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WATER RESEARCH PROGRAMME -Weekly Bulletin-

Issue 148

ORSAM WATER BULLETIN

30 September 2013 – 06 October 2013

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✤ Iraq Launches \$77.2 Million Ziqar Sanitation Project

The Iraqi Ministry of Municipalities on September 29 rolled out a \$77.2 million USD sanitation project in the southern governorate of Ziqar.

"The governorate is suffering from wastewater leakages since the capacity of existing network is far below what is needed," said Ziqar Deputy Governor Haitham Aziz.

The project involves building an entirely new wastewater pipeline network throughout the governorate, as well as a storm sewer system to end to the floods that fill the streets of cities in the governorate each winter.

Ziqar's General Directorate for Wastewater will oversee construction of these networks, Aziz said.

Ziqar also recently announced \$21.5 million USD worth of water projects, including a potable water pipeline to supply deprived areas. The projects will be completed within two years.

The Iraqi parliament has approved a total budget of \$3.4 billion USD for drinking water and sanitation projects in the country in 2013. The funding is considered insufficient, since the country has been facing more water shortages, especially during the summer.

According to statistics from the Ministry of Municipalities and Public Works, about 10 percent of the country's population experienced drinking water shortages in 2012.

Since the toppling of former Iraqi leader Saddam Hussein in 2003, Iraqis have been waiting for major development projects to improve the quality of basic services. However, observers say successive governments have failed to implement a solid development plan, despite increased revenue from oil, which constitutes the main source of national income.

Drinking water and sanitation conditions are deteriorating in a number of governorates. Shortages are common, and leaking mains are a constant problem, according to experts.

"Iraq Launches \$77.2 Million Ziqar Sanitation Project", by OOSKAnews Correspondent, 04/10/2013, online at: http://www.ooskanews.com/story/2013/10/iraq-launches-772-million-ziqar-sanitation-project 157839

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Solution Official: Transferring water to drying lake Urmia unprofessional

The plans for reviving the Lake Urmia are almost specified, the head of Iran's Environmental Protection Organization, Masoumeh Ebtekar said, Iranian IRINN State TV reported.

She went on to note that, the Organization does not agree with plans of transferring water from Caspian Sea or Aras River to Lake Urmia.

Ebtekar said that, these plans are unprofessional due to economic and environmental factors, adding that, of Iran's Environmental Protection Organization is interested strategy that is compatible with region's ecology.

Revising the water consumption patterns in the region's agriculture sector is necessary for saving the lake, she added.

"For 30 years, Lake Urmia has been deprived of attention. As a result of construction of dams and climate change, some 70 percent of the lake has dried up and all forces should be mobilized for rescuing the lake," the head of the West Azerbaijan province, Vahid Jalalzade said on September 24 during a TV debate at the first channel of Iranian state television.

Iranian MP, Mansour Hagigatpur noted that Lake Urmia is missing 14 million cubic meters of water.

Hagigatpur named the increase sowing areas from 110,000 hectares to 450,000 hectares, the construction of dams, the occurrence of more than 30,000 water wells around as the main reasons of this situation.

Hagigatpur also said that the drying up of Lake Urmia will put over half a million people, using the lake's waters, in danger.

On September 21, Iranian media outlets quoted deputy Director of Iran's Water Resources



Management Company, Yaqoub Hemmati as saying water input to the catchments of the Lake Urmia has decreased by 46 percent compared to the long-term average value which indicates that reviving Lake Urmia is impossible.

On August 19, the official website of the Iranian president reported that President Rouhani establish a working group to tackle the issue of saving the Urmia Lake.

The work group was commissioned to use the background of the already conducted studies and technical research work in the field and to present their proposals for saving the Urmia Lake to the government within a two-month period.

Lake Urmia in north-west Iran is experiencing its worst drought in many years, where over 70 percent of its water has dried up. The level has been declining since 1995.

Officials have said if the current restoration efforts are not effective, the lake will be turned into a swamp within four years. Previous reports said Lake Urmia needs 3.1 billion cubic meters of water per year to survive.

Lake Urmia is the third largest salt water lake on earth with a surface area of approximately 5,200 square kilometers.

"Official: Transferring water to drying lake Urmia unprofessional", 05/10/2013, online at: <u>http://en.trend.az/regions/iran/2198098.html</u>



Iran's Third Largest Lake Near Death

"Lake Hamun right now is completely dry and no traces of life can be found," read the report in *Mehr News*.

According to the article, after the Caspian Sea and Lake Urumia, Lake Hamun, located in southeast Iran and adjacent to Afghanistan and Pakistan, is Iran's third largest lake. The Helmand River provides the primary source of water for Hamun and according to the article, on account of the 15year drought, the shutoff of tributaries by Afghanistan, irrigation and water-rights issues, it is now completely dry.

The article, headlined <u>"The Sad Death of Iran's Third Lake"</u> also addresses the critical state of other Iranian lakes that are on the verge of completely drying up and outlines attempts by the parliament and the new administration to prevent this.

Lake Hamun, according the article, "consists of three small lakes that in times of abundant water combine to make Lake Hamun the largest area of freshwater in Iran's Sistan province." The article continued, "The lake had a fundamental role in the lives of the people of Sistan and Balochistan province, and in addition to the positive natural, economic and social effects, it has a specific sacred status in the Zoroastrian religion."

The article explained, "Hamun is considered the seventh largest wetland and the largest freshwater lake of the country and is now almost removed from the map of the country, a lake that less than two decades ago would bring in a million migrating birds."

"Right now," the article added, "the provinces of Sistan and Balochistan, West Azarbaijan, Fars and Esfahan" are also facing critical water issues. "Unfortunately, it was recently announced that Lake Urumia has shrunk to less than one meter of water and it shows that soon, probably nothing of the lake will remain but its name, and this unique and large lake will be erased from the map of the country."

Lake Urumia is the third largest saltwater lake on Earth, and experts have warned that once it completely dries, wind storms could cause major environmental damage to its surrounding cities and agriculture.



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According to the article, although President Hassan Rouhani has convened a special task force for Lake Urumia, "The death and drying of the lakes and wetlands of the country in recent years has turned into a serious concern." Iran's parliament has also convened a special committee to address the drying of Lake Urumia.

Seyed Bagher Hosseini, who is part of the "Restore Lake Hamun" committee and a representative from Sistan and Balochistan province, has spoken out about the importance of restoring the importance of Lake Hamun for the region and urged officials to do what is necessary to restore the lake.

"Iran's Third Largest Lake Near Death", 03/10/2013, online at: <u>http://iranpulse.al-</u> monitor.com/index.php/2013/10/2946/irans-third-largest-lake-near-death/



Middle East seeks groundwater conservation solutions amid rising water scarcity

With new predictions that water scarcity in the Middle East and North Africa will worsen, conserving groundwater resources as part of the region's water security strategy is becoming more urgent.

A recent study by the Potsdam Institute for Climate Impact and Research, published in the journal Environmental Research Letters, concludes that an expected rise of 3.5°C in global mean temperature by the end of the century will expose 668 million people worldwide to new or aggravated water scarcity, on top of the 1.3 billion currently living in water-scarce regions.

The problem will be even more severe in arid regions such as the Middle East with these expected changes in climate delivering less rain and further diminishing the availability of scarce groundwater resources.

Conserving precious groundwater resources, which, as an example, accounts for 63.3 per cent of water resources in the emirate of Abu Dhabi in the UAE, will be a key focus of the Sustainable Water Solutions Village at the 2nd International Water Summit (IWS) from 20-22 January 2014 in Abu Dhabi, hosted by Masdar.

The Sustainable Water Solutions Village at IWS 2014 will bring together global ideas, best practices and think-tanks that have been successfully implemented in water-scarce communities to achieve water sustainability and conserve natural resources.

"Conserving groundwater is a major social and environmental issue across the region, and the new predictions outlined in recent studies shows the issues will get worse if urgent action is not taken," said Ara Fernezian, Managing Director- Middle East for Reed Exhibitions, organizer of the 2nd International Water Summit.

"However, it also opens a range of commercial opportunities, with over \$300bn of investment on water projects being planned by governments in GCC countries by 2022. The Sustainable Water



Solutions Village at IWS 2014 will provide many successful ideas for investing in and managing these projects to address the water scarcity challenges."

"The success of the Sustainable Water Solutions Village at this year's inaugural IWS encouraged us to expand the village in 2014, and we will engage even more governments, NGOs, universities and companies in an effort to find solutions, alternative water resources and strategies to protect groundwater," said Mr Fernezian.

IWS 2014 is a global platform that hosts world leaders, government organizations, policymakers, public and private sector investors, business leaders, consultants and water experts to interact, negotiate and finalise plans to develop diverse and sustainable water portfolios in the GCC and other regions.

The Sustainable Water Solutions Villagein the exhibition area at IWS 2014 will feature technologies, projects and case studies that offer solutions to the challenges of water security, with a particular focus on water solutions for agriculture and groundwater conservation.

IWS is co-located with the World Future Energy Summit, also hosted by Masdar, as a part of Abu Dhabi Sustainability Week (ADSW), a global platform that addresses the interconnected challenges that affect the widespread acceleration and adoption of sustainable development and renewable energy. The largest gathering on sustainability in the history of the Middle East, ADSW encourages actionable outcomes to carve a pathway toward sustainability worldwide.

"Middle East seeks groundwater conservation solutions amid rising water scarcity", 05/10/2013, online at: http://www.ameinfo.com/middle-east-seeks-groundwater-conservation-solutions-356622

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* Next Middle East war will be over water'

Thursday, October 03, 2013 - A FEW decades from now, nations in the <u>Middle East</u> and North Africa could face potentially catastrophic water shortages that could pose an even greater challenge than the upheavals gripping Syria, Egypt, Lebanon, the Palestinian Territories and elsewhere. Unfortunately, the water crisis over the horizon does not receive much serious attention from policymakers, the media and the public because so many other crises plague the troubled region right now.

