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***** Will Iran save Lake Urmia?

A decrease in precipitation, a recent period of drought and an increasing demand for water, as well as the fact that alarm bells have started to ring in Iran around these issues, have been on the agenda for a long time.

However, mismanagement of water resources also has a negative impact on the situation. While using the majority of its water resources for agricultural purposes, Iran wastes 65 percent of the water used in this sector through poor organization.

When a water shortage is in effect, major water losses take place in large water bodies, and thus their surface areas shrink. Lake Urmia is one of the most significant of these water bodies. For two years it has been known that Lake Urmia faces a risk of drying up, and there is a decrease in the lake's surface area and depth with every passing day.

Lake Urmia, the third-largest salt water lake in the world, is estimated to have a bed with an area of approximately 6,100 square kilometers (610,000 hectares). But according to statistics from August 2011, the surface area of the lake, which began to shrink in 1995, was 2,366 square kilometers. The level of water in the shallow lake decreased by seven meters from 1995 to 2011. While the salinity level of the lake is 130 to 160 grams per liter under normal conditions, it reached 330 grams per liter after it started to shrink, as this shrinkage caused the salt concentration of the lake to increase. The studies show that an annual 3.1 billion cubic meters of water are needed to save Lake Urmia. In November 2011, Iran announced that it would launch a project to direct 600 million cubic meters of water from the Aras River into Lake Urmia at an approximate cost of \$1.2 billion.

The biggest concern in Iran and neighboring countries is the salt masses that will appear as a result of the lake's evaporation. A worry is that salt carried to neighboring basins through clouds of dust could cause a great deal of damage to water and land resources. As mentioned above, Iran has been planning projects to save Lake Urmia, but there is no information regarding the implementation of these as yet. Even though studies carried out by the United Nations Development Programme (UNDP) postulate that 65 percent of the shrinkage stems from climate change and the decrease in precipitation, 35 percent is caused by misuse of water and water structures in the basin. This 35 percent should not be underestimated. Considering both the climate and technical conditions, it is



hard to imagine that Lake Urmia will be restored and regain its original size. The best-case scenario is to stop the shrinkage and restore the surface area and depth so that the salt concentration is normalized.

After carrying out research on how to save the lake for two years, Iran could not fully implement these plans. Recently, Iranian Energy Minister Hamid Chitchian announced that they had stopped building dams on the tributaries and river basin feeding Lake Urmia last week. The minister said that they will revise plans for establishing hydroelectric power plants around the lake, where some 80 dams have been built or are being built. He also added that they will modify their agricultural and irrigation methods to help save the lake. Since 2011, it has been said that the dam projects around the basin will be stopped. But in light of this information, it is clear whether the projects were halted.

Hassan Abbasnejad, head of the Organization of Environmental Protection for the Iranian province of West Azerbaijan, said that the water transfer project from the Aras River to Lake Urmia was launched on July 27, but the main goal of the project is to improve agriculture and tourism, as well as to meet the water demand of the population in 22 towns and 286 villages. He also indicated that the project will meet the required amount of water for Lake Urmia and facilitate modern irrigation methods for the agricultural areas there. It can be concluded from Abbasnejad's statement, which stressed that 24 projects have been implemented to halt Lake Urmia's shrinkage, that saving the lake is a pretext for the water transfer project, the primary motive of which is irrigation.

Lastly, Iran's President Hassan Rouhani stated during his electoral campaign that his top priority is to save Lake Urmia, and after being elected president he set up a group led by the energy minister to this effect, announcing it on the official website of the president on Aug. 19.

"Will Iran save Lake Urmia?", Tuğba Evrim Maden, Today's Zaman, 01/09/2013, online at: http://www.todayszaman.com/news-324967-will-iran-save-lake-urmia.html

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* Dead Sea, Red Sea plan raises environmental hackles

JERUSALEM, Israel - A plan to link the Red Sea with the shrinking Dead Sea could save it from total evaporation and bring desalinated water to thirsty neighbours Israel, Jordan and the Palestinians.

But environmentalists warn that the "Red-Dead" project could have dire consequences, altering the unique chemistry of the landmark inland lake at the lowest point on earth.

Jordanian Prime Minister Abdullah Nsur said on Monday that his government had decided to press ahead with the 980-million dollar project which would give the parched Hashemite kingdom 100 million cubic metres (3.5 billion cubic feet) of water a year.

"The government has approved the project after years of technical, political, economic and geological studies," Nsur told a news conference.

Under the plan, Jordan will draw water from the Gulf of Aqaba at the northern end of the Red Sea to the nearby Risheh Height, where a desalination plant is to be built to treat water.

"The desalinated water will go south to (the Jordanian town of) Aqaba, while salt water will be pumped to the Dead Sea," Nsur said.

The Dead Sea, the world's saltiest body of water, is on course to dry out by 2050.

It started shrinking in the 1960s when Israel, Jordan and Syria began to divert water from the Jordan River, the Dead Sea's main tributary.

Israel and Jordan's use of evaporation ponds for extracting valuable minerals from its briny waters has only exacerbated the problem.

With a coastline shared by Israel, the Palestinian Authority and Jordan, the Dead Sea's surface level has been dropping at a rate of around a metre a year. According to the latest available data form Israel's hydrological service, on July 1, it stood at 427.13 metres (about 1,400 feet) below sea level, nearly 27 metres lower than in 1977.



Under the plan most of the desalinated water would go to Jordan, with smaller quantities transferred to Israel and the Palestinian Authority.

But Friends of the Earth Middle East (FoEME) and other environmental groups have called on the three partners to reject it on environmental grounds.

Fragile ecosystem

The main concern, they say, is that a large influx of water from the Red Sea could radically change the Dead Sea's fragile ecosystem, forming gypsum crystals, and introducing red algae blooms.

In addition, leakage from the pipeline could contaminate groundwater along its route through southern Israel's Arava Valley.

The Israeli ministry of environmental protection says that studies so far leave "vast uncertainty" and it is calling for a pilot project to be run on a limited scale to study the potential implications.

But critics contend that a small-scale pilot might not carry enough water to trigger the effects that it is intended to examine.

And for the Palestinians, the joint project raises more basic political issues such as Israel allowing them to develop that part of the shore which lies within the Israeli-occupied West Bank.

"We would like to be in this cooperative project," says Shaddad Al-Attili, head of the Palestinian Water Authority. "We would like to be treated equally as well as the Jordanians and the Israelis, we would like to benefit from the outcome.

"But before all of that we would like to get access to the Dead Sea, not only to get water and to swim in the sea, but also to build hotels and to develop a tourist area."

The Dead Sea's mineral-rich waters and mud are considered therapeutic, while visitors love the novelty of floating in the brine which does not allow a person to sink. Israelis operate a number of tourist hotels and beaches along the western shoreline.



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Prime Minister Nsur said Jordan wanted water to supply its northern regions, while Israel needs water in the south.

Jordanian officials say the 500,000 Syrian refugees that Jordan is hosting are stretching its meagre water resources.

The majority of refugees are living in the north, particularly the Zaatari camp, home to about 130,000 Syrians.

Jordan had initially agreed in principle to build, along with the Palestinians and Israelis, a \$11-billion pipeline from the Red Sea to resolve the problem.

But Water Minister Hazem Nasser said that due to the high cost of that project Jordan had decided to opt for its alternative plan, "which we call the 'first phase'."

Jordan signed a peace treaty with Israel in 1994.

