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Issue 126

ORSAM WATER BULLETIN

29 April 2013 - 05 May 2013

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* A dam sight safer than the rest

A newly built dam in Northern Turkey is using an innovative hydrualics technique to ensure it remains at the top of the safety league

The Deriner Dam is one of Europe's largest, but also one of its safest due in no small part to an innovative hydraulics technique.

The dimensions of the Deriner Dam on the Coruh River in north-eastern Turkey are gigantic in every respect. Over 3.5 million cubic metres of concrete were poured into this 249 metre high and 720 metres long structure. Construction has been going on for ten years, with a budget that has grown to $\notin 1.5$ billion.

The heart of this mammoth project is an underground hydroelectric power plant. Every year, four giant turbines will generate 2,100 gigawatt hours – the annual consumption of a big city.

"To achieve this power output, we will impound almost two billion litres of water," explains Hilmi Kaplan, who is responsible for the electromechanical realisation at ERG Trade and Industry. Since the 1970s, this Turkish company has specialised in major infrastructure projects and is responsible for large portions of the dam construction. "Safety is naturally a top priority in any project of this size," continues Kaplan. "The main risk for a dam is that the reservoir overflows, which would result in uncontrolled flooding. This could potentially be caused by earthquakes or extreme tides in the nearby Black Sea."

Priority for safety

Two large tilting gates, which feature Rexroth drives, provide flood discharge capability. The gates divert surplus water into the basin at the foot of the dam via two artificial diversion tunnels.

"A total of 2,250 cubic metres per second can run off via these ducts," Kaplan summarises. "That's enough for a lot of situations. But if a 'flood of the century' should occur, we need many times this capacity." For this reason, eight central outlet gates have been integrated into the main dam structure. These gates can handle an additional volume of around 7,000 cubic metres per second. The openings are arranged symmetrically in order that all eight water flows intersect just above the surface of the downstream basin. This reduces the impact of the outflowing water.



As a project partner of ERG Trade and Industry, Bosch Rexroth was responsible for the drive and control solution for the central outlet gates and the two tilting gates. The local branch office supported the conceptualisation, assembly and installation, together with specialists in Germany. "The great advantage for us was that we had just one partner for all flood discharge issues. In effect, we were supplied a turnkey system," explains Kaplan.

The opening drives for the massive central outlet gates represented a major challenge for the design of the hydraulic drives. Each gate is 2.8 by 5.6 metres and weighs 24 tonnes. Despite this weight, the corresponding drives must work in parallel with a high degree of precision to ensure that the gates always open and close in sync. This causes the streams of water to meet above the basin, thus dissipating their energy. This is essential to prevent erosion of the valley walls and the undercutting of the dam.

The solution was to mount the drive cylinders of the central outlet gates vertically in the drives. In addition, the cylinders are made of lightweight special steel. "We were also subject to extreme constraints in the weight of the cylinder," adds Kaplan. "Each component of the dam could only be lowered using a special cable crane with a load capacity of 30 tonnes."

Delay-free synchronisation of all the gates is essential for efficiently opening and closing these additional flood discharge mechanisms as needed – but the sensor signals need to cover distances of up to 1,250 metres. "For this reason, a fibre optic network is used in the dam to transport each control command." Like the central outlet gates, this network has also been installed and fully tested, so that the Deriner Dam can safely go into service in 2013.

"A dam sight safer than the rest", 29/04/2013, online at: <u>http://www.constructiondigital.com/innovations/a-dam-sight-safer-than-the-rest</u>

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***** Turkey ready for cooperation with Romania in water, forestry

Speaking at the meeting, Eroglu said that Turkey was willing to develop historic ties of cooperation between with Romania especially in the fields of water and forestry.

Turkey's Forestry and Water Works Minister Veysel Eroglu on Tuesday met with the Romanian Minister of Agriculture and Rural Development Daniel Constantin in Ankara, the Turkish capital.

Speaking at the meeting, Eroglu said that Turkey was willing to develop historic ties of cooperation between with Romania especially in the fields of water and forestry.

Eroglu also said Turkey and Romania successfully worked together to prevent pollution in the Black Sea.

Constantin, on his part, said that it was pleasing to see efforts in Turkey and Romania to further boost bilateral relations.

Water, as a consumable product, needs to be placed under protection, Constantin said.

"Turkey ready for cooperation with Romania in water, forestry", 30/04/2013, online at: <u>http://www.worldbulletin.net/?aType=haber&ArticleID=107821</u>

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* Restoration of Iraq's Basra Marshes

Along with the water shortage in Iraq, the risk of destruction of the wetlands located in the south of Iraq has stayed on the agenda for a long time.

With their socio-cultural and environmental importance, the Basra Marshes -- formerly known as the Mesopotamian Marshes -- are the largest wetlands of the Middle East. The marshes, which extend over the provinces of Basra, Missan and Thi-Qar, comprise three marshes: the Central, Hammar and Hawizeh marshes.

Today 90 percent of the wetlands, which have been destroyed since the 1970s, have been lost. The main problem is deterioration of the wetlands, the lack of drinking water and sanitation. As a result of pesticides, untreated industrial waste, canalization and salination, water quality has reached a level that threatens human health and living organisms. The most important factor that has led to the drying up of the marshlands was in the 1990s, when Saddam Hussein instigated a project to redirect the waters feeding the marshes in order to punish the Marsh Arabs living in the marshland regions who rebelled against him. The wetlands shrank by 10 percent after Saddam's initiative was launched. The area, where a half million people lived, started to dry up within two years. This situation, defined by the United Nations as an "environmental and human disaster," led to the destruction of fish and plant life in the region. Thousands of people who made their living from the reeds and fishery had to relocate. It is estimated that the whole area will be completely destroyed if measures are not taken within five years.

The United Nations Environment Program (UNEP) launched a project, "Support for Environmental Management of the Iraqi Marshlands," in 2004. The project aims at supporting the sustainable management and restoration of the Iraqi marshlands. The restoration of the wetlands with a surface area of approximately 15.540 square kilometers is a glimmer of hope for those who left the region and who may return. The first stage of the UNEP project, which was completed in 2009 and composed of three stages, was carried out between 2004 and 2007. The first stage, with financial support from the Japanese government, includes data collection and analysis, capacity building, developing EST (Environmentally Sound Technology) systems and raising awareness in society of the issue. Progressing in two parts (A and B), the second stage -- which was carried out in parallel with the first stage and financed by the Italian and Japanese governments -- continued between 2006



and 2008. Stage A includes supporting data collection on water resources and analyses, and supporting environmental, socioeconomic and land planning studies. Stage B, on the other hand, includes the implementation of a pilot project to supply drinking water, implementing EST systems and providing community participation.

From 2007 to 2009, the last stage was supported by the Japanese government. This stage includes creating the necessary infrastructure for the treatment of wetlands and solid waste, enabling EST systems and public participation, and analyzing the data obtained. Iraq's Ministry of Water Resources, the Center for Restoration of the Iraqi Marshes, the Iraqi Ministry of Environment and the Iraqi Ministry of Municipalities and Public Works also participated in the project.