Contrary to popular belief, the most important liquid in the <u>Middle East</u> and North Africa is not the vast supply of oil that brings in billions of dollars every year. It is water and the scarcity of this vital resource could leave some nations unable to meet the needs of rapidly growing populations in less than 40 years.

The <u>Middle East</u> and North Africa (Mena) is the world's most water-scarce region. The desert climate and lack of rainfall make people almost entirely dependent on groundwater and the surface waters of the Nile, Jordan, Tigris and Euphrates Rivers to meet their daily needs for drinking, growing crops and commercial and industrial projects.

Historically, the region's population has been small enough to get by with a very limited <u>water</u> supply. But since 1950, a sustained population boom has pushed the number of people in the region to about 300 million — nearly as large as the water-rich US. A quick look at population figures from a few key countries shows why the region's water stress is certain to intensify during the next few decades. Syria's population stood at 3.5 million in 1950. The population has since soared to nearly 22 million and is expected to surpass 36 million by 2050. Egypt's 1950 population of 20 million has swelled to almost 85 million in 2013 and is projected to climb past 125 million by mid-century.

Yemen's 1950 population of 4.5 million has now reached 25 million. Despite having one of the lowest per capita water availabilities anywhere on Earth, the nation's population is projected to climb past 52 million by 2050. No one knows where the water to support these growing populations is going to come from. Syria, Egypt, Yemen and other countries in the region are already using most if not all of the annual renewable water resources they have, both above and below ground. Climate change is also causing prolonged, intensified droughts in the region. These have destroyed livelihoods and seriously eroded food security, as happened in Syria from 2006 until 2009.

Water access in Mena is particularly complicated because more than two-thirds of the water flowing into the region from rivers originates elsewhere. For example, 85 per cent of the water of the Nile flows through the Ethiopian highlands before reaching Egypt. A similar percentage of



theEuphrates waters originate in the mountains of Turkey before flowing into Syria and Iraq. Populous downstream nations like Egypt and Iraq are perpetually vulnerable to the <u>water</u> <u>management</u> decisions of their upstream neighbours.

In coming years, population growth and <u>climate change</u> will combine to intensify competition forwater resources across North Africa and the <u>Middle East</u>. This will likely escalate tensions within and between countries, even if the region's current conflicts have ended. The potential for distrust stemming from water sharing across borders is so great that former United Nations secretary-general, Boutros Boutros-Ghali, predicted in the late 1980s that future <u>Middle East</u> fighting would be sparked by water disputes, not politics. While the situation is alarming, it is not hopeless. Conservation measures and technologies can promote and incentivise more sustainable water usage.

Water pays no attention to the political, religious and ideological differences that so bitterlydivide the people of the <u>Middle East</u> and North Africa. While it may be too late to avoid the region's looming water crunch outright, nations can soften the landing by more openly communicating with neighbouring countries about <u>water management</u> strategies, acting within their borders to carry out major water infrastructure upgrades, and educate their citizens about the pressing need for improved water conservation. The cost of doing these things will be high — but not as high as the cost of inaction or indifference. —Courtesy Gulf News

"Next Middle East war will be over water", 03/10/2013, online at: http://pakobserver.net/detailnews.asp?id=219940



How to win the next Mideast war – over water

The Middle East and North Africa – the world's most water-scarce region – will soon face a severe water crisis. That could create an even greater challenge than today's upheavals. More attention must be paid to the problem. Conservation, communication, education, and technology can help.

A few decades from now, nations in the Middle East and North Africa could face potentially catastrophic water shortages that could pose an even greater challenge than the upheavals gripping Syria, Egypt, Lebanon, the Palestinian territories, and elsewhere.

Unfortunately, the water crisis over the horizon doesn't receive much serious attention from policymakers, the media, and the public because so many other crises plague the troubled region right now.

Contrary to popular belief, the most important liquid in the Middle East and North Africa isn't the vast supply of oil that brings in billions of dollars every year. It's water, and the scarcity of this vital resource could leave some nations unable to meet the needs of rapidly growing populations in less than 40 years.

ACTION STEPS: 4 ways you can take action on the Middle East and North Africa water crisis

_The Middle East and North Africa are the world's most water-scarce region. The desert climate and lack of rainfall make people almost entirely dependent on groundwater and the surface waters of the Nile, Jordan, Tigris, and Euphrates Rivers to meet their daily needs for drinking, growing crops, and commercial and industrial projects.

Historically, the region's population has been small enough to get by with a very limited water supply. But since 1950, a sustained population boom has pushed the number of people in the region to about 300 million – nearly as large as the water-rich United States.

A quick look at population figures from a few key countries shows why the region's water stress is certain to intensify during the next few decades.

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Climate change is also causing prolonged, intensified droughts in the region. These have destroyed livelihoods and seriously eroded food security, as happened in Syria from 2006 until 2009.

Water access in North Africa and the Middle East is particularly complicated because more than twothirds of the water flowing into the region from rivers originates elsewhere.

OPINION: 7 reasons to be optimistic about Israeli-Palestinian peace talks

For example, 85 percent of the waters of the Nile flow through the Ethiopian highlands before reaching Egypt. A similar percentage of the Euphrates waters originate in the mountains of Turkey before flowing into Syria and Iraq. Populous downstream nations like Egypt and Iraq are perpetually vulnerable to the water management decisions of their upstream neighbors.

In coming years, population growth and climate change will combine to intensify competition for water resources across North Africa and the Middle East. This will likely escalate tensions within and between countries, even if the region's current conflicts have ended.

The potential for distrust stemming from water sharing across borders is so great that former UN Secretary General Boutros Boutros-Ghali predicted in the late 1980s that future Middle East fighting would be sparked by water disputes, not politics.

While the situation is alarming, it's not hopeless. Conservation measures and technologies can promote and incentivize more sustainable water usage.

For example, water consumption can be cut dramatically if communities recycle more water, improve wastewater treatment, and invest in repairs and upgrades of aging and leaking water and sewer



pipelines. Governments should make these actions a high priority, particularly in the region's cities, where large populations in relatively small areas make such improvements especially cost-effective.

In addition, turning sea water into fresh water through desalination may one day become economical, despite the huge amount of energy and high costs required today. If energy costs come down and technology improves, salt water conversion could produce sufficient amounts of fresh water to meet the industrial and household needs of densely populated coastal areas.

Water pays no attention to the political, religious, and ideological differences that so bitterly divide the people of the Middle East and North Africa. While it may be too late to avoid the region's looming water crunch outright, nations can soften the landing by more openly communicating with neighboring countries about water management strategies, and acting within their borders to carry out major water infrastructure upgrades and educate their citizens about the pressing need for improved water conservation.

OPINION: Five ways Americans can save water through food choices

The cost of doing these things will be high – but not as high as the cost of inaction or indifference.

"How to win the next Mideast war – over water", 30/09/2013, online at: http://www.csmonitor.com/Commentary/Opinion/2013/0930/How-to-win-the-next-Mideast-war-over-water

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Israel's Desert Date Yield Up 20%

Despite a 20% reduction in water supply, yields are flourishing in Israel's Arava desert region, which stretches from the Dead Sea to Eilat.

Date yields are up by 20% in Israel's Arava desert with the date season set to continue until mid-October.

Israel's Arava region stretches midway between the Dead Sea(the lowest place on earth) and the city of Eilat, on the tip of the Red Sea.

The yield from this year's date crop in the Arava is expected to reach 7,500 tons – an increase of 20% over last year's harvest.

According to Boaz Horowitz, Chairman of the Arava's Research and Development, yields in the central and northern part of the Arava are likely to yield some 7,500 tons of dates, which include approximately 800 tons of organic dates.

Horowitz said, "The area where the date palms are grown in the Arava, totals about 11,500 dunam (2,842 acres), with each dunam expected to yield approximately 1.2 tons, and each tree some 100 kilos of dates."

Amazingly, he said, "the high yields have been accompanied by a 20% reduction in water consumption" after a nine year Ministry of Agriculture study to find out optimum water supply needed to maintain date crops.

The Arava makes up a third of the area designated for growing dates in Israel. The fruit is also grown at the north of the Dead Sea and around the Kinneret (Sea of Galilee). The Arava area is considered to have the best conditions, with the highest temperatures and ideal soil structure. It is also one of the best locations globally to produce Medjool dates, prized for their large size, sweet taste and juicy flesh - even when dried.



This year's annual crop is expected to reach around 34,000 tons, including 23,000 tons of Medjool dates alone worth over \$US 400 million.

A large proportion of this years yield will be sold in Israel, however, there is also a growing export market. This year, 72% of Israel's date exports are headed to Europe, with the remaining 28% to the U.S. and Far East. Exports are worth around \$90 million.

In China there is a growing market for dates as the fruit is considered to have excellent medicinal qualities.

Dates are numbered in the Torah as one of of the seven special crops of the land of Israel, along with olives, pomegranates, grapes, figs, wheat and barley.

"Israel's Desert Date Yield Up 20%", 01/10/2013, online at: http://www.israelnationalnews.com/News/News.aspx/172398#.UIB7qNKe_PY



* Israeli Authorities Order Demolition of 10 Wells

HEBRON, October 2, 2013 (WAFA) – Israeli authorities Wednesday informed residents of the town of Yatta, south of Hebron, of its intention to demolish 10 water wells in the area, according to a local activist.

The popular committee coordinator in Yatta, Rateb al-Jabour, told WAFA that forces raided the area and handed the residents orders to demolish the 10 wells, which were funded by Action Against Hunger aid foundation.

He said that this area is one of the eight villages threatened with displacement by Israeli authorities for the benefit of settlement expansion.

"Israeli Authorities Order Demolition of 10 Wells", WAFA, 03/10/2013, online at: http://mideastenvironment.apps01.yorku.ca/?p=7616



Straeli refusal to provide power may sink new Gaza sewage plant

A large sewage treatment plant is being constructed in Gaza with funding from the World Bank, but may not become operational due to a dire shortage of required electric power. The Palestinian Authority has approached Israel with a request to increase power supply, but the issue has not been resolved yet.

