (KVKs) and Karnataka State Seeds Corporation, he said.

"Hundreds of farmers have placed orders for the KRH-4 variety to take up sowing in about 5,000 acres in the next season. The variety may be cultivated in over 15,000 acres in the next two seasons," he said. The variety has also evoked curiosity among researchers in different parts of the country.

The paddy variety is being cultivated in 15 acres of land at Matada Doddi village near Malavalli.

Puttaswamy, who has been growing traditional paddy varieties since the last 19 years, is cultivating the KRH-4 variety in nearly 4 acres. He said the new variety had drastically reduced the input costs as it requires less water. The yield was expected to be three times more than that from the traditional varieties, he said.

"Farmers in Hadya, Katte Doddi, Channanke Gowdana Doddi, Kyathanahalli, Naguvanahalli and others villages have decided to take up cultivation of the KRH-4 variety in a big way. In Matada Doddi itself at least 100 farmers are ready to sow the hybrid variety," Mr. Puttaswamy said.

Farmers in the surroundings of Malavalli and Mandya cultivate paddy varieties such as MTU 1001, BPT 5204, IR 64, Thanu and IR 3864. With uncertainty over the release of Cauvery water and owing to deficient rainfall many of them were willing to opt for the new hybrid variety, scientists at the V.C. Farm said.

"Farmers opt for paddy variety that needs less water", 19/11/2012, online at:
http://www.thehindu.com/news/states/karnataka/farmers-opt-for-paddy-variety-that-needs-less-water/article4108970.ece

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❖ Water storage efforts reverse migration in Pakistan

GHOOL, Pakistan (AlertNet) – A year ago, Aslam Bibi and her family left their village and moved to a nearby town, desperate to find a way to eke out a living in the face of failing rainfall that made subsistence impossible.

But after a few months, Bibi returned, drawn back home by news of newly constructed reservoirs that have begun soaking the parched farmlands in her area and replenishing underground aquifers.

Water is now supplied to Bibi's village of Ghool from a nearby reservoir and mini dam. Stored rainwater is funnelled through a 4 km-long (2.5-mile) pipeline. The dam, completed in July of this year, is part of a project to mitigate the effects of climate change in rural areas hard hit by declining rainfall.

"My husband has resumed cultivation of groundnuts on our four acres," Bibi said happily while sewing clothes in the courtyard of her home. "I no longer leave home in the morning to fetch water for drinking, sanitation and other domestic needs," she added.

Instead, the 39-year-old spends the first half of each day as a tailor to support the family's income – time she had previously needed to fetch water from a natural pond some 4 km (2.5 miles) from her home.

Bibi's village is in Chakwal district, at the beginning of the Potohar plateau and the Salt Range of hills, about 90 km (56 miles) south-east of Islamabad, Pakistan's capital. The district stretches over 6,500 square km (2,500 square miles) of arid terrain, and its population of nearly 1.5 million rely on rainfall for their water supply.

The region has seem worrisome reductions in recent years in the rainfall it receives, a change experts say may be the result of climate change.

"When rains were profuse some 8 to 10 years back, locals grew only wheat, groundnuts and pulses," said Haji Khan, a 61-year-old groundnut farmer. "But the area under these crops has shrunk over 60 percent in Chakwal district."

50 PERCENT DECLINE IN RAIN

Local farmers say that rainfall in the area has declined by 50 percent or more in the past 10 years.

Arif Mahmood, director-general of the Pakistan Meteorological Department, confirmed that average rainfall in the district in 2010-2011 was 300-400 mm, down from 560-635 mm in the years before 2007.

Khalid Iqbal, a 35-year-old cattle farmer in Ghool, said that until about five years ago, the water table was 100-120 feet (30-36m) underground. Now, it has dropped to 500 feet (150m).

Before the dam was built, it had become nearly impossible to grow vegetables and fodder in Ghool and other nearby villages, because declines in rainfall had made water so scarce, recalled 35-year-old Jehan Khan.

Now Khan points delightedly to a field of potatoes. "This is first time I've grown it," he says. "My crop is nearly ready for harvesting."

Khan says the difference has been the area's new reservoir, designed to capture and hold scarce rainfall. About 500 households (4,500 to 5,000 people) and 100 hectares (250 acres) of irrigated land benefit from the mini dam, which has a catchment area of 2.4 hectares (6 acres) and can store 24,000 cubic metres (850,000 cubic feet) of water, enough to meet the village's agricultural and domestic needs for eight months.

The dam was built at a cost of 3.6 million Pakistani rupees ($37,000), 80 percent of which was paid by the Pakistan Poverty Alleviation Fund (PPAF), a nongovernmental organisation. The remainder of the cost was paid by residents of Ghool.

RETURNING HOME

Now, "many farming families which had migrated to nearby urban areas in search of an alternative livelihood are returning to the area because of the dam," said Aslam Bibi.

Khalid Iqbal, 32, says since the dam was constructed he now grows his own fodder for his five cows and two goats, saving himself 18,000-20,000 rupees ($187-$208) a month.

"I sell the surplus to other cattle farmers, which has earned me extra money and helped improve our household economic conditions," Khalid said.

The mini dam in Ghool is part of a 65 million rupee ($680,000) Drought Mitigation and Preparedness Project being implemented by the Pakistan Poverty Alleviation Fund in a number of villages in Chakwal district.

"We have built 28 rainwater harvesting ponds, eight mini dams, six check dams (and) two dug wells to benefit 2,700 households," said Kamal Afridi, general manager for water, energy and climate change affairs at PPAF.

The scheme also has involved construction of 33 pipelines to supply water from the dams and rainwater harvesting ponds for irrigation and domestic purposes.

Afridi said that communities had contributed about 13 million rupees ($134,000) to the projects, with the remaining 52 million rupees ($543,000) coming from the World Bank.

Raja Munir Hussain Janjua, regional programme officer with the National Rural Support Programme, an NGO which is helping PPAF to implement the project, said there were plans to build 16 further mini dams and to install 100 biogas plants and 30 solar water pumps in the district.,

PPAF's Afridi said that Pakistan is the first country in South Asia to implement this drought mitigation model, which was developed at the University of Nebraska's National Drought Mitigation Center in the United States.

According to Afridi, the model could be replicated in countries facing similar challenges, including Bhutan, India, Nepal and Sri Lanka.

"Water storage efforts reverse migration in Pakistan", 19/11/2012, online at: http://www.trust.org/alertnet/news/water-storage-efforts-reverse-migration-in-pakistan

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❖ Dwaraka Shankaracharya demands law to preserve Ganga

Expressing dismay over the Union Government's failure to keep its promise to initiate measures to check pollution and to ensure uninterrupted flow of water in river Ganga, Shankracharya of Dwaraka peeth Swami Swarupanand Sarswati today demanded a law be framed to preserve the 'National River'.

A law should be framed to preserve the river Ganga and it should have a stringent provision to penalize whoever was responsible to pollute it, he told a press conference here.

Seven pro-Ganges activists including two women had observed an indefinite fast in support of the demands for immediate steps to check pollution in the river and uninterrupted flow of water, he said.

Keeping in view the deteriorating health condition of the hunger strikers, Swami Swarupanand said the Prime Minister had conveyed a message through Union Minister Sriprakash Jaiswal appealing to the agitators to break their fast.

However, the stipulated timeframe has already been expired but no action was initiated as yet, he said.

Swami Swarupanand demanded that the government should initiate urgent steps to check release of industrial and chemical waste in the river, release of adequate water in the river and diversion of sewerage systems.

"Dwaraka Shankaracharya demands law to preserve Ganga", 24/11/2012, online at: http://www.dnaindia.com/india/report_dwaraka-shankaracharya-demands-law-to-preserve-ganga_1768967

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❖ Restoring Fair Weather

The climatic condition of Manipur may be still described as salubrious in the brochures brought out by the State Government for promotion of tourism.

But in reality, the climatic condition of Manipur is far from being salubrious today.

With its once dense forest covers reducing and the natural wetlands dotting every part of the State disappearing, Manipur is today no stranger to the impact of climate change and the people have already started feeling the heat of global warming.

The annual rainfall rate in the State has come down from 2217.90 millilitre in 1968 to 916.90 millilitre in 2007 while rise in temperature has been recorded from 25° C in 1969 to 29.72° C in 2008.

Today, air conditioning is no longer a luxury item in Manipur but a necessity in most houses. Around a couple of decades back, this was something which we could not have been able to imagine even in our wildest dreams.

But today it is very much a reality. What is even more worrisome is the impact of climate change on the rich bio-diversity of the region and the environment.

Erratic rainfall patterns and drought like situation being experienced over the years more often than not has led to low productivity, thus, giving a serious setback on the economic growth of the State which largely depends on agriculture and other allied activities.

In such a situation, it is good to know that the Government of Manipur has taken up necessary steps for implementation of its State Action Plan on Climate Change (SAPCC).

With a commitment to combat the challenges posed by climate change, SAPCC has been drafted with the assistance of Deutsche Gesellschaff Fiir Internationale Zusamonnarbeit, an agency working for Government of Germany in the field of environment.

An interesting aspect of SAPCC is the special focus given to promotion of understanding on climate change, adaptation, mitigation and natural resource conservation through eight missions namely, State Mission for Ecosystem, State Mission for Agriculture & Allied, State Mission for Health & Security, State Mission for Green Manipur, State Energy Mission, State Mission for Urban Planning and State Mission for Climate change knowledge and & information.