In addition, pilot projects for drinking water, sanitation, marsh rehabilitation and management were implemented. Research stations were established so that the marshes can be monitored, and data on such things as water quality and biological diversity can be collected. Fifty percent of the marshlands have been restored following the launch of these projects.

Although the projects have been successfully implemented, ecosystem rehabilitation is a long process. The requirement for a sustainable management of this area was asserted to be on the national development agenda as a priority. The two-year-long drought led to a decrease in the water level in the wetlands in 2009 and the deterioration of vegetation. Drought, desertification, climate change and a decrease in precipitation affected the water shortage across the country.

The largest wetlands of the Middle East have great importance in ecological terms besides being important for its residents, who are known as Marsh Arabs. In order to restore the marshes again, the Iraqi Ministry of Water Resources added 11 billion cubic meters of water to the water estimates of the ministry for 2015. In total, the amount of water needed for the marshlands is 67 billion cubic meters.

International organizations and the Iraqi government are striving to save the Basra Marshes. So too is the NGO Nature Iraq, which was founded in 2004 by Dr. Azzam Alwash, winner of the 2013 Goldman Environmental Prize, with the aim of protecting nature and historical heritage.



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Nature Iraq is carrying out work to make the marshlands Iraq's first national park. NGO representatives said they have included the area on the Ramsar List of Wetlands of International Importance. They are also drafting a legislative framework for the protection of the area.

"Restoration of Iraq's Basra Marshes", Tuğba Evrim Maden, 05/05/2013, online at: <u>http://www.todayszaman.com/news-314501-restoration-of-iraqs-basra-marshes.html</u>

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* Iraq Plans to Launch Satellite To Deal With Water Crisis

Iraq is to launch a satellite at the end of this year as part of a scientific project dedicated to monitoring desertification and <u>water shortages</u>, whose repercussions have cast a shadow over the country for years.

Last Thursday [April 25], seven Iraqi ministries held a meeting to discuss procedures for launching and studying the economic feasibility of the project.

Deputy Minister of Communications Amir al-Bayati said, "Members of the high commission for the satellite project, which consists of seven ministries, have discussed the launching mechanism of the project and its economic feasibility, in addition to a well-defined cooperation process between all concerned parties in order to avoid any roadblocks that might stand in the way of completing the project."

Rafed al-Jabouri, the general coordinator of the project, said, "Iraq will accomplish this project in cooperation with the Italian La Sapienza University and an Iraqi team of 15 researchers from three ministries, who underwent space training."

Sources in the Ministry of Sciences and Technology — one of the ministries participating in the project — said that the cost of the project has reached \$150 million.

Last month, an Iraqi delegation headed by the minister of communications, Torhan al-Mufti, held meetings in Paris with a European company specializing in manufacturing satellites to discuss building an Iraqi satellite. The delegation visited the premises of European company Astrium, which informed Iraq that it was ready to design and manufacture the Iraqi satellite and provide all additional services, including outfitting the satellite with a control and communication station.

Ministry of Communications adviser Karim Mazaal Shabi said to *Al-Monitor* that "launching an Iraqi satellite is a key project that interests the country, especially after opening again to the [rest of] Arab world." The Ministry of Communications mentioned that Shabi delivered a speech during the technical demonstration held by Arabsat — a company affiliated with the Arab League — in cooperation with the Ministry of Communications about the manufacturing process, the launching and the maintenance of the satellite.

Arabsat was founded in 1976, since which time it has launched 51 satellites.



Iraq has been facing sandstorms for years in any given month due to the increasing area of land suffering from desertification. The country has struggled during the past three years with shortages in irrigation water supply from the <u>Tigris and Euphrates rivers</u> that flow from Turkey. Statistics from the Ministry of Agriculture show that desertification has affected 80% of arable land due to water scarcity and climate change.

In 2009, Iraq created a special committee for desertification that comprises the Ministries of Agriculture, Water Resources, Higher Education and Scientific Research, Sciences and Technology, in addition to a committee of advisers affiliated with the <u>premiership of the government</u>. The committee works on three levels. The scientific research body follows up with the satellite project, the executive body is dedicated to carrying out, coordinating and observing projects and the follow-up body assesses the results, as well as scientific and executive activities.

"Iraq Plans to Launch Satellite To Deal With Water Crisis", 25/04/2013, online at: <u>http://www.al-monitor.com/pulse/originals/2013/04/iraq-plans-satellite-launch.html</u>

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* Goldman Winner Restores Iraq's Marshes

I recently attended the award ceremony for the 2013 <u>Goldman Environmental Prize</u> winners in Washington, D.C. Six people, one from each of the inhabited continents of the planet, was honored for their tireless conservation work.

I have followed the Goldman awards since my days at <u>E Magazine</u>, and each year I am inspired and uplifted by hearing the stories of sacrifice and struggle against seemingly insurmountable odds. In an introduction video to the event, Robert Redford pointed out that the Goldman Prize has been awarded for 24 years, to 157 "environmental heroes" from 82 countries.

"The impact of their work is immeasurable," said Redford.

John D. Goldman, who presented the prizes on behalf of the <u>Goldman Environmental Foundation</u>, and in memory of his late parents Richard N. and Rhoda H. Goldman, said the awards mark each winner's dedication and selflessness. Although the winners each receive \$150,000 and a bronze statuette, as well as international recognition, they may still face dangers for their activism, said Goldman.

One former winner recently received a year-long prison sentence in South Korea as a direct result of his environmental work, Goldman told the crowd. Another past winner, in Gabon, "has been charged with illegal defamation of the government for speaking out against damage by oil palm plantations and other problems," said Goldman.

On the other hand, a number of past Goldman Prize winners have been elected to public office in their home countries. One recent winner successfully convinced Apple to allow third-party auditing of its overseas factories, said Goldman. Another was instrumental in convincing the Obama administration to block construction of a massive mountaintop removal coal mine in Appalachia.

Other past winners have included <u>Wangari Maathai</u>, the late Noble Prize winner and legendary tree planter from Kenya; Love Canal's <u>Lois Gibbs</u>; <u>Ken Saro-Wiwa</u>, the Nigerian activist and media personality who was executed for his work on behalf of the Ogoni people; and <u>Terri Swearingen</u>, who became well known after defeating a toxic waste incinerator in Ohio.

"These individuals have shown to all of us the power of the individual," said Goldman.



DC TV presenter Barbara Harrison, the emcee of the award ceremony, added, "They are individuals who don't take no for an answer... The recipient has always set personal risk aside to take a stand."

The 2013 Goldman Prize winners are Azzam Alwash (Asia), who has helped restore marshlands in his native Iraq; Nohra Padilla (South and Central America), who has organized recycling "waste pickers" in Colombia; Jonathan Deal (Africa), who fights fracking in ecologically sensitive parts of South Africa; Aleta Baun (Islands), who has fought against destructive marble mining in West Timor; Rossano Ercolini (Europe), who is spreading the concept of municipal Zero Waste from his Italian hometown; and Kimberly Wasserman (North America), who defeated dirty coal-fired power plants in a Latin neighborhood in Chicago.