Over the last few years, a serious environmental and health problem has developed in the Gaza Strip due to the lack of means to treat the sewage generated by over a million inhabitants. The sewage is contaminating ground water, which serves as Gaza's main drinking supply. Some of it flows into the sea, endangering coastal areas up to Ashkelon.

In order to deal with the problem, the Palestinian Authority set out to establish emergency facilities to treat sewage in northern Gaza. The project received financing from donor states and particularly from the World Bank. However, its operation depends on electricity needed to drive the facility's pumps, as well as other components in the purification process.

Gaza has suffered from a dire shortage of power since damage from fighting between Israel and Hamas limited its power plant's capacity. The plant can only supply power to the water treatment facility at the expense of Gaza households. Over the coming years, the power plant is slated to undergo internationally-funded renovations. Sources in Israel say the plant could already increase its output with additional fuel from Israel, which would come through the Kerem Shalom border crossing. However, the Hamas government has chosen not to purchase additional fuel from Israel.

The chairman of the Palestinian Energy Authority, Omar Kittaneh, asked the Israel Electric Corporation six months ago to increase its electricity supply to Gaza, in order to operate the sewage treatment plant. He has yet to receive a response.

The environmental group "Friends of the Earth – Middle East," which includes Israelis, Palestinians and Jordanians, has called on the Israeli government to assist Palestinians and sell them a limited amount of electricity, until the power plant in Gaza can increase its generating capacity. "The environmental hazards affect both sides, and they cannot be dealt with without collaboration between both parties," says the head of the group, Gidon Bromberg. "We're talking about a negligible amount



of electricity which will constitute a big step towards short- and long-term protection of the sea and of the area's drinking water."

The Electric Corporation says the Palestinian Authority's request is still being examined. The office of the coordinator of government activities in the territories commented: "The sewage treatment project began in 2008. The World Bank requested an increase in power supply from Israel to Gaza three months ago, saying that it hadn't taken into account the power requirements of the new facility. As we've told the applicants, the present power lines cannot carry any extra electricity, since they are operating at maximal capacity. Constructing an additional power line, if approved, will take several years."

"Israeli refusal to provide power may sink new Gaza sewage plant", Haaretz, 03/10/2013, online at: http://mideastenvironment.apps01.yorku.ca/?p=7620

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Strael's latest green trend: 'Smart cities' that conserve resources

New wave of urban infrastructure technology, making inroads in Israel, will go on display at the water and wastewater management conference next month in Tel Aviv.

The Binyamina-Givat Ada local council plans a project in the coming year to save electricity – part of a growing trend in Israel and abroad to create "smart cities" that utilize resources more economically.

The local council, in cooperation with the Israel Electric Corporation, will install advanced electricity meters in residents' homes that will connect them to a grid designed to provide feedback to reduce waste.

Over the past few months the Energy and Water Resources Ministry, under the direction of the ministry's chief scientist, Dr. Shlomo Wald, has been putting the finishing touches on a new smart cities administration to assist cities in incorporating advanced technology to streamline resource use.

Some of the technology that will be used in the smart cities will go on display at the water and wastewater management conference, Watec Israel 2013, next month in Tel Aviv.

The need for smart cities stems from a global dearth of energy, water and land resources, exacerbated by infrastructure that cannot take advantage of advanced environmental and information technologies and therefore cannot address water leaks and wasted electricity.

The main concept of the smart city is to incorporate new information technologies in urban infrastructure. "Our administration will mainly focus on the possibilities of conveying information in newly constructed areas," Wald says. "That will allow them to plan ahead – for example, underground communications lines can also be used in a smart electricity network," he said.

Most smart city projects worldwide are moving ahead in the realms of energy and water. Installations to pump water and purify waste are major energy guzzlers and the most advanced component of the program is supplying electricity by means of a "smart grid."



The smart grid makes it possible for consumers and producers of electricity to receive detailed information about the supply and manage it more efficiently, using means such as meters of the sort to be installed in buildings in Binyamina-Givat Ada. The meters will provide detailed data about how much electricity is being used and how much other consumers are using, while the electric corporation will receive more comprehensive information to manage the system better.

The Jerusalem experience

Over the past year in Jerusalem the water supply system has been monitored by means of a system developed by the Israeli company TaKaDu.

"Water companies in Israel and elsewhere can collect information on data such as water flow and quality, but they don't know how to put this information to work to repair malfunctions or efficiently operate elements like pumps," said Amir Peleg, one of the owners of TaKaDu and a founder of an international forum of smart water networks. The TaKaDu system is already in use in London, Bilbao and Melbourne.

A number of cities in Israel have already installed water meters that do not require manual reading, but rather transmit information in real time. Water companies in other cities are expected to replace pipes in the coming years, at which time they can install sensors and transmitters to provide essential information on the workings of the system.

In Sweden, 5.2 million smart electricity meters have been installed, and in Finland about 1 million meters have been installed, at a cost of nearly 1 billion euros. The meters are meant to provide information that will allow consumers to operate appliances more efficiently. In Mannheim, Germany, chosen as a model city in Europe because of its smart electricity grid, a pilot project is underway to operate home appliances more efficiently using feedback from the smart meter to save electricity.

In Israel, the gaps are still large between the vision and implementation, as the experience in Jerusalem has shown. The city's water company, Gihon, is using advanced information systems, but much of East Jerusalem is not connected to the sewage system, and raw sewage is being channeled



directly to the Kidron Valley, wasting a valuable resource and polluting the unique Judean Desert region.

"Israel's latest green trend: 'Smart cities' that conserve resources", Haaretz, 03/10/2013, online at: http://mideastenvironment.apps01.yorku.ca/?p=7611

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Quebec firm tapped to clean up historic Israeli river

After a FedEx flight from Tel Aviv landed in Montreal last year, an unusual package cleared customs: upwards of 20 gallons of Kishon River sediment, double-bagged in plastic and then sealed in buckets.

Ultimately bound for a Quebec City laboratory, the Israeli sediment was ordinary to the untrained eye and nose: gray with flecks of black, the odor of any old soil. But to those who know the ancient Kishon for what it is - a badly contaminated river that flows from the mountains of Galilee to the Mediterranean Sea, and the site of key biblical events – those buckets held more than just sediment.

They held hope. The Kishon was long a dumping ground for waste from Haifa's oil refineries and factories – even blamed for cancer among navy commandos who practised diving there. Today, its fate is in the hands of microbiologist Christian Bélanger and his EnGlobe Corp. team. One year after successfully testing its bio-treatment at the Quebec lab, the Canadian company is preparing to launch its high-profile Kishon decontamination, the company's first foray into the politically fraught Middle East and into the realm of biblically significant sites.

"It's very important to us, for our biblical history as well as the fact that it's the main source of water for villages' agriculture," said Moshe Garsiel, professor emeritus of biblical archeology at Bar-Ilan University, near Tel Aviv. "I salute [Canada]. I've been there several times, from Nova Scotia to Calgary and the Canadian Rockies. You have rivers, you have lakes – beautiful ones. We don't have much, so it's very important that we preserve what we do have."

The project – involving a filthy seven-kilometre stretch before the river flows into the sea – comes at a time when relations between Ottawa and Israel continue to deepen, with the Harper government touting Canada as the Middle Eastern nation's closest friend. Canada was one of just a handful of countries to vote "no" at last year's Palestinian bid for statehood recognition at the United Nations, and Prime Minister Stephen Harper has repeatedly shown he will not tolerate the actions of some of Israel's worst enemies.



"Canada is one of our strongest allies around the world, if not the strongest lately, and I think it's very important for us to strengthen the relationship," then-environmental protection minister Gilad Erdan said in January when, alongside Canada's ambassador to Israel, he announced that EnGlobe had beaten out 20 international competitors for the \$40-million Kishon River contract, which will also see the creation of a large ecological park.

The Kishon is the place where the prophet Elijah slew the idolatrous Baal priests after winning a famous test atop Mount Carmel, according to the Book of Kings. It's the river that the Book of Judges says drowned Canaanite fighters after their loss to the Israelites at Mount Tabor. And it's the Kishon that the surviving Canaanite commander crossed by foot before the biblical heroine Yael drove a tent stake through his skull.

Now, EnGlobe is swooping in to restore that piece of the past, to breathe new life into a river that's expected to serve the surrounding towns and kibbutzim in a way it hasn't since the state was established.

"It's a different culture – a different environment – that we need to respect," Dr. Bélanger said, adding that staff have been briefed to keep political opinions to themselves. "If we need to do more of this or less of that, just to be sure that the community and the people we work with are very pleased, we'll do so."

EnGlobe's Canadian, British and local Israeli staff are in the process of building a 19-hectare treatment site – the equivalent of about 40 football fields – where the company will purify a halfmillion metric tonnes of sediment over the next three years. And despite weather delays and complications stemming from a diversion project headed by another company, EnGlobe plans to cut a blue ribbon in November for its "grand opening."

By the time the Canadians are done, the Israeli government hopes the Kishon will become the "green lungs in the heart of the Haifa Bay area" -a 20-year-old dream, and a tall but important feat in a country where the people, religious or secular, are deeply connected to the land.



"There's an attachment to the ancient history and a real visceral connection to the places where events happened in the Jewish past," said University of Toronto archaeologist Michael Chazan.

Although Israel is a place where history is generously dispersed beneath its surface – unearthed at construction sites and even below garbage dumps – EnGlobe doesn't anticipate stumbling upon archaeological treasures. The local authorities didn't warn the company of any, nor did they note heritage concerns in their tender request, said Dr. Bélanger, who also recently submitted EnGlobe's proposal to qualify for the Lac Mégantic, Que., train derailment cleanup.

In Israel, Mr. Erdan once deemed the Kishon endeavour a "flagship project," which he hopes will usher in the rehabilitation of all of Israel's historical and biblical rivers. And for people like Mr. Garsiel, the author of a forthcoming book on Elijah, the project represents an opportunity for his young grandsons, Tal and Ido, to someday enjoy a place so dear to his own archaeological pursuits.