It is said that the State Action Plan is to be implemented in line with the National Action Plan on Climate Change (NAPCC) for sustainable environmental management and to address the urgent and critical concerns of the State through a directional approach.

All these are okay, but how well the State Missions would be translated into action still a billion dollar question.

We could not help, but be skeptical on this point considering the fact that implementation part of any project or policy is where the State Government and its related departments meet their nemesis.

Anyway, we would be happy to accept defeat if proven wrong when it comes to implementation of SAPCC and fair weather that Manipur has been known for is restored.

After all, this is an issue whose negligence would spell doom for mankind. Period.

"Restoring Fair Weather", Hueiyen Lanpao Editorial, 19/11/2012, online at: http://e-pao.net/epSubPageExtractor.asp?src=news_section.editorial.editorial_2012.Restoring_Fair_Weather_HL_20121119

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❖ Tajikistan Stopped Selling the Rogun HEP Shares

The sale of Rogun HEP shares has been stopped: not a single company share has been sold in 2012, Asia Plus reported on 19 November citing Tajikistan's Ministry of Finance. After consolidating the company's inventory, which is held in the eight Tajik banks which were attempting to sell the shares, the company's management found out that the sum gained from selling shares in previous years has not changed and remains 804.7 million somoni (around $170 million).

Since 6 January 2010, when the sale of shares in Rogun HEP began in Tajikistan, just over 1.8 million shares have been sold out of a total of 5 million, thus leaving more than 3 million shares facing no demand.

Eight Tajik banks were responsible for carrying out this Tajik government initiative. Rogun HEP shares were available for 100, 500, 1,000 and 5,000 somoni. Certificates for more than 5,000 somoni are registered shares. The campaign to sell Rogun HEP shares began after Tajikistan failed to get financing to build a strategic hydroelectric power-station, which the republic hopes will rid it from an acute energy crisis and take it to a new level of economic achievements. The country's entire population was involved in the campaign on a voluntary-compulsory basis. "Pensioners lost around 50 percent of their pension savings. Even school children, under age kids were asked for money for shares. The local authorities made these demands, using threats to fire people from their jobs", a Fergana source in Tajikistan said at the time. The noise around the Rogun HEP share sale quietened at the end of 2010. Construction to add to the Rogun HEP began in September 2007. The Tajik government decreed that the construction of the power-station will be funded by deposits made by the country's citizens. According to a draft, the 6 hectare Rogun HEP site is capable of producing 3.6 million kilowatt hours of electro-energy. However, neighboring Uzbekistan is actively opposing the construction, with the Uzbek president predicting rising tensions in the Central Asian region and does not exclude war as a possibility.

"Tajikistan Stopped Selling the Rogun HEP Shares", 20/11/2012, online at: http://amudaryabasin.net/news/tajikistan-stopped-selling-rogun-hep-shares

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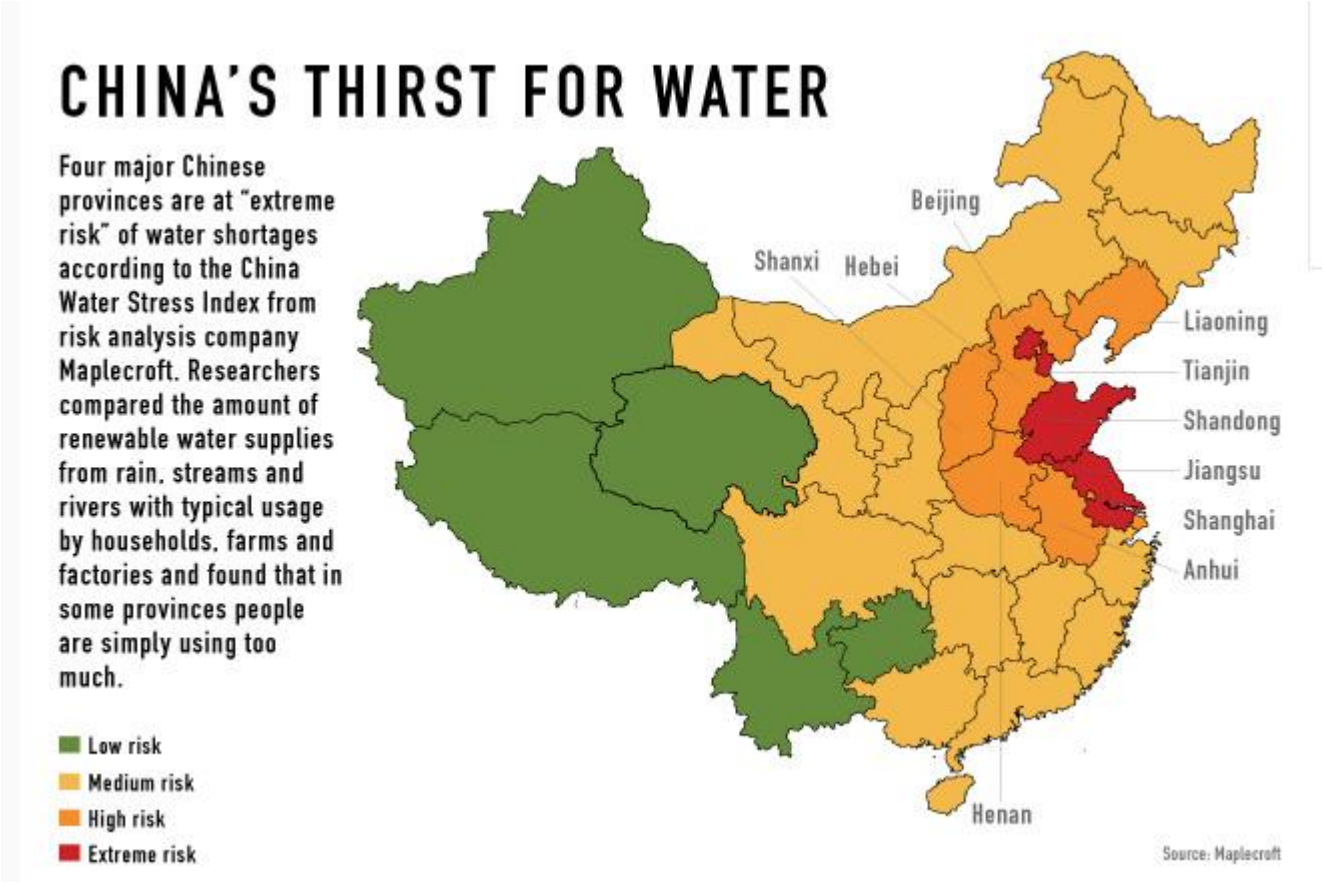
❖ Water: The next challenge for China's new leaders?

Now that the 18th Communist Party Congress is over, China's new leadership team turns its attention to tackling the problem of the country's slowing economy.

China faces a number of challenges, including dependence on exports and weak domestic consumption, but one of the most pressing issues is a risk of severe water shortages.



A map from research firm Maplecroft shows that four Chinese provinces are at "extreme risk" of lacking enough water. China contains only 7 percent of the world's potable water but must feed almost 20 percent of the world's population, according to the United Nations Food and Agriculture Organization. Meanwhile, its people are living longer and eating more, especially more water-intensive food, such as meat and dairy.

Writing at CNN, Geoff Hiscock points out that the country's precarious water situation makes it less able to withstand shocks like inflation, droughts or other natural disasters:

The speed of the middle class consumption boom is so swift that unless China takes decisive steps soon to re-engineer its food and water usage patterns and supply chains, and commits to a massive greening of its industrial landscape, it risks social dislocation that could undo much of its progress.

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The situation so serious that it has the potential to further limit economic growth by constraining business and hampering agricultural outputs, Maplecroft writes.
Resulting reductions in crop harvests in these countries will also negatively impact local food supplies and global food prices, while the socio-economic impacts of water shortages, especially in India and China, have the potential to create unrest and affect stability, as populations and business compete for dwindling supplies.
In north and eastern China, home to Beijing, Tianjin and Shanghai, water use has outpaced supply, prompting the construction of the South-to-North Water Diversion Project, which aims to transfer water from the wet south to the dry north. However, others have said the water along the project's path is so contaminated by pollution that it's barely usable, even after treatment.
Earlier this year, the environmental organization Greenpeace released a study implicating China's reliance on coal power for its water problems. The group has an obvious agenda, but as Beijing plans to build 16 coal-fired power stations in four provinces by 2015, they could end up consuming billions more cubic meters of water.
Shale gas also uses up copious amounts of water, and academics have warned that water shortages could hamper China's shale gas production ambitions
Unfortunately, as The Washington Post's William Wan and Keith Richburg report, some among China's new cadre of leaders aren't the most savvy when it comes to handling tough economic problems:
Incoming premier Li Keqiang has economic training, however many economists were rooting for a more prominent role for Wang Qishan, who has deep experience and understanding of Western economies and leaders. Instead – in part out of fear that Wang's expertise might undermine Li — Zhang Gaoli, former party chief of Tianjin, appears to have the economic portfolio.

"Water: The next challenge for China's new leaders?", 15/11/2012, online at:
http://www.washingtonpost.com/blogs/worldviews/wp/2012/11/15/water-the-next-challenge-for-chinas-new-leaders/

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❖ As Wen Jiabao departs, China's dam plans to accelerate

BEIJING (Reuters) - The number of new hydropower projects in China could surge as the country's populist premier Wen Jiabao retires and a new leadership team races to meet ambitious 2020 energy goals.

