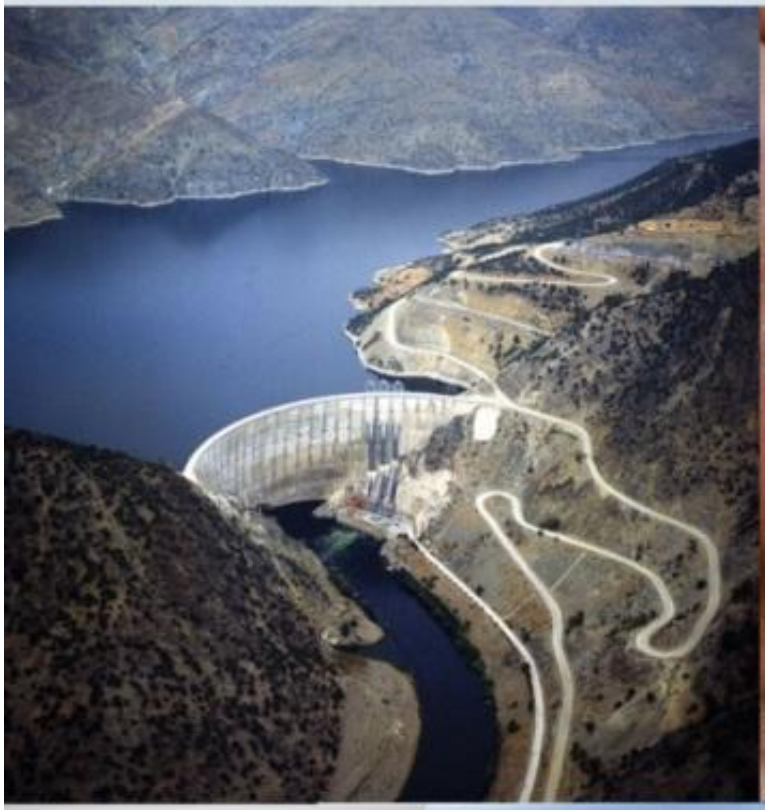


ORSAM WATER BULLETIN

Weekly Bulletin by ORSAM Water Research Programme

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





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❖ Turkey Works on $700 Million Northern Cyprus Water Line

Turkey is working on a $700 million project for a dam and 107-kilometer (66-mile) pipeline under the Mediterranean Sea to supply fresh water to northern Cyprus, Deputy Prime Minister Besir Atalay said today.

Construction of the pipeline that will run from Alakopru dam near Anamur on the Mediterranean to a dam that will be built in Gecitkoy in northern Cyprus is expected to start next year and be operational by March 2014. When done, the pipeline could also supply water to the southern Greek Cypriot side should the island be unified, Atalay said.

The line is designed to carry 75 million cubic meters (19.8 billion gallons) of water a year to northern Cyprus. Cyprus has been divided between the Republic of Cyprus and the Turkish-held northern part since Turkey invaded in 1974 in response to a Greek Cypriot coup to unite the island with Greece.

"Turkey Works on $700 Million Northern Cyprus Water Line", 14/09/2012, online at:
http://www.bloomberg.com/news/2012-09-14/turkey-works-on-700-million-northern-cyprus-water-line.html

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❖ How Engineers Can Help Prevent Water Wars

Projects like Turkey's Ilisu Dam can heighten political tension. But there are ways to bring it down a notch

Somewhere around 2014, if all goes according to plan, **Turkey** will complete the Ilisu Dam, a major component of one of the world's most ambitious—and controversial—hydro-engineering projects. The dam is the latest addition to the $32-billion Southeastern Anatolia Project (known by its Turkish acronym, GAP). Along with 21 **other dams**, Ilisu will lock up the entire Tigris and Euphrates watershed, creating 7,476 megawatts of hydroelectric capacity and irrigating a parched farm region nearly the size of New Jersey. Ilisu's reservoir, however, will also flood the ancient city of Hasankeyf, uproot as many as 70,000 members of Turkey's struggling Kurdish minority, and give Turkish engineers an alarming degree of control over the fate of their downstream neighbors in Iraq. Many nations depend on rivers that flow across borders, but none so much as Iraq, which gets its water from only two sources: the Tigris and the Euphrates. When Turkey filled another GAP reservoir in 1990, it shut down the Euphrates for a month, and the two nations nearly went to war. Once Ilisu is complete, Turkey will be able to shut down the Tigris, too.

GAP is perhaps the starkest demonstration to date of how engineers can exacerbate longstanding water conflicts. Fortunately, there are ways engineers can also help ratchet tensions back down. First, they can provide better data about how much water there is to share. Researchers at the University of California at Irvine are using NASA Gravity Recovery and Climate Experiment (GRACE) satellites to measure tiny changes in the gravity of aquiferous regions in order to determine how much water has been removed over time. "When it comes time to negotiate treaties, people are going to think 'Well, we really can't hide stuff from our neighbors,' " says Michael Campana, a hydrogeologist at Orgeon State University who studies water-resource management.

Second, they can provide more to share. Many municipalities are exploring artificial recharge systems for storing water in aquifers (rather than in open reservoirs), substantially reducing evaporation. Engineers on a pilot project in Gujarat, India, meanwhile, have covered a half mile of irrigation canal with solar panels, preventing nearly a quarter-million gallons' worth of evaporation annually.

Finally, engineers can provide other things to share in place of water. "**Hydroelectric energy** is a nonconsumptive use of water," says Jonathan Lautze, a researcher at the International Water Management Institute. "There is potential for both water and energy to be shared." Iraq has struggled for decades to build its electrical capacity. And so Turkey, by running high-voltage lines south, could share something Iraq wants almost as much as water: It could share the GAP itself.

"How Engineers Can Help Prevent Water Wars", 10/09/2012, online at: http://www.popsci.com/technology/article/2012-08/how-engineers-can-help-prevent-water-wars

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Tel: +90(312)4302609 Fax: +90(312)4303948 orsam@orsam.org.tr

❖ Turkish-Iraqi ties strained over fugitive Iraqi leader

Ties between Turkey and Iraq have been strained as Ankara refused to extradite Iraq's vice president, who was sentenced by default to death by an Iraqi court on terror charges.

Iraq's Ministry of Trade declared on Wednesday that it had revoked operating licenses for Turkish companies in Iraq.

The licenses have been put aside until further notice while inspections are conducted and arrangements made, the ministry said in a written statement.

The move came after Turkish Prime Minister Tayyip Erdogan again on Tuesday rejected Iraq's demand for the extradition of Iraq's Sunni Vice President Tariq al-Hashemi, who has been in Turkey since April 9.

Many Iraqi senators have accused Turkey of meddling in its internal affairs on the issue of Hashemi. It has led to the deterioration of relations between the two countries.

"This is an act of repeated interfering in the internal affairs of Iraq and an infringement upon Iraq's sovereignty. It is absolutely unacceptable. Turkey's recent position has made the bilateral ties worsened. It means to bet on the bilateral relations and Turkey is bound to suffer from the consequences," said Khalid al-Asadi, an Iraqi senator.

Currently, 366 Turkish firms are registered with Iraq's Trade Ministry and are not affected, Caglayan said in a written statement.

Analysts argue that Turkey should be cautious on how to act with regard to Iraq in order to not have a negative impact on their economic ties.

Many analysts believe that the issue of Hashemi is but superficial and there might be more underlying factors that contributed to the deterioration of the bilateral ties. Iraq has long been locked in disputes with Turkey and other neighboring countries over water resources.

There are two rivers in Iraq, the Tigris and the Euphrates, but both are sourced in Turkey.

Turkey has since 1980s been building hydro-power stations on the upper reaches of the Tigris, reducing the water flows downstream, causing water shortages in both drinking and irrigation in Iraq.

"Water shortages and the drought in the southern regions have greatly affected the agricultural production of Iraq and caused more and more crop fields to be decertified about 2.5 million square meters of cultivated land are reduced to deserts every year," said Ghazi al-Abudi, Iraq's vice minister of agriculture.

In addition, Turkey has time again put the oar in the petroleum odds between Iraq's central government and the Kurd region, currying favor with the Kurd region. This has courts repeated protests from the Iraqi's government.

Ankara accuses Iraq's Shiite Prime Minister Nouri al-Maliki of playing sectarian cards and marginalizing Sunni Arabs and Kurds, while Baghdad blames Turkey for meddling in its internal affairs

"Turkish-Iraqi ties strained over fugitive Iraqi leader", 14/09/2012, online at:
http://www.alarabiya.net/articles/2012/09/14/237936.html

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❖ Ahmadinejad Accuses West Of Creating Drought Conditions In Iran

Mahmoud Ahmadinejad has made a series of outrageous accusations against the West and Israel during his tenure as Iranian president.

He has now added to his long litany of absurd comments.

According to the Daily Telegraph newspaper of Britain, Ahmadinejad is claiming that Western nations are conspiring to throw Iran into a serious drought (and thereby threaten its agriculture) by deliberately destroying rain clouds headed toward the country.
During a speech in the Caspian coastal city of Gonbad-e Kavus, Ahmadinejad declared: "Today our country is moving towards drought, which is partly unintentional due to industry and partly intentional, as a result of the enemy [the West] destroying the clouds moving towards our country and this is a war that Iran is going to overcome."

The Telegraph noted that Iranian officials have made similar allegations against the West.

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In July, Hassan Mousavi, a vice president of Iran and chief of the country's cultural heritage organization, said: "The world arrogance and colonist (the West) are influencing Iran's climate conditions using technology," according to Fars news agency.
"The drought is an acute issue and soft war is completely evident ... This level of drought is not normal."

Ahmadinejad himself previously said he believed European countries were "emptying clouds" in order to generate rainstorms and in turn produce droughts across the Middle East.

"Western countries have designed plans to cause drought in certain areas of the world, including Iran," he said.

"European countries are using special equipment to force clouds to dump water on their own continents. They prevent rain clouds from reaching regional countries, including Iran."

Iran has one of the world's driest climates; however this year it is experiencing serious droughts across much of the country, especially in the south, which is subject to violent sandstorms which spread from neighboring Iraq.

"Ahmadinejad Accuses West Of Creating Drought Conditions In Iran", 10/09/2012, online at: http://www.ibtimes.com/articles/382620/20120910/iran-drought-clouds-west-ahmadinejad.htm

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❖ Joint committee to investigate River Alwand issue

Following a statement by the Kurdistan Regional Government's (KRG) Ministry of Agriculture and Water Resources, Iran and Iraq establish a joint committee to follow up the issue of the drying up of the River Alwand.

The Ministry's statement argues that the main factor behind the drying up of the river is lack of any agreement between Iranian and Iraqi governments regarding sharing the water resources between the two countries.

Uzem Husseini, Consulate General of the Islamic Republic of Iran in Erbil, announced that his county and the Iraqi government have established a joint specialized committee to work on the issue and investigate the factors behind the problem.

Husseini also stated that he does not have any detailed information about the issue but the committee is currently working on finding a solution for the problem.

During the past few years River Alwand have been facing a significant fall in its water level every summer and sometimes it has reached complete dry up. KRG authorities blame the Iranian government for the problem.

"Joint committee to investigate River Alwand issue", 11/09/2012, online at: http://www.kurdishglobe.net/display-article.html?id=983C79C16A781895B1C20329009D3DCC

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❖ Iran, Tajikistan to exchange water and power

If Tajikistan provides Iran with the necessary water through its rivers, then Iran will provide the country with energy, Iranian Energy Deputy Minister Alireza Daimi said, news site pananews reported on Friday.

Iran meets the needs of the country's electricity, through investing in Sangtudin and Eyni hydropower in Tajikistan.

"Improvement of water and hydroelectric power plants will create an energy corridor between Iran, Afghanistan and Tajikistan. If Turkmenistan joins this corridor, it will lead to greater cooperation between countries in the region" Daimi said.

He stressed that Turkmenistan also has great potential to meet the Iranian water demands, and said there is great potential for the construction of hydroelectric power stations in this country, and Iran is ready to invest in this area.

Several Iranian companies in Tajikistan are implementing important economic projects in power engineering, transport, communications and agriculture.

Iranian companies are building a hydroelectric power station Sangtudin-2 tunnel Istiglol.
Trade turnover between the two countries amounted to 204.1 million in 2011, and this figure was around $16 million in January 2012,.

Iran's direct investment in Tajikistan totaled $14.2 million in 2011.
Iran is occupying the fourth position in the foreign trade of Tajikistan.

"Iran, Tajikistan to exchange water and power", 10/09/2012, online at: http://www.ooskanews.com/daily-water-briefing/iran-tajikistan-making-water-power-deals_24246

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❖ 63 Dams Under Construction

Minister of Energy Majid Namju said the country's power production and water capacity has doubled during the term of the ninth and tenth administrations.

Speaking Sunday night at a ceremony in the northeastern city of Gonbad Qaboos, Golestan Province, he added that 330 dams with a total water storage capacity of 50 billion cubic meters have been constructed by the two administrations and that 63 more dams with 12 billion cubic meter water storage capacity are under construction within the "Mehr-e Mandegar" plan.

Namju also said 24 power production units are being built across the country, IRNA reported.

He further referred to the inauguration of Daneshmand Dam in the province and said 100 billion rials were spent to carry out the major water project.

According to the minister, the dam holds 33 million cubic meters of water and controls distribution of 70 million cubic meters of water.

He went on to say that 11 water projects, including two dams, 4 drainage systems, and four water distribution projects, will be launched by the end of the current administration's term (Summer 2013). Elsewhere in his remarks, Namju said despite good amount of precipitation in the current water year (230 mm on average), only 20 billion cubic meters of water has been stored behind dams in the country, which shows a 44-pe

"63 Dams Under Construction", 11/09/2012, online at: http://www.zawya.com/story/Iran_63_dams_under_construction-ZAWYA20120911053906/

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❖ Main Water Supplies to Aleppo Cut Off

The main water supply to the northern city of Aleppo, Syria's commercial hub, has been cut off by government troops.

The main water supply to the northern city of Aleppo, Syria's commercial hub, has been cut off by government troops loyal to President Bashar al-Assad.

More than three million residents of Aleppo lost access to their drinking water after the main water pipeline was destroyed in an airstrike by government forces, according to Ausama Monajed, a member of the opposition Syrian National Council. "Floods swept through neighborhoods, drowning many houses and commercial establishments," Monajed said.

The Syrian government, however, claimed that rebel forces were to blame for the bursting pipe. A third account said rebel forces were trying to cut off food and water to soldiers inside the city. Air strikes by regime attack helicopters leveled entire blocks of residential apartment buildings, and civilians died as heavy artillery shelled neighborhoods in Hanano.

As the fighting intensified, and government troops beseiged southern Damascus, three Syrian rockets also hit the Iraqi border town of al-Qaim on Saturday, killing a five-year-old girl. The Katyusha rockets smashed through the wall of a home, instantly killing the little girl.

"So what?" shrugged one Israeli Arab source who spoke exclusively with *Arutz Sheva*on condition of anonymity Sunday morning. "So far, only 23,000 are dead. Assad's father [the late President Hafez al-Assad] killed even more – 40,000. It never bothered him in the slightest. This can go on for months. The Russians are involved, and Syria is their only gateway to the Middle East. Bashar [al-Assad] knows he cannot lose with their backing."

Other observers suggested it is still possible Assad might fall -- but the motivation behind the entire revolution that has transformed into a full-scale civil war is still anyone's guess. According to 71-year-old French surgeon Jacques Beres, who co-founded Doctors without Borders and who had just returned to France from a two-week stint in Aleppo, "It's really something strange to see. They are directly saying that they aren't interested in Bashar al-Assad's fall, but are thinking about how to take

power afterwards and set up an Islamic state with Shari'a law to become part of the world Emirate," he told reporters.

For weeks, Iran's elite Revolutionary Guards have been operating on behalf of Syrian government forces in Syria – and Assad has been insisting that Al Qaeda terroristshave been involved on behalf of rebel forces. As in the Libyan revolution, the objective truth is impossible to ferret out, since journalists have long been barred from entering Syria, let alone operating freely in the country, and conditions have become too dangerous even for United Nations monitors.

"Main Water Supplies to Aleppo Cut Off", 09/09/2012, online at:
http://www.israelnationalnews.com/News/News.aspx/159780#.UFCW67IdDb4

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❖ How Unsustainable Water Policies Crippled The Assad Regime (INTERVIEW)

The link between climate change and political instability may still be ambiguous, but recent research is uncovering a connection between sustainable water and food policies and the survival of governments. Shahrzad Mohtadi found that whilst a prelonged drought in Syria may not have caused the political uprising, the Assad regime's failure to deal with it effectively certainly did. "Assad promoted water intensive crops such as cotton, while not providing efficient methods of watering such crops. There were many such policies that created a scenario where the drought's effects were even more devastating than they otherwise would have been," say Mohtadi.

"So one can't say climate change will create a domino effect of instability and migration whatsoever – but Syria's case is a warning that developing nations… should create sustainable agricultural policies." I spoke with Shahrzad Mohtadi to find out more about the devastating drought in Syria and what other Middle Eastern nations need to do to protect their dwindling water resources – and their political stability.

You have studied quite a range of subjects ranging from micro-finance in post-Soviet Tajikistan to the political transition in Myanmar. What is it that attracted you to study climate change in the Middle East?
The Middle East is a region that grips many for its political drama. As the region already suffers from a chronic water shortage and political divisions remain fierce, climate change is yet another factor that could provoke instability. Climate model uniformly predict that the eastern Mediterranean (in political terms – the Middle East) will very likely have less rain in the future. If nations in the Middle East don't begin implementing sustainable policies for farming and water intake that take into account future drying, the problems in the region will grow even larger.

Can you tell us about your current research on the effects of climate change on human migration in the Middle East?
A few weeks before the March 2011 uprisings in Syria began, I applied for a fellowship regarding climate change and security. I began reading about a drought that occurred in Syria from 2005-2010, and came to understand that such a drought – in how long it lasted and how much of the country was impacted – had devastated many of the country's farmers. Over 1.5 million farming families migrated from the rural areas of the country to urban outskirts. Once the protests in Dara'a began, and the revolution snowballed from there, I was able to show how the unusual nature of the drought, which led to a mass exodus to large cities, was an important contributing factor to the Syrian uprising.

Migration and climate change can be quite a sensitive topic to explore due to security implications and also ethical implications. Do you think the widespread concerns about climate change causing mass migration from south to the north and also political and economic

instability are fair?
I don't believe any such general statements can be made. Syria's example of migration is unique because the Assad regime's policies were going against any rational. For example, Assad promoted water intensive crops such as cotton, while not providing efficient methods of watering such crops. There were many such policies that created a scenario where the drought's effects were even more devastating than they otherwise would have been. So one can't say climate change will create a domino effect of instability and migration whatsoever – but Syria's case is a warning that developing nations who have little control over carbon emissions should create sustainable agricultural policies.

Looking at your research into Syria, it seems that the impact of climate change-induced migration is local and regional rather than global? Is that an accurate statement?
One cannot say this migration was climate-change induced, as no single extreme climate event can ever be categorized as climate change. What we know is that such unusually long and persistent drought will be more likely in the future, which can cause migrations if governments remain ignorant to sustainable water and agricultural policies.

What have been the most surprising things to emerge from your research?
As I continued my research, I was shocked at the extent to which this drought affected rural communities in Syria. In the northeast of the country, known as the breadbasket of Syria, school drop-out rates for the drought years were up to 80%. Many schools were closed and villages deserted. Up to 90% of the livestock in the area perished. And this was a region only a few years back known as the country's food producing center. The lack of response by the Assad regime was also shocking. For a dictatorship that wishes to maintain stability and legitimacy, the response was inadequate and later came to light during the uprising.

"How Unsustainable Water Policies Crippled The Assad Regime (INTERVIEW)", 09/10/2012, online at: http://www.greenprophet.com/2012/09/bad-water-policy-assad-regime-interview/

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❖ Israel 'blackmailing' Palestinian Water Authority

BETHLEHEM (Ma'an) — Israel is using water agreements signed in the Oslo Accords to blackmail the Palestinian Water Authority and destroy the two-state solution, the head of the PWA said Monday.

Israel has reduced the Joint Water Committee, set up to implement the Oslo Agreement on water, to "a forum for blackmail," Shaddad Attili said in a statement.

Israel refuses to approve Palestinian projects to construct and rehabilitate water infrastructure in the West Bank unless the Palestinian Authority approves projects to benefit illegal Israeli settlements, Attili said.

"This is no different to asking us to approve our own occupation and colonization."

Attili added: "If Israel continues to treat the JWC as a mechanism through which to arm twist and blackmail Palestinians, then the JWC faces a very uncertain future. In essence, Israel will have killed the JWC."

By obstructing water projects in Area C, 60 percent of the West Bank, Israel undermines Palestinian efforts to build the infrastructure needed for a state, and forcibly displaces Palestinians by obstructing their access to water.

"In short, Israel's policies in Area C seek to make permanent the status quo of territorial fragmentation, settlement expansion and resource exploitation that are all fundamental to its continued occupation," the water chief said.

Donor countries recognize settlements as a threat to the two-state solution, yet donor-funded water projects in the West Bank are only approved if the JWC approves projects supporting settlements.

"Israel has created a situation in which donor support for the Palestinian water sector is in danger of undermining donor support for the two-state solution. Donor countries need to intervene to change this situation, for the sake of Palestinian water rights and for the future of the two-state solution," Attili said.

In 2011, Israeli forces demolished 46 Palestinian rainwater-harvesting cisterns and 25 wells. Current data suggests this number will be surpassed in 2012, the Palestinian Water Authority says.

The PWA has submitted over 100 applications for water projects that are still waiting approval by Israel, some of which date back to 1999.

The Oslo Accords were slated as a five-year interim agreement until the establishment of a Palestinian state, but remain in place nearly two decades on in the absence of a final agreement. The agreement maintained Israeli control over West Bank water resources and its levels of extraction from them.

Demonstrators protesting the rising cost of living in cities across the West Bank have demanded the cancellation of the Paris Protocol, the economic annex to the Oslo Accords which Palestinians say mostly benefited Israel.

http://www.maannews.net/eng/ViewDetails.aspx?ID=518888

Israeli Forces Destroy 2 Water Tanks south of Hebron – WAFA

NABLUS, September 10, 2012 (WAFA) – Israeli forces Monday destroyed two water tanks and stone walls belonging to Palestinians in Joreish, a village south of Nablus, according to a local activist.

Ghassan Douglas, in charge of settlements file at the Palestinian Authority in the northern part of the West Bank, told WAFA that three Israeli bulldozers, protected by Israeli soldiers, destroyed two water tanks belonging to two residents in the village.

Witnesses said the bulldozers also demolished stone walls in the eastern part of the village, which their owners spent two years building them.

"Israel 'blackmailing' Palestinian Water Authority" , Ma'an / WAFA, 10/09/2012, online at: http://mideastenvironment.apps01.yorku.ca/?p=5875

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❖ Israel to Enhance Bulgaria's Irrigation Systems

Israel has offered management solutions and new technologies that can improve Bulgaria's **irrigation** systems and its management of water resources, Bulgarian**Agriculture** Minister **Miroslav Naydenov** has revealed.

Israeli authorities have offered to collaborate with Bulgaria's **Irrigation** Systems utility, according to Naydenov.

The two countries are to exchange **irrigation** and **watering** technologies.

Meanwhile, Bulgarian Prime Minister **Boyko Borisov** has pointed out that all Arab Spring states suffer from insufficient food supply, suggesting that Bulgarian and Israeli companies focus on these markets.

Bulgaria has land and pastures, while Israel has highly developed production technologies, Naydenov commented, referring to the two countries' cooperation in**agriculture**.

A Bulgarian government delegation is taking part in the second joint sitting of Bulgaria and Israel's cabinets on Tuesday in Israel.

The agenda includes the signing of bilateral agreements in IT, healthcare, culture and education, among others.

"Israel to Enhance Bulgaria's Irrigation Systems", 11/09/2012, online at: http://www.novinite.com/view_news.php?id=143130

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❖ Water consumption in Israel up 6 percent in 2012

Israel's large cities use an average of 4 percent more water, with the sharpest rise in Jerusalem, followed by Tel Aviv-Jaffa.

Israelis' awareness of the need to save water seems to have eroded in 2012. Data issued by the Mekorot water company showed on Tuesday that water consumption between January and August of this year was 6 percent higher than it was in the same period last year.

The uptrend was noted both in the residential and the agricultural sectors, with households using 5 percent more water so far this year, and farmers using 7 percent more.