"I think the people of Israel would like to see the Kishon streaming – to see the fish and turtles and other life coming back," he said. "I will go. I promise."

"Quebec firm tapped to clean up historic Israeli river", 04/10/2013, online at: <u>http://www.theglobeandmail.com/news/national/canadian-israeli-ties-to-be-strengthened-by-clean-water-project/article14696309/</u>



* Arid state of Nevada seeks help from Israeli agricultural experts

In a campaign to revitalize its barren terrain, Nevada is hoping to share best practices on water and crops with Israel.

The desert-heavy U.S. state's governor, Brian Sandoval, is planning a trip to Israel's Negev in October to learn more about indoor farming, and how using Israeli technology could rejuvenate Nevada's lackluster farming industry.

Nevada, which suffers from a lack of water and farmable terrain, has only 40 acres of indoor farming statewide. Israel, meanwhile, has historically adapted to chronic water shortages.

"One of the prominent areas of mutual interest is water management," explained Uri Resnick, deputy consul general of Israel to the Southwest United States, *Jspace.com* reported.

Nevada is already in contact with Israel's national water company, Mekorot, to learn more about techniques for water quality and security, waste water and recycled water, hydrology, and joint research and technological development.

"Arid state of Nevada seeks help from Israeli agricultural experts", 04/10/2013, online at: <u>http://www.jns.org/news-briefs/2013/10/4/arid-state-of-nevada-seeks-help-from-israeli-agricultural-experts</u>

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* 4 ways you can take action on the Middle East and North Africa water crisis

Russell Sticklor, a research analyst at the Stimson Center, argues in <u>a recent op-ed for the</u> <u>Monitor</u> that more attention must be paid to a looming water crisis in the Middle East and North Africa. A severe water shortage, Mr. Sticklor says, could further exacerbate tensions in the arid region. But conservation, communication, education, and technology can help. Here, Sticklor offers four ways that individuals can learn about and help combat water shortages.

1. Learn about NGOs promoting environmental cooperation in Mideast

Learn about local nongovernmental organizations working in the <u>Middle East</u> to improve crossborder communication and cooperation over shared natural resources.

<u>Friends of the Earth Middle East</u>, an NGO with offices in <u>Israel</u>, <u>Jordan</u>, and the <u>Palestinian</u> <u>Territories</u>, offers a prime example of how international environmental cooperation can be used as a tool for peacebuilding and conflict prevention.

2. Save water at home

Implement easy water-saving tactics around your home to improve water-use efficiency, cut costs, and save energy. Water recycling and low-flow toilets are some common means that households use to reduce their water footprint.

3. Explore desalination technology

Educate yourself on the water-producing potential of desalination technology. The idea of turning salt water into drinkable fresh water has been around for more than 2,000 years, yet only now is<u>desalination becoming practical</u> on a relatively large scale, thanks to a practice called reverse osmosis.

4. Educate yourself about the effect of population growth on water

Learn about how how population growth will place vital natural resources like water under unprecedented stress across <u>North Africa</u> and the <u>Middle East</u>. The Population Reference Bureau's



annual <u>World Population Data Sheet</u> supplies an engaging portrait of the world's current population, with detailed profiles and future population projections for every country in the world.

"4 ways you can take action on the Middle East and North Africa water crisis", 03/10/2013, online at: <u>http://www.csmonitor.com/Commentary/Opinion/2013/1003/4-ways-you-can-take-action-on-the-Middle-East-and-North-Africa-water-crisis/Learn-about-NGOs-promoting-environmental-cooperation-in-Mideast</u>

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* Water Scarcity And Qat Irrigation Led To Clashes In Ibb And Taiz

IBB, Sept. 30—A confrontation between qat farmers and government forces broke out Sunday in Wadi Al-Ghail of Al-Qaeda district, in Ibb governorate, after the state-run Public Electricity Corporation started digging a well in the area.

The shooting began when qat farmers attacked the corporation employees, in objection to the drilling operation, said Mohammed Al-Shalfi, a local in Al-Qaeda district, which relies solely on one well for its water needs.

Mohammed Abdulwahab, the manager of Public Electricity Corporation, said the only well in Al-Qaeda district provides water for approximately 60,000 residents, but that well is insufficient to cover the area's needs.

"Ten military vehicles arrived at the scene to confront those qat farmers," Al-Shalfi said. "The clash lasted for three hours, and all farmers fled." No casualties were reported.

Local people fear their livelihood, which is mostly based on qat cultivation, will be negatively impacted by the corporation's drilling plan. They use a significant amount of water to irrigate qat, a mild narcotic leaf chewed ubiquitously in Yemen.

Water cuts in Al-Qaeda district, which occasionally last for two months, force locals to search for other recourses. They sometimes purchase water at a high cost, or bring it from Dhi Al-Sifal district by car, said Al-Shalfi.

"Digging is not allowed in Al-Qaeda city with a groundwater basin which is estimated at 20,000 square-kilometers," said Abdulwahab. "But we are unable to prevent the farmers from haphazardly digging wells."

The 6-day drilling operation has reportedly resumed, with the support of ten military vehicles stationed in the area to protect the site, he added.



In another development in Taiz governorate, clashes renewed Saturday over water resources between the Qurada and Al-Marzooh villages. The clashes erupted when locals violated a truce made last month.

Tawfeek Al-Shuaibi, the head of the HOOD Organization in Taiz, a local non-profit, said the clash is a result of 15-year-old dispute between the villages, both known for their qat cultivation. Locals in the Qurdha village say they have the rights to a water spring that are located near the Al-Mirzah village.

The most recent clashes left one person from each village injured, Al-Shuaibi said.

To date, 14 people have died and more than 50 injured as a result of fighting over the spring.

"Water Scarcity And Qat Irrigation Led To Clashes In Ibb And Taiz", 30/09/2013, Online At: http://www.yementimes.com/en/1716/news/2955/Water-scarcity-and-qat-irrigation-led-to-clashes-in-Ibb-and-Taiz.htm



Super Dam: Egyptian Concern for Nile Water Security Spurs Cooperation Over Ethiopia's New Dam

The dust of Egypt's leadership transition has barely begun to settle, and already the new government is working to forestall any loss in supply or access to the Nile's waters. Meanwhile, Ethiopia continues upstream with one of the largest hydropower projects in the world.

Despite ongoing violence with a casualty count in the hundreds, the Egyptian interim government continues to press Ethiopia to meet and discuss a controversial new dam that is under construction along the upper Nile River. Egypt sees the talks as an essential first step to prevent any loss to the river's water, which Egyptians regard as their most precious natural resource. Successful talks with its neighbors, Egypt hopes, will also restore Egypt's membership to the Africa Union and reestablish Egypt as a key player in African politics.

"We will take action to guarantee the water security of Egypt and preserve our rights in the waters of the Nile," said Egyptian foreign minister Nabil Fahmy at a <u>press conference in Cairo on July 20</u>, only four days after the military-backed interim government assumed office. "We call on the Ethiopian side to respond."

The message to Ethiopia reflects just how concerned Egypt's top leaders are about the Grand Ethiopian Renaissance Dam (GERD), one of the largest hydropower projects in the world — and Egypt has been persistent with its urgent message. Egypt's pleas, however, have received a lukewarm response. For the third time since June, Ethiopia and Sudan have postponed a meeting with Egypt to discuss the consequences of the GERD, despite a general agreement that a solution to satisfy all parties must be reached, <u>reported</u> Egypt's *Al-Monitor* newspaper on September 10.

Ethiopia's massive dam project — under construction since 2011 and slated for completion in 2017 — holds sway over the hydrological fortunes of three countries and more than 200 million people. A desert country, Egypt relies on the Nile for roughly 95 percent of its water supply and has always worried about the loss of even a fraction of the river's flow. Egyptian authorities fear that the GERD will diminish the amount of water that flows into Egypt.

On the other hand, Ethiopia views the dam as essential to its political and economic development, comparing the GERD to the Hoover Dam, which helped to lead the United States out of the Great



Depression of the 1930s and presented to the world a vision of America's enormous possibilities. One of the great engineering achievements of the 20th century, over 29 million people today rely on the 2,080-megawatt concrete dam along the Colorado River in the American West. The generating capacity of the GERD, however, is almost three times larger than that of the Hoover Dam — a telling demonstration of the scale of modern hydropower construction in Africa, and globally, as well as the potential to dramatically alter river flows and diplomatic relationships.

The contest between Egypt and Ethiopia over the Nile is one of a growing number of globally significant choke points that involve water resources that flow across national borders; the desire of developing countries to build dams that harness water for both power generation and agriculture; and changing climatic conditions that are altering stream flows and water supplies that feed the rivers of the developing world during an era of rapid population and economic growth. Similar choke points are emerging in the Tigris-Euphrates River System that flows through Turkey, Syria, and Iraq, for example, and the Indus River Basin that joins India and Pakistan.



Infographic Codi Yeager-Kozacek / Circle of Blue



Infographic: Wealth of the Nile includes the per capita GDP of the 10 Nile River Basin countries, as well as the dams currently constructed along its length. *Click image to enlarge*.

Egypt's goal in seeking negotiations is to work with Ethiopia to reach a feasible consensus on how to manage the changing hydrological balance. But in doing so, the two nations are also pursuing a diplomatic strategy, designed to manage disagreements and ease tensions, which could demonstrate how shared river resources have the potential to foster cooperation rather than confrontation.

Boon Or Burden?

Ancient Greek historian Herodotus mused that Egypt was a gift to the world from the Nile, its annual floods creating the vast agricultural bounty that has sustained one of the longest lasting civilizations in history. What was true in the time of Herodotus continues today: without the Nile, Egypt dies — 97 percent of Egypt's 84 million people live on 3 percent of the country's land, a thin strip of fertile oasis along the Nile.