Dam building slowed considerably under Wen, who personally intervened to block hydropower projects and avoid the potential for protest from local populations. Projects such as the $59 billion Three Gorges Dam have been the focus of criticism over the social and environmental cost China is paying for development.

More dams could be a tough sell as an increasingly affluent public pushes back against a "growth at all costs" economic model. As China's new leaders consider how to power expansion, however, they have little choice but to push ahead with hydropower given that alternatives like coal or nuclear fueled power may be even less palatable to the population.

"It isn't that hydropower is the best choice -- it is the only choice," said Lin Boqiang, director of the China Centre of Energy Economics in Xiamen

"Not everyone agrees with hydropower and especially when it comes to building big dams there are a lot of conflicts and we need to be conservative when considering the impact on the environment, but China has no other option."

The government aims to boost total power capacity by nearly a half to 1,500 gigawatts by 2020, up from 1,060 GW at the end of last year, while cutting coal consumption and limiting growing dependence on expensive gas imports.

The scale of the task is massive. The increase is roughly equivalent to adding Russia and India's total combined power generation capacity.

Beijing is also seeking to raise the share of non-fossil fuels to 15 percent of its total energy mix by 2020, up from 9.4 percent in 2011. But China has scaled back its nuclear plans since Japan's Fukushima disaster, limiting clean energy options and making it harder to hit the targets without many more dams.

UNTOUCHED RIVER

Wen's tenure as premier saw a number of projects shelved, with only a third of the projects identified as a priority over the 2006-2010 period actually going ahead, said Zhang Boting, the deputy head of the China Society for Hydropower Engineering, a pro-hydro group.

Among the projects vetoed by Wen were a series of dams on Yunnan's untouched, UNESCO-protected Nu River, known outside China as the Salween, in 2005. The project has been shelved since, but it is still listed among the government's key development projects for the 2011-2015 period.

Wen, a geologist by trade and populist by instinct, is due to step down in March 2013. But long before his departure, the tide had begun to turn. China's latest five-year plan said 160 GW of new hydro capacity needed to go into construction over the 2011-2015 period.

"If implemented, it will result in an unprecedented dam-building push," said Peter Bosshard, director of environmental group International Rivers, which campaigns against big dams.

The builders of several projects stalled during Wen's tenure as premier have already begun construction even before receiving approval to go ahead. Giant power firms are preparing new multiple dam systems on the upper reaches of the Yangtze and Mekong rivers in southwest China's Yunnan province.

The 1.9 GW Huangdeng project, one of a series of dams under construction on the Mekong by China's biggest power firm, the Huaneng Group, is now 40 percent complete even though it hasn't yet been fully approved, activists say.

Huaneng and other giant state-owned utilities are clearly confident that final approval will be granted quickly once the new leadership is in place.

STOMACH TO TAKE ON OPPOSITION

Policy documents have helped fuel their confidence. An energy white paper published in October said China will "rely on hydropower to meet more than half of the (non-fossil fuel) target". Total hydro capacity would reach 290 gigawatts by the end of 2015, up from around 230 GW now, and China's rivers could potentially run as much as 542 GW, the paper said.

According to its "five-year plan" for renewable energy, China aims to launch 60 big hydro plants over 2011-2015.

Wen's ability to intervene to block hydropower plants was strengthened in 2007 when final approval for dam projects was given to the cabinet, the State Council, chaired by the Premier.

Final approval for big dams will continue to lie with the cabinet, and opponents may be encouraged by the recent remarks of environment minister Zhou Shengxian, who said big projects will need to resolve "social impact" issues before going ahead.

The industry is increasingly impatient. The project delays have angered not only power executives, but also energy officials and local government leaders who say that while dams are disruptive, benefits far outweigh costs.

Xu Dingming, a State Council energy advisor, has repeatedly spoken out against what he sees as the folly of overzealous campaigning against dams, especially in poor regions like Yunnan, noting that stable electricity supplies would galvanize the economy and allow mineral resources to be developed.

How quickly construction accelerates will depend on the stomach of the new leadership to take on and manage public opposition to the projects, Zhang of the China Society for Hydropower Engineering said.

"Whether they will speed up the pace of development will depend on where their courage lies," he said.

"If they seek to pander to public opinion like Premier Wen, you will have to look at how the public views hydropower."

"As Wen Jiabao departs, China's dam plans to accelerate", 18/11/2012, online at: http://mobile.reuters.com/article/worldNews/idUSBRE8AH0IP20121118

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❖ Likely war over the Blue Nile?

The Nile water is the sole lifeline for Egypt to which the Blue Nile River contributes 85%. The Blue Nile River is a vital indispensable resource of Ethiopia for irrigation farming in view of her increasing population, source of hydraulic power, and a deterrent weapon of last resort for self-defense. The two countries are naturally bound by the Blue Nile on which they are dependent for survival. This is a top priority agenda like no others for both Ethiopia and Egypt to take extreme care in order to stop radicals on both sides bent on souring relations.

The writing of this piece is prompted by the uncertainty in the fate of multi-party democracy in Egypt and the intransigence of the TPLF-controlled EPRDF government to make an all-inclusive change conducive to robust internal harmony and unity to respond to any external threat to national interests. The matter is so serious that I gave it a rather scary title after a lot of soul-searching, but the arrogant stance of prominent Egyptian leaders begged for it as mentioned in the paragraph below – notwithstanding my long held dream that democratic Ethiopia and Egypt will one day emerge as powerful allies working together as keepers of stability and engines of economic growth in the region and beyond in the African continent.

But the new Egyptian regime appears to have dimmed any hope of engendering a secular democratic state given that liberal democratic political forces that have spearheaded the Egyptian revolution have withdrawn from drafting the constitution. It seems the government is bent on following in the footsteps of its predecessors. For example: in 1970, Egyptian President Anwar Sadat threatened war with Ethiopia over the proposed construction of a dam on LakeTana on the Blue Nile (El-Khodary, 1995: 1); the Egyptian former Secretary General of the United Nations, Boutros-Ghali, is reported to have talked of war over the Nile waters (Butts, 1997: 1); in October 1991, the Defense Minister of Egypt "remarked in al Ahram that his country would not hesitate to use force to defend its control of the Nile River, and predicted that future Middle East wars could result from water scarcity issues (Postel, 1992: 4) adding "I do not actually expect an impending control of the Nile River by aforeign country, but we consider it a possibility and are planning our military strategy accordingly" (Postel, 1992: 5).It is to be recalled that the Minister, Field Mohamed Hussein Tantawi Soliman, took over

power from President Mubarak relinquishing it later to President Mohamed Morsi of the Moslem Brotherhood Party (FJP). My emphasis

This recent setback for democracy in Egypt has considerably curbed my earlier hope that democratic Egypt and Ethiopia will play key roles in stabilizing the region and promoting development thus becoming formidable political forces to contend with; will be partners in the development of the Nile Basin – a key factor of regional policy to avoid war.

There is nothing more serious than asserting Ethiopia's right to control the source of the Blue Nile, but this requires the unity of her citizens and competent leadership with Ethiopia's interest at heart. But the EPRDF as it now stands is so weakened by internal wrangles of its own creation rendering it unable to defend vital national interests in the face of endless threat by Egypt to control the Blue Nile River.

Diminishing per capita quota of Nile water

The table below provides a frightening data of rapidly diminishing quota per capita of water available to riparian states for the period 1995 to 2025 vindicating the predicted fear that future wars would be over water more than anything else. Note that Ethiopia would incur a loss of 1365 cubic meters by 2025 remaining with only 842 cubic meters per capita quota in almost 12 years from now.

There are ten (10) riparian states entitled to the utilization of the Nile water of which Ethiopia is the source for 85% of it. With Egypt at the receiving end, Sudan in the middle and Ethiopia as the source, the relationship among these three countries is of paramount importance to the rational development of the Blue Nile Basin for the proportionate benefit of all parties.

It is interesting to note that the seven riparian states in the Great Lake Region are a cohesive group in the East African community with only Uganda having dams built or planned project on the White Nile River. This is unlike the other three lacking the knack for political cooperation due to their history of conflicts for centuries; the two of them are members of the Arab League traditionally inimical to vital strategic interests of Ethiopia.

The Nile water should therefore be resolved in two parts comprising White Nile riparian states on the one hand and those of the Blue Nile on the other so that issues unique to each can be much less cumbersome to handle and more effective to define and resolve to the satisfaction of parties to the issue. The approach in handling the matter at the two distinct regional blocs is further justified by the fact that the need for the Nile water greatly varies among the ten riparian states. But cooperation is encouraged under the umbrella of all riparian states of the Nile and African Union where the interests of the two blocs converge.

It can be argued that Ethiopia as provider of the lion's portion is entitled to have veto power in any bilateral agreement with Sudan involving the sharing, conservation and development of the Blue Nile water; similarly, Sudan should have a veto power over its agreement with Egypt. However it would be best if the three enter into a viable single agreement and forge a regional community emulating the countries of the Great Lake Region. This is in line with my recommendation made three decades ago in a friendly discussion with Egyptian experts at the reception held at their Embassy in Addis Ababa. It was appreciated that: cooperation would open the door for regional economic block involving Egypt, Sudan, and Ethiopia; the trio would become a powerful block in bolstering and expediting the African Union to realize continental integration; the saving of resources from such arrangement would be enormous.