Rebirth of the Mesopotamian Marshes

Displaying deep humility, Azzam Alwash accepted a Goldman Prize on behalf of his team <u>Nature</u> <u>Iraq</u>, a group he founded in 2004. Going further, he added, "It is the <u>Marsh Arabs</u> who showed what is possible in a free Iraq."

Alwash said, "With patience and a sense of humor my team worked under incredibly difficult circumstances to achieve what some experts said was impossible."

Alwash grew up fishing in the Mesopotamian marshlands in southern Iraq, which scholars believe is the cradle of one of the earliest civilizations. The lush habitat was also the cradle of diverse wildlife, from water buffalo to lions, otters, foxes, and a plethora of birds and fish. But in the mid 1990s, Saddam Hussein burned and drained much of the area to drive out Shiite Arabs that had staged uprisings and then fled into the reeds.

The marshes turned to dust bowls, and the people who had lived there for thousands of years, descendants of the Sumerians, began to suffer. Like many Iraqis, Alwash fled the country in those troubled years, and he settled in Los Angeles. There, he became a successful engineer, and in the 2000s he began returning to his homeland for extended periods, with a goal of using his technical skills to bring water back to the region.

Working with the local Marsh Arabs, Alwash and team helped reflood the area. The reeds returned, followed by much of the wildlife. About half of the original marshlands are now flourishing, and the area is slated to become Iraq's first national park.



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Alwash's next challenge is fighting off a plan to build 23 dams upstream along the Turkey-Syria border, which he says would reduce the flow of water into the marshes to a trickle.

When she accepted her Goldman Prize, Kimberly Wasserman said, "I always believe the hard work we do as organizers is the reward itself."

"Goldman Winner Restores Iraq's Marshes", 01/05/2013, online at: <u>http://newswatch.nationalgeographic.com/2013/05/01/goldman-winner-restores-iraqs-marshes/</u>

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* Iraq's Marshlands Bloom Again, Restoring Traditional Way Of Life

When Saddam Hussein's regime collapsed, it appeared Iraq's once-abundant marshlands had been destroyed forever.

The former president had transformed the largest wetland ecosystem in southwest Asia into desert in retaliation for a Shi'a uprising in the early 1990s.

As a result, a 20,000-square-kilometer sanctuary for fish, migratory birds, and water buffalo was feared lost, along with the traditional way of life carried out for centuries by the inhabitants of the marshes, located between the Euphrates and Tigris rivers in southern Iraq.

By the time Hussein was toppled in 2003, some 90 percent of Iraq's marshland had been drained. Leading experts provided a dire assessment, predicting that the marshes could never be restored.

But local residents soon tore breaches in the earth dykes Hussein had constructed, allowing water from the north to flow into the area again.

Within six months, the reed forests began to return. Broader efforts to restore and monitor the marshes followed. As a result, according to the UN, more than 40 percent of southern Iraq's marshes have been regenerated.

The return of wildlife highlights the positives, but questions remain about whether the lives of the marshland people can be fully restored.

'Accustomed To The City'

Hasan Ali was raised as a fisherman in Chibayish, where he lived with his parents in a traditional arched house made from marsh reeds, where they kept alive a centuries-old way of life.



In the 1990s, he became one of 175,000 marshland Iraqis who were displaced by the Hussein regime's effort to drain the marshes.

Their restoration has allowed Ali to return to take up his former trade as a fisherman, but it is not an easy transition for him and his family.

"The situation has improved now [since the era of Hussein's rule]. But many who had been fishermen are not interested in returning because they think it is better to live and work in the cities," Ali says. "They are no longer thinking about the marshes as the land of their fathers and grandfathers -- as a land for hunting and fishing and agriculture. Most of them have become accustomed to the city lifestyle and would rather live in the cities than return to the marshes."

Others, too, are reestablishing their roots in the hope they can make a living the way their ancestors did.

Hasan Jum'a has built an arched reed house there on a small, floating islet that he constructed from reeds, mud, and rushes -- much like ancient Mesopotamian marsh inhabitants built their homes.

"We hope that the marshes will be completely restored to the way they were before because the Chibayish inhabitants depend on them for grass and fish," Jum'a says. "Most of their livelihood comes from nature here and on the birds that come through for about two months every year. Without the marshes, there would be nothing to benefit the people here -- no water buffalo, no grass for livestock, no fish, and no birds."

'Now We Can Fish Again'

In the Maysan marshes east of Chibayish, one woman tells RFE/RL that this year's record winter rainfall was a blessing.

"The animals are now doing well. The fish have returned with the increase of water," she says. "In Saddam's time, we really suffered. We were displaced and went through dire times. But now we can



fish again. We have grass where we can take the animals out to graze. So we have come back and have settled down."

Dangerous threats remain to the ecosystem, however.

Azzam Alwash is a marshland Iraqi who fled to the United States to escape Hussein's crackdown in the 1990s. Trained as a civil engineer, he returned to Iraq in late 2003 and created a nongovernmental organization called Nature Iraq -- a group that is now warning about how upstream dams alter vital seasonal floods.

"The floods made agriculture sustainable in Iraq for 7,000 years. Every year, we'd have a new flood that comes in and renews life. And, in fact, we now have no floods," Alwash says. "What we have is a constant stream of water that is reducing in quality and increasing in salinity. The reason for that is because dams are being built upstream in Iraq, in Syria, in Turkey, and Iran. We have to manage this place together. Turkey, Iraq, and Iran and Syria need to work together across boundaries to manage the water resources of the Tigris and Euphrates. To share."

Wildlife Rebounds

The process of returning water to Iraqi marshlands is being watched closely thanks to individuals like Alwash, oversight bodies such as the UN's Iraqi Marshlands Observation System, and the Iraqi government.

Iraq's deputy minister of agriculture, Mahdi al-Qaisi, says record rainfall last winter caused salinity to drop in recent months and bring a fresh, almost miraculous burst of plant growth and wildlife.

"The more water that it introduced into the marshes, the lower the levels of salinity are in the water," he says. "This allows life in the ecosystem to rebound within the wetlands."

Qaisi tells RFE/RL that the lower salinity levels have allowed the government to push ahead with regeneration projects.



"We have started strategic plans to revive the marshes," he says. "We are focused on restoring conditions that will help support water buffalo livestock because they are an economically important animal for marshland agriculture. We also consider the marshes as an important resource for fish -- and the [General Authority for the Development of Fisheries] has pushed to restock the marshes with small carp."

For those who have returned to the marshlands, the stakes are high.

They say their livelihoods depend on the marshes providing enough to sustain their families. And they worry that any reversal in the restoration of the marshes, such as a rise in salinity that could kill fish, could mark the end of their return.

"Iraq's Marshlands Bloom Again, Restoring Traditional Way Of Life",05/05/2013, online at: <u>http://www.rferl.org/content/iraq-marshlands/24977090.html</u>

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Circle of Death: Water, land, food

BARLOOT—Sitting on a plastic crate in his small wooden shop behind his vegetable stand of watermelons and tomatoes, Mohammed Osman Mamali lets out a deep sigh. Though he comes from five generations of farmers, none of the vegetables in his shop are his. They all come from Iran. Mamali was the last one in his family to abandon farming.