"Dead Sea, Red Sea plan raises environmental hackles", 30/08/2013, online at: <u>http://www.rappler.com/science-nature/37680-dead-sea-red-sea-linking-environment-</u> issues?utm_source=feedburner&utm_medium=feed&utm_campaign=Feed%3A+rappler+(Rappler)

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* Red-Dead sea plan raises eco concerns

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"Red-Dead sea plan raises eco concerns", 31/08/2013, online at: <u>http://africa.chinadaily.com.cn/world/2013-08/31/content_16934429.htm</u>

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✤ 7 illegal water pipes removed in Marka

AMMAN — Authorities have removed seven illegal waterpipes in the east Amman suburb of Marka over the past week under an ongoing campaign to end violations on the capital's water network, a government official said on Sunday.

Teams from the Ministry of Water and Irrigation and the Jordan Water Company (Miyahuna) disconnected the illegal connections, which were extended from main and tertiary pipes to pump water into tankers or for sale, according to the ministry's spokesperson, Omar Salameh.

"The water supply in east and west Marka was witnessing delays; after investigation, our teams detected seven illegal pipes extended from main conveyors, which caused disruptions in the water distribution programme," Salameh told The Jordan Times.

Official figures indicate that approximately 350,000 cubic metres of water are lost in the capital daily due to violations on water resources and networks, which prompted the ministry and security forces to launch a crackdown in June.

"In addition, the ministry's teams and the Royal Badia Forces last week arrested two people who were digging a water well in Mafraq Governorate," Salameh noted.

Authorities confiscated the drilling rig and arrested its owner as well as the owners of the land in Saideyeh in Mafraq, which is some 80km northeast of Amman and sits on one of the Kingdom's main reservoirs that supplies the capital, Irbid, Jerash and Zarqa with water from the Sumaya artesian wells.

Authorities also seized and confiscated a drilling rig that was heading to Ramtha to dig an illegal well, Salameh said, noting that the Water Authority of Jordan currently has 134 confiscated rigs.

Digging illegal wells depletes underground water and causes the deterioration of its quality, according to officials at the ministry, who said the drilling of wells was banned in 1997 to limit random pumping of water and preserve aquifers from depletion and salinity.



The ministry has warned people against sabotaging water networks and resources and said it will be firm in combating recurring violations on underground water resources.

Under the campaign's first phase, the ministry said it would close down all illegal wells in Jiza in south Amman, Deir Alla in the Jordan Valley, Azraq in the eastern region, Ramtha in the north, and Maan in the south.

Over 55 violations on the Kingdom's main water networks were recorded last year, according to ministry figures, which also indicated that 50 violations were registered in 2011 and 52 in 2010.

Under Article 30 of the Water Authority of Jordan Law, violators are fined up to JD5,000 and jailed for two years, while Article 456 of the Penal Code stipulates that violators of water networks face three- to six-month prison terms and fines ranging between JD100 and JD1,000.

"7 illegal water pipes removed in Marka", Jordan Times, 30/08/2013, online at: http://mideastenvironment.apps01.yorku.ca/?p=7514

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Op-Ed: Playing Politics with Water

In a world where millions of people face chronic water shortages, you think some people would be grateful that at least one country is a pioneer in the art of water purification. Israel is a world leader in desalinization and irrigation technologies and has improved the lives of millions of people around the world.

Take, for example, Israel's most-exported environmental technology: the refined drip irrigation system. This allows farmers to produce greater crop yields while using less water. This technology is used in Africa, Australia and the Americas.

In Britain, however, there are a handful of philistines who reject Israel's water expertise because of their support for the Palestinianist cause. A branch of the Palestinian solidarity movement in England is protesting against the installation of eco-friendly water meters in thousands of homes for the simple reason that the technology comes from Israel.

Three years ago, Israeli company Arad signed a contract with British water provider Southern Water. The latter faces the challenge of providing water to the driest part of the UK while at the same time reducing the cost of water consumption. Around 300,000 homes in north London now boast a state-of-the-art water meter, with a further 200,000 expected by 2015.

But, as usual, the Palestinian issue has got in the way of progress. In July, an anti-Israel activist publicly protested against the installation of an Arad meter in their home. Why? Because Arad supplies equipment to Jews in Judea and Samaria! Arad also employs Arabs in Israel but that's irrelevant to Israel's critics, who are willing to decimate the Palestinian Arab jobmarket if its suits their anti-Zionist agenda.

Not surprisingly, the protest was reported in the national newspapers, thus raising the profile of the otherwise unknown Brighton Palestine Campaign. Activists, buoyed by the coverage in the media, are now leafleting homes in the south-east of England in an attempt to deter consumers from accepting Arad-made meters. The cause is being led by Caroline Lucas, who is an MP and the leader of the Green Party. Her concern for "Palestinian human rights" has trumped her green credentials and she continues to pressure Southern Water into rescinding its deal with Arad.



But there is evidence that the malicious boycott of Israeli water technology is a damp squib for the simple reason that people want clean water that doesn't cost the earth. Luckily, this has always been the case.

Even as early as 1937, a British report observed that the Jewish National Home's improvement of water supply and sanitation had resulted in a Palestinian Arab population explosion during the 1930s – partly because Arabs were living longer and partly because Arabs wanted to live among Jews.

The campaign against Southern Water and Arad will probably result in a few letters of complaint from the odd anti-Semite and/or politically correct fellow traveler. But on the whole, I doubt that Southern Water is going to be engulfed by letters of complaints from outraged Brits, many of whom are probably sick of being bullied by the Palestinian Arab lobby and are more concerned about how to pay for efficient and environmentally-friendly water and sanitation.

As philosopher Roger Scruton says, "Activist campaigns, which tend to be conducted in the name of the people as a whole, neither consult the people nor show much interest in noticing them."

Whether you agree with it or not, water is now a commodity like everything else, which is why the UK government and individual companies are defying the boycotters and turning to Israel. For several years, British trade ministers have been forging links with Israeli companies in the areas of innovation, hi-tech and science.

Very recently, UK environment minister Richard Benyon welcomed more than a dozen Israeli water company delegates to a trade meeting, which was also attended by investors from India, Europe and the US. This (and the fact that Israeli exports to Britain were up 55 per cent in the first quarter of 2013) must really irritate boycotters whose anti-Semitic campaign to damage Israel's economy and reputation is floundering.

Indeed, a number of commercial enterprises in the UK have resisted the boycotters by investing in – or selling – Israeli water technology. Virgin, owned by the immensely successful British entrepreneur Richard Branson, has formed a partnership with Israeli corporation Strauss Group. The collaboration has resulted in a water purifying machine called Virgin Pure, which is now on sale to the British consumer for £300.



Haifa-based Mapal Green Energy has just launched an innovative waste water treatment system in north London. The system, which harnesses the power of bubbles to separate waste particles from water, saves a fortune in energy and has reduced maintenance costs by 80 per cent. Mapal has received over £3 million of investment from a London-based private equity firm and is in talks with various water companies in the hope that the system will be rolled out across the rest of London and the UK. (The company has also been aided by the UK-Israel Tech Hub program, which is sponsored by the British Embassy in Israel.)

EcoStream, an Israeli-owned shop in the English seaside town of Brighton, has reported a 38 per cent increase in trade, despite weekly pickets by anti-Israel activists.