The Blue Nile River is a natural bond of indispensable significance to Egypt and Sudan. Ibrahim Nasreddin of Cairo University's Institute for African Studies said that "a 20-year-old feasibility study, a cooperative venture between some of the Nile's source countries and donor states, to build 50 dams on the River Nile over 50 years has not seen any headway due to the high cost of these dams". He added that "the projects would cost in excess of $40 billion. According to Nasredin, "none of the African states can afford this. They won't be able to repay loans of such an amount." Source: Article by Reem Leila, Al-Ahram Weekly January 5, 2011.

Incidentally, the Imperial regime had participated in the abovementioned study, which I had the opportunity to see several volumes shelved in the study room of the Monarch at His Bahr Dar Palace. I was reverently surprised by His interest to read about the study of the dam projects.

Water expert Diaa El-Qousi stresses that "Egypt's cooperation with other Nile Basin countries is based on a sense of neighborhood and an understanding of mutual interests and is likely to be an

ongoing process that will encompass educational, irrigation, electricity, agriculture and industry-based projects. He goes on to state that "Egypt's immediate focus will be on issues deriving from the ecology of the Nile Basin and on prospects for economic integration among the riparian countries that provide Nile water in a way that will ensure the maximum utilization of resources. Egypt is taking steps towards implementing joint projects with Nile Basin countries and is seeking agreement on future plans. Within this context, economic and trade relations between Egypt and Ethiopia are developing rapidly. The volume of Egyptian investments in Ethiopia is expected to increase to more than $1.1 billion."

I was upbeat about the Egyptian uprising as written in some of my articles. However with the reported stance of President Morsi behaving like 'the new Pharaoh', entirely exclusive of secular liberal political parties that spearheaded the uprising, I should confess that my enthusiasm is considerably subdued. So should the optimism of Nasredin and Diaa El-Qousi, I would think. Egypt should propose scaling down of the DAM instead of pushing to scrape it altogether taking advantage of the weakness of the EPRDF at this time.

The Renaissance Dam

At all times and at this time of uncertainty in regional politics particularly I reiterate my stand that robust defense force and internal harmony are quintessential to preserve and protect national values; however the repressive government in power must change its ethnic-based policy and open the political space for very serious consultations with all political opposition parties, civic organizations, and above all the Ethiopian people as the ultimate and supreme source of power and owners of the country's resources. I would like to underline that it would be foolhardy to construct the so-called "Renaissance Dam" at a location within artillery range from Sudan – a situation that will require missile defense against in-coming Egyptian air strike. My hunch is however that Egypt will send a commando force at some critical stage to destroy the Dam, which action would inflame political turmoil in Ethiopia and entail hefty loss of capital expenditure – a highly probable grave scenario indeed.

My suggestion is therefore to scale down the size of the Dam at its present location considerably and build as many other dams as required in the Amhara, Oromia and Gambella regions on rivers tributaries of the Blue Nile.

Conclusion

It is irresponsible to weaken internal harmony and strength by pursuing the familiar cheap politics of divide-and-rule along religious and ethnic lines thereby playing into the hands of hawkish Egyptian leaders to exploit any weak point in our midst to destabilize us. Therefore EPRDF government should release all political prisoners, preserve the unity of the 1682-yeay-old Ethiopian Orthodox Tewahido Church, and acquiesce to all constitutional demands of the Ethiopian Muslims so that unity and strength is achieved to effectively defend national interest.

The riparian states of the Nile should be split into two blocs, namely, Ethiopia, Sudan and Egypt on the one hand and the rest on the other. Ethiopia is legitimately the one to control the Blue Nile River in her territory and use it as a deterrent weapon of last resort in self-defense. To that effect, there has to be unity, internal peace and strength.

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"Likely war over the Blue Nile?" ,Robele Ababya, 24/11/2012, online at: http://ecadforum.com/2012/11/23/likely-war-over-the-blue-nile-river/

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❖ Ethiopia on Track to Complete Mega Dam Projects

Ethiopia is on track to complete mega dam projects towards enhancing its role on the East African Power market according to Alemayhu Tegenu, State Minister.

The primary dam, the 4.1 billion US dollar Grand Renaissance Dam is on track for completion by the 2015 deadline he said.

Two other smaller dams are also expected to launch operations at the same time to generate a combined 8 thousand Mega Watts at full capacity explained Alemayhu.

Thirteen percent of the construction of the Grand Renaissance Dam is already completed according to the Energy Minister.

The Minister's response addresses concerns raised by some experts who suggest that the country may find it challenging to finance the Grand Renaissnace Dam.

More than 277.1 million US dollars have been raised for the construction of the dam to date from internal sources said Alemahyu speaking at the energy conference being held in Addis Ababa.

The Ethiopian government has chosen to finance the project internally from the people, government budget and power utility payments he explained.

Another major hydro power project that the government hopes to complete is the Gilgel Gibe III dam which is expected to complete in 2013 at a total cost of 1.8 billion US dollars. This dam is 65 percent complete noted Alemayhu.

"Ethiopia on Track to Complete Mega Dam Projects", 20/11/2012, online at:
http://www.2merkato.com/201211201809/ethiopia-on-track-to-complete-mega-dam-projects

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❖ March calls on region's leaders to forge ahead on climate change

Aiming to increase awareness about climate change and urging Arab countries to take the leadership at the upcoming United Nations Climate Change summit in Doha, environmental activists organized a peaceful march last Saturday across Qasr al-Nil Bridge to the Arab League headquarters, with banners stating, "Arabs, take the lead!"

The activists are from the Arab Youth Climate Movement, an independent body established in September, ahead of the UN summit. The summit will be held in Qatar — the first time it will be hosted by an Arab country — from 26 November to 7 December.

The movement unites youth in 13 Arab countries who simultaneously organized peaceful marches to call for serious action against climate change.

Many well-known environmental movements and NGOs joined the march, including Cairo Bike Scene, the Green Arm of Nahdet al-Mahrousa, the Global Campaign for Climate Action, 350.org, DEMENA Youth Climate Ambassadors and the International-Curricula Educators Association, among others.

Ahmed Younis, the Arab Youth Climate Movement's media coordinator, is convinced that hosting the summit in Qatar is a golden opportunity for Arab countries to lead the negotiations, and take a progressive stand toward reaching fair and strong climate agreements.

"We look at Arab governments as partners. We need them to know that their decisions will shape our future," he notes. "I really hope they will look at the youth and listen to their demands in the coming days."

Lama al-Hatow, a climate activist for IndyAct, a group of independent climate activists, and founder of the Water Institute for the Nile, says Egypt's position is quite difficult in climate summits, because the country is a prominent member of both the Arab and African groups of negotiators.

"The Arab and African groups have very different positions," Hatow explains. "Africa has one of the more progressive delegations, and the Congolese negotiators, who are chairing the group, are very good negotiators. Some Arab states, however, have played a more obstructive role."

In the Arab group, the Gulf Cooperation Council has a lot of influence, and it could lose oil revenue if a climate agreement is made, Hatow says.

Younis says that most problems in the region come from using fossil fuels as a main energy source without paying attention to their destructive impact on the environment. The consistent use of harmful chemicals for agriculture is also one of the main factors leading to climate change.

"Thus, we aim to urge Arab decision makers to start adopting renewable energy sources, and find ways to rationalize water consumption and generate energy from waste materials," Younis says. "By solving global climate change problems, we are actually solving our local problems as well."

Sara Rifaat, 350.org's general coordinator for the Arab world, also participated in the march. Her movement is a global campaign that started in 2009 aiming to decrease the amount of carbon dioxide emissions in the atmosphere to 350 parts per million — the safe limit defined by scientists.

"350.org seeks to push policymakers to take serious steps to reduce carbon dioxide emissions, especially by reducing fossil fuels consumption," Rifaat says, adding that her groups supports the Arab Youth Climate Movement and hopes to take its aim forward.

Menna Salama, president of the Anti-Cancer Team at the American University of Cairo, was another participant in the march. She says there is a serious connection between climate change and the increasing numbers of cancer patients in the country.

She says that while smoking is considered the main cause of lung cancer worldwide, in Egypt, scientific research shows that air pollution is the main cause.

"Because November is the global month for lung cancer awareness, we found it useful to support this movement to help people know how climate change and air pollution can directly affect their health. We also give them advice about the preventive measures they must follow to protect themselves," Salama explains.

The need for education and awareness prompted several campaigns to take part in the march.

Mostafa Medhat, the youth movement's coordinator for the Arab region, explains that since the Arab Spring started two years ago, people have tended to prioritize political interests over environmental issues.

"People in Egypt don't know about climate change and other environmental problems unless they studied these fields or are working in them," he says. "Unfortunately, people don't volunteer to know about these environmental problems or solve them."

Therefore, he says, the movement plans to organize awareness campaigns and workshops for people who don't know about climate change issues to teach them how to save resources and become more active as citizens.

Similarly, Gihan Soliman is the head of the International-Curricula Educators Association, whose goal is to promote a culture of responsible citizenship using the education reform to promote cultural

enrichment in Egypt and abroad. She blames the education system in particular for people's ignorance about climate change.