"In more than four years I hadn't gotten any profits from my farms. Regardless of my efforts, my vegetables didn't grow and were contaminated by pests," he said from his shop on the main road between Kalar and Sulaimani. Eventually, production was too low to support his wife and five children and, in 2011, he did what his father and brothers did five years ago: stop farming.

Barloot, his village in Kalar district alongside Diyala River, now has less than 20 farming families in what used to be one of the most fertile regions of Iraqi Kurdistan until the 1990s. Many people abandoned their farms to become small grocers selling Iranian fresh produce.

The reason farms in the area are slowly being abandoned is because of polluted water from Diyala River. The river, called Sirwan in Kurdish, covers about 445 kilometers and feeds into the Tigris River below Baghdad. While the amount of pollution is more intense near Darbandikhan Lake, the entire river faces the same problems, according to Nwenar Fatih, an environmental activist working on the Iraq Upper Tigris Waterkeeper project in Nature Iraq, a non-profit NGO. The project's aim is to research on water quality in the rivers and lakes, and increase awareness on water-related issues.

The bleak perspective of the environmental activist is similar to that of a government employee in the Garmyan Directorate of Agriculture that oversees the area where Barloot is located. Abdulmutalib Raafat Zardawy, an environmental engineering and water resources management specialist in at the directorate, said the polluted water is the main reason for a slow, long-term destruction of the once fertile soil.

"The use of polluted water for irrigation will lead to a degradation of soil because of rising salinity, accumulation of toxic nutrients and heavy metals which finally leads to decreasing productivity," he said.



The ex-farmer, Mamali, first resisted giving up his farm by growing beans because they were more resistant to pests than other vegetables. He thought that pests were the main cause for his weak harvest. He had no idea that the problem was much deeper.

Crops are less resistant to pests in part because of the poor quality soil from the polluted water. Farmers north of Kalar district have been facing dying crops since 2006 as the Darbandikhan dam, which was built between 1956-1961, became more polluted, said Zardawy. (The two main dams in Iraqi Kurdistan are Darbandikhan and Dookan, which are hydroelectric dams that provide electricity to the area.)

Rahman Khanee, the manager of the Darbandikhan dam, blames the unfiltered wastewater from Sulaimani city and the Shrazur area south of Sulaimani for polluting the water. He described how Tanjaro, a small river that connects Sulaimani to Darbandikhan Lake, is polluted from the dumping of huge amounts of waste from mechanical shops, small factories, and the city's sewage. Furthermore, the river tends to flood during winter and absorbs even more waste, he added.

The environmental activist, Fatih, said neither the government nor the farmers care about the river's environment.

Farms that are close to the rivers produce run-off that gets mixed with some agricultural chemicals (pesticides and fertilizers) that go back into the river and kill a lot of aquatic animals like fish, according to research by his organization, he said.

"In the lake's coast surface, there was a huge amount of dead fish in August (2012)" because of pollution in Darbandikhan. (The researchers counted only the dead fish that had floated to the shores of the lake—about 1,000—not counting the ones that were at the center of the lake. According to him, there had never been such a large loss of fish in a concentrated amount of time.)

Zardawy, the environmental engineering and water resources management specialist, said that wastewater is a combination of blackwater and greywater, which are types of wastewater from commercial establishments and agricultural lands that include pesticides and fertilizers. These are entering into the waterway directly, without treatment, and negatively impact the water quality and



ecosystem. Pollution is worse in dams where the water is stagnant whereas the river water flows and pollutants are not as concentrated.

The wastewater from the city carries pathogenic organisms similar to those in the original human excreta and some of these are responsible for diseases such as cholera and dysentery, he said. The polluted water is rich in sodium, calcium, magnesium, sulfate, and chloride, which damages crops, except for beans.

Beans are the most capable of surviving in those conditions because they are able to break down organic and inorganic toxins, and resist toxic heavy metals, Zardawy said. Unlike other crops, they are also capable of producing hormones -Gibberellins and Auxins – which both regulate plant growth and have a system of improving soil composition. Most other crops are weakened because of the pollutants and have no resistance to pests.

Mamali doesn't know why all his fertile lands became useless. He feels he did not have a choice and was forced to abandon the farming and instead buy and sell Iranian produce on the side of the road.

"Neither my farm, nor my new job [grocer] can satisfy us" financially, he said. Until last decade, Mamali's village mostly produced sesame, watermelon, melon, pistachio, rice, tomato, okra and cucumber. Now it only produces beans. In 1988, before Saddam Hussein regime destroyed the land during the Anfal campaigns, there were more than 80 families. The village was destroyed completely and survivors started to come back in the 1990s to rebuild. Now, it is indirect man-made efforts that are forcing them to leave once again.

"From Darbandikhan to Hamrin, another lake on the same river in Diyala province south to Sulaimani, the river's environment is polluted wherever towns are located alongside the river," said Khalid Salih Darwesh, the head of the biology department at the College of Education in Garmyan University and a former environmental activist who has worked on biodiversity in the area.

Like what happened in Barloot, in the village of Shekhbawa, from the Jalula district in Diyala province, watermelon didn't grow and was contaminated by unknown pests in 2011 although watermelon was the main local product.



Darwesh says no research has been done to specifically find out why the watermelon crops were failing but he believes the effect of wastewater and heavy metals in Diyala River are the only possible reasons for the problem.

About what the Kurdistan Regional Government (KRG) has done for this problem, Akram Ahmad, the general manager of lakes in the Ministry of Agriculture and Natural Resources, said, "Tanjaro River is the main cause of polluting Darbandikhan Lake."

He said the responsibility to build a filtering station of the Tanjaro River before the water flows into the lake lies with the Sulaimani governorate and the KRG's Ministry of Municipality.

The governmental employee in the agricultural directorate of Garmyan, Zardawy, said that although pollution is a serious threat to the whole region, both the KRG and Baghdad "have no a proper plan to deal with it, and nothing has been done yet."

"Circle of Death: Water, land, food", 02/05/2013, online at: <u>http://kurdistantribune.com/2013/circle-of-death-water-land-food/</u>

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Iran water situation improves

Iran is not suffering from water stress this year, after facing drought for 10 years, said the caretaker of Water and Wastewater Company (ABFA).

Alireza Daemi also told ISNA that the precipitation rate is 205 millimeters across the country this year.

"The precipitation rate in the current farming year is normal, as the distribution of rainfalls has been satisfactory," he said.

"Since the country faced a period of drought, three consecutive wet years should follow to reach a normal situation."

Daemi pointed out that this is the first year in which the water level of Orumieh Lake has not declined.

Stressing the necessity of regulating illegal well drilling, he said the presence of 105,000 illegal wells inflict the biggest damage to underground water resources.

"Close to 4.8 billion cubic meters of water are illegally drawn from the water tables of the area. This has led to a reduction in water level and caused aqueducts, springs and wells to go dry," he said.

"Iran water situation improves", 04/05/2013, online at: <u>http://www.zawya.com/story/Iran_water_situation_improves-ZAWYA20130504053744/</u>

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* Kerman to receive desalinated water from Persian Gulf

The Iranian Energy Ministry will launch a plan to desalinate water in the Persian Gulf in order to supply water to the southeastern province of Kerman in the near future.