The construction site for the GERD is located on the Blue Nile, almost 3,200 kilometers (2,000 miles) upstream from Cairo. A major tributary of the Nile River, the Blue Nile starts in Lake Tana at an elevation of 1,800 meters (6,000 feet) in the Ethiopian highlands. Flowing south and then west, the deep-hued river meanders along rugged canyons until it reaches Ethiopia's western border with Sudan.

The GERD is located just 50 kilometers (30 miles) from the Ethiopia-Sudan border in East Africa's Great Rift Valley, a verdant region where the oldest human ancestors originated more than 2 million years ago. Roughly 1,000 kilometers (600 miles) further downstream, the Blue Nile meets the White Nile at Khartoum, Sudan's capital, and flows north through Egypt for 1,400 kilometers (870 miles) before draining into the Mediterranean Sea.

Since 2011, Ethiopia has been building the concrete GERD, which will have a generating capacity of 5,000 to 6,000 megawatts, almost double the capacity of the largest dam currently in operation along the Nile, Egypt's Aswan High Dam. Moreover, once completed in 2017, the GERD will be the largest dam in Africa.



The dam's six-year construction is estimated to cost between 79 and 94 billion Ethiopian Birr (\$US 4.2 and \$US 5 billion), or almost Ethiopia's entire expected annual revenue for the 2012-2013 fiscal year. With the exception of 19 billion Ethiopian Birr (\$US 1 billion) from China to install transmission lines from the hydropower plant to the capital, Ethiopia has not secured any international financing for its ambitious project. The political, economic, and environmental risks of the project are just too big.

"Most international donors have standards for development projects that greatly exceed Ethiopia's," <u>Lori Pottinger</u> told Circle of Blue. Pottinger works in the Africa program for International Rivers, a nonprofit advocacy organization located in Berkeley, California, that is known for their campaigns against large dams around the world. "The GERD project started without an environmental and social assessment, without proper involvement of neighbors who share the river, without an understanding of the project's economic costs and benefits."

Still, Ethiopian authorities contend that the GERD will have little effect on the amount of water reaching Egypt and Sudan, assuring downstream countries that water in the dam's reservoir will not be used for irrigation. Ethiopian scholars at a June 29 <u>symposium</u>also said that the dam will reduce sedimentation along the Blue Nile, saving its neighbor Sudan \$US 20 million a year in cleanup costs. In addition, Ethiopia emphasizes that the dam will generate enough electricity to export to its neighbors.

Despite Ethiopia's insistence that the dam will be a boon to the entire region, Egypt remains unconvinced that such ambitious plans will not change or alter the Nile's flow.

The dam's reservoir is expected to hold 62 billion to 74 billion cubic meters (16.4 trillion to 19 trillion gallons) of water. The regulated release of water from the reservoir will then drive the dam's turbines to generate electricity. Egypt's scientists maintain that the Nile's flow will necessarily diminish in order to fill the reservoir in the years following the dam's completion. In addition, evaporation from the reservoir could reduce the river's water supply by <u>as much as 3 billion cubic meters</u> (792 billion gallons) each year.

To put the numbers in perspective, however, the reservoir behind Egypt's Aswan High Dam holds 168.9 billion cubic meters (44.6 trillion gallons), more than twice the GERD's proposed reservoir,



and has an estimated <u>annual evaporation loss</u> of 12 billion cubic meters (3.2 trillion gallons) each year.

Potential For Water Conflict

With the exception of the Nile, water is scarce in arid North Africa. Since 1997, the 10 countries of the Nile River Basin have been negotiating a workable framework to share in the use of the Nile's waters. In 2010, upstream countries Ethiopia, Kenya, Rwanda, Tanzania, and Uganda signed the Cooperative Framework Agreement of the Nile Basin, known as the "Entebbe Agreement." Burundi signed a year later, and the Democratic Republic of Congo and South Sudan — which became a nation in 2011 — recently expressed their intention to sign, as well.

Egypt and Sudan have stated that they will not sign the agreement without modifications to a key article in the agreement. However, both countries participate in the Nile Basin Initiative, a platform to discuss cooperation along the Nile that was established in 1999. Still, disagreements over water rights continue along the Nile.

For instance, when there was a temporary diversion in June for the construction of the dam, thenpresident Mohamed Morsi felt so strongly as to imply that Egyptians were ready to fight, if necessary, for their right to water. Borrowing from an old Egyptian song, Morsi said that if Nile water "diminishes by one drop, then our blood is the alternative."

Upstream countries, however, maintain that the Nile's waters are their birthright too.

In a <u>June press conference</u>, Sudanese government spokesmen Ahmed Bilal Osman stressed that Sudan supports the GERD project and downplayed the dam's potential negative effects. This came after Sudanese President Omar Al-Bashir had <u>declared his support</u> of the project in March 2012.

"No African wants to hurt Egypt. However, Egypt cannot continue to hurt black Africa and the countries of the tropics of Africa," said Uganda President Yoweri Museveni in response to Morsi's provocative statement Museveni also voiced his support for the GERD project.



Potential For Water Cooperation

Information on Nile flows and historical agreements is rife with misinterpretations and misunderstandings — information which is commonly misreported in the media, according to David Grey, professor at Oxford University's School of Geography and the Environment. Incorrect numbers and historical facts can fan the flames of dispute.

"The lack of shared knowledge undoubtedly creates misunderstandings, which creates mistrust and fear — and fear creates unstable political relationships," Grey told Circle of Blue. Rather, Grey suggests, if the countries work together to identify development opportunities, including agreeing on operating rules for filling and managing the new GERD and any other future dams, this would minimize the harm and maximize the benefits for all.

That approach, it turns out, has led to successful water-sharing compacts and treaties for centuries. Aaron Wolf, a geographer and transboundary water expert at Oregon State University's <u>Institute for Water and Watersheds</u>, has analyzed the history of international water negotiations. In <u>a 2001 article</u>, Wolf stressed that there have been 3,600 treaties of cooperation since 805 CE. For modern times, Wolf found that, of the 1,831 reported water-related international incidents, confrontations, and encounters that had occurred between 1950 and 2000, two-thirds had reached cooperative conclusions.

"When you look back at history, you see that people have always talked about a fear of water causing war. But in the end, it leads to very little violence at the international scale," Wolf said in a July <u>interview</u> with the *Intelligent Optimist*.

Even in hotly contested watersheds, where water scarcity pushes parties towards conflict, cooperation remains a real possibility. Ethiopia's Ambassador to Egypt, Mahmoud Drir, told the *Xinhua News Agency* <u>in July</u> that the concern over GERD can be resolved.

"Mutual interests between the two states connect their future, and the minor issues that rise sometimes cannot affect their relations," he said. "The dam could be a win-win solution. The future and destiny of both Ethiopia and Egypt are intertwined by strong, inseparable, historical bonds."



Can Water Wealth End Poverty?

In recent decades, Ethiopians suffered unspeakable famine and war. As of 2012, <u>5 million people in Ethiopia suffer from chronic food insecurity</u>. <u>Civil war</u> raged inside Ethiopia for almost two decades, from 1974 to 1991, and the <u>two-year Eritrean-Ethiopian War</u> in the late 1990s caused up to 70,000 deaths. One of the poorest nations in Africa, Ethiopia has a gross per capita income of \$US 410, according to <u>2012 World Bank figures</u>. Moreover, the <u>United Nations' Human Development Index</u> ranks Ethiopia 173rd out of 187 countries.

This history helps explain why Ethiopia views the Nile's falling waters — a readily visible and plentiful energy resource — and the GERD as essential to its national development in the coming decades.

Ethiopia is known as the water tower of Africa, with rainfall accumulating in the Ethiopian highlands at more than 4,000 meters (13,120 feet) above sea level and then flowing down to the plains. The Ethiopian government aims to turn this storage of waterborne energy into electricity through a host of hydropower projects — more than 15 completed or planned projects across the country and <u>four others</u> on the Blue Nile, in addition to the GERD.

"Social development is strictly tied to energy and electricity supply," Asfaw Beyene told Circle of Blue. Beyene is a professor of mechanical engineering at San Diego State University and has <u>written</u> <u>extensively on the GERD</u>. "The alternative would be a more expensive, dirtier fossil fuel plant. Or a much more risky nuclear energy [plant]."

But the path from natural potential to economic prosperity is not smooth, and there are big reasons for those at the local and international levels to be concerned. Droughts and climate change could lessen the Nile's flow or alter its course. Earthquakes are common in the seismically active Great Rift Valley and could damage the structure. These physical forces — in addition to regional political frictions over the Nile — could threaten how much electricity the GERD will be able to generate.

And even if Ethiopia's GERD project is successful, experts argue, economic prosperity does not necessarily follow.



"Dams are a means to an end, not an end in themselves," noted a <u>November 2000 report from the</u> <u>World Commission on Dams</u>. In other words, to end poverty and advance economic development, Ethiopia may need to make other policy choices and invest in good governance, education, and public health.

"In the global south, where nearly all new dams are being built, large dams are usually put forth as being something of a silver bullet for solving a host of poverty-related problems," International Rivers' Pottinger said. "In reality, most of the world's billion people without electricity will never be the beneficiaries of large dams. Smaller, more decentralized systems — designed with the needs of the rural poor in mind — would be a better fit in much of Ethiopia."

"Super Dam: Egyptian Concern for Nile Water Security Spurs Cooperation Over Ethiopia's New Dam", 01/10/2013, online at: <u>http://www.circleofblue.org/waternews/2013/world/super-dam-egyptian-concern-for-nile-water-security-spurs-cooperation-over-ethiopias-new-dam/</u>

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& Experts criticize Ethiopia dam plans

A hydropower dam being built on the Blue Nile, one of the two source rivers which joins with the White Nile to form the River Nile, is a cause for concern for Egypt and Sudan.

<u>Ethiopia</u> is planning to build a new hydropower dam on the Blue <u>Nile</u>, which threatens to divert water from the River <u>Nile</u>. This is worrying for <u>Egypt</u> and <u>Sudan</u> who rely on the <u>Nile</u> for most of their water.