"Most people in Egypt aren't aware of climate problems because our educational curricula don't include enough environmental information," Soliman says. "People need to know that caring about the environment is not a luxury, and that it relates to every single aspect of our lives."

Arab Youth Climate Movement coordinator Merna Ghaly says she is happy that the march attracted public attention and made people curious about their group and its objectives.

"Many people like the idea and joined us, and I'm sure they will convey the message to their families and friends after that, which will help increase the circle of knowledge," she says.

"March calls on region's leaders to forge ahead on climate change", Egypt Independent, 20/11/2012, online at: http://mideastenvironment.apps01.yorku.ca/?p=6359

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❖ Nigeria: Keffi Water Crisis Bites Harder

Residents of Keffi and environs have been thrown into another long period of hardship over biting water scarcity, barely three weeks after supply was restored there.

"For three weeks now, we have been suffering from absence of water. The situation is so bad because here in Keffi, boreholes don't work because of the topography of this part of the state", said a resident who told Daily Trust that his wives and children have been keeping vigil to fetch from contaminated and stagnant water bodies.

Another, Hajiya Rakyia Asamu, a resident of Angwan Rimi area of Keffi, said her three children have been losing school hours to trekking long distances to fetch from contaminated streams at the outskirt of the metropolis.

The worsening water crisis in Keffi stretches far back to 2010 when supply to the town cut because the state government failed to maintain and upgrade the Mada Water Work which supplies the growing population in Akwanga, Gudi, Garaku, Keffi and environs, over and above its initial capacity.

Water gets to residents of GRA in Keffi, adjoining the 12,500 metre cubes capacity reservoir, only when it is pumped from Mada Water Works along Keffi-Akwanga Road. The water works, constructed along Rafin Gudi in Akwanga local Government Area, with financial support from African Development Bank (ADB), was commissioned by the late Head of State, General Sani Abacha on Wednesday, May 22, 1996, four months to the creation of Nasarawa as a state from the old Plateau State.

It last functioned during the administration of Abdullahi Adamu, Nasarawa's first civilian governor, as supply began to dwindle during his successor's administration (Aliyu Akwe Doma), compelling students of Nasarawa State University, Keffi (NSUK), to pour into streets, severally, in protests.

Not long after the supply was restored in parts of Keffi and environs, late last year, heavy floods occasioned by torrential rains, disrupted the supply, forcing residents to scout for alternative arrangements.

But, again supply has broken, sending many families trekking down the streams. State commissioner for Works, Engr. Wada Yahaya Mohammed who hails from Keffi, weekend, took a tour of the area, and appealed for residents for patients, blaming the situation to scarcity of water treatment chemicals.

"The contractor could not supply chemicals because of nationwide scarcity. You know it is not good for us to supply half treated water. But I can assure you, in a couple of days, we will be well over this problem because the contractor has re-established the supply chain", Engr. Mohammed said.

"Nigeria: Keffi Water Crisis Bites Harder", 19/12/2012, online at: http://m.allafrica.com/stories/201211190317.html/?maneref=http%3A%2F%2Fallafrica.com%2Fstories%2F201211190317.html

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❖ EU's food imports pose 'tricky balance' for hungry Africans

SPECIAL REPORT / East Africa was hit by its worst drought in half a century last year, leaving millions of people in Kenya, Ethiopia and Somalia hungry and triggering an outpouring of emergency aid from the European Union and other major donors.

Yet while relief workers fought to avert a drought-induced famine in Africa, packets of Kenyan green beans and avocados and buckets of decorative flowers from Ethiopia were available in European markets, the result of special EU trade treatment designed to help Sub-Saharan African countries grow out of poverty.

The 2011 scenario is repeated on nearly an annul basis in a region prone to climate calamities and famine and reflects an oddity in the fight against poverty and hunger in Sub-Saharan Africa, the world's poorest region and main recipient of EU development aid.

"It's easier to know the demands of the market in Europe than we do in our own neighbourhood," said Mohamed Ibn Chambas, who heads the African, Caribbean and Pacific Group of States, known as the ACP, which works with the EU to coordinate trade and development assistance.

"In a particular [African] region you can have an acute shortage of goods, whereas next door you can have a bumper crop," Chambas said in Brussels.

The EU imports 40% of Sub-Saharan Africa's agricultural exports – including nuts, fresh-cut flowers, tea, coffee, citrus fruits and vegetables – Commission figures show. Trade has nearly doubled in the decade since Europe began forging closer economic ties with ACP states under EU commitments to boost trade and aid, with exports to the EU exceeding those between African nations.

Pressure for economic development

The south-north food flow has created willing foreign markets for African farmers, while home-grown goods aren't getting to other Africans who are surviving on international relief aid flown in during food shortages.

Tim Benton, a University of Leeds professor of population ecology who serves as Britain's Champion for Global Food Security, says it's "a very tricky balance to negotiate."

"It is difficult to imagine the sense in the system, because when we import, say, green beans from Kenya, we're taking imbedded water from a drought-prone country, and then we're putting into our supermarkets, into our fridges and then we're throwing it way uneaten," Benton told EurActiv by telephone, saying his comments reflected his personal views.

"But equally, when you talk to governments down there they say, 'we need the money'. So in a sense, that's a very tricky balance to negotiate because by those trade deals you are helping them to develop economically, but at the same time in the long run it cannot be sustainable and that as population grows, and as climate change impacts increasingly happen, it can't continue in the way it is at the moment."

At the height of the 2011 East Africa drought, estimates of the number of people dependent on foreign aid ranged from 10 million to more than 13 million.

Development experts speaking last week at a conference organised by the Friends of Europe think-tank in Brussels said agriculture holds great potential for Africa's development. With nearly half of the more than 800 million Sub-Saharan Africansliving below the UN's poverty line of less than $1.25 per day, farming is seen as a way to create jobs, feed a growing population, while also providing lucrative exports of food and biofuel crops.

Promoting regional commerce

To do so, the conference experts said, the continent needs to improve land productivity through fertilisers and crop nutrition technology; irrigation and water storage practices; education and technical training; and financing opportunities for small farmers.

Yet while Europe turned towards building a common agricultural market out of the ruins of the Second World War, much of Sub-Saharan Africa is more focused exporting its agriculture and raw materials to non-Africans.

Poor transportation connections, high tariffs, security barriers and primitive information-sharing on market needs contribute to the problem, ACP's Chambas told EurActiv, making it easier to ship goods to Europe by air or sea.

Leaders of the 53-nation African Union have approved an "action plan" to change this by promoting regional commerce and providing a more inviting manufacturing climate. The AU plan calls for the

free movement of people and commerce, and multinational cooperation to address the sub-continent's pitiful infrastructure.

Regional trade blocs in the west, south and east have led to easier trade and infrastructure investments – though Chambas said central Africa remains largely outside the picture.

But poverty campaigners like ActionAid say African farmers face other challenges, including foreign governments buying or leasing land for farm export production and production of biofuels. Greenpeace, Oxfam and African-based rights groups have complained that these projects sap water and cultivatable land from needy Africans.

Effect of climate change

Climate change is a big unknown when it comes to developing internal as well as foreign markets. While efforts have been made through the EU's 2008 Food Facilityand the United Nations' Millennium Development Goals to reduce malnutrition and poverty in Africa, perverse weather events such as periods of severe drought and extreme flooding create uncertainty for the future of farming.

Lies Craeynest, Oxfam International's EU climate change policy advisor, acknowledges that EU aid and poverty-fighting efforts have led to gains in needy nations.

But, she said, climate change is likely to have major consequences for agriculture and food production. "What this will mean for many of the people living in rural areas, a large majority of them still being small-scale food producers, may actually mean a reversal of some of these achievements, particularly if you look at the longer time frame."

POSITIONS:

*"We stand on the brink of a truly historic opportunity to make a decent life for all a reality and to bring lasting growth and prosperity to the whole of Africa,**Andris Piebalgs, European commissioner for Development**, said in a speech at a Friends of Europe conference on 13 November.*

He added that "growth is great as a key driver for development, but it is not a cure-all. If it is combined with good governance, transparency, international finance and international expertise, our partner countries will have all the tools they need to deliver inclusive and sustainable development to their people.

"And we will be well on our way to eradicating desperate poverty in our lifetime. I know that such an aspiration can be realised. And we can realise it together.

"EU's food imports pose 'tricky balance' for hungry Africans", 20/11/2012, online at: http://www.euractiv.com/specialreport-agriculture/eu-food-imports-pose-tricky-bala-news-516102?utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=a30ffa0f38-RSS_EMAIL_CAMPAIGN&utm_medium=email

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❖ "Seeding" Clouds Produces 20% More Rain in the Middle East

Water scarcity is not a new dilemma in the Middle East, but as populations grow, desertification spreads and temperatures creep higher, leaders in the region are understandably concerned for the future. Poorer countries like Yemen or the Hashemite kingdom of Jordan are particularly vulnerable, while oil-rich nations can at least use their wealth to explore new technologies aimed at boosting groundwater supplies.
Which is how in 2002 the United Arab Emirates came to initiate a cloud-seeding program that allegedly increases precipitation by 20%.
Already concerned about water supplies a decade ago, the late President Sheikh Zayed of the United Arab Emirates (UAE) launched a study that detailed the efficacy of cloud-seeding.