The project will be implemented with the participation of the private sector, Energy Minister Majid Namjou said, according to a report posted on the Energy Ministry's website on Saturday.

"There is no solution to resolve the water [shortage] problems in the country but to implement the plan," he added.

Last April, Iran announced a plan to transfer water from the Caspian Sea to central regions of the country, with the goal of providing central provinces with water for industrial and agricultural usages.

Once the plan comes on stream, some 500 million cubic meters of water will be transferred from the Caspian Sea per annum.

A shortage of rainfall, especially in the central, eastern, and southeastern parts of Iran, has led to a scarcity of drinking and irrigation water.

"Kerman to receive desalinated water from Persian Gulf", 29/04/2013, online at: <u>http://www.payvand.com/news/13/apr/1200.html</u>

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* Carr Center Speakers Express Disapproval of Israeli-Palestinian Water Distribution

Calling for comprehensive solutions to the water crisis in the West Bank, Tufts professor Annette Huber-Lee and Palestinian refugee Nidal al-Azraq presented work on improving Palestinian access to adequate safe water at an event hosted Thursday evening by the Kennedy School's Carr Center for Human Rights Policy.

Though the Israeli-Palestinian Joint-Water Committee is responsible for water allocation in the West Bank, Huber-Lee said that in practice, Israel controls most of the water and severely restricts Palestinian access.

She said that 80 percent of water in the Mountain Aquifer, one of the most important sources of water for both Israelis and Palestinians, goes to Israel, while only 20 percent goes to Palestine.

"This illustrates how problematic the current allocation is," she said. "Technically, the JWC operates by consensus...the reality is [that] Israel pretty much has veto power."

For their part, Israelis argue that they provide more water to Palestinians than the Oslo Accords agreement requires them to give, according to the Christian Science Monitor.

Huber-Lee's research project in the West Bank, which seeks to answer the question of how water allocation in the area could be modified, takes an economic approach to the water crisis.

"The project was thinking about water value, rather than strict water quality," she said. "I dispute the idea that water should be regulated by the free market."

Huber-Lee stated that an unregulated market allowed Israel to exercise excessive control over water in the West Bank. She added that a few concessions on Israel's part would greatly improve the lives of Palestinians at little to no economic cost to Israel.

"I've never seen a more intense system of water control anywhere," she said. "Palestinians pay 10 times more for water than Israelis."



Nidal al-Azraq, a researcher and Palestinian refugee who assisted Huber-Lee, described the Aida Refugee Camp—where he grew up—as an area that exemplifies the dearth of Palestinian access to water.

"The whole camp is a sad joke," al-Azraq said.

He stated that water comes by sporadically and that there are sometimes months of drought during the summers, when people store water in tanks on their rooftops.

al-Azraq called Israeli control of water in the West Bank a human rights issue, calling the current state of water allocation a "crime against humanity."

Israelis, however, argue that the Palestinian water shortage is a product of Palestinians' poor management, maintenance, and pricing of their existing resources, according to the Christian Science Monitor.

"Carr Center Speakers Express Disapproval of Israeli-Palestinian Water Distribution", 03/05/2013, online at: <u>http://www.thecrimson.com/article/2013/5/3/israel-palestine-water-distribution/</u>

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Arab-Israeli Study Looks at Pharmaceuticals in Israel's Water Supply

ISRAEL, JERUSALEM — A joint Arab-Israeli study is investigating the effects of pharmaceutical residues in Israel's water.

Israel recycles and reuses about 75 percent of its wastewater. Most of that is used for agriculture. But an unintended by-product of recycled water is pharmaceutical waste that builds up and finds its way back to humans through food and seepage into waterways.

Residues from birth control pills, oestrogen and water pills, anti-depression medications and even common analgesics like ibuprofen, can remain after waste water is treated.

Now French drug company Sanofi is sponsoring a project for researchers from Al Quds University in Jerusalem and the Technion in Haifa to investigate how to rid Israel's water table of these hazardous substances.

The first reports, just released, reveal that the Al Quds team is working on activating charcoal and a clay micelle complex for the removal of ibuprofen, while students at the Technion are working on biotransformation and membrane separation through nanofilters.

Other pharmaceuticals under study are diazepam, aldactone (a diuretic), ibuprofen, ketoprofen and iopromide.

The research has huge potential both locally and internationally, said Hanah Bardin, a soil and water expert working for the Peres Center for Peace, who is managing the two-year project.

"I think that there's been an emerging issue with pharmaceuticals in drinking water in Israel and in the Middle East, where they use treatment water for agriculture. It reaches our food. Basically, we need to have a better idea of how to control the source."

Studies have revealed that pharmaceutical residues in water can affect fish, even causing some species to change their gender. But their effects on humans are not yet well know.

If the researchers successfully develop a method to withdraw or neutralize the pharmaceutical residue, Sanofi may develop the technologies into a commercial project, said Bardin.

The research is expected to be complete in 12 months.

"Arab-Israeli Study Looks at Pharmaceuticals in Israel's Water Supply", 02/05/2013, online at: <u>http://www.ooskanews.com/daily-water-briefing/arab-israeli-study-looks-pharmaceuticals-israel-s-water-supply 27381</u>

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***** UNRWA: Israeli forces demolish Hebron water well

HEBRON (Ma'an) -- Israeli forces on Monday demolished a water well and utility room in the Fawwar refugee camp in Hebron, a local UN official said.

Deputy director of the camp's UNRWA office Ahmad Abu Fadda said Israeli forces declared the area a closed military zone.

Fadda added that several notices said building in the area was prohibited because it is a closed military zone.

The Fawwar refugee camp is located in Area C, over which Israel has exclusive security, planning and zoning control. According to the UN, over 60 percent of the West Bank is considered Area C.

In 2012, 540 Palestinian-owned structures in Area C, including 165 residential structures, were demolished due to lack of Israeli-issued permits, displacing 815 people, over half of them children, UN statistics reveal.

Over 70 percent of communities located entirely or mostly in Area C are not connected to the water network and rely on tankered water at vastly increased cost; water consumption in some of these communities is as low as 20 liters per capita per day, one-fifth of the WHO's recommendation.

"UNRWA: Israeli forces demolish Hebron water well", 29/04/2013, online at: http://www.maannews.net/eng/ViewDetails.aspx?ID=590508

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* Israeli water management tech wins top award

WhiteWater Technology wins plaudits from clean energy analyst company

An Israeli company that produces a system for network water management, WhiteWater Technologies, has been named as a New Energy Pioneer for 2013 by Bloomberg New Energy Finance, one of 10 chosen from around the world.

Network water management consists of installing sensors to collect data on usage, leaks, and other problems in pipes, water sources, and end user connections.

The company was honored for its BlueBox Intelligent Water Analytics System, which collects, validates, and synchronizes continuous data from online water quality sensors, network diagnostic sensors, valves and control systems. It enables early detection of highly sensitive water quality abnormalities and insights on network events in the distribution system.

Israel is renowned for its innovative water technologies, from drip irrigation to developing techniques that allows farmers to plant crops in arid land.