Mekorot, the national water company that supplies most of Israel's water, said that during the first eight months of 2012, water consumption totaled 944 million cubic meters, compared to 895 million cubic meters last year.

Israel's large cities used an average of 4 percent more water, with the sharpest rise in Jerusalem, followed by Tel Aviv-Jaffa. Be'er Sheva also saw an increase.

The rise in water use could have several explanations. One is that there has been an easing of the public relations campaign to encourage water-saving. Another is that the relatively rainy winter might have left Israelis with the impression that Israel's water problems had eased. Yet another possibility is that because water officials have been continually emphasizing that a large part of Israel's water supply now comes from desalination, the public's resolve to lower consumption and protect our natural water sources has been weakened.

Officials are, in fact, still trumpeting the benefits of desalination. "As of now there are 1.25 billion cubic meters missing from Israel's underwater aquifers," Mekorot CEO Shimon Ben Hamo said Tuesday. "Starting from the end of 2013, some 75 percent of household water will come from desalinated water, and water surpluses are expected for the first time. Only then will Mekorot begin to rehabilitate the natural water sources.

"Today the water supply from desalination is 40 percent, and there is great importance to a culture of proper water consumption," he said.

During the coming year, construction of large desalination facilities in Ashdod and Sorek (south of Rishon Letzion) will be completed, bringing to five the number of large desalination plants in the country.

The Water Authority's campaign to save water and the first wave of price hikes two years ago led to a drop in water consumption of 8-10 percent.

The Water Authority noted Tuesday that in order to get a full and accurate picture of the water-saving trends in the country, it is necessary to include all water consumption in Israel, and not just that of water supplied by Mekorot. Mekorot supplies around 70 percent of Israel's water, though it supplies over 80 percent of water to households.

Other data, such as population growth, must also be considered, the authority added.

The master plan for the water economy for the next four decades, recently prepared by the Water Authority, calls for reducing annual water usage from 100 cubic meters of water per person in 2010 to 95 cubic meters per person in 2050, despite the expected continuing increase in the standard of living.

"Water consumption in Israel up 6 percent in 2012", 12/09/2012, online at:
http://www.haaretz.com/news/national/water-consumption-in-israel-up-6-percent-in-2012.premium-1.464364

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Tel: +90(312)4302609 Fax: +90(312)4303948 orsam@orsam.org.tr

❖ Crowne Plaza Amman signs agreement with Jordan river foundation

(MENAFN Press) As part of its Corporate Social Responsibility (CSR) strategy and its commitment to supporting the community and its valued members, Crowne Plaza Amman signed an agreement with the renowned Jordan River Foundation to implement the Youth Career Initiative (YCI).

According to this agreement, Crowne Plaza Amman is committed to delivering a twentyfourweek training program once a year to youngsters from deprived communities in Jordan who lack the resources to continue their education, but have completed high school, or equivalent level of education. With this training program, they are trained in different departments around Crowne Plaza Amman, such as housekeeping and the kitchen among others; thus giving them the opportunity to find suitable jobs and become useful members of the workforce in the future.

Crowne Plaza Amman is conveniently situated in Amman, and is firmly established as a business and leisure hotel. Crowne Plaza Amman boasts 279 guest rooms and suites, six restaurants and lounges to satisfy all tastes and styles, and has many services and facilities to offer its guests.

A complete business center is available to serve the needs of business travelers, as well as a spa managed by Thalgo Spa, in which a stateoftheart gym and many spa services are available to relax and rejuvenate.

Many conference and banqueting facilities are available too. All this adds to the guests' Crowne Plaza experience.

"Crowne Plaza Amman signs agreement with Jordan river foundation", 11/09/2012, online at: http://www.menafn.com/menafn/1093557197/Crowne-Plaza-Amman-signs-agreement-with-Jordan-river-foundation

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❖ Palestinian farmers wither in tough climate

Palestinian agriculture suffers in occupied West Bank

* Water scarcity, land woes make tough job harder

* Farmers complain settlers get preferential treatment

By Jihan Abdalla

BEIT UMMAR, West Bank, Sept 12 (Reuters) - Once a mainstay of the local economy, Palestinian agriculture in the rocky West Bank is in decline as farmers struggle to protect their livelihoods and their lands.

Deprived of water and cut off from key markets, farmers across the occupied territory can only look on with a mix of anger and envy as Israeli settlers copiously irrigate their own plantations and export at will.

The pressure to keep farming is strong, not least because Palestinian farmers believe that Israel and Jewish settlers will expropriate their farmland if they leave it uncultivated.

But with restrictions on water use and land, what farmers produce often fails to match the lower cost or higher quality of what Israel supplies to the Palestinian stores.

Palestinian agriculture represented just six percent of gross domestic product in 2010 from 13.7 percent in 1994, the World Bank said. The Palestinian statistics bureau said where the sector employed 22 percent of the workforce in 1994, now it employs just 12.7 percent.

"Palestinian farmers are fighting a daily, losing battle against Israeli restrictions on land and water," Palestinian Minister of Agriculture Walid Assaf told Reuters.

In a report issued this month, a United Nations agency said the impact of the Israeli occupation on the productive base of the Palestinian economy, and especially its once-flourishing agriculture, "has been devastating."

"The economy has lost access to 40 per cent of West Bank land, 82 percent of its ground water, and more than two thirds of its grazing land," said the U.N. trade and development agency, UNCTAD.

Under agreements signed in 1994, Israel controls more than 80 percent of West Bank water resources by occupying the areas where the water is most plentiful. International aid groups say it is much more generous in distributing the water to its own citizens than the Palestinians, who claim not just the territory, but also the underground aquifers, for themselves.

Human rights organisation Amnesty International says Palestinians on average use 70 litres of water a day while Israelis and Jewish settlers consume an average 300 litres a day.

The differential is even more stark in settler communities in the Jordan Valley and northern Dead Sea, where, according to the Israeli rights group B'Tselem, residents used some 1,312 litres a day in 2008, mainly for agriculture.

This was almost 18 times more than the amount of water made available to Palestinians, the group said in a 2011 report. It said the monthly cost of water for Palestinians was three times more than that paid by settlers.

The direct result of this is easily visible.

While fruit orchards in the farming town of Beit Ummar, north of the city of Hebron, are parched as they rely only on scarce rainfall, a settler farm across the way is lined with black pipes for regular hosing, allowing for faster growth. Lush green, the rows of fruit trees were all picked months ago.

"These plums will sell for 1 shekel ($0.25) a kilo, almost for free! The Israeli plums have already been on the market for one month," said Um Hussein, a 75-year-old woman picking dusty fruit off her tree in an orchard adjacent to a Jewish settlement.

"We can barely afford drinking water, let alone water the trees," says farmer Nafez Khalaylah.

Palestinian farmers in most West Bank areas cannot drill new wells without Israeli permission - something European Union diplomats say hardly ever happens.

Israel says it is already giving Palestinians more water than was agreed in the 1994 interim Oslo peace accords. They say a definitive division of resources can only be decided in a final peace deal - something that has proved elusive in years of mutual recrimination and missed chances.

TIED TO THE PAST

Israeli agriculture experts say the Palestinians could do much more with their land if they adopted modern farming methods including using "drip technology" and modern fertilisers, but again Palestinians counter that it comes down to ample water supplies and unrestricted access to imports.

The locals certainly receive little help or encouragement from the Palestinian Authority, which exercises limited self-rule in the West Bank. It allocates a mere one percent of its budget to farming, despite the sector's importance. In a speech aimed at ending recent protests against tax hikes, Prime Minister Salam Fayyad this week promised to do more for the sector.

Farmers also say they are denied access to some of the West Bank's most fertile land, especially in so-called Area C, which includes the Jordan Valley and is controlled by the Israelis.

Rights group Peace Now says Israel has declared 25,000 acres or 16 percent of the West Bank as "state land" since 1967 and annexed it to settlements. Other areas are still under scrutiny.

In August, the Israeli authority which administers the West Bank, COGAT, ordered a group of farmers near Jericho, close to the Dead Sea, to tear up over 35,000 date palm trees, and leave the land.

COGAT told Reuters the trees had been planted illegally because they were on land where ownership is still to be established. It said in a written statement that the farmers had also been illegally siphoning water from Israeli sources.

Palestinian farmers and officials say the land is owned by the Islamic waqf, a kind of religious trust, which the farmers have been renting for years. They say Israel is threatened by the success of their crop, the sweet, fat Medjoul date, one of the world's most expensive varieties.

Jewish settlements nearby grow Medjoul dates too. Several neighbouring Islamic countries are now boycotting their produce.

GOING TO WASTE

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Tel: +90(312)4302609 Fax: +90(312)4303948 orsam@orsam.org.tr

Palestinian farmers also say Israel restricts the entry of West Bank produce to key markets, namely Jerusalem, once the commercial centre for Palestinians. All produce destined to Israel or for export must through Israeli checkpoints and subject to lengthy checks and procedures, significantly increasing production costs and decreasing profitability.

Palestinians imported $72.2 million worth of fruit and vegetables from Israel in 2010, while their own farmers exported just $2.92 million of their produce and often laboured to sell it at home, official local statistics show.

At a wholesale outlet, farmer Mohammad Awad sits surrounded by stacks of plums and 10 tons of Beit Ummar grapes - once much sought after, but now unsold and starting to ferment.

Awad says their only potential market is in the north of the West Bank, where plums and grapes are not grown. But the stalls there are filled with more aesthetic-looking, albeit more expensive Israeli grapes, for 5 shekels ($1.4) a kilo.

"These grapes will end up being sold to a winery for a half shekel ($0.17) a kilo," Awad says, taking a deep drag of his cigarette. "I've been telling farmers not to pick their fruit, there is no market for them," he says.

Once dubbed Palestine's fruit basket, now farmers leave some of their crop to rot in the sun-baked orchards, unwilling to sell it at a loss.

With the sector beset by so many problems, it is little wonder that many farmers are throwing in the towel.

Nafez Khalaylah recalls how 20 years ago, hundreds of farmers would leave their homes every day at five in the morning and walk towards their orchards.

"Now I work all day and I do not see one single farmer, or one single cheerful person," he says.

The owner of 80 trees, he is barely able to make ends meet. Last year, plums sold for 2 shekels ($0.5) a kilo against some 4 shekels in the 1980s. "Maybe next year, we won't be able to sell them at all," he says ruefully.

“Palestinian farmers wither in tough climate”, 12/09/2012, online at:
http://www.reuters.com/article/2012/09/12/palestinian-israel-farming-idUSL6E8K42TM20120912

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Tel: +90(312)4302609 Fax: +90(312)4303948 orsam@orsam.org.tr

❖ New life returns to Israel's 'river of death'

The cleanup of the Kishon is one of several successful efforts to rehabilitate some of the country's most polluted streams.

The Kishon River has for years been associated with death. Naval commandos, forced to train in its polluted waters, claim that they contracted cancer as a result. Yet today, that stream is the source of new life - fish, birds and other wildlife are returning to it, after a massive government cleanup operation.

The Kishon project is definitely something to celebrate and that is what the Environmental Protection Ministry did on Monday during a ceremony held on the banks of the river to mark to mark a new phase in the rehabilitation of one of the country's most polluted streambeds.

Over the years, various government ministries have been blamed for neglecting the state of the country's streams, allowing them to become foul-smelling wastewater runnels. But this week, the ministries, especially the Environmental Protection Ministry, deserved kudos for fixing some of the ongoing environmental and ecological damage, particularly in the Kishon River, which flows from the Gilboa mountains through the Jezreel Valley before emptying into Haifa Bay.

The ceremony was held in the presence of Environmental Protection Minister Gilad Erdan. Also present was Yuval Tamir, one of the leaders of the naval commandos' struggle to be recognized as victims of industrial pollution. The commandos were forced to train intensively in the Kishon during their military service, despite warnings issued by health and environmental authorities concerning the polluted water. While the Shamgar Commission, established a decade ago to investigate the possibility of a direct link between the pollution in the Kishon River and the high incidence of cancer among former Israeli navy divers, failed to find such a link, 93 of some 120 divers were diagnosed with some type of cancer, and at least one-third of those diagnosed have died.

The first stage of the streambed cleanup project includes drying a section of the river and digging a new channel for the river's water. The section to be dried will become part of the site where the polluted sludge, to be removed from the water, will be dumped and afterwards undergo biological

cleaning. At the final stage, the area will become part of a park to be built along the Kishon River's banks.

Experts disagreed over how to best to treat the riverbed. Still, it is clear that getting the sludge out of the stream means getting rid of materials liable to cause future contamination. Over the years, the streambed collected various contaminants from the industrial wastewater formerly pumped into the Kishon. The project to rehabilitate the Kishon will cost more than NIS 200 million, half of which will be paid by the government and the local authorities in the area. This is a significant investment in an environmental project, especially in these tough economic times.

The cleanup operation is the continuation of ongoing activity conducted by the Environmental Protection Ministry and the Kishon River Authority to reduce pollution entering the river. The core of the project involves forcing local industries to purify their wastewater.

In the last decade, the Kishon's pollution rate has dropped, at times by as much as 90 percent. Nonetheless, the river's waters are not yet of a quality high enough to allow canoeing and other water-based activities.

The Kishon River Authority's final 2011 report notes that the treated wastewater pumped by industry into the river still deviates from quality standards set by a panel of experts about a decade ago. In addition, the river has been impacted by repeated failures of sewage systems belonging to adjacent residential centers. More than 20 such failures occurred in 2011 alone.

But, all in all, a situation assessment shows real improvements, and the best proof is the return of life to the Kishon. Both the upper part of the river and its estuary are home to 13 different species of fish. An unofficial count of birds along the riverbanks showed more than 50 species. The river authority has started to return softshell turtles to the Kishon and manages to maintain a school of Anathrobrama lissneri, a very rare fish species in Israel's coastal streams. A cormorant flock of more than 3,000 birds is also thriving there.

Yarkon River cleaner too

There have also been improvements in the Yarkon River, which flows through central Israel, emptying into the Mediterranean in Tel Aviv.The Yarkon is also synonymous with environmental pollution of water sources. Unlike the Kishon, the Yarkon suffered mostly from insufficiently treated urban and agricultural wastewater. Because much of the water that used to flow into the Yarkon is now diverted for human use; much of what still enters the river is wastewater. The worse its quality is, the more damage is done to the entire ecosystem of the river, making it impossible to use it for recreational activities.

In the last 18 months, there has been a marked improvement in the processing of wastewater by the adjacent cities of Kfar Sava and Hod Hasharon, the main wastewater contributors to the river. In addition, a facility of green basins was opened near the river; the facility is constructed with water-based flora and a special foundation of rocks, all of which help absorb contaminants and better purify urban sewage.

The outcome of these processes is a real improvement in water quality in the middle part of the river, located between Hod Hasharon and Tel Aviv. Here, too, the prominent index of improvement is the presence of fauna, especially fish such as tilapia and Clarias, a genus of catfishes. These are now living in parts of the river where they could not survive in the past.

Of course, there are still more than a few hurdles to overcome before the Kishon and Yarkon rivers have high-quality water flowing in them and ecosystems capable of existing in the long-term. One of these is making sure that higher quality water gets to the rivers in large enough quantities and is not diverted for other uses. To this end, a system is currently being built at the Yarkon that will allow wastewater to flow downstream to Tel Aviv and then be pumped back out again for agricultural use.

The condition of other Israeli streams continues to be bleak, and streams such as the Lakhish, Harod and Sorek still suffer from various types of pollution. The southern part of the Jordan River is also in bad shape: The natural flow of water has stopped almost entirely; polluted water flows into the Jordan from different sources and its ecosystem has been seriously damaged.

The situation is also particularly dismal for the Kidron River, which flows from Jerusalem to the Judean wilderness. The river, which meanders through a breathtaking desert landscape and abuts

important cultural and religious sites, is used as the dumping ground for raw sewage by East Jerusalem neighborhoods and Palestinian settlements in the area. In the case of the Kidron, it seems that only Palestinian-Israeli cooperation can bring about an improvement, but such cooperation is still a thing of the future.

Sustained improvements in the Kishon and Yarkon may affect other streams: Turning them into attractive parks, as has been the case with the Yarkon, may persuade local governments and central government ministries to invest in rehabilitation efforts of other streams too.

"New life returns to Israel's 'river of death'", 13/09/2012, online at: **http://www.haaretz.com/news/national/new-life-returns-to-israel-s-river-of-death.premium-1.464633**

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❖ Water deprived Palestinian farmers see their crops wither in tough climate

BEIT UMMAR, Occupied West Bank: Once a mainstay of the local economy, Palestinian agriculture in the rocky West Bank is in decline as farmers struggle to protect their livelihoods and land.

Deprived of water and cut off from key markets, farmers across the occupied territory can only look on with a mix of anger and envy as Israeli settlers copiously irrigate their own plantations and export their produce at will.

The pressure to keep farming is strong, not least because Palestinian farmers believe that Israel and Jewish settlers will expropriate their farmland if they leave it uncultivated.

But with restrictions on water use and land, what farmers produce often fails to match the lower cost or higher quality of what Israel supplies to the Palestinian stores.

Agriculture represented just six percent of gross domestic product in 2010 down from 13.7 percent in 1994, the World Bank said.

The Palestinian statistics bureau said where the sector employed 22 percent of the workforce in 1994, now it employs just 12.7 percent.

"Farmers are fighting a daily, losing battle against Israeli restrictions on land and water," Palestinian Minister of Agriculture Walid Assaf told Reuters.

In a report issued this month, a U.N. agency said the impact of the Israeli occupation on the productive base of the Palestinian economy, and especially its once-flourishing agriculture, "has been devastating."

"The economy has lost access to 40 per cent of West Bank land, 82 percent of its ground water, and more than two thirds of its grazing land," UNCTAD said, the United Nation's trade and development agency.

Under agreements signed in 1994, Israel controls more than 80 percent of West Bank water resources by occupying the areas where the water is most plentiful. International aid groups say it is much more generous in distributing the water to its own citizens than the Palestinians, who claim not just the territory, but also the underground aquifers, for themselves.

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The differential is even more stark in settler communities in the Jordan Valley and northern Dead Sea, where, according to the Israeli rights group B'Tselem, residents used some 1,312 liters a day in 2008, mainly for agriculture.

This was almost 18 times more than the amount of water made available to Palestinians, the group said in a 2011 report. It added that the monthly cost of water for Palestinians was three times more than that paid by settlers.

The direct result of this is easily visible. While fruit orchards in the farming town of Beit Ummar that rely only on scarce rainfall are parched, a nearby settler farm is lined with black pipes for regular hosing, allowing for faster growth. Lush green, the rows of fruit trees were all picked months ago.

"These plums will sell for 1 shekel ($0.25) a kilo – almost for free. The Israeli plums have already been on the market for one month," said Um Hussein, a 75-year-old woman picking dusty fruit off her tree in an orchard adjacent to a Jewish settlement.

"We can barely afford drinking water, let alone water the trees," farmer Nafez Khalaylah says.

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The locals certainly receive little help or encouragement from the Palestinian Authority, which exercises limited self-rule in the West Bank. It allocates a mere one percent of its budget to farming, despite the sector's importance. In a speech aimed at ending recent protests against tax hikes, Prime Minister Salam Fayyad this week promised to do more for the sector.

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Mithat Paşa Caddesi 46/4 Kızılay-Ankara TURKEY
Tel: +90(312)4302609 Fax: +90(312)4303948 orsam@orsam.org.tr

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With the sector beset by so many problems, it is little wonder that many farmers are throwing in the towel.

Nafez Khalaylah recalls how 20 years ago, hundreds of farmers would leave their homes every day and walk towards their orchards.

"Now I work all day and I do not see one single farmer, or one single cheerful person," he says.

The owner of 80 trees, he is barely able to make ends meet. Last year, plums sold for 2 shekels ($0.5) a kilo against some 4 shekels in the 1980s. "Maybe next year, we won't be able to sell them at all," he says ruefully.

"Water deprived Palestinian farmers see their crops wither in tough climate", 13/09/2012, online at: http://www.dailystar.com.lb/Business/Middle-East/2012/Sep-13/187706-water-deprived-palestinian-farmers-see-their-crops-wither-in-tough-climate.ashx#axzz26Rl5lgHY

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Tel: +90(312)4302609 Fax: +90(312)4303948 orsam@orsam.org.tr

❖ Japan Funds Birzeit Water Network Rehabilitation Project

RAMALLAH, September 11, 2012 (WAFA) - Representative of Japan to the Palestinian Authority Junya Matsuura, and Mayor of Birzeit Yousef Nasser signed a $114,958 grant contract of the project for 'Rehabilitation and Extension of the Water Network in Birzeit City', Tuesday said a press release by Representative Office of Japan in Ramallah.

The project aims to replace around 1,570 meters of corroded and holed pipes in the old water network in al-Marj district and replace the current temporary plastic pipes of 1,330 meters approximately with permanent pipelines, to cover 200 households (1000 people) and one school of 250 students in the same district, said the release.

The release said this project will strengthen the water pressure in the entire network in that area and thus increase the supply of water to all Birzeit citizens.

Matsuura emphasized Japan's firm commitment of supporting Palestinian people from human security perspective as well as the importance of implementing social and economic development projects needed for Palestinian communities.

The signing ceremony of the project, funded by the Government of Japan through Japan's Grant Assistance for Grassroots Human Security Projects (GGP), was held in the Representative Office of Japan to PA in Ramallah, and attended by Special Advisor to the Minister of State and Head of Aid Management and Coordination Directorate in (MoPAD) Estephan Salameh.

Since 1993, Japan has provided more than $1.25 billion to Palestinians, including its assistance through GGP to more than 320 projects with its total amount of about $23 million. GGP projects have been formulated in collaboration with the Palestinian Authority through MoPAD since 2010.

"Japan Funds Birzeit Water Network Rehabilitation Project", 16/09/2012, online at:

http://english.wafa.ps/index.php?action=detail&id=20659

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❖ Jordan Looks to Decrease Water Subsidies

AMMAN, Jordan — The Jordanian government is currently preparing a new water pricing plan that is meant to reduce subsidies, according to government officials.

The new plan will be based on the amount of water consumed and the area of the residential or commercial space.

"The new pricing system is meant to reduce the amount of water consumption as well as cutting subsidies provided for water," Minister of Water and Irrigation Mohamed al Naggar announced last week.

However, he ruled out the possibility of privatizing the state-run water sector.

The cost of producing one cubic meter of water at Jordan's state-owned companies is about $1 USD, but it is being sold to consumers for around $0.60 USD, according to ministry figures.

Al Naggar noted that a number of state-run water companies were facing financial difficulties, and as a consequence they have to review the price of water they produce.

"For example, Al Yarmouk Water Company serving the Northern Province is one of the companies facing financial difficulties. The company faces these difficulties because subscribers have failed to pay $35 million USD, the value of their consumption," said Al Naggar.

He said the new pricing system is necessary if the country hopes to increase drinking water coverage.

"Achieving a 98 percent drinking water coverage in the kingdom requires huge funds," he said. "The ministry aims at increasing the per capita share of water to be around 100 liters per day."

"We also aim at increasing the current sanitation coverage nationwide. The current coverage stands at 62 percent," he added.

He said his ministry was developing a national strategy through 2025 to deal with future challenges and increasing demand.

Water shortages in the kingdom have peaked in six governorates over the past few months, with water access becoming increasingly scarce, especially as temperatures rose during the summer months and consumption increased.

Local residents held a wave of demonstrations to protest shortages of water for irrigation and drinking.

Meanwhile, Jordan's Finance Ministry has said the government plans to expand public-private partnership (PPP) water and energy projects, in an effort to attract foreign funds to finance infrastructure projects.

The kingdom faces a twofold problem -- its severe lack of water resources is coupled with limited energy sources.

With a population of 6.7 million, Jordan is ranked among the five poorest countries in the world with regard to water resources.

By 2020, existing water resources will meet only one-third of country's needs, according to government estimates.

"Jordan Looks to Decrease Water Subsidies", 12/09/2012, online at: http://www.ooskanews.com/daily-water-briefing/jordan-looks-decrease-water-subsidies_24302

❖ King Abdullah: Israel disrupting Jordan's nuclear plans

Jordan's king claims Israel put pressure on countries to disrupt cooperation with Amman

King Abdullah II on Wednesday accused Israel of disrupting Jordan's nuclear program which is aimed at meeting its dire energy needs and powering water desalination plants, in an exclusive interview with AFP.