Ethiopia has already drawn up the plans for the new dam, while international experts criticize it for having faulty foundations. An International Panel of Experts also told Bloomberg News that as well as being faulty, the dam also threatens to cut the flow of water to downstream states Egypt and Sudan.

Ethiopia is the second most populous country in Africa, and is aiming to become an industrialized middle-income nation by 2025. It is the source of 86% of the water that flows in the River <u>Nile</u> through eleven countries up into the eastern Mediterranean. However, <u>Ethiopia</u> claims its project won't affect the flow of the river.

They have claimed that the creation of a new reservoir in <u>Ethiopia</u> would take five to six years to fill, and in seasons of normal or high rainfall, the hydropower dam in <u>Egypt</u>'s Aswan will only loose 6% electricity generating power. However, in the event of a drought, <u>Egypt</u> may suffer disastrous consequences.

Egypt and Sudan have also sent their experts to Ethiopia to ensure that any dam made will not have a negative impact on their water resources.

"Experts criticize Ethiopia dam plans", 05/10/2013, online at: http://www.worldbulletin.net/?aType=haber&ArticleID=119873

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* Ethiopian Hydropower Dam Assessment Warns of Structural Weakness

Ethiopia's plan to build Africa's biggest hydropower dam on the main tributary of the Nile River must address concerns that there may be flaws in the design of its foundations, a group of international experts said.

They also called for further studies on what impact the 6,000-megawatt, \$4.7 billion project may have on the downstream nations of Sudan and Egypt, the International Panel of Experts said in a report e-mailed to Bloomberg News and verified by Ethiopia's Foreign Ministry. Egypt, which relies on the Nile for almost all of its water, expressed alarm about the dam when Ethiopia in May diverted the Blue Nile as part of the construction process.

"Structural measures might be needed to stabilize the foundation to achieve the required safety against sliding" of the main dam, according to the report. There are also "weak zones" in the rock that will support an auxiliary dam that need to be studied, it said.

Construction of the Grand Ethiopian Renaissance Dam is part of a government plan to spend 569 billion birr (\$30 billion) on infrastructure in the five years through mid-2015. The country, Africa's second-most populous nation, targets becoming an industrialized middle-income nation by 2025.

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

Regional Specialists

The panel, which held its first meeting in May last year, was formed at the suggestion of Ethiopia's government. It comprised two specialists each from Ethiopia, Egypt and Sudan and four from other nations. The report, which hasn't been made public, was submitted to the three governments in June.

Ethiopia said the report found the project to be of international standard and won't cause "significant harm" to downstream countries, while Egypt said it was inconclusive.



Ethiopia delivered a hydrological study to the panel that analyzed the downstream impact of the reservoir-filling period given low, average or high rainfall.

The project document concluded that Egypt faces a 6 percent reduction in the High Aswan Dam's electricity-generating capacity and no water loss if the reservoir was filled during years of average or high rainfall. If the reservoir was filled in a dry year it would "significantly impact on water supply to Egypt and cause the loss of power generation at High Aswan Dam for extended periods," according to the document.

A "comprehensive" additional study of the dam's impact on water resources should be conducted, the panel said after reviewing the document. "The analysis presented is very basic, and not yet at a level of detail, sophistication and reliability that would befit a development of this magnitude, importance and with such regional impact."

Ethiopia is working with Sudan and Egypt to enact the panel's recommendations, Dina Mufti, a spokesman for the Foreign Ministry, said in an interview today in the capital, Addis Ababa.

"Ethiopian Hydropower Dam Assessment Warns of Structural Weakness", 03/10/2013, online at:<u>http://www.businessweek.com/news/2013-10-03/ethiopian-hydropower-dam-assessment-warns-of-structural-weakness</u>

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South African Platinum Miners Asked to Reduce Water Use by Half

Mines in <u>South Africa</u>'s main platinum producing area, run by companies such as <u>Anglo American</u> <u>Platinum Ltd. (AMS)</u>, are being asked to cut water use in half after a drought.

Operations near Rustenburg in North West province "have been asked to cut their consumption," Linda Page, a spokeswoman for the Department of Water Affairs, said today by phone. "Domestic users should get first preference obviously."

The province, home to operations of the three biggest producers including Lonmin Plc, was declared a drought-stricken area by premier Thandi Modise last month. The companies have already seen profit margins shrink as prices declined and costs such as wages have grown faster than the rate of inflation.

Impala Platinum Holdings Ltd. (IMP), the second-largest producer, was asked to cut fresh water use by 10 percent, spokesman Johan Theron said. The shortage "is something that happens every summer and every summer it gets worse," he said today by phone.

Impala's consumption of fresh water makes up a quarter of its total usage and mining hasn't been affected, Theron said.

The water shortage is exacerbated by supply-infrastructure that hasn't kept up with growth in Rustenburg, he said.

Anglo American Platinum, Lonmin and Aquarius Platinum Ltd. weren't immediately able to comment.

<u>Northam Platinum Ltd. (NHM)</u>'s Zondereinde mine isn't within Rustenburg's municipal borders, Charmane Russell, a spokeswoman for the company at Russell & Associates, said by e-mail.

"South African Platinum Miners Asked to Reduce Water Use by Half", 04/10/2013, online at: http://www.bloomberg.com/news/2013-10-04/south-african-platinum-miners-asked-to-reduce-water-use-byhalf.html?utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=cccb00ae4b-RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_c1265b6ed7-cccb00ae4b-250657169

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China: New Dam Builder for the World!

SHAI OSTER in his article "China: New Dam Builder for the World" says: "African and Asian delegations visiting China are taken each year to see the Three Gorges Dam as a model project even though it has been dogged by problems ranging from spiraling costs and unrest caused by forced relocation of more than a million citizens to rapid land erosion and increased pollution. Criticism of the dam — which is the largest in the world by many measures — has become so persistent that the Chinese government has recently begun to acknowledge the issues. But environmentalists and human-rights activists fret that China will repeat many of the same mistakes it has made with dams at home as it leads a dam revival abroad."

Follow the story and join the discussion on how to improve achieving sustainable socio-economic developments around the world, in particular in the developing countries with very limited knowledge on environmental and climatic impacts and the how the ongoing manipulations in major transboundary water-bodies may mean for future generations.

"China: New Dam Builder for the World!", 03/10/2013, online at: http://farideldaoushy.wordpress.com/2013/10/03/china-new-dam-builder-for-the-world/



***** 5 Chinese cities barred from water-polluting projects

BEIJING, Sept. 30 (Xinhua) -- New projects that risk causing water pollution will not be approved in counties and districts of five Chinese cities after they failed to meet pollution control targets, a spokesman with the Ministry of Environmental Protection said on Monday.

The districts and counties of cities of Siping, Hefei, Liu'an, and Kunming as well as Enshi Tujia and Miao Autonomous Prefecture have failed to meet the standards set in a five-year water pollution control guideline released in 2012.

The decision to call off such projects was made after the ministry evaluated the implementation of two water pollution control guidelines that cover China's major drainage areas including the Yangtze River and Yellow River.

Under the plans, the Chinese government will allocate 500 billion yuan(82 billion U.S. dollars) for prevention and control of water pollution in major drainage areas from 2011 to 2015, up from 300 billion yuan for the previous five-year period.

The water pollution situation remains "grave," the ministry spokesman said, adding that the implementation of some pollution control projects was not efficient enough and there was widespread pollution in rural areas.

Cities' pollution control efforts are hampered by the shortage and poor use of wastewater treatment facilities, he added.China unveiled the 2011-2015 guideline on fighting water pollution in 2012, setting the goal that 60 percent of the country's major rivers and lakes should be clean enough to be sources of drinking water supply by the end of 2015.

"5 Chinese cities barred from water-polluting projects", 30/09/2013, online at:

http://news.xinhuanet.com/english/china/2013-

09/30/c 132765570.htm?utm source=Circle+of+Blue+WaterNews+%26+Alerts&utm campaign=2fcc36d8e5-RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_c1265b6ed7-2fcc36d8e5-250657169

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Silk Road trade hub struggles to conserve water

LANZHOU, Oct. 4 (Xinhua) -- Chinese authorities are planting trees, repairing a reservoir and working on water diversion in an effort to conserve water for oasis city of Dunhuang, home to UNESCO World Heritage Mogao Caves, a shrine of Buddhist art treasures.

Dunhuang, once a crucial trade town along the ancient Silk Road that traversed the Gobi Dessert, is irrigated by streams coming from snow-capped Qilian Mountains.

As tourism boomed and population exploded, the melting ice could no longer accommodate the city's water usage. Three decades ago, locals begun to extract underground water, an important supplement. But now, neither the streams nor underground water could stand further exploitation.

To tackle water shortage, Dunhuang government decided to clear silt deposited in a reservoir that has been irrigating the city's farmlands for more than 30 years.

"Dunhuang is very arid. The ecosystem is fragile as well. The shrinking underground water aggravated the city's deforestation," said Zhang Keding, an official in charge of Dunhuang's reservoirs.

To prevent sands from flowing into the reservoir, local authorities have been planting trees in the reservoir's upstream.

In addition, the local government is pushing forward a water diversion project designed to transfer water to Dunhuang from a nearby lake.

The project would not only increase the underground water, but also dredge silt in the reservoir, said Deng Wei, chief of Dunhuang Water Supplies Bureau.

Deng said the construction could start as early as next spring, adding the initial design of the project is under review. More than 150,000 residents could benefit from the water diversion project, according to the water supplies bureau.



Dunhuang also imposed strict water allocation. Drip irrigation and high water fares are among the measures rolled out to keep the underground water levels from falling .

Dunhuang is known for its Mogao Caves, a key stop-off point for faithful merchants along the ancient Silk Road.

Nowadays, thousands of visitors swarm every day to Mogao, the home to more than 2,000 colored sculptures and 45,000 square meters of frescoes in 735 caves carved along a cliff by ancient worshippers.

Booming tourism industry boost the economy of Dunhuang, but the surge of visitors also strain limited resources including water.