A part of the Bloomberg financial data empire, BNEF provides information on financial, economic and policy analysis in industries and markets for wind, solar, bioenergy, geothermal, hydro and marine, gas and nuclear energies, carbon capture and storage, and much more.

Receiving of an award from BNEF is an important landmark for WhiteWater, said CEO Issey Ende. "It is truly an honor to have been selected by such an esteemed panel of experts," Ende said. "Our mission has been and continues to be to enable operational efficiency gains in the water sector by improving decision making through analytics and optimization, system integration, and workflow management."

The BlueBox system is, BNEF said, the most comprehensive water data collection and management system around. The tool uses advanced statistical algorithms to enable production teams to optimize disinfection programs, coagulant use, and improve filter and energy performance through decision support, helping utilities understand how operational changes, consumption patterns and aging infrastructure, WhiteWater said.



This year's winners represent a broad range of sectors including bioenergy, energy efficiency, digital energy, solar and water. By rewarding game-changing innovators, Bloomberg New Energy Finance hopes to highlight the speed of change in the sectors it serves, the organization said.

The awards program is now in its fourth year. This year the independent panel of industry experts selected the winners from more than 200 candidates from around the world. WhiteWater's award marks the third time in a row that an Israeli company has been honored.

"Israeli water management tech wins top award", 30/04/2013, online at: <u>http://www.timesofisrael.com/israeli-water-management-tech-wins-top-award/</u>

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***** Jaipur CM Ashok Gehlot warms up to Israel tech to boost agriculture sector

JAIPUR: A delegation led by chief minister <u>Ashok Gehlot</u> met Israeli experts and explored the possibilities of cooperation in the fields of agriculture, horticulture and water management. Gehlot along with senior officials is on a seven-day visit to Israel.

Both Israel and Rajasthan share lot of similarities in climatic conditions. Gehlot expressed his desire to enhance bilateral cooperation to give a boost to agriculture in the water-scarcity state.

"Israel is a leading country in the world for desert agriculture management. Production can be enhanced by adopting Israeli techniques in crop and irrigation management. Dark zones of our state can benefit from water planning using Israeli technique," said Gehlot.

Collaboration is also expected in areas like treatment of sewage and waste water which can be used for landscaping and agriculture irrigation. Keeping in view the lack of water resources in the state, cooperation was sought from Israel in rain water harvesting and ground water conservation which would increase availability of water resources in arid and semi-arid regions.

The delegation also studied RO plants with desalination techniques. These plants are likely to be set up at identified places in the state. "For optimum use of canal water in irrigating lands, we can adopt Israel techniques. Fertigation (using of fertilizers with irrigation) is also something that has lot of potential for us," added Gehlot.

For hybrid and export quality crops of lemon, <u>mango</u> and pomegranate, plantation from Israel can be brought and cultivated in Rajasthan. Companies from Israel were invited for investment in projects like cold storage, warehousing and transportation of perishable agri-products.

The chief minister expressed his keenness to establish a dedicated industrial zone for Israel companies on the lines of the Japanese zone at Neemrana.

"Jaipur CM Ashok Gehlot warms up to Israel tech to boost agriculture sector", 29/04/2013, online at: <u>http://articles.timesofindia.indiatimes.com/2013-04-29/india/38903219_1_israel-companies-ashok-gehlot-water-resources</u>

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* Israelis Seize Land, Destroy Water Well near Hebron

HEBRON, April 29, 2013 (WAFA) – Jewish settlers Monday seized a land in the eastern part of Yatta, south of Hebron, while an Israeli force demolished a water well in Al-Fawwar refugee camp, also south of Hebron, according to an official.

Abdul Hadi Hantash, an expert on settlements in the Hebron area, told WAFA that a number of Jewish settlers took over a hill near Yatta and began working on the land to prepare it for building a new settlement.

He added that an Israeli army force destroyed a water well near Al-Fawwar refugee camp that belongs to a local resident and which was used for agricultural irrigation.

"Israelis Seize Land, Destroy Water Well near Hebron", 29/04/2013, online at: <u>http://english.wafa.ps/index.php?action=detail&id=22246</u>

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* A shortage of water, but not hospitality, in the West Bank's fields

Abu Elias, a Jericho farmer, cultivates cucumbers, eggplants, ingenuity, and a good sense of humor.

Abu Elias is pretty much the man in Jericho, where he has raised his four children on the income he earns from growing cucumbers, tomatoes, peppers, and eggplants. I met him in the town square on a dusty October day while reporting a story about water shortages in the <u>West Bank</u>; he invited me to come see his farm – after he visited the local barber shop.

After he was all spiffed up, he had another idea: taking us to visit a local "composting" conference at a farm on the outskirts of town.

It didn't sound very useful for my story but we agreed to join him and I'm glad we did. It turned out that the Palestinian minister of agriculture was there, along with chief Palestinian negotiator <u>Saeb</u> <u>Erekat</u>. Amid manure piles and fish tanks, he introduced me to both.

RECOMMENDED: <u>How water could bring Israelis, Palestinians together</u>

Afterward we headed back to Abu Elias's tidy plot. He used to plant 20 dunams (about 5 acres) of land, but has cut back to half that due to a water shortage, which he blames on mismanagement by the Jericho municipality.

"The spring of Ein Sultan produces the same amount but the distribution and administration of water is very bad, it's inefficient," he says. "I am being given less water than what I deserve in terms of what I pay."

He has compensated by implementing new water-saving techniques, some of which he picked up from<u>Israel</u>. Among them are grafting regular tomato plants onto the roots of wild tomato plants, which are hardier and better handle drought conditions.

As Israeli fighter jets roared overhead toward the <u>Dead Sea</u>, he took a swig of clear, cold water from a clay jug and then poured us hot tea before sending us off with a hearty invitation to return again soon. Water may be in shorter supply here, but hospitality certainly is not.

"A shortage of water, but not hospitality, in the West Bank's fields", 01/05/2013, online at: <u>http://www.csmonitor.com/World/Middle-East/Olive-Press/2013/0501/A-shortage-of-water-but-not-hospitality-in-the-West-Bank-s-fields</u>

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Strael Was Right Not To Return Golan Heights to Syria

Islamist Fighters Would Have Threatened Entire Galilee

Here's the beginning of one newspaper article about Syria that you didn't read this week: "Israel Weighs Golan Invasion." "U.S. Warns It Not To Act."

"Israeli troops exchanged fire with Syrian rebels on the shores of the Sea of Galilee and Syrian army artillery fire killed two vacationing Israelis on a nearby beach, Israel's Cabinet met in a lengthy session. Now that jihadist forces linked to Al Qaeda are in control of the hills running down to Israel's largest lake and main water source, Israel is considering retaking the heights returned to Syria as part of the 1995 Israeli-Syrian peace treaty. Iran's warnings that it will not stand by if Israel acts have alarmed officials in Washington."

Remember 1995? That was the year of Yitzhak Rabin's assassination. It was also the year in which secret negotiations between Rabin's government and Syrian President Hafez al-Assad were literally meters away from concluding an agreement that would have had Israel giving back the entire Golan Heights wrested from Syria in 1967.