"Strong opposition to Jordan's nuclear energy program is coming from Israel," the king said.

When we started going down the road of nuclear energy for peaceful purposes, we approached some highly responsible countries to work with us. And pretty soon we realized that Israel was putting pressure on those countries to disrupt any cooperation with us."

Jordan signed a peace treaty with Israel in 1994.

"A Jordanian delegation would approach a potential partner, and one week later an Israeli delegation would be there, asking our interlocutors not to support Jordan's nuclear energy bid," Abdullah said during the interview at his palace.

Jordan, which imports 95 percent of its energy needs, is struggling to find alternatives to unstable Egyptian gas supplies, which normally cover 80 percent of the kingdom's power production.

Since 2011, the pipeline supplying gas from Egypt to both Israel and Jordan has been attacked 14 times, with a consequent disruption of supplies.

With desert covering 92 percent of its territory, the kingdom is one of the world's 10 driest countries and wants to use atomic energy to fire desalination plants to overcome its crippling water shortage.

"Nuclear energy will be the cheapest reliable way to desalinate water," the king said.

Energy experts in Jordan have demanded the country drop its ambitious plans to generate atomic power, following the nuclear disaster in Japan last year.

"Jordan will go only for the most secure, latest-generation reactor," the monarch said, answering the critics.

"These are far safer than earlier models, and have multiple features that help them withstand extreme conditions. Japan's Fukushima disaster involved an old-generation plant."

A 9.0 magnitude earthquake hit Japan's northeast coast on March 11, 2011, and the Fukushima Daiichi nuclear plant began leaking radiation into the air, sea and soil, contaminating farm produce and making its way into tap water.

The plant was swamped by a ferocious tsunami that left almost 13,500 dead and 15,000 missing. Tens of thousands more were made homeless.

"The fact is that worldwide, more plants are being set up. Countries know their people need energy," the Jordanian monarch said.

He said the the nuclear power plant that the government seeks would cost about 3.5 billion dinar ($4.9 billion) "for a plant that would constitute one third of the total power capacity generated in Jordan today."

"The attacks on the Egyptian gas pipeline over the past two years have cost us already JOD2.8 billion. That could have paid for almost one reactor," he added.

Jordan is currently weighing an offer by a consortium formed by French nuclear giant Areva and Japan's Mitsubishi as well as a proposal by Russia's Atomstroyexport to build the country's first nuclear plant.

A joint venture between Jordan Energy Resources Incorporated and Areva discovered in June more than 20,000 tons of uranium in central Jordan.

"King Abdullah: Israel disrupting Jordan's nuclear plans", 12/09/2012, online at: http://www.ynetnews.com/articles/0,7340,L-4280495,00.html

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Tel: +90(312)4302609 Fax: +90(312)4303948 orsam@orsam.org.tr

❖ 91 children hospitalized after drinking contaminated water

JENIN (Ma'an) — Over 90 schoolboys were hospitalized on Sunday after drinking contaminated water in a Jenin village, a PA official said.

Director of the Jenin district's ministry of health, Salih Zakarna, told Ma'an that samples from the school's water tanks tested positive for contamination.

Around 91 schoolboys from the village of Sanur were taken to Jenin's public hospital and emergency clinics in the village after reporting symptoms of severe fatigue, nausea and fever.

All were later released after treatment, Zarkana said.

A letter was sent by the PA Ministry of Health to the school, and officials in Qabatiya, to demand that they replace all water tanks and fix the water system in the area, he added.

Food samples from the school canteen were also sent to a laboratory for testing.

The incident comes after 24 children were admitted to hospital in Jenin on Saturday after drinking contaminated water in their elementary school.

Parents reported symptoms of vomiting and a high fever, a police statement said.

Jenin governor Talal Dweikat ordered police to carry out a full investigation into both cases.

http://www.maannews.net/eng/ViewDetails.aspx?ID=518636

24 children admitted to hospital after drinking contaminated water – Ma'an
Published Saturday 08/09/2012 (updated) 08/09/2012 22:05

JENIN (Ma'an) — Twenty-four children were admitted to hospital in Jenin on Saturday after drinking contaminated water in their elementary school, police said.

Parents reported symptoms of vomiting and a high fever, a police statement said. Eighteen children are still in hospital and six have been released after treatment.

Police are investigating the incident.

"91 children hospitalized after drinking contaminated water", Ma'an, 10/09/2012, online at: http://mideastenvironment.apps01.yorku.ca/?p=5868

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Mithat Paşa Caddesi 46/4 Kızılay-Ankara TURKEY
Tel: +90(312)4302609 Fax: +90(312)4303948 orsam@orsam.org.tr

❖ Illegal pesticides threaten agriculture and fragile ecosystem

The spread of counterfeit pesticides and fertilizers that contain dangerous toxic substances is one of the biggest dangers threatening agriculture in the country, and its delicate ecosystem.

While the Agriculture Committee in the Shura Council, the lower house of Parliament, has warned of weak government supervision of the pesticides market and the expansion of its illegal outlets, banned pesticides are still used in large quantities.

"The government has no control or supervision on the import or distribution of pesticides and fertilizers. We are obliged to deal with small pesticide and fertilizer outlets because the Agriculture Ministry doesn't help us by any means," says Reda Nassif, a farmer from Monufiya Governorate.

Nassif says many factories produce counterfeit pesticides and fertilizers, carrying the name of famous companies with the same packaging design, to deceive naive farmers. But after analyzing their components, farmers realized they contain dangerous toxic chemicals that paralyze plants and increase the salinity of the soil.

"The owners of these factories make huge profits because they use very cheap materials to produce these pesticides and fertilizers, and then sell them at expensive prices, and that's how the business goes," Nassif says. "All types of potassium fertilizers that exist in the Egyptian market, for example, are fake."

Latest Agriculture Ministry reports put the total amount of pesticides imported last year at about 7 billion tons, with a total value of LE1 billion. This consumption exceeds that of the rest of the region.

Nassif explains that major farming companies import pesticides and fertilizers in large quantities, then distribute them to small shops spread throughout villages nationwide.

No restrictions are imposed on these imports, and because Egyptian farmers tend to be more attracted to imported products than local ones, they flock to buy any new product that enters the market, even without knowing its source.

"We heard recently about some Israeli pesticides that entered the Egyptian market, but because, in general, farmers fail to differentiate between pesticides coming from different sources and countries, they could never discover whether they used them without being aware [of it]," Nassif says.

He says he thinks it's a foreign scheme aiming to spread disease or destroy crops and plants to force Egyptians to import their crops, "because who doesn't own his food doesn't own his dignity," Nassif bitterly adds.

Osama al-Tayeb, microbiology and immunology professor at 6th of October University, sees another dangerous aspect of the situation. Farmers started to replace the original, natural pest resistors with more advanced and modified products that are hazardous to crops and human health.

Tayeb says over the past decades, farmers have used a natural poison — Bacillus thuringiensis, or Bt — produced by bacteria to get rid of pests that attack their crops. It used to be produced by the National Research Centre and was distributed by Kafr El Zayat Pesticides and Chemicals Company, at very cheap prices.

This natural pesticide was safe and could decompose in less than a week without leaving any toxic residues in soil or plants. But now, farmers have started to import genetically engineered seeds that can produce toxic materials by themselves in large quantities. These can cause environmental problems and health dangers, because they can change some genes inside the human body and be harmful to health, Tayeb says.

He says that after the temic type of pesticide — which kills worms in soil — proved to be a very toxic substance causing birth defects and cancer, and after its import was banned, farmers started smuggling it in illegally because they had got so used to it.

Although some farmers do not realise they are using genetically engineered products, Tayeb says he thinks the lack of awareness isn't the only reason behind the distribution of these products. Another is the strong desire to make higher profits. When farmers hear about products that can save their crops, they insist on buying them without asking whether they are legal.

Facing this situation, which some experts call a "pseudo black market" and in which most traders don't know their products are illegal, the Agricultural Pesticide Committee, under the supervision of the Agriculture Ministry, launched an awareness campaign a few months ago to teach farmers which pesticides and fertilizers to use and which to avoid.

But many experts think these campaigns won't achieve their goals because the committee doesn't know how to communicate at the farmers' levels.

Natasha Arthur, marine biologist and environmental expert, says it's important for governments to work closely with agricultural organizations to make sure the public is not exposed to high levels of pesticides that result in adverse health effects.

"Pesticides have the capacity to persist in the soil and water for decades, affecting plant life and animal life, which in turn can affect humans and cause health problems like cancers, nerve damage and birth defects," Arthur says.

Although it rarely rains in Cairo, she says, pesticides can end up in lakes and rivers through the air, wind and birds, poisoning them.

"Communities that rely on rivers for food are at risk of consuming the toxic active and inactive components of pesticides, as the bio-accumulate in big fish," Arthur says. Bio-accumulation is the accumulation of chemicals in the tissue of organisms.

Fertilizers can also pollute the marine system and cause environmental disasters, particularly in a country like Egypt where farmers don't have drainage pipes to get rid of extra irrigation water and dump it in lakes and rivers.

This can lead to a toxic bloom. When farmers use fertilizers for crops, or even areas such as golf courses, then rain, wind or the rest of the irrigation water carries fertilizer rich in nitrates and phosphates to the lakes and oceans. This provides an over supply of nutrients for the growth of algae, and the algae grow very quickly — resulting in the death of fish and plant life in lakes.

A similar occurrence happens in the ocean. Plants and animals die because of the quick overgrowth of algae and other plants, preventing sunlight from penetrating lakes and oceans and decreasing oxygen levels.

Corals also die because they need sunlight and clean water to thrive, and because corals provide a habitat for most sea life, fertilizers in the ocean can kill many species along the food chain.

Ahmed Droubi, biologist at Greenpeace — an international environmental protection association that recently started working in Egypt — says there is a monopoly in the pesticide and fertilizer market in Egypt.

"About seven big farming organizations dominate the whole market as they are the only importers who can manipulate prices as they like and create market need whenever they want," Droubi says. "Therefore, small farmers resort to smuggling illegal pesticides and manufacturing fake fertilizers as they can buy them at cheaper prices."

Droubi says the association plans to cooperate with government agriculture authorities to impose laws and regulations to protect farmers' and consumers' rights. It also plans to find solutions for problems related to pesticide misuse and the use of wastewater for irrigation, as well as other issues, such as corruption.

"We have some agricultural lands that exist a few meters away from the Nile, but irrigation water doesn't reach them," Droubi says. "At the same time, fresh water can reach some golf courses and resorts that contain artificial lakes in deserts, and this is obviously unfair."

While many experts say farmers don't trust the government and prefer not to buy from its outlets, Nassif says farmers would buy from them.

"We are sure the government will bring us good types of fertilizers and pesticides. That's why we beg the Agriculture Ministry and farming associations to start distributing pesticides and fertilizers through specific known outlets at reasonable prices, under government supervision," says Nassif. "We resort to the black market because we have no other alternative."

Some steps could be taken to overcome the problem, he says, such as setting up strict restrictions on imports and making an office in every village responsible for inspecting shops.

“Unfortunately, the farmers union still exists as an entity but its role has always been marginalized, and poor farmers have no voice. They need someone to speak on their behalf and express their requests and complaints,” Nassif says. “We need to remember that Egypt is an agricultural country in the first place.”

This piece was originally published in Egypt Independent’s weekly print edition.

http://www.egyptindependent.com/news/illegal-pesticides-threaten-agriculture-and-fragile-ecosystem

“Illegal pesticides threaten agriculture and fragile ecosystem”, Egypt Independent, 10/09/2012, online at: http://mideastenvironment.apps01.yorku.ca/?p=5866

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Mithat Paşa Caddesi 46/4 Kızılay-Ankara TURKEY
Tel: +90(312)4302609 Fax: +90(312)4303948 orsam@orsam.org.tr

❖ Former Egyptian Military Official Denies Plan to Sabotage Ethiopian Dam; Blames Tensions on Zenawi

CAIRO, Egypt — A former senior Egyptian military official on September 6 denied that Egypt had a contingency plan to sabotage the Ethiopian Renaissance Dam.

"The claims made by Stratfor intelligence firm about a contingency plan to bomb or sabotage the Ethiopian Dam are unfounded," former Commander of the Air Forces and current Minister of Military Production Reda Hafez told reporters.

Wikileaks on August 29 published emails dating back to 2010 from the Egyptian ambassador to Lebanon and a high-level Egyptian security official based in Cairo, whichdescribed how the Egyptian government prepared a contingency plan to deal with Ethiopian dam construction along the Blue Nile. The plan, according to the Wikileaks data, included taking military action.

"The website didn't mention the names of security officials who spoke about this plan," Hafez noted. He stressed that these leaked data were meant to "drive a wedge between Egypt and Ethiopia."

"There are some countries that do not like to see a thaw in Egyptian-Ethiopian relations. They don't want to see a diplomatic settlement of the Ethiopian dams issue," he warned.

Hafez blamed the tensions between Egypt and Ethiopia on late Prime Minister Meles Zenawi.

"Zenawi was part of the problem. He always talked about the possibility of wars with Egypt because of Nile water," he said.

Hafez categorically rejected the claim that Sudanese President Umar al-Bashir had agreed to allow Egypt to construct a small airbase in Kusti, as a launching point for Egyptian commandos to destroy Ethiopian water facilities on the Blue Nile.

"Egypt never thought about launching air strikes against Ethiopian dams. I was the commander of the armed forces at that time and can confirm there was no intention to do that," he said.

The Renaissance Dam project has long been a point of contention between Cairo, Khartoum and Addis Ababa. Therefore, a dam assessment committee was formed a few months ago to assess the negative impact of the dam on the flow of Nile water to the two downstream countries.

Ethiopian authorities will provide the experts on the committee with all information about the dam. The assessment of the negative and positive impacts of the dam and ways of dealing with them will take from six to nine months.

Then, the three countries will declare a final position on the project. The decision reached by the committee will be binding on all of them.

Meanwhile, Norwegian Minister of Foreign Affairs Jonas Gahr Store pledged to help settle disputes over distribution of Nile water among upstream and downstream countries.

Store, who met with Egyptian Prime Minister Hisham Qandil in Cairo on August 6, also said Norway would not fund projects that might pose a threat to Egypt's water security.

Norway is one of the major funders of water projects in upstream Nile countries.

"Former Egyptian Military Official Denies Plan to Sabotage Ethiopian Dam; Blames Tensions on Zenawi", 07/09/2012, online at: http://www.ooskanews.com/daily-water-briefing/former-egyptian-military-official-denies-plan-sabotage-ethiopian-dam-blames-ten

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❖ IMF Urges Ethiopia to Slow Nile Dam Project to Protect Economy

Ethiopia should slow the construction of Africa's largest hydropower plant to avoid the dam and other projects starving the rest of the economy of funds, the International Monetary Fund said.

The government began work on the Grand Ethiopian Renaissance Dam, situated on the Blue Nile River near the Sudanese border, in April last year. The 80 billion-birr ($4.5 billion) project that will generate 6,000 megawatts, partly for export to the region, is scheduled to be completed in 2018.

"I think there's a need to rethink some of those projects a little bit to make sure that they don't absorb all domestic financing just for that project," IMF country representative Jan Mikkelsen told reporters yesterday. "If you suck in all domestic financing to just a few projects that money will be used for this and not for normal trade and normal business."

Ethiopia, the world's fifth-biggest coffee producer, is seeking to diversify its economy to reduce a reliance on agriculture for 43 percent of total output. Ethiopian Electric Power Corp., the state-owned utility, began exports to neighboring Djibouti in May 2010 and plans to ship as much as 2,000 megawatts to Egypt and 1,200 megawatts to Sudan by 2020. Power exports to those nations may earn about $1.6 billion a year, according to Access Capital, the Addis Ababa-based research company.

The delayed return on investments for long-term projects increases the need to ensure they don't absorb all domestic financing as they're being built, Mikkelsen said.

'Well-Considered'

Ethiopia's government won't reschedule construction of the Grand Renaissance dam, said Communications Minister Bereket Simon, who co-chairs a fundraising committee for the plant.

"It was a well-considered plan and it's one of the mega projects for which the government commits itself unconditionally," Bereket said in a phone interview yesterday.

In the current fiscal year that ends next July, Ethiopia plans to invest 144 billion birr, about 16 percent of gross domestic product, in industrial development, transport, telecommunications, energy and housing, according to the government's five-year growth plan.

The Grand Renaissance dam is being funded by Ethiopians as foreign lenders were unwilling to finance it because of Egypt's historical refusal to sanction development projects on the river, according to Ethiopia's government. As much as 5 billion birr has been raised for the project so far from the public by selling bonds that pay 5.5 or 6 percent interest, Bereket said.

Bond Purchases

In April 2011, the government introduced a requirement for banks to purchase National Bank of Ethiopia securities worth 27 percent of each loan they disburse. The measure raised 12.6 billion birr

for the government to invest in infrastructure projects in its first 16 months, according to Access Capital.

The regulation is "too onerous" and the fund has suggested an adjustment so banks can still fund state investments while freeing up more credit for private enterprises, Mikkelsen said.

Ethiopia's economy grew 7 percent in the 12 months to July 7 and 7.5 percent the previous year, according to the IMF. Inflation is projected to slow to 25.4 percent by the end of this year from 38.1 percent a year earlier, according to data on the lender's website.

Ethiopian officials have vowed to implement the industrialization program of former Prime Minister Meles Zenawi, who died last month. Meles aimed to transform Ethiopia into a middle-income nation by 2025.

"This is the brainchild of the late prime minister and we want to show commitment to his vision," Bereket said.

"IMF Urges Ethiopia to Slow Nile Dam Project to Protect Economy", 14/09/2012, online at: http://www.bloomberg.com/news/2012-09-14/imf-urges-ethiopia-to-slow-nile-dam-project-to-protect-economy.html

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❖ Twenty more "Niles" needed to feed growing population - leaders

OSLO (Reuters) - The world needs to find the equivalent of the flow of 20 Nile rivers by 2025 to grow enough food to feed a rising population and help avoid conflicts over water scarcity, a group of former leaders said on Monday.

Factors such as climate change would strain freshwater supplies and nations including China and India were likely to face shortages within two decades, they said, calling on the U.N. Security Council to get more involved.

"The future political impact of water scarcity may be devastating," former Canadian Prime Minister Jean Chretien said of a study issued by a group of 40 former leaders he co-chairs including former U.S. President Bill Clinton and Nelson Mandela.

"It will lead to some conflicts," Chretien told reporters on a telephone conference call, highlighting tensions such as in the Middle East over the Jordan River.

The study, by the InterAction Council of former leaders, said the U.N. Security Council should make water the top concern. Until now, the Security Council has treated water as a factor in other crises, such as Sudan or the impact of global warming.

It said that about 3,800 cubic km (910 cubic miles) of fresh water was taken from rivers and lakes every year.

"With about 1 billion more mouths to feed worldwide by 2025, global agriculture alone will require another 1,000 cubic km (240 cubic miles) of water per year," it said. The world population now is just over 7 billion.

The increase was "equal to the annual flow of 20 Niles or 100 Colorado Rivers", according to the report, also backed by the U.N. University's Institute for Water, Environment and Health (UNWEH) and Canada's Gordon Foundation.

CHINA, INDIA

It said the greatest growth in demand for water would be in China, the United States and India due to population growth, increasing irrigation and economic growth.

"By 2030, demand for water in India and China, the most populous nations on Earth, will exceed their current supplies," the report said.

Global warming, blamed on human emissions of greenhouse gases from burning fossil fuels, would aggravate the problems.

"We say in the U.N. system that climate change is all about water," said Zafar Adeel, director of UNWEH. Severe weather events - such as droughts, floods, mudslides or downpours - were becoming more frequent.

UN-Water, which coordinates water-related efforts by the United Nations, will organise a meeting of foreign ministers this month and separate talks among experts on September 25 to look at ways to address concerns over water.

The report said there were examples of water-related conflicts, for instance between Israelis and Palestinians over aquifers, between Egypt and other nations sharing the Nile, or between Iran and Afghanistan over the Hirmand River.

But it said the world had many chances to conserve water and to shift towards what it called a "blue economy". Fixing leaky pipes could help - in developing nations, about 40 percent of domestic water is lost before it reaches households.

Nations such as Israel have limited water use, for instance by shifting to less water-intensive crops or recycling. Olives or dates need less water, for instance, than oranges.

The report said that annual spending on improving water supplies and sanitation in developing nations should be raised by about $11 billion a year. Every dollar spent would yield an economic return of $3 to $4, it estimated.

One billion people have no fresh water and 2 billion lack basic sanitation. About 4,500 children die of water-related diseases every day - the equivalent of 10 jumbo jets falling out of the sky with no survivors, Chretien wrote.

“Twenty more "Niles" needed to feed growing population – leaders”, 11/09/2012, online at: http://thestar.com.my/news/story.asp?file=/2012/9/11/worldupdates/2012-09-10T184348Z_1_BRE88913B_RTROPTT_0_UK-WATER&sec=Worldupdates

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Mithat Paşa Caddesi 46/4 Kızılay-Ankara TURKEY
Tel: +90(312)4302609 Fax: +90(312)4303948 orsam@orsam.org.tr

❖ Nigeria'll no longer experience water shortage by 2025 – Minister

MINISTER of Water Resources, Mrs Sarah Och-ekpe, has ssaid the Federal Government is committed to its plan to address the water problem confronting the country, saying that the country would be out of water shortages by 2025.

Ochekpe, who gave the assurance at a one-day workshop for stakeholders on the validation of Plateau State water supply, sanitation and hygiene policy, implored participants at the forum to study the document for water policy in the state and come up with a policy for better water services.

In his address, the state governor, Mr Jonah Jang, represented by the Secretary to the State Government (SSG). Professor Shedrack Best, attributed the challenges facing water sector in the state to obsolete equipment, shortage of manpower, among others.

He said his administration had awarded N8 billion contract to boost quality water supply within the state capital and some rural areas, adding that the state was also in partnership with other foreign non-government organisa-tions (NGOs), to provide quality water to the people.

According to him, if completed, the falicities would reduce strategy committed to eradication of water-borne diseases and improve water supply and management for other productive economic activities.

"Nigeria'll no longer experience water shortage by 2025 – Minister", 14/09/2012, online at: http://tribune.com.ng/index.php/news/47615-nigeriall-no-longer-experience-water-shortage-by-2025-minister

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Tel: +90(312)4302609 Fax: +90(312)4303948 orsam@orsam.org.tr

❖ Zimbabwe: BCC Moves in to Ease Water Shortages

The Bulawayo City Council has moved in to ease the water crisis that is affecting the city, as some of its dams have now been de-commissioned due to low levels of water.

Bulawayo, the country's second capital city, received less than average rainfall this year and has already decommissioned two supply dams - Upper Ncema and Umzingwane - leaving only three dams; Insiza, Lower Ncema and Inyankuni.

The remaining dams hold about 42 percent water of their combined capacity, with Insiza Dam the healthiest as it accounts for 86 percent of that total.

However, Councillor Rafa Moyo said the city had this week introduced the water bowsers in every ward and suburb while all the boreholes that were sunk in 2009 have been rehabilitated and are working. Each ward has three boreholes.

"We also hope that the Mtshabezi pipeline could be completed this month and it would bring an extra 17,000 cubic litres which will help to ease the shortages," said Councillor Moyo.

Councillor Moyo applauded efforts being undertaken by the Minister of Water Resources Development and Management, Hon. Samuel Sipepa Nkomo in ensuring that the city resumes its normal water supplies. "Minister Nkomo was in Bulawayo the whole of last week to ensure that the city had normal supplies and we are happy that he is personally taking full responsibility of what is taking place at Mtshabezi," he said.

Minister Nkomo has also engaged the Zimbabwe Electricity Supply Authority (ZESA) to maintain a 24-hour power supply to a pump station in Cowdray Park which receives water from the Nyamandlovu Aquifer.

Last month Minister Nkomo announced that a plan drawn to construct a 450km pipeline from the Zambezi River to Bulawayo will become a reality in two years after the Chinese government made available US$2 billion for the project.

The Matabeleland Zambezi Water Project is seen as the permanent solution to the water woes experienced by Bulawayo's population of close to a million people. "Our biggest commitment from now onwards will be to mobilise resources both financial and technical for the implementation of the project including the completion of the Gwayi-Shangani Dam [the first of three phases]," Nkomo said.