Meanwhile, EcoStream, an Israeli-owned shop in the English seaside town of Brighton, has reported a 38 per cent increase in trade, despite weekly pickets by anti-Israel activists. The company, which sells SodaStream recyclable bottles made in Maaleh Adumim, a city in the northern Judean desert and part of Judea and Samaria, opened for trade last August and has already expanded its range and launched a website. In contrast, the BDS people are behaving appallingly.

Despite the fact that many of these SodaStream bottles are made by Arabs living under Palestinian Authority rule, the boycotters continue to cause trouble for the employees of EcoStream, who are denounced as "Nazis." In February, one female protestor was arrested and charged with "racially or religiously aggravated intentional harassment, alarm or distress." This is illustrative of the boycott mentality.

It is highly likely that water will continue to play an important role in British commerce and UK trade agreements for the foreseeable future. Boycotters will try to sabotage these efforts, but I suspect they will fail in their objectives. Too many people need clean water and effective sanitation.

And at a time when people are concerned about drought and climate change, the excellence of Israeli water technology is likely to become more attractive. Basically, Britain must choose between eco-



friendly water technology and the crude ideology of the Palestinianists, who favor a regressive boycott that echoes the anti-Jewish policies promulgated by the Nazi and Soviet regimes.

"Op-Ed: Playing Politics with Water", 26/08/2013, online at: http://www.israelnationalnews.com/Articles/Article.aspx/13747#.UiDgfdKe_PY

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* Red Sea, Dead Sea plan raises alarm bells

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"Red Sea, Dead Sea plan raises alarm bells [Independent Online]", 26/08/2013, online at: http://mideastenvironment.apps01.yorku.ca/?p=7502

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Partnership will fight China's water problems

One out of three people in the world lives in the East Asia-Pacific region where rapidly growing economies are demanding more water and that is leading to the overexploitation of water resources, water pollution, conflicting water-use allocation and the degradation of ecosystems, according to a report.

In its annual report released last Tuesday, the World Bank Water Partnership Program (WPP) said it implemented activities in 64 countries under phase I (2009-12), and supported 225 activities while disbursing \$19.1 million.

During the WPP's first phase of work, the group helped update China's 2002 Water Resources Assistance Strategy to address challenges through new approaches that take into consideration integrated water resources and river-basin management.

Between 2009 and 2012, the WPP funded a case study in China to compare the methodology of national design and planning codes and manuals in the water supply, sewer and storm drainage sectors based on international best practices.

The report concluded that updating design codes could lead to savings of \$2.32 billion from investment and \$1.52 billion from reduced operational costs in water supply.

In China, four major provinces centered on the eastern seaboard that encompass the heavily populated Beijing, Tianjin, Qingdao and Shanghai cities, are at extreme risk of water shortages, according to the China Water Stress Index from risk analysis company Maplecroft.

Severe water shortage plagues China in general, where 20 percent of the world's population has access to only 7 percent of the world's potable water, according to the UN's Food and Agriculture Organization.

China's people are living longer and eating more, which in turn is driving demand for water-intensive and protein-rich foods such as meat and dairy, according to the UN. Now farmers must produce more soybeans and corn for animal feed, or import.



A portion of the current pressure on water resources comes from increasing demands for animal feed, particularly in meat production, which requires 8 to 10 times more water than cereal production, according to a 2012 World Water Development Report.

One policy outlined by the Chinese State Council has become a major document guiding the country's water resource management. The document states the necessity of implementing a strict water resources control system, and explicitly specifies the main measure to be taken in three Red Lines - control of the development and use of water resources, control of water use efficiency, and restriction of pollutants.

The policy says strict measures to be taken to boost the construction of a water-saving society include implementing the permit system for water withdrawal, practicing reimbursable usage system on water resources, and executing the enhancement of water resources assessments.

Over a second four-year phase, the WPP said it plans to commit more resources to building partnerships that can help increase l a reliable supply of an acceptable quantity and quality of water for health, livelihoods and production, as well as spurs ideas into action, and reinforce sound project design and implementation.

"There is no single practice or policy that will 'solve' all of our water challenges," Heather Cooley, co-director of the Pacific Institute Water Program and lead author of a global water-governance report published in July, said in a press statement. "We need to take critical steps forward toward more efficient and effective structures and policies that promote a sustainable approach to global water governance."

"Partnership will fight China's water problems", 26/08/2013, online at: <u>http://usa.chinadaily.com.cn/2013-08/26/content_16920512.htm</u>

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***** Dozens of Chinese Cities Under Threat of Dam Collapse

As authorities push ahead with an ambitious hydroelectric construction boom, the threat of a disastrous dam collapse looms over more than 179 Chinese cities, amid increasingly unpredictable global weather patterns, local media have reported.

China is home to more than 40,000 "at risk" reservoirs, which, along with flood defenses beside major rivers, were built between 1950 and 1980, the online news site Easynet said in a recent article.

Most are of rock and clay construction, and are reaching the end of their intended lifespan of 50 years, causing major headaches for the government, it said.

Xue Shikui, a water resources management expert at Florida University, said reservoirs, like any other man-made structure, have a limited lifespan.

"When they get old, they should be decommissioned or rebuilt," he said, adding that China built huge numbers of reservoirs and dams from the 1950s to the 1970s. "Otherwise, the natural aging process is unavoidable."

He said decommissioning a dam in itself is a major project.

"If you demolish it, that costs money, and if you don't demolish it by blowing it up, you have to use other methods, such as allowing the river flow gradually to become more natural," Xue said.

China's State Council has lifted a ban on major dam projects in the southwest imposed by then premier Wen Jiabao in 2004, and earmarked around 62 billion yuan (U.S. \$10.1 billion) to repair the 40,000 "at risk."

But the central government has yet to deliver all of the promised funding, and local governments are seen as unlikely to make up the shortfall.

Aging dams



The number of dams in mainland China rose from around 20 at the founding of the People's Republic in 1949 to more than 86,000 today. This figure doesn't take into account more than 10 million small-to-medium size water-holding structures like dikes and irrigation canals, official statistics show.

According to Wu Yegang, a water resources expert at Connor Environmental Services in the United States, China's aging dams could face a "perfect storm" of factors in the years to come.

"You have the construction methods used in the 1950s, which are primarily clay, and on top of that you have contemporary climate change, along with numerous thunderstorms," Wu said.

"There have also been [geological] changes in the valleys holding the reservoirs, so it will become extremely dangerous," he said.

China, which has been hit by extreme flooding in a number of provinces in the wake of two major tropical storms this summer, is no stranger to failed dams and collapsed dikes.

From 2007 to 2011, China's reservoir dams were collapsing at the rate of around 68 a year, a rate that has now slowed to 20 in the past two years, the Easynet article said.

In 1975, the catastrophic collapse of the Banqiao dam at Zhumadian in central Henan province caused the deaths of an estimated 171,000 people, according to international experts.

The majority of those deaths were among people who survived the initial tsunami and were stranded with no food or medical assistance, eventually succumbing to starvation or disease in huge numbers, water resources expert Eric Fish wrote in China's *Economic Observer* website in February.

"When the Banqiao reservoir had emptied and the waters had settled on the morning after the collapse, the horror was only beginning," Fish's article said.

"Survivors were left to wait on rooftops or huddled together on small patches of dry land ... Disease



spread quickly while people battled hunger and the summer heat."

'Domino effect'

The Chinese government's ability to manage the country's water resources has been bound up with political power and credibility since the early emperors.

The Banqiao dam was built after then supreme leader Mao Zedong called on officials to "harness the Huai River" in order to generate electricity and a reliable water supply, leading to a cascade of dams being constructed in the basin which were hit by a once-in-2,000 year rainfall.