Rabin — like other Israeli leaders before and after him — was ready to surrender the whole Golan in return for peace, one of the sticking points being whether the peacetime border would actually touch the Sea of Galilee's waters, as demanded by the Syrians, or run a stone's throw away from them. Assad wanted the right to swim in the lake, not just to skip stones in it, which was one of the reasons the talks failed.

Today we can say that it's lucky they did.

But that's not what educated opinion was saying back in the 1990s or, for that matter, in the '70s, the '80s and the early 2000s. Then, the smart word was — in Jerusalem, in Washington, in the world's capitals and media — that peace with Syria was a far greater strategic asset for Israel than a few hundred square miles of disputed territory that would only be the cause of more wars. Ordinary Israelis who thought otherwise (and there were a lot of us) were scorned. Ours was primitive thinking, we were told. Territory was a foot soldier's fetish, and we lived in an age of missiles and rockets. It was a peasant's mentality to refuse to part with land for something more valuable.

We were, of course, right. Not that anyone could have predicted with certainty that in the second decade of the 21st century, the Syrian regime would be toppled by Islamic rebels whose hatred for



Israel would far surpass that of the Assads. What one could have predicted, however, was that the future had few certainties of any kind. The land that was here today would still be here tomorrow. The government or political constellation that was here today might be tomorrow's distant memory. That much, peasantlike, we knew.

Nor have the statesmen and pundits, with one or two exceptions, had the honesty to admit they were wrong. This was predictable, too. Educated opinion is never wrong; it just gets more and more educated. One could have a great deal of fun hauling out quotations from the archives in which this or that illuminatus of our times explains the benefits of an Israeli withdrawal from the Golan and the benightedness of being against it.

I'll refrain from that pleasure. The question is whether at least some of these illuminati are capable of a real education, which would include learning from their mistakes.

Let's move south to the Jordan River from the Golan. It's no more a real river, to be sure, than the Sea of Galilee is a real sea; in America it might pass for a creek. Still, it flows in a deep ravine of which it isn't so easy to get to the other side, in a hill-backed valley that is a natural boundary between Palestine and Transjordan. Viewed from the ground, though not perhaps from a space satellite, river, ravine and valley form a barrier well worth controlling.

Foot soldier thinking, we're told again. How is any of this going to stop a nuclear-tipped Iranian missile? A peace agreement with the Palestinians, on the other hand, joined by pro-Western Jordan — now that would set Iran back on its heels. And since the Palestinians aren't going to sit down at a table on which the Jordan River and Valley are not placed; only a retro mind would oppose placing them there.

Perhaps. But the river and the valley will be around for a while. A Palestinian government capable of making and maintaining peace with Israel, or King Abdullah's regime in Amman, might not be. Everyone thought the Assads were forever, too. They didn't last half that long.

"Israel Was Right Not To Return Golan Heights to Syria", 03/05/2013, online at: <u>http://forward.com/articles/175718/israel-was-right-not-to-return-golan-heights-to-sy/</u>

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* Rainwater Harvesting in Sana'a Faces Challenges

Hana Al-Zabidi has a hard time recalling exactly what happened on the day when her home flooded. She lives in a small-three room house made out of cement blocks on the outskirts of Sana'a.

"Suddenly, water burst everywhere. It destroyed our things," she said.

Hana is in her 20s and lives with her parents and four brothers. Her neighborhood floods whenever it rains, sometimes severely. Last year, the flood destroyed half of her home.

Yemen has a "severe water shortage," the United Nations Development Program—among other organizations—has assessed. Groundwater is depleting at an alarming rate.

Oddly, in this parched country flooding is a huge problem.

Hana lives in a valley on the outskirts of Sana'a called Al-Qaifi. Here, further from the center of the capital, some services—particularly infrastructure that might divert flood water—are scarce.

In the capital of Sana'a—which has transformed from being a small, walled city with a population of 135,000 to a sprawling metropolis with a population of over 2 million over the course of the last four decades—the infrastructure to collect and make use of the scarce resource of water is sorely lacking and organizations are struggling to tackle the problem.

Aref Al-Shuja' is the technical manager of Al-Saela Construction Project and is overseeing a citywide project to construct 38 water-collecting basins. The water collected will be used for irrigations, Al-Shuja' says and hopefully will enrich the underground water supply.

Another problem that Al-Shuja' must tackle is the issue of water drainage and flooding.

Someone like Hana may have built her home without obtaining building permits, which is often done through local officials. Abdulraqeeb Ata, the manager of the Public Works Office, said homes should


not be built near the flood path, where water flows during the heavy spring rains.

Even central districts of Sana'a-such as Al-Zubari street and Bab Al-Yemen-also flood.

Four years ago, the capital secretariat distributed financial compensations to flood victims whose houses were partially or wholly damaged.

Another problem that can contribute to flooding is makeshift construction that takes place in some neighborhoods, where locals build their own septic drains, connecting wastewater from their bathrooms to the central system.

However, they used improvised techniques and this often leaves the roads uneven, the pavement sloping. This creates more flooding, Ata said. It will take a unit of engineers to work on this problem, he said.

Many areas in Sana'a—such as Khawlan Street and Al-Qadisea Al-Maqaleh—are some of the first spots the Public Works Office in Sana'a will tackle, Ata said.

Abdulwahab Al-Eryani, the general manager of Al-Saela Construction Project, said they are still constructing basins to collect rain water. Many of these basins are on the outskirts of Sana'a, at the base of the surrounding mountains. Water runs down the sloping mountains and collects in pools. But, Al-Eryani said, they still need to build connecting canals, to better direct the floodwaters.

Abdulkhaleq Alwan, head of the planning and policies team at the Water Resources Authority, said that though there are local organizations—such as the Al-Saela Construction Project and the Public Works Office—working to address the issue of water in Sana'a, there is little coordination between the offices.

Hana's family rebuilt their home, but didn't move to higher ground or to another neighborhood. Her neighbors helped her, she said. Her family doesn't have a plan for the upcoming rains. They're waiting for either the municipal or state organizations—though they can't say who—to help their



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community.

"We don't own land or have the money to build a house in another area," Hana said. "We don't know will happen to us if it floods again."

"Rainwater Harvesting in Sana'a Faces Challenges", 29/04/2013, online at: http://www.yementimes.com/en/1672/health/2290/Rainwater-harvesting-in-Sana%E2%80%99a-faces-challenges.htm

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Send in the river?

It is a welcome news that India has formed two separate expert groups to advance sub-regional cooperation—one among Nepal, India and Bangladesh (NIB) and another among Bhutan, India and Bangladesh (BIB) respectively—on water resources management for hydropower development in Ganges and Brahmaputra river basins (The Hindu, April 15). This suggests a change of track in Indian policy towards its neighbors. The Indian government's change of policy on shared water resources in the region was exemplified by the Framework Agreement for Development between India and Bangladesh during the Indian Prime Minister's visit to Bangladesh in 2011, wherein both the governments agreed "to harness the advantage of sub-regional cooperation" in the power sector and water resources management. Not only that, according to the Joint statement issued during the visit, the two Prime Ministers had directed their experts to formulate necessary terms of reference for joint projects in the shared river basins.