The Matabeleland Zambezi Water Project includes three phases -- Phase One: construction of the Gwayi-Shangani Dam, Phase Two: construction of the Gwayi-Shangani Dam to Bulawayo Pipeline and the final Phase Three which will see the construction of a pipeline from the Gwayi-Shangani Dam to the Zambezi River.

By the end, a 450km pipeline will supply water to Bulawayo and create a green belt along its path.

"Zimbabwe: BCC Moves in to Ease Water Shortages", 11/09/2012, online at: http://allafrica.com/stories/201209120522.html

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❖ National policies essential for safe drinking water in rural Africa, says ecosystem science expert

A new policy brief issued today recommends how governments, non-state actors and communities in sub-Saharan Africa can contribute to meeting the United Nations' 2015 Millennium Development Goal on ensuring safe and clean drinking water.

Published by the Africa Initiative (AI) and The Centre for International Governance Innovation (CIGI), "Keeping Water Clean Through Evidence-Based Policy in Northern Uganda" reports that "Unlike urban water supplies, which are regularly tested for contamination by national authorities, rural water supplies are rarely tested in sub-Saharan African countries." Written by Christopher Opio, an AI Research Grant recipient and professor of ecosystem science and management at the University of Northern British Columbia, the brief reveals that the transportation to and storage of water in households can cause clean water to become contaminated, demonstrating the need for water policies that extend beyond well construction. These findings pose a problem because a lack of clean drinking water "has direct and immediate consequences for quality of life, food security, long-term socio-economic development and the eradication of poverty."

Opio's findings are based on field research, specifically on water samples, collected from bore wells and storage containers in rural northern Uganda. Due to common practices, his recommendations are universal to rural Africa, despite the variety in "geology, climate, weather, infrastructure, government policy, land use practices, poverty, levels of education and many other socio-economic conditions that affect the quality and management of drinking water in the region."

Opio argues that after constructing water wells, there must be ongoing efforts by countries and communities to develop water management policies to ensure clean drinking water. He offers suggestions for three categories of actors throughout Africa:

Actions for national governments: • Develop strong rural drinking water monitoring and surveillance programs to ensure that water quality is maintained. • Implement education programs that promote sound water management practices, with an emphasis on proper sanitation in the handling of water containers and storage facilities. • Engage communities in the planning, installation and management of borehole drinking water delivery systems and sanitation programs.

Actions for NGOs and other non-state Actors:

• Consult technical staff, public health authorities and a hydro-geologist when siting new wells. • Test newly constructed wells regularly to ensure the water is fit for consumption. • Support government initiatives to educate the rural public. Radio programs, videos and pamphlets are excellent methods of disseminating such information. • Plan the digging, site selection, installation and management of new wells in close consultation with the villagers that will use them. • Depending on available resources, check bore wells annually to determine whether or not they are working and to identify what is wrong with those that are not working.

Actions for communities and households:

• Regularly clean and disinfect water storage and collection facilities. • Always keep water collecting cans and storage pots closed when not in use. • Assign a management committee (chairman, secretary, and treasurer) for each water source. • Take ownership of the systems and programs to increase the likelihood of long-term success in providing clean water.

"Keeping Water Clean Through Evidence-Based Policy in Northern Uganda" has been issued under the AI-CIGI policy brief series, which presents analysis and commentary emerging from field-based research on issues critical to the continent. Findings and recommendations in this peer-reviewed series aim to inform policy making and to contribute to the overall African research enterprise. To read this brief, click here. Policy briefs and discussion papers are available for free, full-text download at http://www.africaportal.org/africa-initiative/research and http://www.cigionline.org/publications.

MEDIA CONTACT: Kevin Dias, Communications Specialist, CIGI Tel: 519.885.2444, ext. 7238, Email: kdias(at)cigionline(dot)org

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"National policies essential for safe drinking water in rural Africa, says ecosystem science expert", 12/09/2012, online at: http://www.equities.com/news/news-headline-story?dt=2012-09-12&val=473739&d=1&cat=headline

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❖ Report warns of world water supply crisis

UNITED NATIONS, Sept. 10 (UPI) -- A global water crisis should be a top concern because of its implications for peace, political stability and economic development, a report issued in York says.

That's the warning in a report by the InterAction Council, a group of 40 prominent former government leaders and heads of state, working with the United Nations University's Institute for Water, Environment and Health, and Canada's Walter and Duncan Gordon Foundation.

"The future political impact of water scarcity may be devastating," former Canadian Prime Minister and council Co-chairman Jean Chretien said in an IAC release Monday.

"Using water the way we have in the past simply will not sustain humanity in future. The IAC is calling on the United Nations Security Council to recognize water as one of the top security concerns facing the global community."

The report focused on the danger in many regions, particularly sub-Saharan Africa or West Asia and North Africa, where critical water shortages already exist.

"As some of these nations are already politically unstable, such crises may have regional repercussions that extend well beyond their political boundaries," IAC member and former Norwegian Prime Minister Gro Harlem Brundtland said.

Water demand in India and China, the world's two most populous countries, will exceed supplies in less than 20 years, the report warns.

"Report warns of world water supply crisis", 10/09/2012, online at:
http://www.upi.com/Science_News/2012/09/10/Report-warns-of-world-water-supply-crisis/UPI-13071347317292/

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Mithat Paşa Caddesi 46/4 Kızılay-Ankara TURKEY
Tel: +90(312)4302609 Fax: +90(312)4303948 orsam@orsam.org.tr

❖ Why PepsiCo is a Global Leader in Water Stewardship and Sustainable Agriculture

In a wide-ranging interview with Sanjeev Chadha, President, PepsiCo Middle East & Africa, we discussed the evolving relationship between business and society, water management and sustainability at PepsiCo, shortages and scarcity particularly in the Middle East and Africa, the interconnectivity of water with a number of other critical issues, and key leadership lessons learned from a business perspective in tackling some of the world's most pressing problems.

Sanjeev Chadha is the President, PepsiCo Middle East & Africa. PepsiCo is a global food and beverage leader with net revenues of more than $65 billion and a product portfolio that includes 22 brands that generate more than $1 billion each in annual retail sales. PepsiCo's main businesses – Quaker, Tropicana, Gatorade, Frito-Lay and Pepsi-Cola – make hundreds of enjoyable foods and beverages that are loved throughout the world.

Prior to his current assignment, Sanjeev led PepsiCo South Asia (India & neighboring countries) as Chairman & CEO, during a period in which PepsiCo rose to become a leading model of PepsiCo's philosophy of 'Performance with Purpose', and the largest Food & Beverage business in India. In 2009, their business achieved a proud milestone: "Positive Water Balance", by replenishing more water than they consumed, a global first in beverages.

Rahim Kanani: When you think about the evolving role of business in society, what's been the most significant change, and how does this change impact the way in which PepsiCo operates?
Sanjeev Chadha: Two big, positive changes are shaping this agenda. The first is the discovery of the true power of partnerships. Governments, non-profit organizations, institutions and industry alike are discovering they cannot go it alone against large social and environmental challenges that face our world. They are forging new partnerships, with each partner playing a unique, symbiotic role – and delivering powerful results. The second change is that sustainability is becoming an integral part of the business strategy for an increasing number of companies because, quite frankly, it's good for business. Conserving resources, for example, produces cost savings today while also helping to make sure the communities in which we operate are strong and successful markets well into the future. At PepsiCo, this is part of our overall Performance with Purpose strategy, which includes our promise to provide a wide range of foods and beverages for local tastes; to find innovative ways to minimize our

impact on the environment by conserving energy and water and reducing packaging volume; to provide a great workplace for associates; and to respect, support and invest in the local communities where the company operates.

Harnessing the expertise of diverse partners has helped PepsiCo take a more global, integrated approach in all of our operations. Our water stewardship initiatives, for example, started in our direct operations and now include conservation of water across all aspects of our supply chain. We also work in community watersheds – particularly in water stressed areas; help provide safe water to communities with the most need; and advocate for new approaches that can help find lasting solutions to the issues faced around the world.

All of our global water initiatives have a common, critical element: they are all powered by great partnerships. We work with Columbia University's Earth Institute, Water.org, the Safe Water Network, The Nature Conservancy, the Inter-American Development Bank, and many others who we rely on for expertise, local knowledge, and deep insights. It's collaboration that drives success and results. Industry has an important role to play, but so, too, do NGOs, governments, and others. If we all align behind common objectives and play our part, we'll make the biggest impact.

Rahim Kanani: What kind of goals has PepsiCo set for itself in terms of water management and sustainability, and how are you measuring up so far?

Sanjeev Chadha: Water stewardship and sustainable agricultural practices are critical to PepsiCo's operational efficiency, long-term growth and sustained profitability. This has led PepsiCo to set aggressive goals, including improving our water-use efficiency by 20 percent per unit of production by 2015 (against a 2006 baseline). PepsiCo recently announced that we reached this water goal a full four years ahead of schedule. We conserved nearly 16 billion liters of water through the application of water-saving equipment and technologies, creative recycling and re-use, and by deploying a water management system throughout our manufacturing facilities.

In addition to reducing our environmental footprint, we also reduced water and energy costs. In fact, PepsiCo reduced water and energy related costs by more than $45 million in 2011 compared to 2006, a clear indication of how environmental and financial performance is inextricably linked. PepsiCo being awarded the prestigious Stockholm Industry Water Award this year further validates our water conservation efforts and highlights our innovation in making the most of every drop used.

Rahim Kanani: With parts of the Middle East and Africa facing severe water shortages, what are some ways in which you are tackling sustainability in those particular regions?
Sanjeev Chadha: In the Middle East and Africa, we are taking the best of what PepsiCo has done around the world and adapting it to the local context. Our experience with some of the world's most advanced water-saving technology in our manufacturing plants, our innovative work to promote modern farming practices in Mexico, and our NGO partnerships around the world are providing best-practices that will continue to enhance our sustainability efforts in the region.

For example, in 2009, PepsiCo India became a leading model of PepsiCo's guiding principle, Performance with Purpose, when the business achieved "Positive Water Balance" by replenishing more water than it consumed: a global first for PepsiCo. Today, we are leveraging India's learning in Jordan, one of the most arid countries in the world. Specifically, we are working on solutions to reuse water in our operations that would otherwise be wasted and we are constructing rain water harvesting ponds by collaborating with the local authorities. We are committed to achieving Positive Water Balance in Jordan by 2015.

Our sustainable agriculture initiatives will be particularly important in Africa and the Middle East, especially as PepsiCo is one of the largest agricultural companies and many of our products depend on agricultural raw materials. PepsiCo globally grows or sources several million tons of fruits and vegetables: 4 million tons of potatoes for our Lays brand; 3 million tons of oranges and other fruits and vegetables for Tropicana, Naked Juice and SoBe brands; and 600,000 tons of oats for Quaker. As we continue to expand in markets and regions, sustainable agriculture will continue to play an important role in our business model. Egypt, which is home to our largest food and beverage plants in the region, will benefit significantly from sustainable agriculture initiatives in the future.

Finally, across the Middle East and Africa, from the UAE to Jordan, we have deployed resource conservation best practice initiatives in all our operations that have contributed to saving 3.9 billion liters of water in our company-owned operations last year, as compared to five years earlier. This is an achievement we are truly proud of; it is another example of how we can significantly drive cost-efficiency in our business by reducing our environmental footprint.

Rahim Kanani: Looking at the issue of water and sanitation more broadly in the developing world, what are some of the trends, challenges or opportunities that you're noticing?

Sanjeev Chadha: The interconnectivity of water is powerful. Water plays a key role not only with food security, but also energy, sanitation, health and education. That is what makes it one of the most complex subjects to tackle – one where collaboration is of paramount importance. Secondly, water scarcity is debilitating … but fortunately, there are solutions that are achievable and not overly complex. Take, for example, PepsiCo's i-crop(tm) 'precision-farming' technology, a web-based tool that was developed in conjunction with the UK's Cambridge University that enables PepsiCo's farmers to monitor, manage and reduce water use. To date, initial trials of i-crop across PepsiCo's UK potato farms have already seen a 13% increase in crop yield while using 8% less water. Instead of always seeking new innovations, we also need to focus on using existing tools and figure out how to scale them.

There are several pools of excellence, innovative solutions and success stories across the world. The task ahead of us is how to transform these pools of excellence into an ocean of positive change.

Rahim Kanani: At the same time, what are some of the leadership lessons you've learned tackling water scarcity from a business perspective?

Sanjeev Chadha: I'd sum it up in three thoughts. First, while the power and momentum of partnerships is palpable, there are still too many silos, too many bureaucratic hurdles, and at times too much suspicion – which prevents governments and organizations from joining hands and making swift progress on food and water security. We must continue forging partnerships to make even greater progress.

Second: as a businessman, the one thing I have been taught all my working life is that it is action that yields results. In the case of water security too, we cannot always wait for the perfect solution, 100 percent funding, or a totally risk-free strategy — these rarely exist. We must take action. More and more businesses are reaching the conclusion that sustainability is a critical driver of long-term business growth and financial success, as well as that public-private collaboration is key in order to make a true, lasting difference.

My last takeaway and message is that the business world is under-tapped. Speaking on behalf of Industry across the world, big and small, my message is that we are keen, we are willing, and we are able. Try us.

"Why PepsiCo is a Global Leader in Water Stewardship and Sustainable Agriculture", 14/09/2012, online at: http://www.forbes.com/sites/rahimkanani/2012/09/14/why-pepsico-is-a-global-leader-in-water-stewardship-and-sustainable-agriculture/

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Mithat Paşa Caddesi 46/4 Kızılay-Ankara TURKEY
Tel: +90(312)4302609 Fax: +90(312)4303948 orsam@orsam.org.tr

❖ Asia Risks Water Scarcity Amid Coal-Fired Power Embrace

Inner Mongolia's rivers are feeding China's coal industry, turning grasslands into desert. In India, thousands of farmers have protested diverting water to coal- fired power plants, some committing suicide.

The struggle to control the world's water is intensifying around energy supply. China and India alone plan to build $720 billion of coal-burning plants in two decades, more than twice today's total power capacity in the U.S., International Energy Agency data show. Water will be boiled away in the new steam turbines to make electricity and flush coal residue at utilities from China Shenhua Energy Co. (1088) to India's Tata Power Co. (TPWR) that are favoring coal over nuclear because it's cheaper.

With China set to vaporize water equal to what flows over Niagara Falls each year, and India's industrial water demand growing at twice the pace of agricultural or municipal use, Asia's most populous nations will have to reconsider energy projects to avoid conflict between cities, farmers and industry.

"You're going to have a huge issue with the competition between water, energy and food," said Vineet Mittal, managing director of Welspun Energy Ltd., the utility unit of Leon Black's Apollo Global Management LLC-backed Welspun Group. "Water is something everyone should be probing every chief executive about," he said in an interview.

Investors have driven up the 49-member S&P Global Water Index (SPGTAQD) about 96 percent from its low point after the 2008 financial crisis. That beat the 88 percent gain in the period by the 1,625-stock the MSCI World Index, a global benchmark, and trailed the Dow Jones Industrial Average's 101 percent increase.

Investor Risk

"Power is a very good example of the risk investors can potentially face," Giulio Boccaletti, a partner heading McKinsey's water resource economics practice, said in an Aug. 30 interview. "A problem with water can leave you with a stranded asset."

China and India account for than 60 percent of the world's coal-fired power plants on the drawing boards by 2035, capable of producing about 805 gigawatts. China's alone will consume 82 billion cubic meters of water a year by 2030, second only to the nation's farmers, McKinsey & Co. forecast.

More than half of existing and planned power plants by the biggest publicly traded companies in India and Southeast Asia are in areas likely to face water shortages, according to the World Resources Institute in Washington, which maps water risks for industries. Little data is collected by companies or their investors on what that means for projects with a 40-year lifespan, the U.S.-based researcher said in a report.

'Peak Water'

India's power plants may be most vulnerable, the institute concluded after mapping more than 150 existing and planned projects in India and Southeast Asia. It found that 73 percent of capacity owned by three utilities -- NTPC Ltd. (NTPC), Tata Power, and Reliance Anil Dhirubhai Ambani Group Ltd.'s power units --is located in water-scarce or stressed areas. Overall, 74 gigawatts, more than half of India and Southeast Asia's existing and planned capacity, face similar threats.

NTPC said in an e-mail response that its projects require a water commitment from state authorities for the full lifetime of the plant before they go ahead. It's also using saltwater desalination at coastal plants to minimize fresh water usage.

Tata Power declined to comment. Reliance Power Ltd. (RPWR) didn't respond to two e-mails and telephone calls seeking comment.

"The world has already hit 'peak water,'" says Simon Powell, head of Asian oil and gas research at CLSA Ltd. in Hong Kong. Demand is growing against a finite supply of fresh water that's shrinking due to pollution and climate change, he said.

Global water demand may have already outstripped supply in 2010. The world's freshwater requirement in 2010 was estimated at 4.5 trillion cubic meters compared to an accessible supply of 4.2 trillion cubic meters, according to McKinsey & Co.

Water Assumptions

Coal is currently running more than 40 percent of the planet's electricity generation plants, which consume on average three times as much water as natural gas-fired stations per unit of power produced, according to U.S. Department of Energy data. Nuclear plants use even more water than coal units.

Beside needing water to produce steam, it's also used in condensing and to process waste deposited in ponds. Water is used in coal mining to remove impurities and transport the fuel through pipelines as slurry.

Some of the water can be recycled or discharged back to its source. However, a shortage can shut a plant or force it to compete for farming and drinking water.

Utilities "assume the water is there," Peter C. Evans, director for global strategy and planning at General Electric Co. (GE), the biggest maker of power-plant turbines, told a conference in June in Tokyo. "They actually will not be able to build as many coal plants as the projections suggest."

Ground Zero

Grasslands drying up in Inner Mongolia is caused by coal mines and power plants taking from rivers, said an Aug. 14 study by China's Institute of Geographical Sciences and Natural Resources Research commissioned by Greenpeace. The region holds less than 2 percent of China's water and by 2015 will host about triple the European Union's coal-fired capacity, it said.

Ground zero in India's fight for water may be along the 560-mile stretch of the Mahanadi river in the coal-rich states of Chhattisgarh and Odisha, where paper mills, steel plants and mines mostly powered by coal plants flank the river's banks.

The state governments have signed agreements for at least 49 coal power plants with a combined 57.5 gigawatts of capacity, according to Ravi Shekhar, a power industry consultant at New Delhi-based Infraline Energy Research and Information Services. That's more than Japan's coal-fired plant capacity, according to IEA figures.

"The allocation of water for these industries is irrational," says Infraline analyst Simran Jeet Singh. "They allocate without any planning."

Thousands Protest

Farmers in India have blocked highways and railway lines, sometimes committing suicide, to protest coal plants under construction that they fear will drain rivers and choke off irrigation water.

On Aug. 27, three thousand villagers protested against a 1,320-megawatt coal plant planned at Pitamahul, one of many demonstrations along the Mahanadi, says Ranjan Panda, an activist with Water Initiatives Odisha. Irrigation projects are stalling and villages are being displaced, he said.

"This river is a lifeline and every stretch is either already being used by industry or has been committed," he says.

Companies building coal plants and their lenders say they're taking precautions to ensure water supply. When projects are planned, rights to fuel and water are among the permits obtained before a project is approved.

"When someone comes to me with a project proposal, I will make sure that the water is available, adequate water," Satnam Singh, chairman of Power Finance Corp. (POWF), India's largest lender to electricity utilities, said in a June interview. "Water is not going to become zero."

Straining Rivers

Yet there are signs authorities are granting more water rights than rivers can sustain.

In April 2010, Maharashtra State Power Generation Co. shut down 90 percent of its 2,340-megawatt power station in Chandrapur about 520 miles east of Mumbai after low rainfall caused water levels to plummet at the Erai dam, according to a letter sent by the utility to the electricity regulator.

The same plant is now in the midst of a 1,000-megawatt expansion and another 7,000 megawatts of coal-fired plants are planned in the area, according to Infraline's Singh.

In 2009, Beijing shut 49 factories and moved some power plants and steel factories to the coast because of a lack of water, Maxime Serrano Bardisa, water analyst for Bloomberg Energy Finance in London said in a July 2 interview.

In April, India's Oil & Natural Gas Corp. closed an oil refinery, another water-intensive industry, when levels dropped in the Nethravathi river in southern Karnataka state.

Lack of Fuel

The Indian government also has a track record of reneging on its promises on another essential supply: fuel. India's coal power industry has delayed or canceled about 1.9 trillion rupees ($34 billion) in projects because of production shortfalls at state-controlled Coal India Ltd. (COAL) and a rail system that can't move enough cargo, according to data from the Association of Power Producers.

CLP Holdings Ltd. (2), Hong Kong's biggest electricity supplier, passed on an opportunity to build a new coal plant in Odisha state because of concerns about water, Naveen Munjal, director of business development, said in a June interview. CLP was stranded this year with a 1,320-megawatt coal plant in Haryana that's "dead cold" for lack of fuel supplies, he said.

Usage Not Disclosed

Investors and analysts often aren't equipped to gauge such risks because of a lack of publicly reported information. Only one electric utility in Asia, Korea Electric Power Corp. (015760), discloses its total water usage, according to environmental disclosure data compiled by Bloomberg.

"Even if the water is perfectly available and abundant right now when that plant's permit is issued, a lot can happen in 30 years," Robert Kimball, an associate at the World Resources Institute, said in an Aug. 27 interview.

As such risks come to light, financing may become more difficult and expensive, the World Resources Institute's Kimball said. Every 5 percent drop in a power plant's average output caused by

water shortages results in a nearly 75 basis point drop in the project's internal rate of return, according to an analysis by HSBC Holdings Plc.

"The challenge with water data is that it's actually quite tricky to measure and hard to understand," says McKinsey's Boccaletti.

GE is developing a global model to better understand the power sector's water consumption. Goldman Sachs Group Inc., GE, Bloomberg LP and others are funding a World Resources Institute project to release maps this year showing industry-specific water risks. The Coca-Cola Co. (KO) has donated data.

Renewables Benefit?

"The data just isn't sitting around. So we have to create new data in order to analyze this issue," GE's Evans said.

"Asia Risks Water Scarcity Amid Coal-Fired Power Embrace", 11/09/2012, online at: **http://www.businessweek.com/news/2012-09-09/asian-water-scarcity-risked-as-coal-fired-power-embraced?utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=f6002f1fd9-RSS_EMAIL_CAMPAIGN&utm_medium=email#p3**

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❖ Central Asia Could Go To War Over Water

Earlier this week, President Islam Karimov of Uzbekistan indicated that efforts by Kyrgyzstan and Tajikistan to build hydroelectric power stations on rivers that flowed into Uzbekistan and Kazakhstan could "spark war."

Water wars are a hot topic right now, with conflicts or potential conflicts brewing literally all over the world. US policy makers seem most concerned with conflicts in Yemen and Pakistan, in times at the expense of seeing water wars in the broader context of their respective regions. A report drawn up for the Committee of Foreign Relations warns about the danger of narrow focus, saying:

While the focus of the United States is appropriately directed toward Afghanistan and Pakistan, it is important to recognize that our water-related activities in the region are almost exclusively confined within the borders of these two countries. We pay too little attention to the waters shared by their Indian and Central Asian neighbors—Uzbekistan, Tajikistan, Kazakhstan, Kyrgyzstan, and Turkmenistan. For example, in 2009 the United States provided approximately $46.8 million in assistance for water-related activities to Afghanistan and Pakistan compared with $3.7 million shared among all five Central Asian countries for these efforts.

'Water wars' refers to the idea that some countries, which hold enough water to be able to export it, control headwaters of a river, or hold reservoirs/large sources of water, have an extremely strong source of leverage over water-scarce countries. At times, this causes water to be thought of in simplistic terms as a commodity, rather than a basic building block of life, access to which is detailed in several international human rights conventions, but not explicitly recognized as a self-standing human right in international treaties. When countries deny other states water or imply they might use water as leverage for political gain, this is water conflict, and it's brewing in Central Asia.

Within the context of Central Asia, to simplify, Kyrgyzstan and Tajikistan have it, and Uzbekistan and Kazakhstan need more of it. The latter two are very nervous about the resource imbalance. Kyrgyzstan and Tajikistan are upstream of Uzbekistan, Turkmenistan and Kazakhstan, giving them control of two trans-border rivers.

Eurasianet points out that one of the central issues facing the five Central Asian republics is that leaders there are more known for rivalry than cooperation, which could greatly complicate any resolution on water scarcity in the overall region.