But environmental group Probe International has warned that a similar strategy is being used again today in southwestern China.

"If one dam fails, the full force of its ensuing tsunami will be transmitted to the next dam downstream, and so on, potentially creating a deadly domino effect of collapsing dams," the group said in a recent report.

"A cascade of catastrophic dam failures would almost certainly cause an unprecedented number of casualties and deaths in major downstream population centers, such as Chengdu, and along these major river valleys."

Incalculable environmental damage could also result from the flooding of chemical plants that cluster along Chinese rivers, officials have warned.

"Dozens of Chinese Cities Under Threat of Dam Collapse", 27/08/2013, online at: http://www.rfa.org/english/news/china/dams-08272013110450.html

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***** Chinese projects in Mekong River basin hurt environment: report

Chinese enterprises in the Great Mekong Subregion, particularly projects in mineral resources and hydroelectric power, have had a negative impact on the regional environment, according to a newly released blue book about the region.

The book, released on Thursday by Social Sciences Academic Press (China), called for better international cooperation in the region to protect the local environment as well improved legislation to regulate Chinese projects overseas.

The Great Mekong Subregion is a development project formed by the Asian Development Bank in 1992 comprising six countries in the Mekong River basin: Cambodia, Laos, Myanmar, Thailand, Vietnam, and Yunnan province, China.

According to the blue book, waste dumped by Chinese mining projects in the region is damaging the environment. The hydropower project between China, Myanmar and Laos, though it supplies much needed electricity, has sparked concerns that the project is affecting fish habitats and vegetation in the region, the book says.

Due to public concerns and strong opposition from NGOs, countries in the region have established stricter requirements on future cooperation with China in these industries, the book says. To better cope with the problem, the book suggests Chinese legislature draft stricter laws to evaluate corporate behaviors and regulate Chinese investments overseas.

Chinese financial institutes should also consider policies that make environmental protection a high priority into their investment decisions and avoid financing short-term projects, the book says.

The book also suggests better cooperation among the region's countries in assessing a project's environmental impact before approving environmental risky projects.

"We hope our research can provide some insight for the government and organizations," said Li Zhi, chief editor of the blue book.

"Chinese projects in Mekong River basin hurt environment: report", 28/08/2013, online at: http://usa.chinadaily.com.cn/china/2013-08/28/content 16927537.htm

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***** Water shortages in Beijing 'worse than the Middle East'

According to statistics released by the Beijing Water Authority, China's capital consumes 3.6 billion cubic metres of water per year, 170 percent more than is available locally.

China Dialog reports:

The per capita annual water availability is now around 120 cubic metres, well below the United Nations absolute water scarcity threshold and puts China's capital city in a position of more severe water scarcity than some countries in the arid Middle-East.

Statistics from Beijing Water Resources Bulletin shows that the decrease in the capital's water supplies results mainly from the rapid decline in surface and underground water resources. In recent years, water supplies from these two sources have decreased by 38%.

"We projected that Beijing's water capacity could support 12 million people, but Beijing's population has now reached 20 million people," Xu Xinyi, director of Beijing Normal University's College of Water Sciences, <u>said in an interview</u>.

While the planned multibillion <u>'South to North' water diversion project</u> will bring an extra one billion cubic metres of water to Beijing upon completion in 2014, this will still leave the capital some 500 million cubic metres short. In the past decade, Beijing has seen a population growth of over 44 percent, with no signs of slowing.

Water prices in Shanghai increased in August due to new conservation methods, with households facing on average a 23.2 percent higher bill than previously.

Over 320 million people in China are without access to clean drinking water.

"Water shortages in Beijing 'worse than the Middle East", 30/08/2013, online at: http://shanghaiist.com/2013/08/30/water shortages in beijing worse than the middle east.php

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* Northeast China Hit by Worst Floods in 100 Years

Floods

More than 26,000 hectares of farmland were covered by floodwaters and 300 households were evacuated Monday in China's northeast Heilongjiang province, *Xinhua* reported in this photo slideshow. The <u>flooding is the worst the region has seen in a century</u>.

<u>Flooding in Sudan</u> during the past month has also displaced families, with more than 530,000 people affected by the rising waters, *Xinhua* reported, citing government estimates. The flooding was caused by heavier than average rains, and health officials worry about outbreaks of waterborne diseases.

Water Science

Researchers from Columbia University are using aerial radar imaging systems to <u>study how ice</u> <u>sheets are melting in Greenland</u>, the *Guardian* reported. The research aims to track minute cracks and meltwater within the ice sheets, which are a major contributor to global sea level rise.

New evidence from NASA's Moon Mineralogy Mapper suggests that at least some <u>water on the</u> <u>moon came from deep underground</u>, according to *Space.com*. The moon's craters are thought to hold enough ice that some companies are planning to eventually mine it.

"Northeast China Hit by Worst Floods in 100 Years", 28/08/2013, online at:

http://www.circleofblue.org/waternews/2013/the-stream/the-stream-august-28-northeast-china-hit-by-worst-floods-in-100-years/?utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=9c7841265e-RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_c1265b6ed7-9c7841265e-250657169

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Kala Bagh Dam's construction only through national consensus

The Punjab government on Wednesday came up with an official policy statement about the Kala Bagh Dam (KBD) when Provincial Law Minister Rana Sanaullah ensured the other provinces on behalf of the government that the latter wanted to construct the KBD but not at the cost of Pakistan's sovereignty. Hence efforts to evolve national consensus through negotiations on the dam needed to be formulated. During the Punjab Assembly (PA) session, Sanaullah gave this assurance to other stakeholders while he was welcoming the visiting delegation of Sindh Assembly legislators at the PA Visitors Gallery. In his welcome address to the 17-member delegation headed by Fiaz Ahmed, Sanaullah said that although the government considered the KBD vital to boost the country's water production as well as power generating resources, it was not more valuable than Pakistan. The PA had already passed three resolutions in favour of the construction of the dam but national consensus was termed a must for the process, he added. There are two points of view on the issue of the KBD which include declaring it vital for the conservation of water. The other opinion is entirely different. The Punjab government is of the view to have a broad-based discussion and evolve national consensus on it as the dam's construction is extremely necessary for the country. Sanaullah appreciated the PILDAT's initiative to arrange the delegation's visit. Briefing the PA about the visiting delegation's business, Sana said that the delegation meet with Punjab Chief Minister Shahbaz Sharif in the morning and discussed the apprehensions of the Sindhi's which included the latter having less water available for cultivation which would cause Sindh's economy to suffer a lot. From the opposition benches, Sabtain Khan also welcomed the delegation and said that such visits were very important for provincial harmony and for establishing a working relationship among the provinces. Furthermore, he said that we (the opposition) endorsed Sanaullah's statement that a consensus must be evolved among the provinces and then work on the KBD project could be started. Opposition member Dr Waseem also welcomed the delegation and appreciated PILDAT's initiative. Earlier, the PA's session started an hour and 55 minutes later than its scheduled time at11:55am under the chair of Speaker Rana Iqbal. Opposition Leader Mahmood-ur-Rashid said that the Punjab government had refused to sell wheat to Khyber Pakhtunkhwa (KP) where Pakistan Tehreek-e-Insaf (PTI) was in power. He said that the KP government wanted to purchase 400,000 tons of wheat from Punjab to prevent a possible wheat shortage in the province, but the latter was not selling them the commodity. He said that on one side Punjab wanted to export surplus wheat, but on the other, it was