This process involves sending manned planes into specific kinds of clouds as they are forming, and boosting their precipitation output by shooting into their belly flares containing calcium and potassium chloride. These salts expand when water molecules attach to them, according to *The National*, eventually forcing the cloud to push them out as rain.
The UAE is the only nation that has consistently produced results with their cloud-seeding program, in part because of the folks at the National Center for Meterology and Seismology (NCMS) whose job it is to monitor cloud formations.

By watching data that streams in from 50 weather stations throughout the UAE, meteorologists at the NCMS outside Abu Dhabi are able to predict the formation of very specific cloud formations. And once they do, there is a tiny window of opportunity for them to dispatch one out of four pilots to shoot flares into the cloud.

This procedure takes place more frequently during summer. Two of the planes carry ten flares while the remaining two, which are newer, carry 20 flares a piece.

"Up until now, this is the main successful way to save water," Senior forecaster Ali Mohammed Al Musallam told *The National*. "But the experimentation cannot stop at this point. We cannot just rely on this. We have to do more studies. We need to follow what is happening outside in the world."

""Seeding" Clouds Produces 20% More Rain in the Middle East", 19/11/2012, online at: http://www.greenprophet.com/2012/11/seeding-clouds-rain-gulf/

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❖ Kuwait's desert: From burning war zone to blooming nature reserve

Kuwait (CNN) — A former military bunker in the desert is one of the last places you might expect to find nature bloom. But above a maze of abandoned foxholes to the north of Kuwait's capital lies a landscape that shimmers green and purple with vegetation, attracting foxes, migratory birds and other wildlife.

The Sabah Al-Ahmad nature reserve occupies land that once served as an important base for Saddam Hussein's army during its invasion of Kuwait from 1990-1. Iraq's annexation of its southern neighbor, which began in August 1990 and lasted until the liberation the following February, had a devastating impact not only on Kuwait's people, but its ecology, said Dr Samira Omar Asem of the Kuwait Institute for Scientific Research.

One of Kuwait's leading environmental scientists, with three decades experience in resource conservation, Asem has played a major role in restoring Kuwait's war-ravaged ecosystems as head of the United Nations Compensation Commission's environmental remediation program. The body was established in 1991 to process claims and pay compensation damages suffered as a result of the occupation of Kuwait, and processed its final claim in 2005.

The war, said Asem, resulted in "a lot of aggression against the environment" — most infamously, the destruction of Kuwait's oil fields as part of Hussein's "scorched earth" policy on retreat.

More than 700 wells were destroyed, choking the skies with black smoke in an inferno that raged for eight months before firefighters eventually extinguished the blaze. But substantial damage was inflicted during the occupation as well. As the Iraqi army swept through the country, it built an elaborate system of fortifications, destroying the fragile desert ecosystem. About 24,000 fortifications were built in the area of the reserve alone, she said.

"I saw these bunkers immediately after liberation," she said. "They had services established under the ground. So you can imagine … a natural reserve is being converted into a headquarters for military activities. The whole reserve was full of ammunition."

The abandoned, unexploded ordnance, combined with oil from leaks or deliberately flooded trenches, has left a hazardous environment for rehabilitation workers to operate in. "All this heavy machinery and vehicles caused a lot of soil compaction, changed the landscape, and allowed more sand to move and caused a lot of erosion," she said.

At the Sabah Al-Ahmad nature reserve, environmental remediation has involved planting trees and building ponds to bring back wildlife, resulting in a flourishing desert ecosystem.

"This is a major achievement for the government of Kuwait, to preserve the natural history for the new generations and the existing generations," she said. "It is our contribution for the international community to say that we are serious about protecting our environment." But the reserve is only a first step. More than one billion barrels were burned and spilled in the oil field destruction at the end of the war, and the country still bears the scars of that legacy.

Outside the reserve, the deserts remain affected, with large lakes of oil — caused by leaked crude oil mixing with the billions of gallons of seawater used to extinguish the flames — contaminating the sands across about 100 square kilometers of desert. The clean-up effort, says Asem, still has a long way to go

"Kuwait's desert: From burning war zone to blooming nature reserve [CNN]", 21/11/2012, online at: http://mideastenvironment.apps01.yorku.ca/?p=6365

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❖ The Netherlands donates $5.7 mln to Yemen

SANA'A, Nov. 25 (Saba)- The Government of the Netherlands and UNICEF sealed on Sunday at a signing ceremony in Sana'a the donation of US$ 5.7 million in support of the 'Extension of Water and Sanitation Services in Rural Communities' in Yemen.

In a statement, UNICEF Yemen said that the project which will be managed by UNICEF will cover a two year period from 2012-2014 and will focus on Hodeidah, Taiz and Ibb governorates, which have the highest levels of water scarcity and malnutrition in the country, adding it will benefit over 165,900 persons in 41 rural areas within the three governorates.

The project aims to contribute to the improvement of drinking water sources, sanitation facilities and general health and hygiene conditions through the rehabilitation of the water supply systems, household pit latrines and promote open defecation free status in 20 selected communities.

"An estimated 70,000 children aged less than five die annually in Yemen from easily preventable diseases", says UNICEF Representative Geert Cappelaere.

"The major causes of these child deaths in order of magnitude are diarrhea, pneumonia, measles, low birth weight, prematurity and asphyxia. The top three directly and/or indirectly linked to water, sanitation and hygiene practices. Over 50% of these deaths have malnutrition as an underlying exacerbating factor with diarrhea as a major contributor. Tackling access to improved water and sanitation is therefore an urgent priority to ensure the wellbeing of the children of Yemen".

Earlier this year the Dutch Government pledged €3 million towards humanitarian efforts in Yemen.

Yemen is one of the most water-deficient Arab countries, with declining freshwater resources due to over-pumping of aquifers. Water demand is growing due to population growth and increased per capita water consumption.

"The Netherlands donates $5.7 mln to Yemen", 25/11/2012, online at: http://www.sabanews.net/en/news289158.htm

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❖ Thailand to host meeting on Mekong development

BANGKOK, 22 November 2012 – Thailand has been given the honor of hosting the International Conference on Sustainable Development in the Lancang-Mekong Sub-Region next year, which will deal with natural-disaster management, development, and security in the Mekong River basin.

Deputy Government Spokesperson Pakdiharn Himathongkam said the event will be held in Chiang Mai province on January 13th and 14th. Foreign ministers from five Southeast Asian countries, including Myanmar, Laos, Cambodia and Vietnam, will take part in the event along with China. A discussion between the participants will be hosted next month in preparation for the meeting.

The Mekong River is at the center of several major development projects in Southeast Asia, which has made cooperation between the countries through which it runs a major issue.

Separately, the Thai Cabinet has approved a proposal from the Ministry of Foreign Affairs to host the Asia-Pacific Economic Cooperation meeting in 2022.

"Thailand to host meeting on Mekong development", 24/11/2012, online at: http://www.pattayamail.com/news/thailand-to-host-meeting-on-mekong-development-18641

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❖ A Dam Controversy: Laos dam project poses threat to Mekong ecosystem and communities

It's a case of damned if you do, damned if you don't for the Laos government. The construction of a controversial mega-dam in Laos on the Mekong river poses threats to millions of people reliant on the Mekong as well as hundreds of freshwater species, but offers a hope of development for one of the poorest countries in the region.

Earlier this month, the government of Laos announced that they would begin construction of the Xayaburi mega-dam project on the Mekong river. The hydroelectric dam would be the first major dam on the lower Mekong. The project is expected to bring in billions of dollars of much needed revenue for the Laos government. However, environmentalists and neighbouring countries have raised concerns about the dam's effect on the Mekong ecosystem and the millions of people who depend on it for their livelihoods.

Last week we highlighted a report from the IUCN addressing the state of **freshwater biodiversity in the Indo-Burma region** in South-East Asia. One of the biggest threats to freshwater biodiversity in the region is the ongoing construction of dams, particularly along the Mekong river.

The Mekong river runs through 6 different countries, starting in China and meandering its way down through Burma (Myanmar), Laos, Cambodia, Thailand and Vietnam before emptying in the South China Sea. It is the lifeblood for over 60 million people living on or near the expansive river and it also home to the highest concentration of fish species by area on the planet. There are over 1,000 known species throughout the Mekong, and scientists are worried that the dam could lead to the extinction of hundreds of freshwater species including one of the largest and most critically endangered freshwater fish in the world, the slightly strange-looking **Mekong giant catfish**.

The proposed dam is a major threat to these people and the ecosystems of the Mekong due to its downstream effects. The effects of the dam are more than just impeding the flow of water though. It will also block the migration paths of numerous large fish species, capture nutrient sediments causing a decrease in water quality downstream, and change water temperatures. The overall effect would be to drastically alter the ecosystems in which more 'generalist' species would be favoured and the more

environmentally sensitive endemic species would decline. This means that we could likely see a significant decrease in freshwater biodiversity as a result of this dam.

The construction for the dam has also been a point of international tension with other countries through which the Mekong flows. Cambodia and Vietnam have both raised concerns about the dams potential negative effects on fisheries and rice crops affecting the food security of their citizens dependent on the river. Thailand, who has agreed to buy 90% of the electricity generated from the dam, has expressed its support for the project, although local protects have occurred. The Unites States released a statement saying "the extent and severity of impacts from the Xayaburi dam on an ecosystem that provides food security and livelihoods for millions are still unknown."