Tajikistan and Kyrgyzstan are poorer than Uzbekistan and Kazakhstan, so control over water is one of the few ways they are able to retain leverage over the (current) two international leaders in the region.

Previously, Tajikistan has claimed that it needs to construct a hydroelectric power plant, which will improve the struggling economy, however, as Tye Sundlee reports, the recent discovery of a potential 'supergiant' oil field is likely to undermine these claims and stall the development of any hydroelectric power stations, especially since Uzbekistan has strenuously opposed plans for a power

stations in Tajikistan and Kyrgyzstan for a number of years, worrying it will cede too much resource control to the poorer countries.

But the question remains – what does all this squabbling add up to? Will these countries actually deny water to each other, in this dry region that is heavily dependent on crops? Uzbekistan is reportedly the sixth largest producer of cotton worldwide (though their harvest practices leave something to be desired), and Kyrgyzstan, though the economy is heavily dependent on gold exports, has a large and essential agricultural sector.

Despite this need for water to sustain the economies of both countries, the answer to the above question is yes – Tajikistan and Kyrgyzstan have used water as political leverage in the past for political gain and could do so again. Thus Karimov's harsh words last week, warning of water wars.

In 2010, Kyrgyzstan diverted the flow of the Talas River, which is a source of irrigation of Kazakhstan's agricultural sector. Kyrgyzstan did so because Kazakhstan closed the border between two countries following uprisings and instability in Kyrgyzstan. A few hours after the river had been diverted, Kazakhstan re-opened the border. Confused?

Here's the simplified take: Uprisings took place in Kyrgyzstan, so Kazakhstan closed the border. Kyrgyzstan wasn't happy about this, so they 'turned off the taps' to Kazakhstan, denying them water. A few hours after the water was diverted away from Kazakhstan, Kazakhstan relented and re-opened the borders to Kyrgyzstan.

Thus we see water being used to achieve political measures. Uzbekistan and Kazakhstan are unhappy being in any way beholden to their poorer neighbors, but especially for something as vital as water – not only to their economies but to the literal life of their people.

This precedent of water being used as leverage bodes poorly for water being seen as external to political gain, or as simply a human right. The leaders of Central Asia are already deeply suspicious of each other, and border skirmishes are a common occurrence. With Karimov already warning about water wars between the Central Asian countries, and the coming reverberations of the NATO pullout from Afghanistan, there is the looming possibility of more instability in Central Asia.

"Central Asia Could Go To War Over Water", 15/09/2012, online at: http://www.businessinsider.com/central-asia-really-could-go-to-war-over-lack-of-water-2012-9#ixzz26ZUu0aiu

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Mithat Paşa Caddesi 46/4 Kızılay-Ankara TURKEY
Tel: +90(312)4302609 Fax: +90(312)4303948 orsam@orsam.org.tr

❖ Three Gorges restarts full-capacity storage test

The Three Gorges Dam, the world's largestwater control and hydropower project which spans China's Yangtze River, started onMonday to reduce water discharge with a full-capacity storage test.

The China Three Gorges Project Corporation (CTGPC) said the water level in the damwill reach 175 meters by the end of October at the earliest.

The company on Monday morning monitored the water lever in the dam at 159 meters.The water disc harged through the sluice gate and flowed at 19,000 cubic meters persecond.

The company said the speed will be lowered to 8,000 cubic meters per second at theend of October.

The Three Gorges Project was launched in 1993 with a budget equivalent to 22.5billion U.S. dollars. It is a third round of the full-capacity storage test. The first was inOctober, 2010.

The high-
level water storage allows experts to observe, research and validate thedam's original design, and to t est its hydropower turbo-generators.

The State Flood Control and Drought Relief Headquarters has required the company toclosely monito r hydrological changes in the river's upper reaches and dam operationduring full-capacity runs.

The reservoir, mainly built to tame the Yangtze River, usually discharges water in May.It alleviates s pring droughts in areas downstream, and makes room to contain waterfrom the river's seasonal floodi ng in summer.

"Three Gorges restarts full-capacity storage test", 10/09/2012, online at:
http://english.peopledaily.com.cn/90882/7943314.html

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Tel: +90(312)4302609 Fax: +90(312)4303948 orsam@orsam.org.tr

❖ China Rushes to Build a New Generation of Mega-dams

In its rush to find sources of power, China has focused on hydropower. Following the construction of the massive Three Gorges Dam, work is now centered on the Jinsha River in Yunnan Province, where up to 30 dams are currently in the works or being planned. As with the Three Gorges, dams on the Jinsha have raised concerns from environmental activists and residents who are being forced to relocate. **The Telegraph got access to one the largest projects, Xiluodi Dam**, which will soon go online:

At the centre of China's latest hydro push is the Jinsha, a murky brown tributary of the world-famous Yangtze. Two vast projects – Xiluodu and Xiangjiaba – will soon go online here, becoming China's second and third biggest dams with joint capacity to produce around 20GW – enough to power almost all the homes in England. With an installed capacity of 12.6GW, Xiluodu is one of the biggest hydroelectric projects being built anywhere on earth.

Meanwhile a "cascade" of dozens more dams are planned or already under construction elsewhere on the 1429-mile river.

"The Jinsha is number one right now," said Grumbine, the author of a book about the fight to protect another of Yunnan's rivers. "We are talking about 30 [dams], something like that, and I would think most of them will be built."

The Daily Telegraph was the first western news organisation to be given access to Xiluodu, a 285.5m tall concrete colossus straddling the river border between Yunnan and Sichuan provinces.

"China Rushes to Build a New Generation of Mega-dams", 14/09/2012, online at:
http://chinadigitaltimes.net/2012/09/china-rushes-to-build-a-new-generation-of-mega-dams/

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Tel: +90(312)4302609 Fax: +90(312)4303948 orsam@orsam.org.tr

❖ Call on UN Security Council to Make Water Security a Priority

It's estimated that 1/6 of world's population–more than 1 billion people–lack access to life's most precious, fundamental resource: clean, safe drinking water. The problem is likely to get worse, and faster than most expect in coming years, according to water experts, as demand for water increases as a result of population growth, agriculture and industry needs, raising the potential for conflict between national and sub-national groups laying claim to increasingly scarce water resources. That is unless governments and societies can change their water use habits, upgrade water systems infrastructure and technology, and forge new frameworks and organizations for enhanced water resource management and conservation.

On Tuesday, Sept. 11, in New York City, three high-profile organizations intend to call on the UN Security Council "to recognize water as one of the top security concerns facing the global community."

The health issues alone are disturbing. "Today, a child dies on average every 20 seconds from a water-related disease," says Zafar Adeel, Director of the **United Nations University's Canada-based Institute for Water, Environment and Health** (UNU-INWEH). "That's a largely invisible average toll of 4,500 children dying every single day."

Making water security a global priority

"How ironic that the world this year would commemorate the centenary of 1,502 deaths aboard RMS Titanic with movies and elaborate memorial services. Yet, every single day this year, three times as many kids die because of water problems and, for most people, its simply business as usual — appallingly, the world takes little notice."

One member of the highly regarded group aiming to elevate the issue of water security to higher UN, public and governmental prominence is the **InterAction Council** (IAC)– a group of 40 former government leaders and heads of state that since 1983 has been voluntarily working on addressing major issues of concern to all human societies. Joining them are UNU-INWEH and Canada's **Walter and Duncan Gordon Foundation**.

"The future political impact of water scarcity may be devastating," former Canadian Prime Minister and IAC co-chair Jean Chrétien elaborated **in a press release**. "Using water the way we have in the past simply will not sustain humanity in future. The IAC is calling on the United Nations Security Council to recognize water as one of the top security concerns facing the global community."

Coincident with their call on the UN Security Council's 15 members, the group has released a new UNU-INWEH book, "**The Global Water Crisis: Addressing an Urgent Security Issue**." In it, "23 eminent international water experts" examine the issue of water resource use and management at both global and local scales. The identify "a host of serious security, development and social risks associated with the water crisis, including food, health, energy and equity issues."

New organizational, institutional framework needed

Recognizing the growing, and potentially incendiary, social, economic and political tensions increasingly surrounding water resource use and management around the world—particularly in already troubled areas, such as sub-Saharan and West Africa—the group issues an urgent, worldwide call to the UN Security Council, as well as government leaders and people everywhere to help in forging new institutional and organizational frameworks and mechanisms for more cooperative, integrated water resource conservation and management.

It's estimated that another 1,000 cubic kilometers (1 trillion cubic meters) of water per year will be needed to feed the 1 billion more people projected to be added to the human population by 2025—that's equal to the flow of 20 Nile or 100 Colorado Rivers, according to the report. Demand is forecasted to exceed the supply of water in the world's two most populous countries–India and China—in less than 20 years.

Despite these alarming figures, the problem of water security is in many cases not so much that of water scarcity, or of lack of adequate technology, they note—it's inefficient use and ineffective management of increasingly precious water resources that's the crux of water security problems and the challenge to societies worldwide.

Compounding the problems is a changing climate, which is altering longstanding hydrological patterns around the globe. Changes in fundamental hydrology, according to the the report, are expected "to become major trans-boundary water issues," as incidence of both water scarcity and flooding increase. Such developments are already clearly in evidence in the Middle East, where "water security is key to peace between the Palestinians and Israelis, and between Israel and its regional neighbors," the report authors point out.

In addition, competing demands for increasingly scarce water supplies for energy and other uses are already on the rise, bringing to the fore the explosive growth in the number of dams around the world. In 1950, there were 500 large dams on the planet. Today, there are more than 45,000. "This translates to a staggering average of two large dams added daily worldwide since the Korean War," they state.

In order to address water security, the report calls on governments and international institutions to:

- Radically reform attitudes toward water and how it is managed globally, including programs to reduce demand through conservation, efficiency, re-use and the replenishment of natural systems;
- Increase annual investment in water supply and sanitation-related efforts by approximately US $11 billion;
- Create an international governance mechanism and relevant institutions to cope with the growing number of environmental migrants foreseen in years to come;

- Create new water governance alliances between public, private and civil society sectors, emphasizing the participation of women;
- Pursue a 'Blue Economy' economic paradigm in which water sustainability is rewarded;
- Underline the need among government and finance leaders to understand the relationship between clean, safe water and health, development and national economic well-being.

"Water is now playing a determining role in international, national and trans-boundary conflicts," said IAC Secretary-General Thomas Axworthy, President and CEO of the Walter and Duncan Gordon Foundation.

"At the same time, water security is also the foundation for food and energy security and for overall long-term social and economic development. It underpins health, nutrition, equity, gender equality, well-being and economic progress, especially in developing countries but increasingly in some of the world's most developed countries."

"Call on UN Security Council to Make Water Security a Priority", 10/09/2012, online at: http://www.triplepundit.com/2012/09/water-security-un/

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Tel: +90(312)4302609 Fax: +90(312)4303948 orsam@orsam.org.tr

❖ Laos Energy Development Spawn Tensions

The future is liquid – and in the ebb and flow of Mekong River water lies a problem for Southeast Asia. Laos, in particular, is spawning tensions with its neighbors over its controversial dam projects.
Yellowish brown, the waters of the Mekong wend their way through Laos, from north to south, for nearly 1,900 kilometers. The river is something of the life's blood for Southeast Asia's only landlocked country. The Mekong is a transportation route, its fish are an important source of protein for the population and its waters provide countless people with a livelihood – not just in Laos.
And therein lies the problem. "We are talking about some 60 million who live directly along the river or from what it produces," Jin-Hua Meng, a WWF expert for sustainable water usage, told DW in an interview.
Laos is one of the poorest countries in Asia and three-quarters of the 6.5 million inhabitants live from agriculture with a large portion of them subsistence farmers. At the same time, however, the country is rich – rich in natural resources; rich in water.
Winners and losers of rapid development
Laos has the greatest water potential of any country in the region; an advantage which the Laotian government has long recognized and now begun to exploit. Several dam projects in recent years have been completed to generate electric power. Electricity has even become a key Laotian export, and the government in Vientiane wants to continue development, to make energy a major export, and to turn the country into 'Asia's battery'. The amount of water power Laos would be capable of generating far exceeds its own domestic needs, and larger and more economically advanced neighbors, like Thailand or Vietnam, would be grateful customers.
However, the booming business of electricity also has its losers: first and foremost the environment. Awareness in Laos for the sustainable use of resources is developing haltingly. The local population is repeatedly a victim of profit-oriented dam projects. Entire villages, for example, have been moved to make way for dams.
No coordination with others
Environmentalists have been observing the growing number of dam projects in Laos with concern. Just a few weeks ago, the organization International Rivers, based in Thailand, warned that in Don Sahong, just a few kilometers from the Cambodian border, construction had begun on a huge dam complex along the Mekong – the second such project on the country's main waterway.

"Our team was there a good two weeks ago and saw how construction was proceeding," said Pianporn Deetes, the director for Thailand of International Rivers. According to reports from local villagers, the authorities had already blown up a water fall. "Residents were also told to prepare for resettlement," she said.

Laos is supposedly obliged to inform and seek the approval of three of its other Mekong neighbors when such dam projects are planned as part of a mutually agreed consultation mechanism with the so-called Mekong River Commission, which includes Vietnam, Thailand, Cambodia and Laos. In 1995 the four countries agreed to jointly exploit the economic potential of the river and its resources and manage the projects by mutual agreement.

"Of course, the paper calls for approval for every dam project on the Mekong," confirms Pianporn Deetes, but the accord is just a loose agreement and not a legal document. In the case of the Don Sahong project, at least, there has been no approval from the partner countries. The Laotian government has its own interpretation of the situation and argues that the current building is just preliminary construction which does not require the permission of its neighbors.

Two dams, many protests

According to International Rivers, the dam construction will have severe consequences for humans and animals in that area of the Mekong. "The new dam project blocks the only plaxce along the river where fish can swim upstream during the dry season," says Deetes. For those who depend on fishing that would be a disaster, she said.

Cambodia and Vietnam, further downstream, are also seriously concerned about the possible effects of the dam. After traveling through six countries, the Mekong ends in a huge delta where it spills into the South China Sea. Both countries vehemently protested against the first Laotian dam project along the Mekong. And in Xayaburi, in the north of Laos, the government is planning a dam that will be four times the size of the Don Sahong project, equipped with a 1,260 megawatt power station. Following the protests of its neighbors, Laos decided a few months ago to suspend the controversial project to conduct further environmental tests.

Ambitious plans in Vientiane

But, even so, there is still a great deal of activity going on at the construction site. "According to our information, work on the Xayaburi dam has never stopped," notes Deetes. Construction is even

continuing unabated during the monsoon season, a situation confirmed by WWF expert, Meng: "In the case of Xayaburi, Laos is not even claiming that the work going on are preparatory measures." On the contrary, the government, she says, has officially declared that it is going full steam ahead with the project. "Laos takes the stand that it has informed the others about the project; that we have consulted; and that we have heard the concerns from the countries downstream," says Meng. In Vientiane's view, it has adhered to the conditions of the Mekong River Commission agreement.

A few days ago, Vientiane's deputy minister for energy, Viraponh Viravong made comments to this effect on the Arab TV channel Al Jazeera. He confirmed that construction on the Xayaburi dam would officially resume in November. "We are trying to stick to the schedule," he was quoted as saying.

The WWF is concerned about this turn of events. Although the environmental group is not against the construction of dams per se, it sees the key issue as 'where' they are built. "Laos has enough hydroelectric potential along the tributaries of the Mekong. Within just a few years hydroelectric plants could be built and generate power and income," says Jin-Hua Meng. The Mekong, on the other hand, is not the right location for experiments.

"Laos Energy Development Spawn Tensions", 13/09/2012, online at: http://www.dw.de/dw/article/0,,16236556,00.html

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Tel: +90(312)4302609 Fax: +90(312)4303948 orsam@orsam.org.tr

❖ Neighbors Not Against Xayaburi'

The energy minister of Laos has rejected reports that Vietnam and Cambodia are against the construction of the controversial Xayaburi dam on the Mekong River, stressing that the hydropower project will not be shelved.

Minister Soulivong Daravong also said that Laos will sell power generated from the dam to Cambodia in addition to Thailand, where a lawsuit was filed last month to stop any electricity purchase from Xayaburi citing environment and other concerns.

His remarks to reporters on the sidelines of a meeting of the Association of Southeast Asian Nations (ASEAN) in Phnom Penh on Wednesday adds to confusion over the status of the U.S. $3.5 billion project, the first of 11 proposed dams on the main stream of the Lower Mekong River.

Two months ago, Lao Foreign Minister Thongloun Sisoulith announced at an ASEAN ministerial meeting that the dam project has been put off pending further studies, earning praise from many delegates.

At the same time, the official media in Vientiane gave a different story, saying the government will continue to allow developer Ch. Karnchang, a Thai company, to proceed with "scheduled" activities at the construction site, including the resettlement of affected villagers.

Independent groups who visited the project site also confirmed that construction work is indeed continuing.

Following subsequent statements by Lao officials, it was assumed by many that Laos has allowed the developer to begin initial construction pending further studies on the sustainability of the project.

Comprehensive review

Daravong's remarks this week that Cambodia and Vietnam were not opposed to the project contradict previous statements by the two countries, which have jointly urged Laos to suspend the dam.

Te Navuth, secretary general of Cambodia's National Mekong Committee, said in July that the two countries have asked Laos to allow more time for a comprehensive review of the dam.

"Its aim is to require Laos to extend the consultation time for the dam and wait for the results of research that show the dam's [potential] impact on the mainstream Mekong River," he said.

In April, Lim Kean Hor, Cambodia's water resources minister, also demanded in a letter to his Lao counterpart Noulinh Sinbandhit that construction on the dam be suspended pending an environmental impact assessment.

The Mekong River Commission (MRC), an intergovernmental body including Cambodia, Laos, Thailand, and Vietnam which manages development along Southeast Asia's main waterway, had ruled that the dam project should not proceed until further assessment was conducted.

The decision followed an earlier recommendation by an expert study group for a 10-year moratorium on all mainstream Mekong dams due to a need for further research on their potentially catastrophic environmental and socioeconomic impact.

Minister Daravong denied that Cambodia and Vietnam are calling for a halt of the dam, saying that reports of their objections were simply not true.

The minister insists that the dam will be able to produce safe and clean energy and that it will not have any adverse environmental impact on neighboring countries.

Preparations for construction of the dam, including clearing the riverbank, have already begun, though the work is currently on hold due to the start of the rainy season, he said.

Thailand

Environmental groups in Thailand, Cambodia, and Vietnam have staged protests against the Xayaburi dam, saying it is likely to damage the Mekong ecosystem and fisheries and the food security of the people downstream.

Last month, a group of Thai villagers opposed to the dam submitted a lawsuit against five Thai government agencies, saying the government should not have agreed to purchase electricity from the dam without further study.

The project is being financed by a consortium of Thai banks.
Laos, which hopes to become the "battery" of Southeast Asia by selling hydroelectric power to its neighbors, has over 70 dams planned on its rivers.

"Neighbors Not Against Xayaburi"', 13/09/2012, online at: http://www.rfa.org/english/news/laos/dam-09132012202320.html

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❖ Nepal study: India and Bangladesh have serious water disputes

Bangladesh, the lowest riparian country, has 250 large and medium rivers. However 57 large and medium rivers have their origin outside Bangladesh; three of them come from Myanmar and 54 of them from the Assam States of India. Most of the rivers of Bangladesh are, in fact, the tributaries or distributaries. The larger rivers traverse India before entering into Bangladesh. The Ganges is the collective name of the 26 rivers, over 300 streams and over 6000 tributaries originating from Nepal. While the Brahmaputra and its tributaries mainly originate from Tibet, China. The Meghna is the collection of the local rivers. Besides Brahmaputra and the Ganges, Bangladesh has 11 other rivers whose volume is 8200 cusec. The total flow of these river waters is consumed by Bangladesh alone. These days India as the upper riparian nation has trapped them at several points of the states of Assam. This act of India has had tremendous damaging effects on agriculture, fisheries, industries, energy, navigation and irrigation sectors in Bangladesh.

Bangladesh has been badly suffering from India's attitude of domination, torture and humiliation in all sectors, sometimes resulting in violent confrontation in politics between the pro-Indian and anti-Indian groups. It was not surprising that Bangladesh decided to take the case to the UNO. Meanwhile, on India's request, a delegation was sent to New Delhi for talks. After the Janta Dal came to power in India, the new government trying to improve relations with its neighbors, reached to an agreement with Bangladesh. As per the agreement, a quantum of at least 34,500 cusecs of water would be released by India below the Farakka barrage during dry seasons to Bangladesh and India would use the rest of the water (24500 cusecs) for its own West Bengal state. It was finally agreed that Bangladesh would receive 34500 cusecs of water during the dry seasons. This agreement and its implementations are almost the same as the 1960 agreement that India signed with Pakistan for the waters of the Sindh basin.

India has forcibly captured 1100 acres of land from Bangladesh territory for the construction of the Meghna dam the same way as it did for the construction of the Tanakpur dam in Nepal against the international laws and regulations. Thus India and Bangladesh have water disputes in several places. However, the Farrakha Barrage, the link canal, the Meghna issues and the issues related to floods are of high priority and much concern to the people in general. These actions infringe upon the right of the lower riparian and thus create a state of tension and invites conflict. India is blamed for water theft from Bangladesh and thus they have a dispute over the water of the Ganges.

Prof. M. Maniruzzaman Miah says, 'Any activity done by India interfering with their flow-regime, will affect water availability in Bangladesh, the lower riparian nation. "Bangladesh being the lowermost reaches of the Ganges-Brahmaputra-Meghna systems of the rivers, suffers from both the extremes of high flows during the rainy season in summer and abnormally low flows during the dry months' (**hydro-politics of the Farakka Barrage).**

Bangladesh is ill fed from the river waters during the winter crops season and flooding during summer rains.

The Farakka Barrage: ***India has built a barrage across the Ganges 11 miles upstream from the border with Bangladesh. Despite the note of dissatisfaction given to India by the then government of Pakistan, India dodges the issue through diplomatic jugglery. Bangladesh complained that the Indian action regarding the barrage was against the Barcelona Convention. Some of the border posts have come under gun-fire attacks from across the border. Farakka reduces the flow of the Ganges in Bangladesh. The flow of Ganges was 69700 cusecs earlier, but after the barrage was constructed in 1976, the flow has reduced to 24500 cusecs.*** Between 1989 and 1992 the amount of water released down from Farakka was 14756 and 22259 cusecs only. In 1993 this fell down to 10000 cusecs. ***On the other hand, due to the construction of the barrage, more and more silt has been entering into Bangladesh, because India has diverted only silt-free water through its own canal to West Bengal.*** It has been noticed that the level of the water is going down gradually. It is also recorded that the levels of water along the rivers, the Ganges, the Mahananda and the Garal-Modhumati, have gone down by 2 to 10 feet. The Indian action has also caused a shortage in potable water. It has had negative impacts on the health and sanitation of the people. Bangladesh has been complaining that after the Farakka dam was brought into operation, a length of 6800 km of waterways has become unsuitable for navigation. The damage in agriculture is irreparable. It is calculated that if Bangladesh had the same quality of water she could have grown 3.6 million tons of crops more than she grows now. According to Prof. Miah, the multidimensional damages made by the Farakka dam, at the price index of 2003, is over 11,00,000 billion Bangladeshi Taka.

After long discourses of about 25 years, in 1975 the ministers of water resources of both the countries reached an understanding in regards to the test running of Farakka. It was agreed that during a period between 21 April to 31 May of that year, a quantity of 11 to 16 thousand cusec of water would be diverted from the natural courses of the Ganges into the feeder canal for West Bengal. As per the agreement, if and when the availability of water is 70000 or less cusecs, the water will be divided at

the rate of fifty-fifty, if the availability is 70000 to 75000 cusecs, Bangladesh will receive 35000 cusecs and the remaining water will be used by India; if the water volume is 75000 or more cusecs, 40,000 cusecs will be used by India and the remaining all by Bangladesh.