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not providing the commodity to KP. He suggested that Punjab had always played the role of an elder brother and should continue to do so. Upon this, the speaker suggested the opposition to bring an adjournment motion over the issue. Moreover, he offered them to come to his chamber where the speaker would also call the food minister for a detailed discussion on the issue. Wednesday's question hour was with respect to the Irrigation Department. Irrigation Minister Malik Tanvir Aslam answered his colleagues' queries and told the PA that there were 55 dams in the province and the Small Dams Organisation had prepared a feasibility report on seven dams in Rawalpindi's Potohar region, adding that the initial survey for 18 dams had been completed. Responding to a question, he said that electricity generation from these dams was the government's responsibility and not his department's. However, if the government wanted to execute a power generation project there, this could be done, he added. On a question about the construction of a dam at Bahawalpur's River Sutlej, he told the PA that the dam's proposal was not feasible as the silt quantity in the area was extremely high, and not suitable for a dam. Health Minister Khalil Tahir Sindhu informed the lawmakers about different adjournment motions already adopted by the PA. Answering one of these motions about the Greater Thal Canal Project, he said the project was facing a fund shortage so the government would gradually terminate the contracts of 600 employees. The 2013 Punjab Police Order (Amendment) Bill was tabled for consideration. The PA rejected two oppositional amendments while one was accepted. The discussion on the bill will continue today (Thursday). - See more at: http://www.pakistantoday.com.pk/2013/08/29/city/lahore/kala-bagh-dams-construction-onlythrough-national-consensus-pa/#sthash.SYUM7tvm.dpuf

"Kala Bagh Dam's construction only through national consensus", 29/08/2013, online at: http://www.pakistantoday.com.pk/2013/08/29/city/lahore/kala-bagh-dams-construction-only-through-national-consensus-pa/

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✤ India may get more air to water generators

MUMBAI: Expect more air to water generators in the country, especially the drought affected cities and villages.

BS Enviro Solutions Ltd, a subsidiary of BS Limited, has announced that is has reached an agreement to acquire a majority (51%) stake in Harbinger Capital Partners' Skywater India Pvt Ltd. ("Skywater India"). Skywater India manufactures and installs advanced air to water generators in areas with little or no access to clean drinking water. Through its investment, BS Enviro will become the local operating partner of the business and will assume responsibility for the day-to-day management of Skywater India. This joint venture marks the BS Enviro Solutions foray into the potable/ renewable water generation segment.

Foreseeing the huge potential in the potable water generation segment, BS Enviro solutions will <u>leverage</u> Skywater India's license for patented, unique technology which generates water from the atmosphere. The sophisticated atmospheric water generator produces ozone treated pure drinking water from moisture in the air and is highly energy efficient. It converts water vapor in the air into fresh and clean water and can produce anywhere from 700 liters to more than 1200 liters per day.

The joint venture with Harbinger Capital Partners will position BSES to work with local governments across India to help meet the pressing need in villages across the country for safe and adequate drinking water. Apart from India, BSES will also have access to markets in Malaysia, Singapore, Brunei, Cambodia, Laos & Myanmar.

"We look forward to work with Harbinger Capital Partners to tap into the huge opportunity of helping India's rural communities' access clean water and improve the health of their citizens." said **Rajesh Agarwal, Chairman & Managing Director, BS Limited. Sanjay Sultania, Promoted & Managing Director, BS Enviro Solutions Ltd** said "Skywater's unique technology will provide access of clean drinking water to multitudes of citizens who have little or limited access to safe drinking water. We aim to bring in innovative ideas to create solutions for affected citizens."

"We are pleased to enter into this partnership with BS Enviro Solutions, and believe Chairman Rajesh Agarwal and Managing Director Sanjay Sultania have the unique operational experience, deep network and local knowledge to lead the next stage of Skywater India's growth," said Keith Bernard, Chief Operating Officer of Applica Water Products, Skywater India's U.S. based affiliate.

"India may get more air to water generators", 26/08/2013, online at: <u>http://articles.timesofindia.indiatimes.com/2013-08-</u>26/mumbai/41454575_1_drinking-water-water-vapor-joint-venture

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* UN, partners offer emergency aid to flood victims in Sudan

UNITED NATIONS, Aug. 27 (Xinhua) -- The United Nations and its partners in Sudan are providing emergency support to hundreds of thousands of people affected by flooding since the start of this month, the world body said Tuesday.

According to government estimates, as many as 530,000 people have been affected by floods triggered by heavy rains across the North African country, and at least 74,000 houses have been damaged or destroyed by the rapidly rising waters.

The area surrounding the Sudanese capital, Khartoum, has been hardest hit, with some 180,000 people affected.

Emergency water and sanitation, health items, food and other support are being provided by the UN Office for the Coordination of Humanitarian Affairs (OCHA), as well as civil society and volunteer organizations, in coordination with Sudanese authorities.

More than 52,000 people have received household items, and water trucks run by the Khartoum State Water Corporation and the Medecins Sans Frontieres are reaching about 110,000 people each day, OCHA said in a news release.

While rains at this time of the year are common, they have been heavier than average this year, having a particularly serious impact in 16 out of the 18 states in the country.

The Sudanese Health Ministry and the World Health Organization (WHO) are also monitoring the situation closely as government and aid officials have raised concerns that stagnating water in and around the city could lead to outbreaks of water-borne diseases.

At a news briefing, a UN spokesperson said six peacekeepers with the joint African Union-UN peacekeeping mission in Darfur (UNAMID) were swept away on Sunday by powerful currents while escorting World Food Program (WFP) trucks to Masteri, west Darfur.

The incident occurred when the peacekeepers attempted to pull out their truck stuck in the mud of a river valley, near Nioro village approximately 30 kilometers southwest of El Geneina. A rescue team



found two peacekeepers alive, while search is still going on to locate the other four, the spokesperson said, adding that WFP staff members are safe.

"UN, partners offer emergency aid to flood victims in Sudan", 28/08/2013, online at: <u>http://news.xinhuanet.com/english/africa/2013-</u> 08/28/c_132668193.htm?utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=9c7841265e-RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_c1265b6ed7-9c7841265e-250657169

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* River Levels At Upper Nile Remaining Stable, Says Sudan's National Floods Committee

KHARTOUM, Aug 28 (BERNAMA-NNN-SUNA) -- The water levels of the River Nile are continuing to remain stable at most parts of the upper sources of the Nile, according to the Higher Committee for Floods at Sudan's Ministry of Water Resources and Electricity.

The committee, at it meeting here Monday, had reviewed the water situation at the upper sources of the River Nile and along the Blue Nile course, the River Nile, Atbara River and data reported from the main stations and satellite images, pointing to existence of rain clouds over the Ethiopian Plateau.

The committee, in a statement here Tuesday, called on the people and concerned parties to adopt the required precautions and measures to protect lives and properties of people, especially in Khartoum State, Nahr Al-Neil State and Northern State.

"River Levels At Upper Nile Remaining Stable, Says Sudan's National Floods Committee", 28/08/2013, online at: http://www.bernama.com.my/bernama/v7/wn/newsworld.php?id=973295

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* West Africa 'must take action to tackle water loss'

Food production and power generation in the Volta River basin, which is home to 24 million people across six West African countries, will be reduced by climate change related rising temperatures, a study reveals.

The study's climate model shows temperatures in the Volta Basin rising by up to 3.6 degrees Celsius over the next century, leading to greater evaporation and a resulting 20 per cent water loss.