"Silk Road trade hub struggles to conserve water", 04/10/2013, online at: <u>http://news.xinhuanet.com/english/china/2013-10/04/c_132772830.htm?utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=cccb00ae4b-RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_c1265b6ed7-cccb00ae4b-250657169</u>



***** Women's co-operative bank builds check dams in Mann

KOLHAPUR: Mann, the perennially <u>drought-prone tehsil</u> of Satara district, now has a reason to smile. A local women's bank has constructed a chain of small check dams in the tehsil, helping ease the water crisis for local villages here to a large extent.

The <u>Mann</u> Deshi Mahila Sahakari Bank Ltd., founded by social activist Chetana Sinha, has set up check dams at Fulkoti, Shirsav and Mhaswad, at a total cost of Rs 1 crore. The state government had provided the funds, but the bank implemented the project. These check dams are now expected to benefit over 20 villages in the area.

The check dams were ready in May 2013. And when the area received its first monsoon showers in June, these dams were partially filled up. Locals said the stored water helped improve the groundwater level in the area and largely eased the water crisis. With recent showers over the last fortnight, all the check dams are now filled to capacity and should see the locals through till February 2014.

The eastern part of the <u>Satara district</u> receives low rainfall. Over the past two years, water scarcity had worsened in the area, with monsoon rains being unpredictable. The shortage of water had affected the groundwater levels in the area, being depleted over decades.

When Maharashtra faced erratic rains in 2011 and 2012 that led to a severe scarcity of fodder and water for rural populations, the state government had proposed the construction of chains of check dams - a structure that uses natural sites to form small walls that could arrest water. Such dams are expected to act as smaller reservoirs of water, benefitting villages located nearby. These could improve groundwater levels and act as a source of water for agricultural activities.

"The Mann Deshi bank had set up a fodder camp for the villages in the neighbourhood, where fodder and water was being provided to farmers and their cattle. When we got to know of the state's plan to



construct check dams in the coming years, we decided to approach the government for the same. The bank proposed to the government about setting up three check dams near Mhaswad town, where the Mann tehsil office is located. A small stream passes near the town, which generally receives good showers during September. The area received good showers over the last fortnight and all the check-dams are now filled with water," Sinha told TOI on Saturday.

The major crops farmers grow in the region are jowar, groundnut, gram, bajra and maize.

Officials from the Satara district collectorate said that such check dams could be very beneficial for the district, especially during periods of acute water shortage. "The crisis can be controlled in future with such small chains of check dams. There is no need for special excavation of earth or use of heavy machinery for months to build such dams. A basic levelling is used only to optimise the space for more water storage. There are similar initiatives that are being encouraged by the state government as well. A check dam in Koregaon tehsil, Palshi was also rejuvenated by another NGO, and now it is storing water for over 10,000 people," said a Satara district collectorate official.

"Women's co-operative bank builds check dams in Mann", 06/10/2013, online at: http://timesofindia.indiatimes.com/city/kolhapur/Womens-co-operative-bank-builds-check-dams-in-Mann/articleshow/23601313.cms



***** Waters rise in Cambodia after deadly floods kill 30

At least 30 people have been killed in floods in Cambodia as heavy monsoon rains have drowned provinces along the Mekong river, raising fears the country is set for a repeat of the 1996 floods, which killed 170 and affected a million people nationwide.

The Mekong has burst its banks in several places, forcing tens of thousands of people to higher ground.

"We are short of food and facing difficulties moving around. It is better for those who have boats but I do not have one so I have to walk through the water every time I need to go anywhere," said one man.

The capital Phnom Penh is not being spared. Around 25,000 hectares of rice paddies have been destroyed, and it is a similar story in neighbouring Vietnam, which has been hit by Typhoon Wutip, Laos, and Thailand.

While Wutip has been downgraded to a tropical storm it does not make it any less deadly or damaging for Laos and Cambodia, where water levels are still rising.

"Waters rise in Cambodia after deadly floods kill 30", 01/10/2013, online at: http://www.euronews.com/2013/10/01/waters-rise-in-cambodia-after-deadly-floods-kill-30/

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***** Typhoon leaves 74 missing in China As Thailand, Vietnam brace for floods

(Reuters) - Seventy-four Chinese fishermen were missing on Monday after a typhoon sunk three <u>fishing</u>boats in the South <u>China</u> Sea as <u>Thailand</u> and Vietnam braced for torrential rain and flooding.

The ships were hit by Typhoon Wutip on Sunday as they navigated gales near the Paracel Islands, about 330 km from China's island province of Hainan, state news agency Xinhua said, citing sources with the Hainan maritime search and rescue centre.

Rescuers had rescued 14 survivors, the sources said. The boats were sailing from the southern province of Guangdong.

Rains from the storm are expected to reach Vietnam on Monday before hitting Thailand on Tuesday.

Thai officials warned that more heavy rains could inundate already flood-hit areas of the northeast. At least 22 people have been killed in this year's flooding.

"We're expecting more floods," Teerat Ratanasevi, a government spokesman, told reporters on Monday. "Soldiers have been asked to help evacuate people trapped in flood zones."

Authorities in central Vietnam have moved children and elderly people to schools and other more solid buildings ahead of the storm.

In the central province of Quang Tri, an estimated 82,000 people would need to be evacuated if Wutip made a direct hit, a government statement said.

Vietnam said heavy rain had been falling in several central provinces while flooding and landslides could strike the region later this week.

Typhoons gather strength from warm sea water and tend to dissipate after making landfall. They frequently hit Taiwan, Japan, the Philippines, Hong Kong and southern <u>China</u> during a typhoon season that lasts from early summer to late autumn.

"Typhoon leaves 74 missing in China As Thailand, Vietnam brace for floods", 30/09/2013, online at: http://www.reuters.com/article/2013/00/20/acia.storm.

http://www.reuters.com/article/2013/09/30/asia-storm-

idUSL4N0HQ14120130930?utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=89ed10bd98-RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_c1265b6ed7-89ed10bd98-250657169

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* WWF calls for emergency MRC meeting over Laos' decision to build 2nd dam

The World Wildlife Fund, one of the biggest conservation groups, has called for an emergency meeting with the Mekong River Commission (MRC) in the wake of Laos' decision to proceed with a second dam on the river.

There are fears that this move will seriously undermine the River Commission's efforts to protect the river and its rich fish life. It could also strain regional ties, given that the Don Sahong dam is likely to have severe environmental repercussions in Cambodia and Vietnam, where millions of people rely on fishing and growing rice in the lower reaches of the Mekong.

In a statement yesterday, WWF said Vientiane's plan to go ahead with the dam in the Siphandone area and bypass the commission's process for regional consultation had cast a cloud over the MRC and its management of the river.

"The MRC was effectively broken in November last year when Laos decided unilaterally to proceed with the controversial Xayaburi dam, against the express wishes of Vietnam and Cambodia," WWF International director-general Jim Leape said.

"It is impossible to imagine that the <u>mekong</u> River can be harnessed sustainably without the MRC functioning properly, ensuring joint decisions are reached on dam developments that are to the benefit of all.

"The four Lower <u>mekong</u> countries must immediately revisit the original MRC agreement and meet urgently to resolve their differences and fix the consultation process before any other dam projects are considered.

"If the countries fail to get serious about their obligation to cooperate, they risk sabotaging both the MRC and management of one of the world's great rivers."

On September 30, Vientiane notified the MRC - an inter-governmental body made up of Laos, Thailand, Cambodia and Vietnam - of its decision to proceed with the Don Sahong hydropower project in the Siphandone ("One Thousand Islands") area in southern Laos near the Cambodian border.

WWF said the Don Sahong dam would block the only channel available for dry-season fish migration on the <u>mekong</u>"putting the world's largest inland fishery at risk".

Last Monday, Lao authorities provided a technical feasibility study, plus environmental and socialimpact assessments, and a fisheries study, to be shared with other MRC member states.

Lao Energy Vice Minister Viraphonh Viravong told The Nation earlier that the Don Sahong Dam was too small to have any serious environmental impact on the Mekong. It would generate 260 megawatts of electricity for local consumption in the southern region of the country. "In the Lao language, we call it 'hou' Sahong, meaning we put generators at a hole in the river to get electricity. We don't block the river to create a big reservoir," he said.



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Vientiane wants to start the project next month, so it can be done by February 2018.

However, the news has angered Thai conservationists, who are still upset about the Lao government's go-ahead on the Xayaburi dam, south of Luang Prabang.

Under the MRC agreement, all dams on the mainstream of the <u>mekong</u> should go through a consultation process with other states with an aim to reach a consensus on whether they should proceed.

"The <u>mekong</u> is a shared river, and the four countries are bound by the MRC agreement to hold intergovernmental consultations before proceeding with dam developments that impact their neighbours," WWF's Leape said.

"WWF calls for emergency MRC meeting over Laos' decision to build 2nd dam", 06/10/2013, online at: http://www.nationmultimedia.com/national/WWF-calls-for-emergency-MRC-meeting-over-Laos-deci-30216410.html



***** Laos gives Mekong dam go-ahead despite ecologists' fears

Conservationists cried foul yesterday as the Lao government decided to go ahead with the Don Sahong Dam on the Mekong River.

The hydropower project, to be built in the Siphandone area of southern Champasak Province, could block the only channel available for dry-season fish migration on the Mekong, thereby threatening the world's largest inland fishery, said a Thailand-based conservationist group.

The run-of-the-river dam will operate year-round and produce 260 megawatts of electricity, mostly for domestic consumption.

In its notification, submitted to the <u>mekong</u> River Commission (MRC) Secretariat on September 30, Lao authorities provided a complete technical feasibility study, including social and environmental impact assessments and a fisheries study for the project, which will be shared with the other MRC member countries - Cambodia, Thailand and Vietnam.

Construction work is expected to start in November 2013 and finish by February 2018, with the dam set to begin operating in May 2018.

"Laos submitted the project as an intra-basin water use on the Hou Sahong channel under the process of notification. This will enable the member countries to foresee the project's water use and any impact stemming from this," said Hans Guttman, CEO of the MRC Secretariat.