Link canal: A link canal project is being built to connect the river Brahmaputra and the river Ganges. This canal starts from Jogipapa of Assam and ends at Subarnasinsi of West Bengal state of India. This canal is 424 km long, 1 km in width and 30 feet deep. This canal is located 30 km north of the Farakka dam. While completing this project, India has to construct a barrage up to 60 ft. high towards Bangladesh. This project obstructs 11 rivers flowing into Bangladesh and swallows all these rivers including the waters of the Brahmaputra and the Ganges. This project provides thousands of MW electricity, irrigation facilities, facilities for the military purposes to India, whereas Bangladesh has to lose 161280 acre of its land in addition to the deprivation of the use of the water of those rivers as stated above. Besides, seven hundred thousand families of Bangladesh will be homeless. ***The canal divides Bangladesh into two sections. If Bangladesh denies India to go ahead with this project, India will cut down its economic aid to Bangladesh.***

The floods: The floods in Bangladesh are quite serious and probably the highest in the region. The three great river systems: the Ganges, the Brahmaputra and the Meghna, drain a vast basin of 1.56 million sq. km reach in the lowermost territories of Bangladesh. There are huge floods every year. The normal monsoon floods, flash floods, tidal floods and the floods due to onrush of water happen frequently every year. The rivers rise up to 10 meters in a day during monsoon. The country side bears the brunt of any natural calamity all the time. Almost all floods occur due to the rise of the water volume in the rivers as stated above. The duration of flood remains for a longer period in Bangladesh as compared to other countries of this region. The flood affected area covers up to 50700 sq. km. Thousands of families become homeless every year.

India, of course, would not like to have permanent bitter relations with its neighbors. But neither do the neighbors like to stay under Indian domination. The disputes between India and its neighbors are not only technical ones in nature, but also have importance of political dimensions. Goodwill, good neighborliness, good statesmanship and above all respect of each other's independence and sovereignty is essential if India really means it has good intentions with its neighbors.

In case of Bangladesh, India does not seem in a hurry to let go of the advantages it has due to its upper riparian status. India probably feels as itself being in a commanding position. At the same time,

it forgets that India is the lower riparian nation as far as China, Nepal and Bhutan are concerned. India declines to have any third party arbitration, citing reference of the Mahakali river treaty between India and Nepal. Third party arbitration was considered unnecessary for the bilateral treaty to be signed. However, Bangladesh has been successful to invite Nepal as its upper riparian country. That has automatically helped involve Bhutan and China as well. Now the case has turned into a multinational one from the bilateral case it used to be in the Indo-Bangladesh water disputes.

The genuine problem of Bangladesh has never been understood and India has never tried to either understand or implement the agreements. The agreements are being violated exactly like the 1960 treaty on the use of the rivers of the Sindh basin was violated. India never releases the volume of water at the Farakka barrage as much as it has to release for Bangladesh as per the agreement. India however, supplies a quantum of 40000 cusecs of water to the feeder canal to West Bengal. Fortunately, the canal does not have a capacity of more than 40000 cusecs. Besides, Bangladesh is already suffering from arsenic content in its ground water. But in spite of knowing about all the problems, India expects Dhaka to remain a silent spectator because of its political domination.

Bangladesh is willing to buy electricity from Nepal. Bangladesh is also interested to invest and work in cooperation with Nepal in this sector. Bangladesh PM has repeated its interest in sharing and investing in high dam projects of Nepal such as the Saptakoshi, Budhigandaki and West Seti. It was reminded by the Bangladeshi PM to the Nepali PM even in the SAARC summit held in Maldives during Nov. 2011. Instead if inviting Indian investors through BIPPA Bangladeshi investment is positive and excellent. But India is the hurdle between these two South Asian countries like it has been a hurdle in the trade and transport between them. In addition to electricity purchase, Bangladesh is thinking about expansion of the transmission line between Nepal and Bangladesh and development of hydropower projects with joint investments. There is only 110 Km distance to build high-tension line from Saptakoshi high dam to Bangladesh. Unless India is positive, the transmission line between the two countries cannot be constructed. At the ministerial level meeting scheduled to explore possibilities of bilateral and multilateral energy cooperation to lessen the soaring energy crisis in this region, Mr. Tapan Chaudhary, Advisor to Ministry of Energy of Bangladesh, floated a proposal on buying electricity from Nepal. The Nepal government is very positive in this regard.

At present both the countries are facing severe power crisis. But there is no way out to work together for future collaboration between the two countries unless India is positive. Instead, India is busy in grabbing all the water resources of Nepal by any means. Its interest in Nepal's party politics is mostly

Mithat Paşa Caddesi 46/4 Kızılay-Ankara TURKEY
Tel: +90(312)4302609 Fax: +90(312)4303948 orsam@orsam.org.tr

due to its interest in the water resources in Nepal and because Nepal's northern border with China (Tibet) is of strategic interest. The proposal for the construction of a SAARC transmission line is also dormant due to India's interest. If only India is positive, the vast resources of water of Brahmaputra and the Ganges can also be jointly tapped by China, India, Nepal, Bangladesh and Bhutan.

Bangladesh seriously wants Nepal to simultaneously look into the possibility of constructing storage dams within its territory to help a regulated flow of water to downstream areas. Bangladesh also prudently likes the joint efforts of India, Bangladesh and Nepal to control floods and utilize river waters for the benefits of all the three countries. The secretariat of the South Asian Association for Regional Cooperation, located in Kathmandu, should act as a facilitator for this.

Nepal and Bhutan as landlocked countries are dependent on India for many things. India is always trying to form governments in these two countries, which are friendly to India. Nepal is seeking an alternate seaport facility from Bangladesh. Instead of supporting such a proposal as per international rules and norms, India has found to have been always negative. India in fact is seeking a transit facility through Bangladesh to connect its North East state of Assam with the sea port. A hate crime propaganda as it was made for signing the treaty of Mahakali in Nepal is being propagated in Bangladesh for giving transit facility to India that the milk and honey will flow and the trade imbalance to India will be changed into balanced one.

"Nepal study: India and Bangladesh have serious water disputes ", 12/09/2012, online at: http://www.telegraphnepal.com/views/2012-09-13/nepal-study:-india-and-bangladesh-have-serious-water-disputes

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❖ Karnataka's farmers look for answers to dry times

HOSKOTE, India (AlertNet) - T. Narsimappa looks worriedly at the clear blue skies with not a cloud in sight. He is a farmer in Hoskote, a little village on the outskirts of Bangalore, and he is worried because it is the month when the monsoon normally begins in India's Karnataka state.

With the advent of the monsoons, his fields get drenched and he spends his days ploughing them with his tractor and planting his maize, potato and bean crop. Hoskote boasts blood red fertile soil, which the farmers are proud of and has kept them in comfortable yields over the years.

But this year, more than a month after the rains normally begin to fall, "there have been just short bursts of showers that are insufficient for me to plough my fields, let alone grow any crop," says Narsimappa looking around ruefully at his dry fields.

"We noticed a difference in the pattern over the last few years. In fact, it was felt acutely last year as well, but this year is particularly dry," he says , shaking his head." There is definitely a change in climate and I am very worried as my last year's loan still remains to be paid."

G.V.Prasad, the chairman of the panchayat (village council) of the small Karnataka village of Kurubalahalli, says he also fears climate change is behind the changing monsoon patterns.

BOREHOLES DRYING OUT

"Climate change has caused an almost complete failure of the monsoon here in Karnataka this year. It was quite dry last year too but we managed watering our fields with borewell water. Twenty years ago my first borewell was sunk at a depth of only 350 metres. Now after three failed attempts I stuck water at 900 metres and my borewell cost over one lakh ($2,170)," he said.

Some farmers have responded to the changing conditions by trying to diversify their crops – not always successfully.

" I grow chow chow (pear squash) and karela (bitter gourd)," said S.Pappanna, another farmer in the village, " and this year I tried a crop of watermelon which failed due to lack of water." With the monsoons bringing only occasional showers this year, his entire crop wilted and died, he said.

Many farmers have turned to digging boreholes or trying to improving water storage to deal with the growing water shortages, but such measures have also run into problems.

"Over the years, with the shortening of the monsoons with climate change, the farmers began to sink bore wells," explained T.Ullurappa, Hoskote's tax accountant." Everything seemed fine till last year the wells began to run dry and the farmers realised they have depleted the ground water table to almost 900 metres."

IMPROVING WATER STORAGE

Farmers in Hoskote have worked together with the government to build improved water storage and groundwater recharging facilities and to clean the village pond to ensure it collects all the rain that falls. The work has not come cheap.

"The cost of the two bundhs (earthen storage tanks) and dredging of the village pond came to 3 lakhs ($6,500) because we all pitched in and helped build them. The funding by the government was fixed, so we had to make it work for ourselves by not charging for labour," explained Prasad, the panchayat chief." The cost of cement, granite blocks and the daily hire costs of the earth-mover was our main expense," he said.

Now "we are not allowed to pump the collected water out into our fields, but we know that it is going down into the ground and it is for our benefit," said Papanna, one of the village farmers.

K. Swaminath, an expert on forestry and climate change at the Indian Council of Forestry Research and Education (ICFRE), based in Bangalore, said rainfall has been notably falling in Kanataka over the last 10 years, a shift he believes is caused by climate change.

"Less rainfall means less crops are grown and even the prices of ordinary vegetables have sky rocketed," he said.

The government is looking for ways to help farmers across the state and money is being pumped into saving rainwater for agriculture and teaching farmers the efficacy of saving rain water for irrigation, rather than letting it run off.

RISING CROP PRICES

In the city of Bangalore, French beans are this season being sold at 45 rupees ($1) a kilo and tomatoes at 35 rupees (75 cents) a kilo, price jumps of 80 percent and 250 percent respectively over prices earlier in the year. Coconuts and papayas also have risen significantly in price.

The problem is that "most of the money goes to the middle man while the farmer gets barely enough to cover his costs and make a tiny profit," said G. Badriprasad, a vendor serving customers at one of the government-run HOPCOMS (Horticultural Producer's Cooperative Marketing and Processing Society Limited) which have been opened in the city in part to try to hold down prices.

Changes in the way crops are grown could help Karnataka's increasingly drought-hit farmers, particularly using irrigation water more efficiently, experts say.

"Karnataka's farmers look for answers to dry times", 11/09/2012, online at:
http://www.trust.org/alertnet/news/karnatakas-farmers-look-for-answers-to-dry-times/?utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=c3cc2c791e-RSS_EMAIL_CAMPAIGN&utm_medium=email

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Tel: +90(312)4302609 Fax: +90(312)4303948 orsam@orsam.org.tr

❖ Melting Himalayas highlight water scarcity

The region's glaciers cross eight countries and are the source of drinking water, irrigation and hydroelectric power for roughly 1.5 billion people.

Many politically unstable areas of South Asia are "water-stressed," meaning the areas are facing water scarcity due to poor infrastructure or simply lacking enough water to meet demand.

The potential impacts of climate change on water scarcity could further inflame political tensions, finds a new report, "Himalayan Glaciers: Climate Change, Water Resources, and Water Security," released on Sept. 12 by the National Research Council (NRC). Funding was provided by the Central Intelligence Agency.

The report examines how changes to Himalayan glaciers could affect the area's river systems, water supplies and population. The region's glaciers cross eight countries and are the source of drinking water, irrigation and hydroelectric power for roughly 1.5 billion people.

Water will become an even more precious commodity in regions that are already water-stressed from both social changes and environmental factors. Climate change could exacerbate this stress in the future, writes the committee who prepared the report. Therefore, changes in water supplies could play an increasing role in political tensions, especially if existing water-management institutions do not evolve to take better account of the region's social, economic and ecological complexities, the committee said.

The Himalayas span 1,200 miles (2,000 kilometers). The largest glaciers are in the west (northern Pakistan and India); they are fed by winter snow and exhibit different characteristics than glaciers in the central (Nepal) and eastern Himalayas (Bhutan), said Bodo Bookhagen, an expert on Himalayan glaciers and professor at the University of California, Santa Barbara. In the latter regions, the glaciers grow via monsoon-fed snows during the summer. That's why increasing temperatures that shift precipitation from snow to rain may shrink these ice fields. [High and Dry: Images of the Himalayas]

Glaciers in the eastern and central part of Himalayas are retreating at rates similar to those in other parts of the world, scientists summarize in the NRC report. The good news is this region gets most of its water through monsoonal rainfall, not glacial runoff. As such, melting glaciers are unlikely to cause significant changes in water availability for people living at lower elevations, the committee said. Shortages are more likely to come from overuse of groundwater resources, population growth and shifts in water-use patterns, the report concludes.

"Societal changes will be at least as important as changes in glacial flows," said Henry Vaux, committee chair and professor emeritus of resource economics at the University of California, Berkeley.

In the western Himalayas, where people do depend on runoff for water, glaciers are relatively stable, and perhaps even advancing, the report states. And the NRC researchers say they don't predict the same high water demands in this regionas on the booming Indian subcontinent.

"The NRC report is important because the social component will help guide future research to where it's needed most — where demand is highest for water," Bookhagen, who was not involved in preparing the report, told LiveScience. "No other study has looked at the population living downstream."

To minimize future risk and uncertainty, the report authors call for extensive monitoring of current water use, the region's shifting climate and its glaciers. "The most dangerous situation to monitor for is a combination of state fragility (such as recent violent conflict, obstacles to economic development and weak management institutions) and high water stress," the committee wrote.

The most important steps governments can take right now are to protect water quality and regulate their current water resources, said Vaux.

The largest impacts due to climate change over the next decade or two will most likely be the result of changes in the timing, location and intensity of monsoonal activity, the report said. Scientists debate whether the storms will arrive earlier, or with different amounts of precipitation than before. Some models project that global warming will increase rainfall, an example of which is the flooding in Pakistan in July and August 2010, which killed 1,760 and had losses totaling $9.5 billion. However, as a whole, the region fed by the monsoon has experienced below-average rainfall in the past decade.

"Melting Himalayas highlight water scarcity", 13/09/2012, online at: http://www.mnn.com/earth-matters/wilderness-resources/stories/melting-himalayas-highlight-water-scarcity

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Tel: +90(312)4302609 Fax: +90(312)4303948 orsam@orsam.org.tr

❖ Mekorot to Set Up Major Indian Project

Mekorot, through its development subsidiary, will build a water control system and smart metering system to prevent waste in northern India

Israel's Mekorot water company has signed its first major contract in India. Mekorot, through its development subsidiary, will build a water control system and smart metering system to prevent waste. The project, which includes extensive cooperation with local water suppliers, will be set up in the Indian state of Utar Pradesh.

A delegation of Mekorot engineers and officials is expected to visit the state in the coming weeks, to analyze the needs of the communities and decide on the best ways to implement the project. Some 200 million people live in the northern Indian state, with the largest percentage of urbanized population of India's 28 states. The majority of the population earns its income from agriculture, meaning that a clean and reliable water supply is essential.

The deal was signed this week, as an official Indian delegation visited Israel. In a statement, Mekorot said that the deal was "a great opportunity to export Israeli technology and experience to India, which will raise the standard of living in the subcontinent. Mekorot is one of the leading water technology companies in the world, and we see expansion to the Indian market as an important strategic step for the company," the statement said.

"Mekorot to Set Up Major Indian Project", 14/09/2012, online at:
http://www.israelnationalnews.com/News/News.aspx/159953#.UFV2QKAb6sh

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❖ Energy and water challenges

Renewable energy can help overcome energy and water challenges. Our government has failed to come up a comprehensive strategy to end these challenges. Islamabad should work on other options to finance stalled Basha and Neelum-Jehlum dam bids and use renewable energy and water reservoirs as the way forward. This government despite wasting billions in energy sector and giving Rs.1200 bn on electricity subsidy has failed to end electricity shortages, price increases and reduce $11 bn annual fuel import bill (PM's August 14 speech). It has undermined economy, increased poverty and unemployment.

The circular debt of energy sector has destroyed our economy, industry and jobs. The reports of mega corruption in energy sector, looming prospect of pledging of Wapda assets, dismal performance of private energy sector have compounded the challenges. Similarly, growing water scarcity is undermining our agriculture, food security and national health. Our policy makers therefore need to learn from other countries to overcome these challenges in shortest possible time to restore economy, revive industry and create jobs.

Renewable energy is a strategy of nation building. Noam Chomsky said that renewable energy played a strategic role in making China world's 2nd largest economy. Under its 2015 renewable energy plan, China's National Energy Administration (NEA) has created positive investment environment to allow solid foundation for increased adoption of photovoltaic technology. Other key incentives include feed-in-tariff (FiT) mechanism, government rebate program and subsidization of renewable energy generation, doubling of sale surcharge on conventional power and paying one Yuan per kWh to solar developers.

China's central government has outlined targets and subsidies for adopting renewable energy. Industry has been given incentive schemes, such as the Renewable Portfolio Standard Management Measures and the Distributed Generation Management Measures. More transmission lines will be laid to transmit wind and solar power generated in distant regions to more power consuming areas. Frameworks and tax policies are being developed to help provinces work out conversion costs for brining renewable energy to main grids for energy security and improve financial health of power sector which is mostly state owned.

Provinces have also been given targets. The National Energy Administration has also decided to quadruple the country's 2015 solar energy target to 21 gW (1gW= 1000mW). Provincial governments are installing solar projects. Gansu province plans to install 5gW solar plant by 2015. Yingli Solar is headed to sell 2,600 mW of solar panels in 2012 and solar panels makers are also building solar farms due to more profits. Three hundred Chinese cities are making efforts to develop solar photovoltaic industry and there are more than 2000 photovoltaic companies in China. The central government has given policies to help expand use of renewable energy in domestic markets. Islamabad needs to give clear energy strategy. Renewable energy should be fundamental part of Pakistan's economic security. China had 65.5gW installed capacity of wind and solar in 2011 which is 35 percent of world's total. It has helped Beijing insulate local industry, jobs and economy from global oil prices and politics. By identifying wind corridors with mega potentials such as Xingjian (890gW), Beijing has allowed the policy makers to keep state controlled energy sector vibrant and keep attracting investment in the sector. It protects country's strategic interests in terms of funding growing energy needs, edge in global economy and maintaining independent foreign policy.

Islamabad can use renewable energy to restart industry, economy and jobs. Xingjian could help overcome our critical energy shortage in KP, Punjab and restore state control on energy sector in line with China, Gulf and most Latin American states for cheap energy. A plan can be worked out in Pakistan to teach, train and manufacture windmills, photovoltaic technology and gadgets for domestic, commercial and industrial use. China expects to achieve coal and renewable energy price parity in middle of 2012. PM Wen Jiabao pledged $6bn for energy sector during his last visit to Pakistan. Gas could be imported from Russia, China, ME and Iran. These steps could help Islamabad to overcome energy problems, restore peace and economic activities in shortest possible time.

Renewable energy can help government earn revenue. According to People's Daily (Aug 13) China's solar exports are worth $35.8 billion. The price of solar products has significantly dropped due to the development of solar technology in China. The cost of solar modules has been lowered to $1 per watt. The solar cells conversion rate has continued to increase to 19 percent and with the latest breakthrough it could soon reach to 40. The investment return of downstream businesses - solar farms - is around 8 percent. The demand of wind turbines has also fallen due to global economic slowdown, dumping duties and slow pace of domestic growth. It could help Islamabad cut fuel imports by 60 percent, end energy mafia, and provide cheap energy instead of spending billions on subsidy.

The adoption of renewable energy is vital for water and food security. Countries across the world are adopting desalination technology to convert seawater into potable use due to advancements in renewable energy and reduction of its per unit electricity cost. It has allowed governments to make desalination part of national water and food security programs. Saudi Arabia is using desalination plants to fulfill its water needs. Pakistan can use seawater to overcome water shortages in Sindh and Baluchistan and protect food security.

Exclusive water reservoirs are a must. Islamabad should build water storages to save rain, glacial and river waters to improve agriculture, employment and end water poverty in Punjab and rest of Pakistan. Reportedly, Pakistan loses between 90 and 36 MAF of rainwater annually. It will raise underground water table, ensure year round availability for irrigation, drinking and help reforestation. Pakistan is facing water shortage due to Indian dams on its rivers. Islamabad should get its due water share from India under international law.

"Energy and water challenges", 16/09/2012, online at: http://pakobserver.net/detailnews.asp?id=173595

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Tel: +90(312)4302609 Fax: +90(312)4303948 orsam@orsam.org.tr

❖ ASIA: Too much water lost to urban leaks

BANGKOK, 12 September 2012 (IRIN) - South and Southeast Asia are home to 60 percent of the world's population but have only 36 percent of its water resources - a situation likely to be exacerbated by population growth, rapid urbanization, industrialization, environmental degradation, groundwater overuse and climate change unless urgent remedial action is taken, say experts.

Governments and aid organizations could have a significant impact by tackling the issue of water wasted due to leakages.

"One of the major challenges facing Asia, particularly in most urban centres, is the large proportion of water loss in distribution networks," Amy Leung, the Asian Development Bank's (ABD) director of the urban development and water division, told IRIN. "By cutting physical losses to half the present level, 150 million people could be supplied with already treated water."

Asia loses around 29 billion cubic metres of urban treated water every year, valued at nine billion dollars annually, the bank estimates.

"A key source of water wastage in cities of developing countries in South and Southeast Asia is the high levels of water loss from leaking water pipes and in other parts of the water distribution system," said Tan Cheon Kheong, a research associate at the Institute of Water Policy of the Lee Kuan Yew School of Public Policy at the National University of Singapore. "By fixing water leakages and addressing water pilferage, it is possible for water utilities in the region to cut the amount of water lost to less than 20 percent of their water supply."

In Bangladesh, up to 50 percent of Dhaka's water is lost due to substandard connections and leaking pipes, resulting in supply interruptions during peak demand hours, according to ADB.

New Delhi in India, a city of some 12 million, faces similar water shortages with long water cuts during summer when demand is high. Data from the Delhi Jal Board, which is responsible for water supply and treatment in the region, indicate that more than half of Delhi's water is wasted because of leakages in the distribution pipeline, theft and poor revenue collection.

In Pakistan, data from Karachi Water and Sewage Board show that the city loses more than one-third of its

water to pipe leakages and pilferage.

In Indonesia, the Jakarta Water Supply Regulation Body estimates that 39 percent of the capital city's water is wasted as a result of pipe leaks in the distribution network and theft, while 40 percent of the 10 million residents have no piped water.

Rising demand

A 2012 paper on urban water issues, predicts that the future energy demands in urban water in the Greater Mekong area - which includes Cambodia, the southern provinces of China, Lao, Myanmar, Thailand and Viet Nam - will triple by 2030 forcing some countries to double the available water for urban usage.

This in turn will place additional pressure on an already weak urban infrastructure, resulting in further water shortages and sanitation breakdowns, experts warn.

According to the 2012 UN World Water Development Report (WWDR4), 480 million people in Asia lack access to improved water resources, while around two billion do not have access to improved sanitation. "In many Asian cities the poor have inadequate access to water supplies. Leaks reduce the prospect of extending services as they increase the costs of water supply compared to revenue from water user fees," Jamie Pittock, a leading expert on water governance at the Australia National University, explained.

An undervalued resource?

Urban water is also lost as a result of a lack of appreciation of its economic and environmental value.

"Parts of South Asia are extremely water scarce, in part due to poor policies that encourage misuse - for example, electricity subsidies that contribute to excessive pumping of groundwater that is dramatically depleting aquifers," says Pittock .

More waste water should be recycled, say some experts.

"Wastewater should be properly treated and then recycled. This will not only curb water pollution but will enable cities to alleviate water scarcity through the practice of water reuse," notes Tan. "In other words, wastewater need not be wasted. It should be regarded as a resource that can be utilized."

Since 2003 Singapore has managed to turn its waste water into high-grade reclaimed water by using advanced and ultraviolet technologies. "Today this water can meet 30 percent of Singapore's water needs," said Tan.

"Unless water is governed better some parts of Asia face a grim future," Pittock warned.

"ASIA: Too much water lost to urban leaks", 12/09/2012, online at: http://www.irinnews.org/Report/96290/ASIA-Too-much-water-lost-to-urban-leaks

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Tel: +90(312)4302609 Fax: +90(312)4303948 orsam@orsam.org.tr

❖ The Silent "Water Menace"

Some consider that the most-hotly contested resource for development and survival in a future world will not be oil, but water. Supply problems are very easy to envisage on the surface of the Earth. But countries such as Australia look "down under," to groundwater. They should know. From 46 to 67% of the water they use in agriculture is groundwater. One of the largest aquifer systems of the world -- the Great Artesian Basin -- is in Australia. But UNESCO lists it among the areas of significant groundwater decline, along with the California Central Valley and the High Plains area in the USA, western Mexico, several basins in Spain, the Arabian Peninsula, Iran, the Indus basin in India, and the North China Plain. People use groundwater but most of the time they don't know how much they have or how long will it take to recharge. Consequently many aquifers around the world are being depleted causing problems that may remain dormant for some time but that eventually will cause negative impacts on society and the environment.