The study was presented last month at the 6th Africa Agriculture Science Week (15-20 July) in Accra, Ghana.

Agriculture in the Volta basin — which covers Benin, Burkina Faso, Côte d'Ivoire, Ghana, Mali and Togo — accounts for 40 per cent of the region's economic activity. The basin covers 402,000 square kilometres.

The research was carried out by a collaboration of the International Water Management Institute (IWMI), Germany's Potsdam Institute for Climate Impact Research, CGIAR's Research Program on Climate Change, Agriculture and Food Security (CCAFS), and Ghana's Council for Scientific and Industrial Research (CSIR).

The team of researchers — comprising agronomists, climatologists and social scientists — say that water flow in the Volta region could fall by 24 per cent by 2050 and by 45 per cent by 2100. This would deprive the basin of water that countries depend on for driving hydroelectric turbines and farming.

The scientists based their predictions on rainfall and temperature data covering 2009 to 2012.

"By 2050 it is expected that water loss will significantly influence agricultural and energy production from the river," Robert Zougmoré, regional programme leader for CCAFS West Africa, tells *SciDev.Net*.



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Responses to the problem could include the provision of underground water to farmers, he adds.

"In addition, it is possible to use up-to-date information regarding climate services, such as seasonal forecasting, which will indicate the likely behaviour of the rainfall season in terms of water availability and variability," Zougmor*é says*. "With this information, farmers can decide what kind of agricultural production to undertake."

Timothy Olalekan Williams, IWMI's Africa director, tells *SciDev.Net* that water decline in the basin will also affect groundwater recharge — harming farming.

The researchers suggest that policymakers need to start thinking about water storage options, which will require systematic planning and collaboration among the six Volta countries.

Installing aquifers is one solution that has been tested successfully in South Asia, Williams says.

Surface ponds and tanks can be constructed to capture flood waters, and, if properly stored, water can then be used during the dry season.

"There are risks that farmers have learned to respond to over the years — but climate change will bring a different kind of risk that they are probably not used to and therefore need assistance [to adapt] to," says Williams.

Eric Owusu Adjei, scientific secretary at the CSIR-Soil Research Institute, Ghana, says better soil management is also needed to conserve soil moisture. And he also suggests that farmers should select crops that are better adapted to drought or that reach maturity faster.

"West Africa 'must take action to tackle water loss", 27/08/2013, online at: <u>http://www.trust.org/item/20130827121423-96ces/?source=hptop&utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=700ac55c1e-RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_c1265b6ed7-700ac55c1e-250657169</u>

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* Kenya sees lower-than-normal rains hurting farms, power output

Aug 30 (Reuters) - Kenya is expected to receive lower-than-normal and poorly distributed rains in the last quarter of 2013 which could impact agricultural production and power supply from hydroelectric dams, the Meteorological Department said on Friday.

East Africa's biggest <u>economy</u> relies heavily on agriculture and power from dams. Analysts watch the forecasts to gauge the impact on inflation, which could be pushed up if harvests are weak and cheap hydropower is in short supply.

Inflation rose to 6.67 percent in the year to August from 6.02 percent a month earlier.

"Generally depressed rainfall is expected over most agricultural areas of the country. It is also expected that the rainfall will be poorly distributed," the department said.

"This will impact negatively on the agricultural activities in most of the areas. Food security is expected to deteriorate especially in the eastern sector of Kenya during the October-December period," it said in a statement.

Kenya has two rainy seasons, the so-called short rains of October to December and the long rains of March to May.

The Meteorological Department said the short rains outlook in the food-growing areas of the Western, Nyanza and Rift Valley regions would be for near- or above-normal rain.

It said some other food-growing areas such as Central, Southeastern and Coastal regions would have near-normal rains.

For hydropower generation, the department said catchment areas in western Kenya would have nearto above-normal rainfall, improving water levels in some dams.

But normal to below-normal rains in the Tana and Athi River catchment areas were likely to lead to low flows to major dams, it said, adding that this could reduce hydro-electric power capacity.

The department said parts of the country's Northeastern and Eastern provinces, which border Somalia and Ethiopia which are already drought prone, would receive scant rainfall. (Writing by Edmund Blair; editing by Jason Neely)

"Kenya sees lower-than-normal rains hurting farms, power output", 30/08/2013, online at: http://www.reuters.com/article/2013/08/30/kenya-weatheridUSL6N0GV2XT20130830?utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=0dc1596654-RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_c1265b6ed7-0dc1596654-250657169

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* Managing Water Use in Scarce Environments

The growing gap between safe freshwater supply and water demand is forcing the world to tackle the issue from a new and more collaborative perspective. It calls for cooperation between the government to provide appropriate policies and regulations, the private sector to provide innovation and technology, and civil society to provide inputs from the users.

Next week thousands of water practitioners will gather in Stockholm for the annual World Water Week. This year's theme is cooperation, among stakeholders, among countries, among water practitioners... Showcasing the spirit of cooperation, World Water Week will mark the launch of "Managing Water Use in Scarce Environments," a catalog and online tool which was jointly developed by 2030 Water Resources Group (2030 WRG) and Arup to showcase 42 projects around the world that have brought together civil society and the public and private sectors to tackle issues related to water scarcity impact.

As we have reported in previous 2030 WRG publications, there is no single water crisis. Different countries and different basins even in the same region face very different problems; therefore, the implementation of solutions to save water can have complex and unintended results. There is no "silver bullet" that will solve all problems. Every basin is different and defining best practices in reducing water demand is a complicated matter.

Solving water security issues requires a collaborative approach with open dialogue and knowledge exchange among stakeholders and water practitioners. "Managing Water Use in Scarce Environments" is 2030 WRG's second collaborative contribution to this dialogue and exchange of expertise. With an aim of catalyzing action, the catalog of 42 case studies shares examples, expertise, advice and innovations in water demand management improvements across key sectors and technologies. It proposes a series of metrics and indicators geared towards policy makers, water resource planners, businesses and industries to bring clarity to the question of "What is water saving?" in agricultural, industrial and municipal sectors.

A true water saving is, of course, one that reduces the consumptive use of water, through reduced



evapo-transpiration (green water flow), leading to less water going back into the atmosphere, away from the blue water flow in the river basin. Other interventions will eventually only lead to a change in the flow of water in the basin. However, these other interventions could increase the volumes stored in the basin, in lakes, reservoirs or groundwater; increase productivity in agriculture; or reduce water pollution.

The following metrics are used to assess the impact and effectiveness of each intervention:

-Water Scarcity Metrics: reduced withdrawal, reduced consumption, improved water quality, increased productivity and net basin benefit.

-Financial Metrics: capital cost and capital cost confidence levels.

-Estimated Unit Cost of Water: unit cost calculation, unit cost metric and unit cost confidence level.

Through this project, a number of observations emerged. While they do not represent a conclusion, they contribute to the debate around water management in scarce conditions. 2030 WRG aims to catalyze debate to improve water management, particularly in water stressed areas. Withdrawals and productive use, net basin effect and consumptive use, consumptive use in agriculture, and estimated unit cost for intervention are relevant to both the public sector, tasked with the overall management and planning of water resources, and the private sector tasked with implementing a sustainable business model that minimizes both the impact of water risk to the business and the impact of the business on scarce water resource.

The availability of water at the right time, at the right volume and quality, and at the right price is an essential underpinning of economic growth and development. Fundamental to this is water resource planning, demand management, and an understanding of how interventions impact the basin.