Under the Mekong River Commission, an intergovernmental body established to promote the coordinated governance of the shared river, countries are supposed to consult with each other and reach a consensus before initiating any major projects. Although Cambodia and Vietnam have raised objections, Laos has stated that all concerns have been addressed and that it will be going ahead with the dam.

Laos, one of the poorest country in South-East Asia, has the right to development and a duty to lift its people out of poverty. But it should endeavour to do so in an appropriate and responsible way. The construction of dams on the Mekong and across the wider Indo-Burma region is perhaps inevitable as the countries of the area look to develop and meet the growing power needs of their citizens in a carbon constrained world.

What needs to happen then is that a greater consideration must be given to the human and environmental impacts of a project before and during its construction and, where possible, the utmost effect be taken to avoid or mitigate any negative effects. This is an important point as a further 10 mega-dams are proposed for the Mekong river (8 of them are in Laos) and the decision by Laos to push ahead with the Xayaburi dam despite concerns may set a worrying precedent.

"A Dam Controversy: Laos dam project poses threat to Mekong ecosystem and communities", 24/11/2012, online at: http://biofreshblog.com/2012/11/24/a-dam-controversy-laos-dam-project-poses-threat-to-mekong-ecosystem-and-communities/

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❖ Parched Earth Policy: Are We Running Out of Water?

As Americans gather around their Thanksgiving tables for an abundance of food, it will be a sharp contrast to what some experts are calling a severe crisis — the scarcity of fresh water.

The scarcity, these analysts say, can no longer be avoided as the effects of a world water shortage will have life-threatening and global economic consequences.

"We're already in a water crisis here in the U.S.," said Mark LeChavallier, director of innovation and environmental stewardship for **American Water**, a water and wastewater utility company.

"It's big in areas on the West Coast and only getting bigger in areas like the East Coast. It's almost taken for granted that we will have water, but we can't do that anymore," he said.

It's not just the U.S. that's facing a severe water shortage. India, China, Russia and parts of Africa and elsewhere in Asia are just a few of the regions facing increasing water scarcity, according to a report by Deloitte.

A major reason for the water shortage is drought. Some 56 percent of the United States is experiencing drought conditions — the most extensive area of drought in the U.S. in 12 years of tracking. Other areas of the world, like the Korean peninsula, have endured the worst drought conditions in more than a century.

Adding to the water scarcity is an ever increasing world population — along with increased urbanization — and economic growth, all of which demand and consume larger and larger amounts of water. The United Nations has said that two thirds of the world will live in water-stressed countries by 2025.

The problem going forward is how to get more from less, say analysts.

"Water does cover 70 percent of the earth but only 2.5 percent of it is fresh water, and if you break it down further, there's only about 0.006 percent fresh water available in the world," said Jose Lopez, assistant professor of physics at Seton Hall University.

"The population is competing for a scarcer resource, which is what water is becoming, because of the global demand," said Lopez.

One of the biggest competitors for water is agriculture. Some 70 percent of global water use is tied to the industry. For example, 1 pound of wheat requires 175 gallons of water, a pound of rice, 400 gallons and 1 pound of beef, 600 gallons.

But other sectors, like power, clothing, automotive and technology, also require large amounts of water. A survey by the **research group EIRIS** fund that that under current business conditions, water demand will outstrip supply by 2030 — and will potentially put $63 trillion of global gross domestic product at risk by 2050.

At least one big-name company recognizes the limits of water usage. **Ford [F 11.10 ▲ 0.18 (+1.65%)]** announced last year that by 2015, it would reduce 30 percent of the amount it used to make its 2009 vehicles. And pharmaceutical firm **Novo Nordisk said it reduced its water consumption by 20 percent in 2009**.

Coca Cola [CCE 30.56 ▲ 0.21 (+0.69%)] was accused in 2003 of creating severe water shortages in India by extracting large quantities of water for its factories —**but has since said** it "would replace the water it took out."

"Businesses are paying much closer attention to water. Demand for water has effectively made it a business operation to seek out better water management strategies," Lopez said.

But some businesses might not be doing enough to keep fresh water flowing, said Nancy Gottovi, executive director of **Central Park N.C.,** a nonprofit group that promotes the sustainable use of natural resources. The group is in a battle of sorts with **Alcoa [AA 8.35 ▲ 0.08 (+0.97%)]** over dams the company controls on the Yadkin River in North Carolina.

"We have nothing against Aloca, but they built four dams on the Yadkin for their smelting plant and the plant is gone now," Gottovi said. "They sell the energy from the dams and want a new license to do so. We don't think that's the best use of the water. We think we should judge what's best." (*Read More*: **Obama Pressed on Keystone.**)

For its part, **Alcoa says it's** "working closely with the state Department of Environment and Natural Resources to ensure that North Carolina's water interests are well represented and strongly supported in the relicensing agreement."

But there are other concerns besides Alcoa, including water used for drilling oil by fracking, said Gottovi, who is going to the White House next week for a talk with Obama administration officials about water policy. "Water can't be treated like a commodity."

It's a lack of any kind of water policy that is a major problem, said Cindy Wallis-Lage, president of the water division of **Black & Veatch,** a consulting and construction firm that focuses on infrastructure development.

"We need major education about the use of water, something that starts at the grade school level," Wallis-Lage said. "People need to realize how much water they use and the value of it. We're losing 7 billion gallons a day in the U.S. from leaking pipes. We have technology to create the water we need, we just need to capitalize on it."

White House policy on water currently consists of water safety and some stops and starts over the issue of fracking. But nothing on water supplies.

As for controlling the conditions creating droughts, one analyst says we had better get used to an uncertain forecast.

"Our climate — whether you want to call it global warming or climate change — is different than it was 50 years ago," said William Moomaw, professor of international environmental policy at Tufts University. (*Read More*: **California to Fight Climate Change**.)

"To have a hurricane like Sandy in October just shows you how the oceans are warming. The weather patterns are only going to change even more and get worse as time goes on." said Moomaw.

Fixing the problem of water scarcity will take time and effort, said Kevin Petrovsky, associate professor of environmental science and associate academic dean at Northwood University.

"We need to continue to develop desalination technologies that are not so energy intensive or polluting. We need to accelerate our wastewater recycling programs to allow for more reuse of water," said Petrovksy. "And we need to decide as a society whether green lawns and landscaping, golf courses, swimming pools and unnecessary agriculture (like tobacco and coffee) are worth the use of water."

In the end, said Mark LeChavallier, it's realizing the scarcity is real.

"People have to learn that water is critical to the quality of their lives and economic development," LeChavallier said. "It's important to start the dialogue on how to solve this problem."

"Parched Earth Policy: Are We Running Out of Water?", 22/11/2012, online at: http://www.cnbc.com/id/49890504

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❖ U.S., Mexico OK new water-sharing rules

The United States and Mexico agreed Tuesday to new rules on sharing water from the Colorado River, capping a five-year effort to address how to spread the pain of drought and reap the benefits of wet years.

The far-reaching agreement gives Mexico badly needed water storage capacity in Lake Mead, which stretches across Nevada and Arizona.

Mexico will forfeit some of its share of the Colorado River during shortages, in line with current Western U.S. practice, and will capture some surpluses when waters rise.

Under the plan, water agencies in California, Arizona and Nevada will buy water from Mexico as part of $21 million in payments from the United States to Mexico. The deal also calls for wetland preservation and other environmental measures south of the border.

The agreement, coming in the final days of the administration of Mexican President Felipe Calderon, is a major amendment to a 1944 treaty considered sacred by many in Mexico. The treaty grants Mexico 1.5 million acre-feet of river water each year - enough to supply about 3 million homes - making it the lifeblood of Tijuana and other cities in northwest Mexico.

The pact represents a major departure from years of hard feelings in Mexico about how the United States manages the 1,450-mile river, which runs from the Rocky Mountains to Mexico. In 2001, U.S. states established rules on how to divide surpluses but set aside nothing for Mexico. Several years later, the U.S. government lined a border canal in California with concrete to prevent water from seeping through the dirt into Mexican farms.

"We have chosen collaboration over conflict, we have chosen cooperation and consensus over discord," said U.S. Interior Secretary Ken Salazar, who called the new pact the most important international accord on the Colorado River since the 1944 treaty.

Mexico will begin to surrender some of its Colorado River allotment when the elevation in Lake Mead drops to 1,075 feet and begin to reap surpluses when it rises to 1,145 feet. Mexico will be allowed to store up to 250,000 acre-feet of water in the reservoir and draw on nearly all of those reserves whenever needed.

The agreement expires in five years and is being billed as a trial run.

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California's Imperial Irrigation District, the largest single recipient of Colorado River water, refused to sign the agreement because it wanted to buy some of the water from Mexico. U.S. officials said they hoped to address those concerns.

"U.S., Mexico OK new water-sharing rules", 20/11/2012, online at: http://www.sfgate.com/science/article/U-S-Mexico-OK-new-water-sharing-rules-4055613.php?utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=a30ffa0f38-RSS_EMAIL_CAMPAIGN&utm_medium=email

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❖ Climate change evident across Europe, confirming urgent need for adaptation

Climate change is affecting all regions in Europe, causing a wide range of impacts on society and the environment. Further impacts are expected in the future, potentially causing high damage costs, according to the latest assessment published by the European Environment Agency today.

The report, 'Climate change, impacts and vulnerability in Europe 2012' finds that higher average temperatures have been observed across Europe as well as decreasing precipitation in southern regions and increasing precipitation in northern Europe. The Greenland ice sheet, Arctic sea ice and many glaciers across Europe are melting, snow cover has decreased and most permafrost soils have warmed.