Professor Craig Simmons, director of the Australia National Centre for Groundwater Research and Training (NCGRT), points out that in the last two decades the world's annual groundwater extraction rose 42%. This creates a potentially serious situation in many parts of the world. The reason for this, perverse incentives aside, is that groundwater generally has a number of advantages when compared with surface water: higher quality, better protected from possible pollution, less subject to seasonal fluctuations, and more uniformly spread over large regions. Usually groundwater is available in places where there is no surface water and bringing well fields into operation can respond gradually to growing water demand, while surface water often requires considerable investments up-front. Also because of its characteristic buffer capacity, groundwater is believed to be more resilient to the effects of climate change than surface water.

It is no surprise then that worldwide and with wide variations from country to country as well as from author to author, it has been estimated that groundwater covers approximately 50% of drinking water needs, 20% of the irrigation water demand, and 40% of the needs of self-supplying industry. According to reported European Commission data, groundwater is the main source of municipal domestic and drinking water supply in most European countries and in countries with arid and semi-arid climate groundwater is widely used for irrigation.

A recent note by Reuters and an NPR blog report that researchers from McGill University in Montreal and Utrecht University in the Netherlands have found groundwater over-use in a number of aquifers in northern India and Pakistan, the North China plain, Western Mexico and the High Plains in the United States. These aquifers are unfortunately critical to agriculture and what's truly alarming is how many people depend on that over-exploitation for their food. About 1.7 billion people are living in areas where the groundwater footprint -- the area above ground that relies on water from underground sources -- is from 3.5 to 54 times bigger than the area of the aquifers themselves and both the groundwater reserves and the socioeconomic and ecosystems that rely on them are under threat.

However there are regions of the world with great potential to sustainably use large volumes of water naturally stored underground, although not without important challenges, which are explored in the next post.

"The Silent "Water Menace"", Luis Ernesto Garcia, 11/09/2012, online at: http://blogs.worldbank.org/water/the-silent-water-menace

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❖ Pests Found in Djerbian Water Supply

Residents in the Southern areas of Midoun, and Sdouiksh were aghast on this weekend when they discovered unwelcome guests in their water.

According to Abdel Monim a technical assistant at the National Water Supply and Distribution Company (SONEDE), residents discovered worms and tadpoles in buckets that were being filled from the city's water supply.

Although the company initially denied the presence of the pests in the water supply, further investigation revealed the presence of mosquitos, worms, and tadpoles in reservoirs.

In a statement to *Tunisia Live*, Ahmed Sola, the regional director of SONEDE, said that, "On Friday, someone brought in a water sample to show the company. We performed analysis on it. We have contacted the Ministry of Health to help in the analysis. The ministry confirmed our analysis."

When asked what had caused these problems, Sola said that "This infestation is because of humidity." The company responded with chloride, pumping it into the water tanks to kill the pests, but the chloride is not effective against tadpole eggs.

"Now we are cleansing the pipes, mostly because of the mosquitoes. Because mosquitos breed and thrive in the water, they are our primary concern at this point in time. Every year we clean the pipes, so this is not an abnormal process," says Sola.

Abdel Monim said that because many in the region usually drink bottled water, sickness and contamination are not fears, but some children may end up drinking the water in schools, which could cause problems when school resumes next week. Asked who the people should blame, Abdel Monim deflected blame from the company as a whole. "It's the people in the laboratory.

Thousands of dinars are paid to those who work in the lab, but where are they on this?" The south of Tunisia has been plagued numerous times this summer by problems of water delivery. Earlier this summer, over consumption by residents and businesses in Gabes led to shortages in the water rich region. In August, the Ministry of Agriculture identified over 80,000 illegal connections to Tunisia's water supply, which caused widespread shortages throughout the summer.

"Pests Found in Djerbian Water Supply", 10/09/2012, online at: http://www.tunisia-live.net/2012/09/10/pests-found-in-djerban-water-supply/?utm_source=rss&utm_medium=rss&utm_campaign=pests-found-in-djerban-water-supply

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❖ Water scarcity, sustainable water management and power regulation key topics alongside inaugural Smart Grids GCC MasterClass 2012

The stage is set for the third edition of the Power + Water Leaders' Forum in Abu Dhabi next month, as leading Middle East experts prepare to discuss sustainable best practices and innovative business solutions across the regional water and energy sectors.

Taking place on 8 October, the dedicated forum runs alongside the Power + Water Middle East exhibition, which takes place until 10 October at Abu Dhabi National Exhibition Centre (ADNEC).

A strong line-up of speakers has so far confirmed participation at the dedicated forum, including a leading figure in the Middle East and North Africa (MENA) water and wastewater industry.

Fady Juez, Managing Director of Metito, a provider of water management solutions with more than 50 years of industrial experience in water technologies, will put a spotlight on sustainable water management solutions in a region that is one of the most water scarce in the world.

As water desalination continues to play a crucial role in the MENA region as a non-conventional solution for sustainable water supply, Juez said that it comes at a significant economic and environmental toll, adding that it costs US$ 0.7 to US$ 1 to desalinate a cubic metre of seawater.

To put that figure into perspective, the UAE, which ranks second worldwide in installed desalination capacity, has a total installed capacity in excess of 9 million cubic metres per day.

"We are in dire need as businesses and as individuals to further engage and interact to come up with intelligent, innovative and sustainable solutions to manage, maintain and sustain the world's natural water resources through effective supply and demand management," said Juez.

"The Power + Water Leaders' Forum is an example of such business platforms where these important dialogues can take place."

Other speakers taking part at the Power + Water Leaders' Forum include Nick Carter, Director-General of the Regulation & Supervision Bureau; Ian Clarke, Managing Director of Mott MacDonald Middle East; Vahid Fotuhi, President of the Emirates Solar Industry Association (ESIA); and Johan de Villiers, President of ABB Power Systems Gulf, who will debate the merits of sustainable energy.

A significant new addition to Power + Water Middle East this year at ADNEC is the Smart Grids Master Class 2012, presented by The Powerful Solutions (TPS), a UAE based technical advisory focused on the power and energy sectors.

Taking place on 9 October, the master class will present a thread bare analysis of smart grid information, what it will change and what will be the resistance points as organisations seek to improve the efficiency, reliability, and sustainability of the production and distribution of electricity to regional end users.

Facilitated by some of the best experts and policy makers from USA, Europe and Asia, the dedicated programme will be led by Scott Minos, Senior Policy and Communication Specialist of the U.S. Department of Energy.

Ravinder Bhan, Principal Consultant of TPS said: "Smart Grids will play a major role in managing both power supply and demand more efficiently, and it has become an urgent regional priority to promise a sustainable electrical power supply for the economic, environmental, and societal needs in coming years."

"The Smart Grids GCC MasterClass 2012 at this year's Power + Water Middle East is a total shift from conferences where only canned pitch full presentations are made. It's important to unveil the truth behind Smart Grids since the Middle East is at a stage where billions of dollars' worth of investments are planned by the utilities. It's of paramount importance that the right questions are answered before making systems which will be impossible to uninstall."

Held in partnership with Abu Dhabi Water & Electricity Authority (ADWEA), with Abu Dhabi Chamber of Commerce and Industry (ADCCI) as a strategic partner, Power + Water Middle East is the region's premier event for showcasing power and water related products and services.

Now in its 5th year, the three-day exhibition and forum brings together developers, manufacturers, buyers and service providers from a range of sectors in power and water to meet, discuss and invest in the current products and technologies in the related industries.

The exhibition has so far attracted more than 100 exhibitors from 25 countries wishing to network and offer solutions to regional power generation, water and nuclear energy industries.

“Water scarcity, sustainable water management and power regulation key topics alongside inaugural Smart Grids GCC MasterClass 2012”, 10/09/2012, online at: http://www.ameinfo.com/water-scarcity-sustainable-water-management-power-311130

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❖ "A Daily Struggle to Fetch Water

In front of a mosque in Al-Safia district in Sana'a and under the ray of the scorching sun, women and children gather, holding their plastic containers. They want to fetch as much water as they can. Some children struggle to carry heavy containers filled to the brim, making it hard to walk home.

Millions of Yemenis receive their water this way. They are unable to pay water fees, so there is no regular access to water in their homes.

Um Ali, a resident in Al-Safia, said the state water network provides them with water once or twice per week.

It's a difficult task to collect water from public faucets. People crowd around to get the water, she said.

"So, it is necessary to for [women and children] to go everyday to bring water."

The security imbalances left by last year's political uprising made Yemen's water issue drop to the bottom of the top priorities for the reconciliation government, aid workers and government employees say. The government has been busy with complex political issues—leading to the marginalization of the ever-more troublesome water problem the country faces.

Abdulsalm Razaz, Minister of Water and Environment, said, "We are working to raise the importance of this issue because it is a grave issue that could drive Yemenis with the ability to immigrate to other places. This issue is more dangerous than any political one."

As the depletion of Sana'a's basin approaches, the government has adopted a string of procedures as preparation to face this danger. Among the procedures taken are stoppage of random digging and the use of irrigation technology, in addition to taking advantage of sanitation water and rainwater.

A new government report released by the Ministry of Water and Environment found that random digging is a major factor threatening underground water; the number of wells dug randomly in Sana'a governorate amounted to 13,256 compared with 9,200 wells in 1990. More than 90 percent of water goes to agricultural use; 800 million cubic meters go to planting qat.

Recent studies indicate that the wells dug in Bani Hushiash district in Sana'a governorate number roughly 5,000. This colossal number surpasses the number of wells in the entire country of Jordan. In addition, the majority of those wells were randomly excavated, resulting in water dearth.

Random digging decreases the amount of water underground; locals go on excavating deeply.

Therefore, the springs and basins see depletion.

Engineer Saleh Al-Dhabi, Sana'a Basin project's former manager, said the scarcity and shortage of water in Yemen refers to the inadequacy of rainfall. He said government and non-government efforts should be put in order to limit the misuse of water.

According to Al-Dhabi, qat planting increases 12 percent each year. Qat fields cover 22,000 hectares of land in Sana'a governorate, consuming approximately 160 cubic meters of water each year. If modern irrigation technologies were utilized, 40 percent of this water would be saved, he said.

However, qat is irrigated using traditional methods. Fields are covered with water, resulting in huge losses of water. Farmers find it necessary to draw water from wells through ditches. This also causes the loss of water. It is seldom that the farmers use sophisticated ways to irrigate.

"We function to alleviate water depletion, a problem we largely suffer from," Abdulkareem Al-Saberi, manager of the Ministry of Agriculture and Irrigation's Irrigation Sector, said. "We plan to make use of rain water in order to augment water storage underground."

Al-Saberi said Yemen naturally lies in a dry region that lacks surface water such as lakes and rivers; hence, underground water is scant and cannot suffice the 25 million people living in Yemen.

"The state has not competently managed this problem; we are facing a crisis now," he said.

"A Daily Struggle to Fetch Water", 13/09/2012, online at: http://www.yementimes.com/en/1607/report/1391/A-daily-struggle-to-fetch-water.htm

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Tel: +90(312)4302609 Fax: +90(312)4303948 orsam@orsam.org.tr

❖ End water disputes

EUROPEAN governments must wield their influence and engineering skills more effectively to prevent conflicts over water supply that could threaten global security, the European Union's policy chief Catherine Ashton says.

The EU has a strategic interest in ensuring stability in regions with some of the world's biggest water problems, including North Africa after the Arab Spring revolts and Central Asia which holds crucial energy reserves.

Ashton said the Nile basin was a particular concern.

"If managed well, the Nile holds the potential to catalyse regional integration and to help bring prosperity and stability to a vast area," she said.

"If handled poorly, each of the Nile countries could feel the negative consequences in their economic and social development."

Along the Nile, growing demand for water due to population growth, foreign investment and climate change pits Egypt's new government against upstream states such as South Sudan, Ethiopia and Rwanda, who are frustrated by what they see as Cairo's disproportionately large share of the river's water.

In central Asia, one of the world's driest places, poor Soviet-era planning has left countries heavily dependent on thirsty crops such as cotton and grain, leading to tensions over water use and dam construction.

Uzbek President Islam Karimov said on Friday a dispute over water resources risks provoking military conflict in the former Soviet region.

Ashton, who was hosting a meeting of EU foreign ministers in Cyprus where water security was discussed, said the bloc would offer its know-how in order to help calm tensions in the region.

"Central Asia's... increasing demand on a limited, shared resource carries risks but also opportunities for co-operation in the entire region and we will continue our efforts to help the region in this direction," she said.

With the world population predicted to grow to more than 9 billion in 2050, from 7 billion, demand for food is expected to increase by 70 per cent in the next four decades, United Nations forecasts show, putting unprecedented strain on water resources.

"End water disputes", 10/09/2012, online at: http://main.omanobserver.om/node/109051

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❖ Bulawayo Lobbies Zimbabwe Government to Declare Water Crisis a National Disaster

ZIMBABWE, BULAWAYO — The Bulawayo City Council is lobbying the national government to declare the city's ongoing water crisis a national disaster.

City officials met with Water Minister Sam Sipepa Nkomo and other senior officials from Prime Minister Morgan Tsvangirai's Movement for Democratic Change (MDC) party on August 7 and agreed that the situation in the city, Zimbabwe's second largest, had reached the point where it needed to be addressed by the Cabinet.

Bulawayo municipality is controlled by councilors from Tsvangirai's MDC and has in the past struggled to attract government support for its projects.

"We have taken an interest here and we are declaring the Bulawayo water situation a national disaster," said Gorden Moyo, the MDC provincial chairman who is also the Minister of State Enterprises and Parastatals.

"When you declare a national disaster, you are inviting various players, including those outside the country, into the system, and it is now up to the government to do it," Moyo said in a briefing after the meeting.

Nkomo agreed: "The rationale of declaring a national disaster is that you want to mobilize resources from external sources when you haven't been able to do so from your own national coffers and domestic private capital."

He told journalists at a press briefing last week that the water crisis in the city was reflective of the general state of water throughout the country.

"What makes Bulawayo unique is that there is no bulk raw water, while other cities suffer from poor water and sewer treatment infrastructure that makes them unable to treat and efficiently distribute adequate water," Nkomo said.

The municipality is facing the worst water shortages in its history due to poor rainfall that has seen supply dams virtually drying up.

It has introduced a 72-hour rationing schedule to preserve the little water left in its three supply dams.

Municipal officials say one dam is supposed to be built every 10 years as Bulawayo's population grows, but no new dams have been constructed here since the country's independence in 1980.

Nkomo was heavily criticized earlier this month for his plan to draw water from the Khami Dam, which was decommissioned more than 20 years ago when it was found to be polluted with industrial waste.

"We are not going back on drawing water from Khami, as this is a long-term solution to Bulawayo's water problems," Nkomo said.

Residents and water activists accused him of attempting to bring polluted water to consumers' faucets.

"What we would like to know is what has changed for the minister to now decide the city can drink that Khami water," said water activist Daniel Kheswa.

"The water is already known to be contaminated and we live in a city where the municipality always has no funds for water purification -- some of these decisions need a little bit of thought," Kheswa said.

Another recently announced plan that has proved highly unpopular with Bulawayo residents is an extra water levy to fund duplication of the Insiza Dam pipeline, a project that has been in the works for more than decade.

Like many dam construction projects in the country, the $28 million USD pipeline has stalled due to lack of funding, and the city council is trying to bridge the gap by charging residents.

Kimpton Ndimande, the city's financial director, told a public meeting on next year's budget that ratepayers will have to pay an addition $1.00 USD per month.

"The city council next month will notify residents how long it will take for them to contribute money towards the project, which is expected to cost $28 million USD," Ndimande said.

Up to 80 percent of the city's water comes from Insiza Dam.

Nkomo has claimed the Insiza pipeline duplication is not a viable solution for the city's water needs, as it will not be completed quickly enough.

The Gwayi-Shangani Dam, expected to form a catchment for water drawn from the Zambezi River, is also at a standstill despite early assurances by Nkomo that the government had secured $345 million USD in Chinese funding for the project. Construction was supposed to have started last month.

"Bulawayo Lobbies Zimbabwe Government to Declare Water Crisis a National Disaster", 11/09/2012, online at: http://www.ooskanews.com/daily-water-briefing/bulawayo-lobbies-zimbabwe-government-declare-water-crisis-national-disaster_242

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❖ Russia to help build Diamer-Bhasha Dam

THE deliberations of Pakistan-Russia Joint Ministerial Commission meeting, held in Islamabad on Monday, were productive in the sense that the two countries have agreed to boost cooperation in different sectors especially the area of most concern for Pakistan ie energy. In a highly encouraging development, the Russian side is reported to have shown keen interest in extending cooperation to Pakistan in the construction of Diamer-Bhasha and Munda dams.

This is indeed part of the proactive role that Russian Federation is playing in regional economic collaboration and forging bilateral ties with Pakistan. During several multilateral moots, the Russian leadership also vowed to provide finances for projects like CASA-1000 and TAPI and commitment for the purpose was reiterated during Islamabad round of talks. The Russian offer to provide assistance in building much-needed Diamer-Bhasha and Munda dams to help overcome water and energy crisis in Pakistan assumes significance in the backdrop of reports that multilateral institutions like the World Bank and the Asian Development Bank are dragging their feet on provision of finances for Diamer project on the pretext of No Objection Certificate from India. As authorities concerned are exploring alternative avenues to shore up funds for this vital project, the Russian offer must be taken with all seriousness and steps taken on priority basis to materialise this at the earliest. We are sure that with Russian assistance and cooperation from some Gulf countries, Pakistan can implement water projects of crucial economic significance. If the country prepares its case carefully and minutely, there are bright chances of some headway on this and some other projects like the much-talked-about expansion plan of Karachi Steel Mills during forthcoming visit of the Russian President to Pakistan. In fact, Russians are willing to forge ties with Pakistan yet the impression of lack of consistency on the part of Pakistani leadership and decision-makers is marring prospects of some breakthrough. Therefore, it is imperative that Pakistan should work hard to improve its reliability as a Russian partner and we believe this is need of the time as Pakistan cannot afford to continue with the policy of looking solely towards the West, a policy that has not paid as much as it should have.

"Russia to help build Diamer-Bhasha Dam", 16/09/2012, online at: http://pakobserver.net/detailnews.asp?id=173441

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Tel: +90(312)4302609 Fax: +90(312)4303948 orsam@orsam.org.tr

❖ Water and food security: where to next? – live discussion highlights

- *Our discussion explored the latest thinking to come out of World Water Week and asked 'where to next?' for addressing water and food security*
- *Tim Smedley sums up the best bits*

A number of key themes emerged from last month's World Water Week: the importance of businesses and NGOs forming partnerships between with governments, nexus thinking (the interdependency of energy, food and water) and water allocation (who gets what). However, the world is running out of time to reach a consensus. Today, 1.1 billion people live without clean drinking water and almost the same number go hungry. By 2050, when we have a world population of nine billion, these figures will be far worse.

To discuss the action that needs to be taken, we assembled a panel of experts and invited the Guardian Sustainable Business community to pitch questions during a live discussion. The panel included Marielle Canter Weikel, director of corporate freshwater strategies at Conservation International; Conor Linstead, senior water policy advisor at WWF; Andy Wales, head of sustainable development at SABMiller; Samantha Hoe-Richardson, head of sustainable development and energy at Anglo American; Jeff Erikson, senior vice president at SustainAbility; Greg Koch, managing director of the global water stewardship at Coca-Cola; and Kari Vigerstol, hydrologist on the global freshwater team at Nature Conservancy.

Here's a summary of the main points to come out of the debate.

Nexus thinking at World Water Week

After an "exciting and exhausting" World Water Week, Greg Koch said he was somewhat disappointed about the lack of representation from agribusiness and farmers. Agriculture uses some 70% of the world's freshwater, so "it was a miss not to have that sector present", said Koch.

The food-water-energy nexus was "a huge theme" of discussion that came up time and again throughout the week, said Marielle Canter Weikel. The panellists were unanimous in stressing the importance of nexus thinking. Andy Wales summed it up by saying that, "understanding the resource nexus - how water, food and energy supplies can be managed in a connected way - is critical to green growth".

However, Kari Vigerstol raised an element that she felt had not been given enough air time: the critical role of healthy ecosystems. Healthy rivers help ensure a sustainable fish population, which billions of people depend on for their main source of protein, she said - "and a healthy population of pollinators (like bees) play an important role in agriculture".

Working in partnership

While private sector companies are often criticised for their water usage, Wales suggested that government policies could often hinder rather help companies trying to do the right thing.

Government departments working in silos, setting separate policies for water, food and energy, needed to start working together, said Wales. He offered the examples of the World Economic Forum's Water Resources Group and the Strategic Water Partners Network in South Africa as programmes that were attempting to pull together government and private sector thinking.

However, partnerships do not simply refer to those between governments and the private sector. Businesses must also work together, in particular bigger businesses with supply chains. Rosie Helson asked for the panel's views about Walmart becoming the first retailer to join the Field to Market Alliance for sustainable agriculture. Vigerstol said she believed it was a very exciting step in the right direction and hoped that other retailers would follow, saying it was a great example of, "working across the supply chain to improve sustainability of agriculture. If we are going to make a real impact ... we need to engage the growers, the commodity market, the food producers and the retailers."

Koch agreed, saying that many retailers and manufacturers, such as his own organisation, Coca-Cola, were realising the need to switch to a more direct relationship with farmers to "secure supplies as well as the safety and sustainability of that crop".

New ways of collecting water

Brian Williams contributed a question about whether the water from hurricanes and typhoons, and subsequent flooding, could be collected. WWF's Conor Linstead stated that collecting water from extreme weather events would be too costly due to the damage such events could cause the equipment.

This prompted a discussion about innovative forms of water harvesting. One participant raised the prospect of better seawater usage, but Linstead said the existing technology used a lot of energy, "which generally means carbon emissions, so you just end up trading one problem off against another".

A positive example offered by Wales was that of water re-charge. A project by SAB Miller in Rajasthan, India, is attempting to harvest the intense monsoon rains that typically run off with little effect to the overall groundwater level. In conjunction with the Confederation of Indian Industry, the drinks company has built six structures over naturally occurring fissures that lead directly to the ground water, thus helping recharge the aquifer, said Wales – "and we have seen a significant rise in water levels since they were put in place".

In Australia,, the response to the extreme flooding events of recent years had been a "rain immunisation programme" including underground water storage, said Samantha Hoe-Richardson. Ironically, with "weather unpredictability becoming the norm, we were able to make the business case", she added.

Changing behaviours

One of the biggest challenges for water conservation is that of changing behaviours. As Linstead put it, "business as usual is not only undesirable but not possible". Indeed, contributor wjk7 challenged the panel to address the "elephant in the room" of population growth. Wales responded that while population growth was an important factor, "the trajectory is already set". More important, said Wales, was ensuring that the new population better understood the interdependency between water, food and energy.

Jeff Erikson pointed out that while UNEP defined water scarcity as less than 1,000 cubic meters per person per year, the average American consumed about 2800 cubic meters per year. With the most commonly cited unsustainable behaviour being eating red meat, Erikson continued, "as developing countries become more prosperous, meat consumption generally increases. So a big change in attitudes – or price – must occur in order for meat consumption to decline."

Canter Weikel picked up the point, saying that as the world's population outpaced nature's capacity to deliver fresh water, consumers would have to be better educated about water use and supply. Bibi Rodgers asked the panel what ordinary people could do about such a seemingly global problem. A good first step, Linstead advised, was to understand your personal water footprint and use it to guide purchasing decisions and dietary choices.

Both Erikson and Koch made the point that as well as educating ourselves as to where our water comes from, we needed to make our politicians aware of the issues, especially in water-stressed regions. As consumers and voters, our actions at the supermarket and the ballot box were what would ultimately change the behaviours of those in power, they said.

To read the full discussion, please click here.

"Water and food security: where to next? – live discussion highlights", 13/09/2012, online at: http://www.guardian.co.uk/sustainable-business/water-food-security-where-to-next?newsfeed=true

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❖ US Offers to Help Tajikistan Study Pamir Glaciers

DUSHANBE, Tajikistan — The United States has offered to assist Tajikistan in studying the Pamir glaciers, which supply water to the entire Central Asian region, according to Tajik officials.

Tajik scientists said last week that they are interested in the US initiative, but their country must also cooperate with other nations, specifically Russia.

Under the initiative, the United States would provide Tajikistan with special equipment and would organize expeditions to the Pamir Mountains. Portland State University in Portland, Oregon, which has carried out well-known studies in the Antarctic, would participate in the research.