These are some key strategic considerations that will help the identification of relevant cost effective interventions:

-Priority should be given to interventions that focus on reducing consumptive use.-There is a need to develop mechanisms that incentivize reductions in consumptive use.



-The choice of interventions should be based on an understanding of the specific local context and the net effect in the river basin.

-There is a need to standardize data collection and reporting that enables accurate monitoring of impacts on consumptive use, return flows and withdrawals.

-Priority should be given to interventions that deliver the greatest basin level benefit at the lowest unit cost.

-Partnerships between the public and private sector should be encouraged, that enable water risk to be reduced whilst maximizing basin level water scarcity benefits.

With a website launching in the coming days, we hope to stimulate and support action for meaningful interventions through a solutions-based online platform and database. This tool will give users the ability to filter through and better comprehend water scarcity solutions around the world, the approaches used to achieve them and the impacts so far.

"Managing Water Use in Scarce Environments", 28/08/2013, online at: <u>http://blogs.worldbank.org/water/managing-water-use-scarce-environments</u>

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Sirajul Haq asks government to finance small dams in Khyber Pakhtunkhwa

Khyber Pakhtunkhwa Senior Finance Minister Sirajul Haq said on Monday that the federal government should finance construction of small dams in KP to increase power generation to about 25,000 megawatts, which will end electricity crisis in the country. "It is a good idea to construct big dams like Basha, but we need a short-term solution to overcome power shortage as such dams take years to complete," he told newsmen at the Karachi Press Club's meet the press function.

JI Karachi chief Muhammad Hussain Mehanti, President and Secretary KPC, Aamir Latif and Imtiaz Khan Faran, and a large number of KPC members were also present on the occasion. Sirajul Haq said that the central government was doing "injustice" with the KP by not releasing its financial shares. "The last government had allocated Rs 94 billion for various schemes in the province but released only Rs 4 billion, while the ANP-led provincial government spent only Rs 2.5 billion," he added.

He said the federal government instead of relying on construction of big dams to generate electricity should consider building small dams on River Indus, Chitral River, Swat River, Panjgor River etc to end the power crisis in the shortest possible time. He urged all the provinces and political stakeholders in the country to help his province come out of the deep-rooted menace of terrorism, which he said had also engulfed other parts of the country. "All provinces and political parties have to be on the same page to effectively fight terrorism," he added.

The senior minister said that the country's political leadership should adopt a serious approach towards ending the growing problems of the nation. "It is the time to serve the public and not indulge in politics," he added. He said that a single party could not resolve the issues facing the country therefore all political parties and the federal government should work jointly to steer the country out of crises.

He said that the KP government was needed to work hard to retain public trust in democracy. "If we are unable to deliver, the public will lose trust in democracy," he added. The minister said that the KP government was introducing a bill in the provincial assembly to uproot financial corruption from all



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its departments.

He expressed disappointment over the National Accountability Bureau's (NAB) performance saying his government planed to introduce a separate department to recover the national wealth earned through illegal means. "We want a more responsible system to eradicate corruption from the province. NAB has disappointed us for its plea bargain policy," he added. Sirajul Haq said that the KP government's primary aim was to boost education in the province therefore it had made a 30 percent higher allocation in the budget for public learning schemes. He also said that a plan was being made to set up women universities and more girl schools in the province.

He urged the federal government to finance 20 projects, which his government had planned to provide relief to the terrorism-hit people of the province. Regarding local government system, he said that his government would take initiative by implementing grassroots governance in KP. "Some 4,500 council villages will be set up through the system to transfer them all financial and decision making powers to serve public in a better way without relying much on the provincial government," he added.

He claimed that his government had ended VIP culture and official protocol in KP. "For us only the students, patients and public are VIP and not those in power," he added. The minister said that he was on Karachi visit without any official protocol to justify his government's austerity plan. He appreciated Interior Minister Chaudhry Nisar's statement regarding peace talks with the Taliban to end violence and terrorism in the country. "It has been the JI's stance for the last 10 years to restore peace in the province through dialogue," he added.

To a question, he said that an independent inquiry had been launched to probe the D I Khan jailbreak incident. About Afghan President Karzai's future role after the exit of western forces, Sirajul Haq said that Karzai'a role was about to end as whatever he had to do he did and now there would be a new chapter in Afghanistan politics.

He expressed the hope that peace in the region especially in Pakistan would return once the US-led western armies quit Afghanistan in 2014. "The US and Nato failed to restore peace in Afghanistan



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rather with their invasion drugs smuggling and terrorism spread in the world," he added. He said that the government should negotiate between the Taliban and Hizbi Islami to protect Pakistan's national interests and upstage India's game in Afghanistan.

"Sirajul Haq asks government to finance small dams in Khyber Pakhtunkhwa", 27/08/2013, online at: http://www.brecorder.com/agriculture-a-allied/183/1225466/

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SLO Water Politics vs. The Geopolitics of Food and Water

On Aug. 27, SLO county supervisors Bruce Gibson and Adam Hill will try to push through an "emergency" ordinance to deal with the purported ground water depletion in the Paso Robles water basin. `According to existing statutes, to be able to pass such an urgency ordinance, its proponents have to prove the existence of a "current and immediate threat to the public health, safety or welfare." Neither Gibson, nor Hill nor anybody else can prove such a threat at this point because we simply do not know how many wells have run dry. The county goes around this inconvenience by lying in claiming that the emergency is caused by the "sudden, unexpected failure of a large number of residential wells." Yet of the many thousands of residential wells in the basin, the board has heard testimony of only 8 going dry and another 8 whose pumps had to be lowered. Hardly "a large number." Nor are the documented well failures "sudden, unexpected." We're in the midst of a serious drought and though most of our aquifers are replenishable, it takes rain and/or snowpack to replenish them and we've had very little of either one for two years.

One would think that if the Gibson and Hill were really concerned about the water problem they would have ordered an empirical study of the problem an economic impact study of the ordinance and propose both short and long-term solutions. They have done none of that. The reason for that is because the water problems in North County are of no interest to them. What they want to do is use this 'crisis' to push their far left, anti-business and anti-property rights agenda, which they have been unable to achieve through normal legislative means. And make no mistake about it, the proposed ordinance is a direct, frontal assault on the most productive sectors of our North County economy; agriculture, the wine industry, the closely related tourist industry and the barely recovering real estate business. If implemented, the ordinance as it now stands will stop any further development in its tracks without doing much if anything to alleviate water shortages because the entire urban population is excluded. This is a cynical political ploy that must be exposed and defeated.

It is ironic that this assault on our most productive industries happens at the exact time when a tremendous geopolitical shift is taking place around the world and food is emerging as the strategic commodity of the future replacing oil and gas. And food production is an area in which the United States and California have a potential second to none. What is making food and therefore water, a premium commodity has nothing to do with the prattling of environmental extremists about



global warming or expanding populations and everything to do with the success of the free enterprise system wherever it is allowed to function.

To put it simply, the tremendous economic performance over the past two decades have created a 200 million strong middle class in China and 50 million in India. And more is to come, the World Bank expects China to add another 300 million to the middle class by 2020 and India another 150 million in the same time frame. And the first thing middle class people do is they start to eat meat. China consumed 10 million tons of meat in 1980 vs 71 million tons today, twice the current U.S. consumption, soon to become three times larger. Unfortunately, for these booming countries, God has played a cruel joke on them and undersupplied them with water. China has 20% of the world's population but only 6% of its water resources. India has 16% of the population but 4% of the water and the Arabs make 5% but have just 1% of the water. The result is critical water shortage, drying aquifers, desertification and conditions similar to our Dust Bowl in the 1930s. China alone is said to have lost 24,000 villages to the advancing Gobi Desert, while the World Bank is on record predicting that most major Indian cities will run dry by 2020.