Extreme weather events such as heat waves, floods and droughts have caused rising damage costs across Europe in recent years. While more evidence is needed to discern the part played by climate change in this trend, growing human activity in hazard-prone areas has been a key factor. Future climate change is expected to add to this vulnerability, as extreme weather events are expected to become more intense and frequent. If European societies do not adapt, damage costs are expected to continue to rise, according to the report.

Some regions will be less able to adapt to climate change than others, in part due to economic disparities across Europe, the report says. The effects of climate change could deepen these inequalities.

Jacqueline McGlade, EEA Executive Director said: "Climate change is a reality around the world, and the extent and speed of change is becoming ever more evident. This means that every part of the economy, including households, needs to adapt as well as reduce emissions."

Observed climate change and future projections – some key findings

The last decade (2002–2011) was the warmest on record in Europe, with European land**temperature** 1.3° C warmer than the pre-industrial average. Various model projections show that Europe could be 2.5–4° C warmer in the later part of the 21st Century, compared to the 1961–1990 average.

Heat waves have increased in frequency and length**,** causing tens of thousands of deaths over the last decade. The projected increase in heat waves could increase the number of related deaths over the

next decades, unless societies adapt, the report says. However, cold-related deaths are projected to decrease in many countries.

While **precipitation** is decreasing in southern regions, it is increasing in northern Europe, the report says. These trends are projected to continue. Climate change is projected to increase **river flooding**, particularly in northern Europe, as higher temperatures intensify the water cycle. However, it is difficult to discern the influence of climate change in flooding data records for the past.

River flow droughts appear to have become more severe and frequent in southern Europe. Minimum river flows are projected to decrease significantly in summer in southern Europe but also in many other parts of Europe to varying degrees.

The **Arctic** is warming faster than other regions. Record low **sea ice** was observed in the Arctic in 2007, 2011 and 2012, falling to roughly half the minimum extent seen in the 1980s. Melting of the **Greenland ice sheet** has doubled since the 1990s, losing an average of 250 billion tonnes of mass every year between 2005 and 2009. **Glaciers** in the Alps have lost approximately two thirds of their volume since 1850 and these trends are projected to continue.

Sea levels are rising, raising the risk of coastal flooding during storm events. Global average sea level has risen by 1.7mm a year in the 20th century, and by 3mm a year in recent decades. Future projections vary widely, but it is likely that 21st century sea-level rise will be greater than during the 20th century. However sea level rise at European coasts varies, for example due to local land movement.

Besides heat-related health impacts, **other human health effects** are also important, the report says. Climate change plays a part in the transmission of certain diseases. For example, it allows the tick species *Ixodes ricinus* to thrive further north, while further warming may make parts of Europe more suitable for disease-carrying mosquitos and sandflies. The pollen season is longer and arrives 10 days earlier than 50 years ago, also affecting human health.

Many studies have measured widespread **changes in plant and animal characteristics**. For example, plants are flowering earlier in the year, while in freshwater phytoplankton and zooplankton blooms are also appearing earlier. Other animals and plants are moving northward or uphill as their habitats warm. Since the migration rate of many species is insufficient to keep pace with the speed of climate change, they could be pushed towards extinction in the future.

While there may be less water available for **agriculture** in southern Europe, growing conditions may improve in other areas. The growing season for several crops in Europe has lengthened and this is

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projected to continue, alongside the expansion of warm-season crops into more northerly latitudes. However the yield is projected to fall for some crops due to heat waves and droughts in central and southern Europe.

As temperatures rise, **demand for heating** has also fallen, saving energy. However, this must be balanced against higher energy demands for cooling during hotter summers.

Background

The report is intended to show the full extent of climate change impacts across Europe, also informing the European Commission's European Adaptation Strategy to be published in March 2013. Moreover, the EEA will support the strategy with an assessment of a selection of adaptation actions across Europe, to be published in early 2013.

The website Climate-ADAPT includes a large amount of information intended to assist in developing and implementing climate change adaptation

"Climate change evident across Europe, confirming urgent need for adaptation", 21/11/2012, online at: http://www.eea.europa.eu/pressroom/newsreleases/climate-change-evident-across-europe

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❖ Lack of Toilet Exposes African Women and Girls to Shame, Fear and Violence

Seven in ten women in sub-Saharan Africa have no access to a safe toilet, threatening their health and exposing them to shame, fear and even violence.

This means that on World Toilet Day, 19 November, 297 million African women and girls lack safe and adequate sanitation and of those 107 million don't have a toilet at all.

A survey commissioned by WaterAid of women living across five slums in Lagos, Nigeria, showed that one in five had first or second hand experience of verbal harassment and intimidation, or had been threatened or physically assaulted in the last year when going to the toilet. Anecdotal evidence from other African countries suggests that the scale of the problem may be much larger than this.

Barbara Frost, Chief Executive of WaterAid, said:
"When women don't have a safe, secure and private place to go to the toilet they are exposed and put in a vulnerable position and when they relieve themselves in the open they risk harassment. Women are reluctant to talk about it or complain, but the world cannot continue to ignore this."

"Adequate sanitation, coupled with access to clean, safe water to drink, transforms lives, improving health, safety and productivity. Governments are urged to take action and invest in access to sanitation and water."

Other studies from Uganda and Kenya show that such experiences of fear, indignity and violence appear to be common in Africa wherever women lack access to safe and adequate sanitation.

Sandimhia Renato, 18, from Mozambique walks 15 minutes every day to defecate in the bush. "Sometimes when I go I feel ashamed and go back without defecating. Sometimes I wait until dark to go there so no one can see me. I will be very concerned about Diani, my daughter, going to the bush because it is so far from here. At night it is very dangerous. People get killed. A woman and a boy were killed with knives. One woman I know of has been raped."

Security came out as a recurring concern in the poll of women from slums in Lagos, with 67% of respondents saying they feel unsafe even using shared or community toilets in a public place.

Poor hygiene has serious implications on health. Every day, over 1,000 African mothers lose a child to diarrhoeal diseases caused by a lack of adequate sanitation and clean water.

Lack of decent sanitation also affects productivity and livelihoods. Women and girls living in sub-Saharan Africa without toilet facilities spend 20 billion hours each year finding a place to go in the open, according to figures released in a WaterAid briefing.

Barbara Frost continued:"This World Toilet Day, WaterAid is joining the call of hundreds of organisations around the world, for governments to keep the promises they have made to get adequate sanitation and safe water to the world's poorest people".

WaterAid has also released a new film showing what it would be like for women in the western world if they also lacked sanitation. The film can be viewed online at www.wateraid.org/1in3

"Lack of Toilet Exposes African Women and Girls to Shame, Fear and Violence", 19/11/2012, online at: http://waterjournalistsafrica.wordpress.com/2012/11/19/lack-of-toilet-exposes-african-women-and-girls-to-shame-fear-and-violence/

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❖ What Does Water Look Like in a 4-Degrees World?

All climate negotiations have been based on staying below 2°C above pre-industrial temperatures. Yet it looks increasingly unlikely that that will be possible. A new report, Turn Down the Heat: Why a 4°C Warmer World Must be Avoided, suggests that there is a 40 percent chance that we will reach 4°C by 2100 even if we stick to the agreed emission reduction commitments.

What does water look like in a 4°C world?

Put simply: it's complex. Water is a complicated system and one of the major impacts of climate change is the effect on the hydrological (water) cycle. These impacts will coincide with an unprecedented increase in demand for water because of population and economic growth.

The combination of the increased complexities – physical and economic – of the modern world means a certainty that the impacts will be big but uncertainty about what they will be.

When a flood in Bangkok last year led to a profit warning by a global giant like Intel, we see that the effects of climate change on the water cycle will not ONLY be felt locally. Agriculture will be hit both by higher temperatures and by reduced or more uneven water availability. The total "drought disaster-affected" area is predicted to increase from currently 15 percent of global cropland to 38-50 percent by 2100. And water problems will also translate into spread of malarial mosquitos and other water-related diseases.

The report suggests that at 4°C, water stress will increase in areas around the world. People living in deltas – about 500 million people – and people in monsoonal basins – about 1 billion people – are especially vulnerable. This shows the essential unfairness of climate change, the world's greatest market failure. Poor countries, who contributed least to the problem, will be most affected. And within those countries, poor people will be hit the hardest.

But the effects will not necessarily be gradual; they may be sudden and calamitous. At 4°C, the report concludes that the risk of our reaching certain tipping points in natural systems – the Amazon, the currents of the Atlantic Ocean, coral reefs, monsoons – increases considerably. The impacts of any of those events would be massive, but uncertain. Models cannot capture the effects of changes on this scale. And people can only begin to imagine.

This report, despite its sometimes scary findings, reinforces the need to build additional resilience into all of our water systems. More and more of our clients are realizing that we have to consider the entire water system when planning investments that use or depend on water. More and more we have to plan for uncertainty, and find that combination of actions that leads to disaster in the fewest scenarios.

We also have to increase the number of scenarios we include, even those that may seem outlandish. The findings of this report put these conclusions in bold-faced type.

"What Does Water Look Like in a 4-Degrees World?", 20/11/2012, online at: http://blogs.worldbank.org/water/what-does-water-look-like-in-a-4-degrees-world

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