"An individual nation cannot study glaciers alone," said Abdulkhamid Kayumov, a Tajik polar explorer. "This demands huge investments."

Kayumov has closely cooperated with scientists from Moscow for 20 years and participated twice in expeditions to the Antarctic with Russian help.

He said an international fund to study Pamir glaciers should be created "because the future of the human race depends on freshwater reserves, whose sources are glaciers."

"Currently, Tajikistan is a hub with an enormous number of glaciers," Kayumov emphasized. "The state of water supply in Central Asia completely depends on the state of glaciers in Tajikistan. I want to note that our glaciers are a wonderful model to study the state of glaciers on a global basis."

According to Timur Idrisov, director of the environmental NGO Little Earth, glaciers in Tajikistan have lost a third of their volume over the past 50 years as a result of global warming. The Gissar-Alay glaciers' area has been reduced by half. The Fedchenko Glacier has decreased nearly by a kilometer and the Garmo Glacier by seven kilometers.

This trend is very dangerous, Idrisov warned.

"If the trend toward climate change continues, more than 1,000 small and medium-sized glaciers in Tajikistan could disappear. This will first cause an increase in the water level in rivers, which can

lead to floods. And then … the water level in rivers will sharply fall. They will not be fed with water, which can cause problems for agriculture based on irrigated cropping in the whole region."

Tajik scientists believe it is necessary to curb greenhouse gas emissions to save the glaciers. Thermal power plants in neighboring countries pose a special danger, they said.

The main task is not to allow temperature to rise by more than 2 degrees Celsius in the 21st century, which can only be performed with joint efforts. Otherwise, the region will face an environmental catastrophe, they said.

"US Offers to Help Tajikistan Study Pamir Glaciers", 10/09/2012, online at: http://www.ooskanews.com/daily-water-briefing/us-offers-help-tajikistan-study-pamir-glaciers_24238

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Tel: +90(312)4302609 Fax: +90(312)4303948 orsam@orsam.org.tr

❖ Peru, Chile and Bolivia Cooperate on Glacier Protection

BOLIVIA, LA PAZ — The governments of Bolivia, Chile and Peru have agreed to cooperate on management of Andean glaciers and water resources and projects mitigate the effects of climate change.

At the conclusion of the Second International Summit on Climate Change and Glacier Retreat, held in Bolivia's Sajama National Park last week, representatives of all three countries called for integration of three national parks in the region -- Sajama (Bolivia), Lauca (Chile) and Vilacota (Peru).

A Tri-National Alliance comprising the three countries will carry out monitoring in the area and protect glaciers and water resources.

The Sajama, Payachatas, Vilacota and Chocamani glaciers are retreating, as are other mountain peaks.

The glaciers of the Andes and their basins provide water to millions of people. Glacier retreat is putting water supply throughout the region at risk.

The meeting also called for concrete international action to mitigate the effects of climate change.

Ahead of the meeting, representatives of the local community near Sajama reported that indigenous people living in the area are being negatively affected by the consequences of climate change.

Water shortages, temperature variations, loss of vegetation and biodiversity, new epidemics -- which affect both humans and livestock – and droughts all impact the water supply for domestic, agricultural and industrial consumers in the area, they added.

The Pan American Health Organization says local communities are also being impacted by poor waste management, and the summit called for formulation of a regional waste management policy to address this.

In its concluding document, the Sajama Declaration, the meeting called for creation of early warning systems and an integrated water resources management plan.

It also asked countries to exchange experiences in order to strengthen their capacity to achieve food security through sustainable management of natural resources, promotion of family agriculture and ecologically sound agricultural practices.

"Peru, Chile and Bolivia Cooperate on Glacier Protection", 12/09/2012, online at: http://www.ooskanews.com/daily-water-briefing/peru-chile-and-bolivia-cooperate-glacier-protection_24280

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❖ Yambol, Bulgaria to Spend $64 Million USD for Wastewater Treatment, Sewage System

Bulgaria, YAMBOL — Yambol municipalityin southeastern Bulgaria has gotten approval for a $63.9 million USD project to build a wastewater treatment plant and a sewage systemin the city's Kargon district – the largest infrastructure project to be implemented here.

The managing authority of the European Union's Environment Operational Program approved financing for the project last week.The EU Cohesion Fund is providing some $46 million USD, and another $11.5 million USD willcome in the form of national co-financing.

Yambol is the only regional center in Bulgaria that has no treatment plant, and city officials have been working to change this over the past four years. The Kargon district sewage system has been under construction for more than 30 years.

The city will get five new sewage pumping stations and replace or repair 4 kilometers of mains, more than 13 kilometers of supply pipes and 1,200 household connections.

The tender procedures must be finished by the end of the year, and the entre project is to be completed by the end of 2014.

A week earlier, Nona Karadjova, Minister of Environment and Water signed a grant agreement for a $62.6 million USD project to builda wastewater treatment plant and build and modernize water supply and sewage networks in Kostinbrod. The project is also funded by the Environment Operational Program.

A major goal of this project is to prevent pollution of the Blato and Belitsa rivers. It also aims to reduce non-revenue water levels and improve potable water quality.

"Yambol, Bulgaria to Spend $64 Million USD for Wastewater Treatment, Sewage System", 12/09/2012, online at: http://www.ooskanews.com/daily-water-briefing/yambol-bulgaria-spend-64-million-usd-wastewater-treatment-sewage-system_24285

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❖ InterAction Council Calls on UN Security Council to Prioritize Water

new yorK, ny, united states — InterAction Council (IAC), an independent international organization made up of 40 former government leaders and heads of state, this week called on the United Nation's Security Council to focus on the world's current "water crisis with critical implications for peace, political stability and economic development."

"The future political impact of water scarcity may be devastating," says former Canadian Prime Minister and IAC co-chair Jean Chrétien. "Using water the way we have in the past simply will not sustain humanity in future. The IAC is calling on the United Nations Security Council to recognize water as one of the top security concerns facing the global community."

"Starting to manage water resources more effectively and efficiently now will enable humanity to better respond to today's problems and to the surprises and troubles we can expect in a warming world," he added.

The report, "The Global Water Crisis: Addressing an Urgent Security Issue," was launched on September 11 jointly by the IAC, the United Nations University's Institute for Water, Environment and Health, and Canada's Walter and Duncan Gordon Foundation.

Sub-Saharan Africa, West Asia and North Africa are already facing critical water shortages, and without action, the global situation will only get worse, the report warns.

"As some of these nations are already politically unstable, such crises may have regional repercussions that extend well beyond their political boundaries. But even in politically stable regions, the status quo may very well be disturbed first and most dramatically by the loss of stability in hydrological patterns," former Norwegian Prime Minister Gro Harlem Brundtland says in the report's forward.

The report compiles essays from 23 water sector experts that address varying concerns surrounding the global water crisis, such as scarcity leading to conflict, energy and food security, global health and the Millennium Development Goals, and climate change.

It predicts that new conflicts will result from both droughts and floods.

"Water is now playing a determining role in international, national and trans-boundary conflicts," said IAC Secretary-General Thomas Axworthy, president and CEO of the Walter and Duncan Gordon Foundation.

The report recommends that governments and international institutions change their attitudes towards water and its management, particularly with regard to practices that reduce, conserve and reuse the resource.

It also calls for increased global investment in water and sanitation efforts by some $11 billion USD a year, an amount very similar to what international NGO WaterAid called for last month during World Water Week in Stockholm.

Other recommendations include increasing alliances involving the public and private sectors and civil society; implementing a "Blue Economy" model that focuses on and rewards water sustainability actions; and increasing understanding within governments of the links between water and health, development and economic success.

"InterAction Council Calls on UN Security Council to Prioritize Water", 12/09/2012, online at: http://www.ooskanews.com/daily-water-briefing/interaction-council-calls-un-security-council-prioritize-water_24303

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Tel: +90(312)4302609 Fax: +90(312)4303948 orsam@orsam.org.tr

❖ Poor Chemical Management Causes $263 Billion USD in Economic Losses: UNEP and WHO

nairoBi, Kenya — Poor management of chemicals, including chemical fertilizers and pesticides, is causing massive pollution of freshwater resources worldwide, including rivers, lakes, aquifers and wetlands, according to a new report prepared by the UN Environment Program and the World Health Organization.

The Global Chemicals Outlook Report, released last week, finds that chemicals such as ammonia, sulfuric acid and synthetic fertilizers are being dumped into surface water bodies, and some of it is seeping into groundwater sources.

Poor management of organic compounds is responsible for global economic losses estimated at $263.3 billion USD, it says.

Chemical production has increased worldwide due to rapid industrialization and mechanization of farming.

“Heavy metal pollution of water ways associated with cement and textile production has increased,” notes the report.

It predicts that global chemical sales will increase by 3 percent by 2050, with Sub-Saharan Africa and the Middle East particularly affected.

“The total cost of poisoning from pesticides in Sub-Saharan Africa now exceeds total annual overseas development aid given to the region for basic health services. Between 2005-2020, the accumulated cost of illness and injury linked to pesticides among small-scale farmers in Sub-Saharan Africa could reach $90 billion USD,” the report reveals.

The damage caused by acute water pollution to commercial fisheries in China was estimated at $634 million USD per year.

And in Ecuador, freshwater sources adjacent to oil extraction sites contained high levels of hydrocarbons.

At the same time, persistent organic pollutants continue to be deposited into water bodies, accumulate in aquatic organisms and later move up the food chain, it says.

Sound chemical management could reduce the financial and health burden to nations, improve livelihoods and support ecosystem restoration, the report adds.

“Communities worldwide -- especially those in emerging economies -- are increasingly dependent on chemical products, from fertilizer, electronics, plastics and petrochemicals,” said UNEP Executive Director Achim Steiner.

He warned that the benefits these chemicals can provide must not come at the expense of human and environmental health.

“Production and unsafe disposal of chemicals can hinder progress towards key development targets by affecting water supplies, food security and human health,” he said.

However, the report does see renewed commitment by countries to halt unsafe dumping of chemical waste in line with international conventions.

The Rio+20 sustainability summit in June underscored the need for countries to strengthen waste management systems to prevent pollution of sensitive ecosystems, the report says.

“Poor Chemical Management Causes $263 Billion USD in Economic Losses: UNEP and WHO”,10/09/2012, online at: http://www.ooskanews.com/daily-water-briefing/poor-chemical-management-causes-263-billion-usd-economic-losses-unep-and-who_24

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Tel: +90(312)4302609 Fax: +90(312)4303948 orsam@orsam.org.tr

❖ Private Sector Increasingly Aware of Water Risks: Deloitte

united states, CO, DENVER — The international beverage sector has long understood the importance of water risk and all it entails, including water footprint, reporting and disclosure and water stewardship strategies, and the rest of the private sector is now catching up, according to Will Sarni, director and practice leader, Enterprise Water Strategy-Sustainability and Climate Change, at Deloitte Consulting LLP.

Sarni told OOSKAnews last week that he was "encouraged" by the outcomes of World Water Week in Stockholm last month. He cited collaborative efforts such as the CEO Water Mandate, adding that he was "always impressed how NGOs are working with the private sector" to improve access.

During World Water Week, Sarni released a paper, "Ripple Effects: Why water is a CFO issue." He said he "wants to push the issue and be an advocate" to ensure that private industry understands not only the risks associated with failing to consider water in business models, but also to highlight the opportunities associated with putting in place appropriate water stewardship strategies.

In his paper, Sarni identified three "major buckets" of risk -- physical scarcity; regulatory risk, which takes into account increased regulations and pricing mechanisms; and reputational risk, an area in which investors and other stakeholders are starting to take more and more of an interest.

"Even the perception of extracting water to the detriment of other stakeholders within the watershed is a problem in a world where almost anyone leveraging social media can impact your social license to operate," the report warns.

Sarni provides step-by-step instructions on how a firm can become better informed about their potential water risks, starting with determining usage. He points to water footprinting and risk mapping tools that are publicly available and offered by NGOs.

"Part of the exercise is calculating business value at risk that essentially rolls up the physical risks, regulatory risks, and reputational risks to come up with a dollar value," he says in the paper.

This analysis can help a company decide what needs to be done to decrease risk, which can include improving efficiency to decrease water needs, embracing "collective action" to ensure all

stakeholders in a watershed are taken care of, and a water evaluation that allows companies to decide where to put certain aspects of their operation that might require more water.

"Some companies understand very well quantitatively if a particular location has the right quantity and quality of water…Other companies may have to make the decision that it is easier to manufacture product and ship it into a water-scarce area than to try and deal with the issues of water scarcity," according to the report.

This process requires innovative and "forward" thinking, Sarni told OOSKAnews. "This is the softer side of innovation in the water space, and there are a lot of interesting things happening," he said.

"Private Sector Increasingly Aware of Water Risks: Deloitte", 10/09/2012, online at: http://www.ooskanews.com/daily-water-briefing/private-sector-increasingly-aware-water-risks-deloitte_24255

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❖ Scientists Seek Strategy to Convey Seriousness of Sea-Level Rise

The impact of sea-level rise as a result of global warming will be seen on coastlines around the world over the next several decades and centuries, affecting at least half the world's people

LA JOLLA, Calif. -- Sea-level rise threatens cities around the world, and academic leaders must talk about it differently to help people grasp the potential dangers and costs, climate experts said last week.

Researchers must detail effects at the local and regional levels, members of the Association of Pacific Rim Universities (APRU) Sustainability and Climate Change Program said as they met at the University of California, San Diego. They need to talk shorter time windows, mentioning impacts in 2050 as well as in 2100. And they should drive home to people that actions to limit climate change can help protect their children and grandchildren from huge economic and social impacts.

"Sea-level rise is not a problem that's going away," said Dan Cayan, a climate researcher at the Scripps Institution of Oceanographyat UC San Diego. "In some sense, this is an important investment. This is a multigenerational issue."
Climate researchers from around the world gathered for three days at UC San Diego to share information and formulate strategies. They discussed the importance of talking about sea-level rise and climate change as they brainstormed what advice they should give to university presidents. During that session, some of the APRU members urged more of an activist role, saying too much time already has been lost.

"People who don't believe climate change is real, and sea-level rise is real, are really few and far between," said Bernard Minster, a UC San Diego professor and Scripps researcher.

The conference took place just after sea-level rise and climate change happened to surface on the national stage. At the Republican National Convention, presidential nominee Mitt Romney in his acceptance speech derided President Obama's position on the issues.

"President Obama promised to begin to slow the rise of the oceans," Romney said as some in the audience snickered, "and to heal the planet. My promise is to help you and your family."

Obama in his speech at the Democratic National Convention said that "climate change is not a hoax."

"More droughts and floods and wildfires are not a joke. They are a threat to our children's future. And in this election, you can do something about it."

The scientists who met here asserted that spreading some basic facts about sea-level rise may be helpful. Higher temperatures are causing oceans to swell and glaciers to melt, they said, spawning sea-level rise. Increases now and over the next few decades are the result of greenhouse gas emissions over the past 50 years, making some change inevitable.

By the end of this century, they said, seas will climb 80 centimeters, or roughly 2.6 feet. That number could grow to as much as 2 meters, or 6.6 feet, particularly if the ice sheets in Greenland and Antarctica melt entirely, said Helen Fricker, an associate professor at the Scripps Institution of Oceanography.

By 2300 sea levels could lift 10 feet to 13 feet, she added.

The rising seas will affect the lives of millions of people and cost billions of dollars, the researchers said. Half the world's population lives within 62 miles of a coast.

Some areas more threatened than others

Sea-level rise has the potential to affect some places more than others, even within the same state, the experts said.

For example, in California, the impact will be felt more in the south than it will in the state's north or in Oregon and Washington, Cayan said. Two trends contribute to that phenomenon, he said.

The ocean plate is descending below North America at the Cascadia subduction zone, which runs from northern Vancouver Island, British Columbia, to Northern California. The land there is rising as seismic strain builds, Cayan said, making sea level rise less.

It's likely not permanent, however. An earthquake with a magnitude of 8 or higher would stop the land from rising and also likely would bring about additional sea-level growth of 1 to 2 meters (3.3 to 6.6 feet) in the area, he said.

"This could be a great game changer as far as sea-level rise," Cayan said. It would be "instantaneous sea-level rise of the sort Japan saw a year ago" after its magnitude-9 temblor.

The other factor making sea-level rise higher in Southern California could be winds, Cayan said. There was a study that surmised east-to-west winds are driving storm surges that are pushing waters. If those winds calmed, he said, that likely would stop the comparably higher sea effect in the region.

In California, sea-level rise threatens the coastline's homes and other buildings, including San Francisco International Airport, APRU members said. It also endangers freshwater supplies, which in turn could have a big impact on agriculture. The state exports many of its crops across the country.

The bulk of California's water passes through the Bay Delta region roughly between San Francisco and Sacramento. Rising seas could cause saltwater intrusion. Additionally, as the state's snowpack melts earlier because of warming, Cayan said, there is more runoff from higher elevation, which increases flooding.

Key cities threatened

Large population centers in the United States already imperiled by sea-level rise include New York, Boston, Miami and Tampa, Fla., said Trevor Davies with the Tyndall Centre at the University of Southampton in England. Elsewhere in the world, rising waters are likely to affect London, Bangkok, Hong Kong, Tokyo and Shanghai.

"Asia has the largest overall exposure," Davies said.

Predicted urban population growth will compound the hazards, he said. London expects to grow to 9 million people within a decade. The U.K. government has a strategy to reduce greenhouse gas emissions 80 percent by 2050, Davies said.

Desalination plants could help provide water in large population centers, but they also increase carbon pollution, Davies said.
Sea-level rise also could be a major problem in Australia, where 80 percent of people live in coastal cities, said Steffen Lehmann, director of the Centre for Sustainable Design and Behaviour at the University of South Australia. He is urging widespread use of demonstration projects to develop superior green building districts that would cut energy use.

"We are running out of time," Lehmann said. "We need real action on the ground. We need to have real breakthroughs."

Jakarta, Indonesia, faces significant water inundation, said Jatna Supriatna with the University of Indonesia, Jakarta. Gov. Fauzi Bowo wants to build a large sea wall at a cost of $20 billion.

Some at the conference argued that walls aren't the best solution to manage rising seas, however. They damage sea environments and are prohibitively expensive for most places in the world, said Charles Kennel, director emeritus of the Scripps Institution.

The Netherlands has a 100-year strategy and plans to spend $2.5 billion per year for the next century, he said, but that country has a short coastline. Venice, Italy, decided to invest €5 billion ($6.4 billion) on tidal gates to hold back water, because the city sees its buildings as priceless, Kennel said.

"The expense of doing that is an instructive number," he said of the gates.

The gates are supposed to be built to withstand 80 centimeters of sea-level rise, but it is not clear how long that will protect the city, some at the conference said.

Some argue it would make more sense just to retreat from certain areas, Kennel said.

"I cannot imagine that the right solution out is to keep the ocean out via sea wall," Kennel said. "The better solution is to learn how to live with the dynamic ocean."

"Scientists Seek Strategy to Convey Seriousness of Sea-Level Rise", 10/09/2012, online at: http://www.scientificamerican.com/article.cfm?id=scientists-seek-strategy-to-convey-seriousness-of-sea-level-rise&utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=f6002f1fd9-RSS_EMAIL_CAMPAIGN&utm_medium=email

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❖ Water Authority gets state agency's backing for pipeline to transport water from Lincoln, White Pine counties

The Colorado River Commission of Nevada on Tuesday added its weight behind the Southern Nevada Water Authority's last-resort option to siphon groundwater from counties north of the Las Vegas Valley.

By unanimous voice vote, commissioners approved a three-page letter to the federal Bureau of Land Management supporting the need for a pipeline to bring water from Lincoln and White Pine counties. In March, a state engineer approved a proposal by the Southern Nevada Water Authority to pump 84,000 acre-feet of groundwater from the two counties. Several groups have mounted legal challenges to the proposal.

The letter details Nevada's need to develop water resources in light of the 1922 pact that grants California 15 times and Arizona nine times more water than Nevada from Lake Mead and the Hoover Dam. Mexico is allowed five times more than Nevada.

The Colorado River Commission of Nevada is the state agency responsible for acquiring and managing Nevada's share of water and hydropower resources from the Colorado River.

Rather than seek a larger water allocation from Lake Mead by legally challenging the 90-year-old compact and all the federal actions that followed, the River Commission letter said it supported the Southern Nevada Water Authority's plan to create more water resources, including the pipeline to the north.

The Water Authority has outlined plans to build 300 miles of pipeline to carry groundwater from Lincoln and White Pine counties, at a cost estimated to be in the billions. The amount pumped would be enough to supply just over 150,000 homes with water annually.

The letter notes the drought is partly to blame for the decreasing levels of Lake Mead, which is fed by the Colorado River and holds 90 percent of Southern Nevada's water supply. But that's not the only reason the lake level is falling.

In the 100 years from 1906 to 2006, the letter says, the average yearly inflow of water into the Colorado River has averaged 13 million to 15 million acre-feet. But annual allocations from the river, which go to seven states — Arizona, Colorado, Nevada, California, Utah, New Mexico and Wyoming — and Mexico total 16.5 million acre-feet. The amount going in, especially during a drought, is less than the amount going out.

"The realities of living in the Southwestern United States," the letter states, "where 30 million people depend on an over-allocated water resource, is that each Basin State must work tirelessly to diversify its water portfolio within its resources."

The groundwater-pipeline project, it says, "is necessary for Southern Nevada to continue to drive the economy of the entire state of Nevada."

Despite the letter, legal challenges remain for the Water Authority to overcome before it can comfortably declare the pipeline as a viable option. Several groups have filed appeals of a March ruling by a state engineer that granted the Water Authority permission to pump the water.

"Water Authority gets state agency's backing for pipeline to transport water from Lincoln, White Pine counties", 12/09/2012,online at: http://www.lasvegassun.com/news/2012/sep/12/water-authority-gets-state-agencys-backing-pipelin/?utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=dd3b275015-RSS_EMAIL_CAMPAIGN&utm_medium=email

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❖ Japan Region Including Tokyo to Cut Water Use After Light Rains

Measures to reduce water usage in an area of eastern Japan that includes Tokyo went went into effect today, as light rainfall in August caused reservoir levels to fall.

The program to cut water usage by 10 percent became necessary after water levels in reservoirs that supply the Kanto region dropped to 39 percent of capacity, Japan's ministry of land, infrastructure, transport and tourism said on its website.

Water supply in the region was previously limited for five days in August 2001, Susumu Sawada, who heads the water management section at the ministry's Kanto Regional Development Bureau, said by telephone today. Sawada declined to say when the restriction will be lifted

"Japan Region Including Tokyo to Cut Water Use After Light Rains", 11/09/2012, online at: http://www.bloomberg.com/news/2012-09-11/japan-region-including-tokyo-to-cut-water-use-after-light-rains.html?utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=c3cc2c791e-RSS_EMAIL_CAMPAIGN&utm_medium=email

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Tel: +90(312)4302609 Fax: +90(312)4303948 orsam@orsam.org.tr

❖ The global water crisis: Addressing an urgent security issue

In March 2011, high-level experts from around the world were invited to Toronto, Canada, to meet with members of the InterAction Council about the status of the world's freshwater supply as it relates to global security issues. These experts reported that that the global water crisis is real and that there is urgency in addressing the growing number of security risks associated with threatened water supply and quality. They also, however, expressed hope and identified opportunities that can be realized by the timely triggering of change in policies, institutions, and the way society thinks about water.

Water policy experts maintain that we must respond simultaneously to a number of issues if we are to avoid a crisis of scarcity in many places in the world. Many places, particularly in sub-Saharan Africa or West Asia and North Africa, are already facing critical water shortages. As some of these nations are already politically unstable, such crises may have regional repercussions that extend well beyond their political boundaries. But even in politically stable regions, the status quo may very well be disturbed first and most dramatically by the loss of stability in hydrological patterns.
It is the slowness of institutional adjustments to water scarcity that has made the global water crisis one of governance more so than a crisis of absolute water availability. We are not facing water scarcity so much as we are facing water governance issues. What we have learned from what is happening widely in the world is that the failure of governance with respect to water management is often a failure to integrate water management at different levels and to take local and regional approaches into consideration. We also have yet to arrive at a mechanism for evolving our governance structures fast enough to keep up with the rapid pace of change that is occurring and with the challenges that are being created by population growth, destruction of biodiversity-based planetary life support functions, and climate change.

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