Another highly predictable result is booming imports from countries that do not have water problems like America, Canada, Brazil and perhaps, sub-Saharan Africa before long. China is already the biggest importer of food in the world and the trend could only accelerate. The opportunities that this irreversible trend portends for our agriculture and food production are limitless, unless, of course, we allow Ludites like Messrs. Gibson and Hill to implement their destructive agenda. In just one example, the wine industry is one that the proposed ordinance will seriously damage or worse. Chinese traditionally do not drink wine, but their middle class does. In the four years between 2008 and 2012 China's wine imports grew by 85%, yet their wine consumption is still only 2 bottles per person. What will happen when there are 300 million more wine-guzzling Chinese by 2020 is not difficult to predict. Our county stands a good chance to grab a major chunk of it.

None of this is to say that we should not think of both short and long-range solutions to our water problems. It maybe that there's nothing three years of above average rain cannot solve. But we couldn't count on that and prudent leaders should be thinking of long-term palliatives. I have heard neither Gibson nor Hill talk about the exciting new desalination technologies being discussed currently. Lockheed Martin has come up with a fabulous new material called graphene that provides



superior filtration at 1% of the energy cost of the traditional reverse osmosis. The company has said that they'll have a working prototype by the end of this year and start commercializing it in a year or two. Then there is Canada, which with 0.5% of the world population has 7% of the water resources. Isn't it time we look seriously at something that has been discussed for decades.

I believe that there is nothing American ingenuity and the free market system cannot solve if allowed. It was only half a dozen years ago that the prophets of doom and gloom were telling us that we'll all die or become paupers because of the dominant nonsense of the time about peak oil and gas. Today, we're the largest producer of natural gas in the world and soon will be #1 in oil as well.

"SLO Water Politics vs. The Geopolitics of Food and Water", 26/08/2013, online at: https://calcoastnews.com/2013/08/slo-water-politics-vs-geopolitics-food-water/

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* Pajeurgesconstruction of water impounding facilities

MANILA, Philippines—Environment Secretary Ramon Paje on Saturday pushed for the construction of more water impounding facilities such as dams ease flooding and to enable the irrigation of farms during the dry season.

In a press statement, Paje said the construction of small water impounding dams (SWID) was part of the physical development plan proposed by the Cabinet cluster on climate change.

Rainwater harvesting facilities like SWIDs are proven effective for managing rainwater which could be used as a supplemental source of water for irrigation, he said.

"Rainwater can be managed as a resource if it is captured upstream and used during summer for agriculture," Paje said.

Paje cited the case of the town of Muñoz in Nueva Ecija, which was able to significantly increase rice production by storing rainwater.

He said that the government, through the Department of Public Works and Highways, was planning to build a water catchment dam upstream of the Marikina River.

He said the dam would double as a flood-mitigating measure to improve the level of preparedness of vulnerable communities and as a source of irrigation water during the summer months.

"The idea is to catch the water when it is available and to release it when it is needed like, for example, during the dry season for agriculture use," Paje said.

But Paje clarified that the construction of SWIDs and other water catchment facilities would only be supplementary to the overall objective of increasing the carrying capacity of the watersheds through massive and sustained reforestation under the Aquino administration's National Greening Program. "In the short term, SWIDs would enable us to achieve this but the ideal is still to bring back the forest cover to our watershed areas," he said.

"Pajeurgesconstructionofwaterimpoundingfacilities", 31/08/2013, onlineat: <u>http://newsinfo.inquirer.net/478747/paje-urges-construction-of-water-impounding-facilities</u>

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The global water crisis – why water politics matter for business security

If the global community is to adequately address water challenges and associated risks, cooperation is imperative

The world is facing a global <u>water</u> crisis. This year, the World Economic Forum and world business leaders identified that <u>water supply crises</u> are amongst the highest impact risks facing the modern world.

As populations grow, and countries and societies modernise, the demand for water to produce food, energy and goods increases. The OECD estimates that by 2050 the world's demand for water will grow by 55%. Competition between water users and nations demanding water resources is also predicted to radically escalate. While consumption patterns and the loss and waste of food represent a huge proportion of inefficient water use in production supply chains.

Despite these challenges, and the chilling fact that nearly half of Global 500 companies lack concrete water-related goals, the sharing of water is not a zero-sum game. Huge gains can be made by tapping into synergies and by better use of established techniques, such as improved water-use efficiency and improved governance. We need to create stronger incentives for managing water and exercise economic and policy instruments to achieve this aim.

Some 20 years ago in Dublin, the UN International Conference on Water and the Environment agreed that water should be recognised as an economic good. Past failure to recognise the economic value of water had led to wasteful and environmentally damaging uses of the resource.

But water is not just another commodity. It is both a public and a private good. It is a resource which produces local as well as global benefits and its availability varies, sometimes dramatically, in time and space. This unique and irreplaceable resource moves around our planet constantly with no regard for man-made borders. In order to ensure water use is efficient and equitable, water needs to be attributed with its true economic, environmental and social value.

About 50% of all available water is transboundary - water located in the rivers, lakes or groundwater systems of two or more countries - and cooperation over this water is often troublesome. Around two thirds of the world's transboundary rivers lack agreements between the countries that share them. This situation, linked to political conflicts in many of the sharing regions, has meant that transboundary water has been presented as a reason for violent conflict and even war.

However, the water wars that were feared a decade ago have fortunately not materialised. Water is more often a source of cooperation, even in situations of political tension. India and Pakistan have worked together in the management of the Indus River despite fighting three wars during the last fifty years. Israelis and Palestinians also cooperate on water in spite of their political conflict, <u>albeit not on equal terms</u>.



There are a host of benefits derived from cooperation in transboundary regions: economic, environmental and social. Climate change adaptation and mitigation, flood and drought management are perhaps two of the most publicly recognisable benefits.

Yet many more are in reach. The management of ecosystem resources, production of food, generation of energy, and the supply of water to municipalities and cities are also accessible through cooperation. There is also a suite of less tangible benefits as a result of cooperation: trust building, avoided conflict, trade and the integration of markets within regions. If policy makers and businesses choose to only focus their efforts within their national borders, they fail to mitigate serious water risks or to generate a wider range of benefits.

Given the positive prospects made available through cooperation, regional challenges related to transboundary water require urgent attention. Businesses value regulatory certainty and owing to the significant absence of enforceable regulatory structures today, the onus is on public policy makers to create an enabling environment, and support innovative public private partnerships in this arena.

Three years ago, the UN General Assembly declared 2013 to be the International Year of Water Cooperation. At the World Water Week in Stockholm, we will attempt to address issues related to transboundary water and how to increase cross-sectoral, multi-national cooperation opportunities.

If the global community is to adequately address our shared water challenges and associated risks, cooperation is imperative. SIWI believes that by increasing the incentives for using water more wisely, it is possible to double global water productivity by 2030 - an important step towards the realisation of a water wise world.

"The global water crisis – why water politics matter for business security", 30/08/2013, online at: http://www.theguardian.com/sustainable-business/global-water-crisis-politics-business-security

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