Notification is a process required by the 1995 <u>mekong</u> Agreement for year-round intra-basin wateruse projects and inter-basin diversion projects on the Mekong's tributaries, and for wet-season water use on the mainstream.

Lao Energy Vice Minister Viraphonh Viravong earlier told The Nation that the Don Sahong Dam is too small to cause any serious environmental impact on the <u>mekong</u> River. It would generate electricity only for local consumption in the southern region of the country. "In the Lao language, we call it 'hou' Sahong, meaning we put generators at a hole in the river to get electricity. We don't block



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the river to create a big reservoir," he said.

However, a group of Thailand-based conservationists yesterday called on Laos to stop the project.

"Laos is once again attempting to evade its responsibilities, while forcing the public in the whole region to pay for the immense damage that the Don Sahong Dam will cause," said Teerapong Pomun of Thailand's Living Rivers Siam Association. "Laos must cancel this project, along with the other mainstream dams, before it's too late."

In a 2007 review of the Don Sahong Dam's environmental impact assessment (EIA) report, the MRC stated that the project was subject to "prior consultation", as the dam is located on the mainstream since its inflow does not comes from a tributary. During an MRC Informal Donors Meeting held in June, 10 international donors, including the European Union, Japan and the US, asked the Lao government to share Don Sahong Dam's EIA report and submit the project for prior consultation.

"If the MRC fails to clamp down on Laos, it will be failing its mandate and will lose any validity they have left as an organisation," said Ame Trandem of the conservationist NGO International Rivers.

In addition to the Don Sahong Dam, 41 projects on the tributaries of the <u>mekong</u> have so far been submitted for the notification process - three in Cambodia, 17 in Laos, two in Thailand and 19 in Vietnam.

The Xayaburi Dam, which is now under construction, is the only one so far to have been proposed on the mainstream and therefore submitted for the prior consultation process.

"Laos gives Mekong dam go-ahead despite ecologists' fears", 04/10/2013, online at: http://www.nationmultimedia.com/national/Laos-gives-Mekong-dam-go-ahead-despite-ecologists--30216332.html

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* Laos pushes ahead with Mekong dam without consulting neighbours

Oct 3 (Reuters) - Laos is to forge ahead with a second hydro power dam on the Mekong river, sidestepping its commitment to consult its downstream neighbours before starting work.

Laos on Monday notified the Mekong River Commission (MRC), a consultative body that works with lower basin countries - Thailand, Vietnam, Laos and Cambodia - of its intent to build the 260-megawatt Don Sahong Dam, despite calls from foreign donors to consult neighbours that face a risk of depleted fish stocks and damaged livelihoods.

The four countries are bound by a treaty to hold inter-governmental consultations before building any dams.

"This is a shared river and the dam will bring devastation to Laos' neighbours ... they should demand that Laos undergo the consultation process," Ame Trandem, Southeast Asia Program Director for International Rivers, said in an interview.

Officials from Thailand, Cambodia and Vietnam were not immediately available for comment.

The three countries have repeatedly voiced concern about Laos failing to honour a consultation agreement on a bigger project, the \$3.5 billion, 1,260 megawatt Xayaburi dam, for which it held a groundbreaking ceremony late last year.

Thai builder Ch Karnchang PCL started construction of that dam prior to conclusion of talks and studies. Laos long maintained the building was only preparatory work.

Laos is one of Asia's poorest countries, but it has big ambitions and wants to become the "Battery of Southeast Asia" through power exports from its dams, mostly to Thailand.

The Don Sahong Dam, to be developed by Malaysia's Mega First Corporation Bhd, is the second of 11 dams planned by Laos along its stretch of the 4,900 km (3,044 mile) Mekong. Construction is expected to begin next month at a site 2 km (1.2 miles) from the Cambodian border. It was unclear what the financial cost of the dam would be.

Representatives from 10 of the MRC's international donors, including the European Union, Japan and the United States, had asked Laos to submit the project for consultation in June.



Hans Guttman, of the MRC secretariat, said Laos had "indicated its willingness" to talk if its neighbours were concerned.

Commercial operation for Don Sahong is set to start in May 2018. Energy generated will be sold to Laos' national power utility, Electricite du Laos, to supply domestic energy needs, according to a statement by the MRC.

Activists believe the dam could cause flooding and threaten food security in Cambodia and Vietnam.

"It's irresponsible to proceed without carrying out a credible trans-boundary impact assessment. The Don Sahong Dam will only push Cambodia and Vietnam closer to a flood crisis," said Chhith Sam Ath, executive director of NGO Forum Cambodia. (Editing by Martin Petty and Nick Macfie)

"Laos pushes ahead with Mekong dam without consulting neighbours", 03/10/2013, online at: http://in.reuters.com/article/2013/10/03/laos-dam-idINL4N0HT1VH20131003

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* People must pay the full cost of water, says EEA

As the UN marks the anniversary of the decision to make the right to water legally binding, the European Environment Agency has called for governments to charge the full price for water, to cut down waste.

Despite many regions having high levels of rainfall, readying water for consumption comes at a high economic and environmental cost.

Citizens in a number of European countries pay a flat fee for water regardless of the amount used, or even no fee at all.

In the study, 'Assessment of cost recovery through water pricing', the EEA looked at water pricing in England and Wales, France, Germany, the Netherlands, Scotland, Croatia, Serbia, Slovenia and Spain.

"In many parts of Europe, profligate water use is a real problem," said Hans Bruyninckx, the EEA's executive director.

The research group found that citizens wasted around a third more water when they were not charged for the actual amount they used.

Bruyninckx added: "there is a lot of potential for Europe to cut water use by improving efficiency. Charging water users for the volume of water they actually use, at a price reflecting the true cost, sends an important signal – freshwater is a limited and precious resource."

Drinking habits

The report found that flat-rates did not significantly change water drinking habits but that uses such as for gardening or swimming pools did.

Denmark serves as example for water reduction policies. Between 1993 and 2004 the country increased its urban water prices by 54% and invested significantly in infrastructure. Over a decade, daily water use per person fell by almost 20% to 125 litres, one of the lowest levels of any rich country.

The EEA also called for governments to include the full cost of water, including environmental impacts.



A statement accompanying the report says that water should be "priced at a level which both encourages efficient use and properly reflects its cost", adding: "This should include all costs of purifying and transporting the water. In addition, environmental and resource costs of water use, such as pollution and the depletion of resources, should also be internalised into water prices".

On 30 September, the United Nations marked the anniversary of an international decision to make water a legal right. In this context, an EU body using the day to call for greater water pricing is oddly timed, especially as poor families struggle to make ends meet in the financial crisis.

The EEA said: "Low-income households must also have access to affordable water services, but keeping prices artificially low for all users is not the best method." The report says that this may create a vicious cycle of underfunded service-providers with poor infrastructure.

According to a 2012 Eurobarometer survey, 84% of the public agrees somewhat with water being charged at its full price.

"People must pay the full cost of water, says EEA", 01/10/2013, online at: <u>http://www.euractiv.com/sustainability/charge-full-price-water-eea-news-530782?utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=2fcc36d8e5-RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_c1265b6ed7-2fcc36d8e5-250657169</u>



Slobal food prices fall to 3-year low, FAO trims crop forecasts

FAO food index falls for 5th month to 199.1 points in Sept

- * Agency slightly trims cereal output, stocks forecasts
- * Economist says prices not likely to fall much further (Adds detail)

By Catherine Hornby

ROME, Oct 3 (Reuters) - Global food prices are not expected to fall much further after dipping to their lowest level in three years in September, the United Nations food agency said on Thursday, trimming its estimate for 2013/14 world cereals production.

The decline in prices last month was driven by a sharp fall in the cost of grains, while dairy, meat and sugar prices all rose, the Food and Agriculture Organisation (FAO) said.

Food prices surged during the summer of 2012 due to a major drought in the United States but prospects for a rebound in cereal supplies to record levels have reversed the price trend this year.

The FAO's index measuring monthly price changes for a basket of cereals, oilseeds, dairy, meat and sugar, averaged 199.1 points in September, down about 1 percent from 201.4 points in August.

The index has fallen for five consecutive months and has reached its lowest level since September 2010.

"There is still some room for prices to go down but not significantly," said FAO senior economist Abdolreza Abbassian. "Anything that happens now on the negative side could push up prices again," he said.

FAO is due to hold a second ministerial meeting to discuss food price volatility at its Rome headquarters on Oct. 7, with 40 ministers expected to attend.

Its first meeting last year was organised to tackle the third spike in grain prices in four years. Even though prices have fallen from their peaks, FAO said it wanted to hold another meeting as markets were still vulnerable to supply shocks.

The agency said it had slightly trimmed its forecast for world cereal output in 2013/14 to 2.489 billion tonnes, 3 million tonnes lower than a previous estimate, but still 8 percent higher than production in 2012.

It cut its forecast for world wheat output to 704.6 million tonnes from 709.8 million, mainly due to poorer prospects for the South American crop. Excessive moisture is also hampering the harvest in the Black Sea region and affecting planting for 2014, Abbassian said.



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He added that exportable supplies in major wheat exporters were tighter compared with last year, so any production problems could have a strong impact on international prices.

World cereals stocks at the close of seasons ending in 2014 are now seen at about 559 million tonnes, down 2 percent from a previous estimate in September, though still 12 percent above their opening levels.

FAO's price index hit a record peak of 237.9 points in February 2011, when high food prices helped drive the Arab Spring uprisings in the Middle East and North Africa.

In the summer of 2012 the index began surging to levels close to another peak seen in 2008, in which year there were riots, some deadly, in several poor countries. (Editing by David Cowell and James Jukwey)

"Global food prices fall to 3-year low, FAO trims crop forecasts", 03/10/2013, online at: <u>http://www.trust.org/item/20131003111647-</u> <u>ludk7/?source=hptop&utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=b0eb704646-</u> RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_c1265b6ed7-b0eb704646-250657169

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