Going by the history of sub-regional cooperation on water resources and energy connectivity, the subject has remained a taboo so far as the Indian government is concerned. One may be reminded of the fact that when the subject was mooted in the first Summit of the Heads of States of the SAARC countries by Nepal and further advanced by the Bangladesh President in the Banglore Summit of 1986, the Indian Prime Minister almost dismissed the idea out of hand, saying, "We have not sought to melt our bilateral relationship into a common regional identity."

During negotiations on Farakka Barrage, which basically turned out to be an issue of sharing of Ganges water between India and Bangladesh, the proposal of Bangladesh to expand the scope of the negotiation and include Nepal in the Joint River Commission was refuted by India on many occasions. It has repeatedly opposed inclusion of transit connectivity of electricity in the scope of the meaning of 'transit to the landlocked countries'.

Several attempts through track-two diplomacy backed by studies on regional or sub regional cooperation on water resources among the countries sharing the waters of Ganges and Brahmaputra have not resulted in any success so far, mainly because of the strict policy of bilateralism pursued by India.



Against this backdrop, no wonder water resources cooperation has been taken as a subject of "bilateral" nature that does not merit discussion in SAARC. Given these historical facts, one wonders: Why this sudden change of heart? The issue calls for an inquiry.

The watchers of South Asian waters may find this change as being prompted by the fact that in recent days India has been alarmed by China's initiation of the construction of a series of hydropower projects, including the planned 320-MW hydel project with a reservoir of 28 million cubic metres at Jiacha on the main stream of Brahamaputra. Such a move, the Indians claim, may affect the River Linking Project along with other consumptive uses downstream in India besides creating environmental and other problems. This concern was reportedly expressed by the Prime Minister of India to the Chinese Premier on the sidelines of the BRICS meeting in Durban last month. India, though an upper riparian country for Bangladesh and lower riparian for Nepal in the case of Ganges river, has adopted a policy of differential bilateralism. India's policy of fait accompli under the socalled policy of bilateralism on matters of water sharing-be it in the case of Farakka Bridge or Tankapur hydro-project or recently the Tipai Mukh Dam against which serious concern has been expressed by Bangladesh-is very much evident. In matters of water resources India so far has used its geographical position to pursue its own objectives, often at the cost of meaningful regional initiatives. However, in the case of Brahamaputra it shares the concern of Bangladesh, as both India and Bangladesh are lower riparian to the river. Hence, it frantically seeks a common ground with Bangladesh to argue against the reported Chinese initiative on the Bharamaputra. It is noteworthy that India abstained in the voting at the UN General Assembly on the "Convention on the Law of the Non-Navigational Use of International Watercourses" whereas China voted against it. Hence both the countries flout the international legal regime on watercourse. However, if India is to make a case against China on the use of Brahamaputra waters, there is no option for it than to argue the case on the basis of the principles enshrined in the above convention. This is the reason India is trying to add strength to its argument by aligning itself with Bangladesh and Bhutan.

Thus, in a way China's reported initiative on Brahmputra river can be seen as a welcome development, one which has forced India to cooperate sub-regionally with Bangladesh and Nepal on the use of the waters of Ganges. This also helps India not only to build its international credentials



but also to establish a strong case in the case of the Ganges.

But to make this policy shift meaningful, India needs to gain the confidence and trust of its neighbors. The starting point for India could be to change its recently published Water Resources Policy which negates any sub-regional cooperation and stresses on bilateralism on international watercourses. Second, India must get rid of its hitherto policy of fait accompli on the projects with cross-border implications. It also needs to shun secrecy on the water related data and information. Data on international waters should be openly put up in public domain. Real cooperation does not start without openness to the partners.

Third, there is a need to establish examples of cooperation at the regional level by doing projects which could be cited as a win-win case for all the cooperating countries. China may want to join such projects as sustainable conservation and utilization of the trans-Himalayan river and its eco-system is vital for us all. Fourth, India's credentials on honest and just implementation of bilateral agreements need to be buttressed by even being prepared to review past inequitable treaties and arrangements with its neighbors.

Given the imperatives created by the impact of climate change on shared ecology and water, there is no option for the countries than to cooperate for equitable gain. We can only hope that the apparent change of heart in Indian policy is genuine.

The writer is a water expert and former Secretary at the Ministry of Water Resource

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[&]quot;Bend in the river?", Surya Nath Upadhyay, 29/04/2013, online at: http://www.myrepublica.com/portal/index.php?action=news_details&news_id=53867



✤ BMC plans biodiversity study of Gargai-Pinjal dam

After the state government approved funds for the Gargai-Pinjal dam project, BMC has proposed a biodiversity study of the area along which the dam will be constructed. A tributary of the Pinjal river, Gargai is in Ogade, 120 km from Mumbai, and runs through a thick forest, while its another significant part is in the buffer zone of Tansa Wildlife Reserve.

The current water demand in Mumbai is 4,250 mld and the supply 3,400 mld. The Pinjal dam is expected to provide 2,400 million litres daily, of which BMC will supply 865 million litres daily to the city. The Gargai dam project is expected to bring another 450 million litres to the city.

"Due to the vast forest cover, we will have to carry out deforestation on a large scale for building the dam and it will require ministry of environment and forest go-ahead. Acquiring mandatory environmental clearances in time may be tough. If the paperwork is delayed the project will also get delayed. This additional report will help," said an official.

Skipping the tender procedure, BMC has narrowed down on Bombay Natural History Society (BNHS) to carry out the work.

The corporation plans to conduct the biodiversity study at roughly Rs 85 crore in addition to the environmental impact assessment (EIA) report.

"We have selected BNHS for the study. The organisation is not only a member of National Board of Wildlife (NBW) but also one of the oldest with an expertise in bio-conservation," said a senior official in the water supply projects department.

Feasibility and EIA studies for both projects are in progress, after which a final clearance from the Union ministry of environment and forests will be sought. NBW gave the green signal for a geo-technical survey at the Gargai dam site in March.

Construction of the dams, as part of the Damanganga-Pinjal river link project, is expected to begin in 2015.

"BMC plans biodiversity study of Gargai-Pinjal dam", 02/05/2013, online at: <u>http://www.indianexpress.com/news/bmc-plans-biodiversity-study-of-gargaipinjal-dam/1110257/</u>

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WATER RESEARCH PROGRAMME -Weekly Bulletin-

Some suggestions for the next government

Anti-Kalabagh dam (KBD) lobby in Pakistan has successfully scuttled plans to construct KBD which is technically most feasible, economically viable and beneficial for all the four provinces. ANP in Khyber Pakhtunkhwa (KPK) has doggedly opposed construction of this dam since in its view KBD will sink Nowshera in KPK. Sindh nationalist parties maintain that it would turn Sindh into an arid area and deprive them of Palla fish. They say there is not enough water in Indus River to justify another dam and the proposed dam would greatly lessen the water quota of Sindh and Punjab will draw maximum benefit from it. Landed Sindhi Waderas and the PPP also joined the bandwagon since many of their leading lights have tens of thousands of acres of irrigation lands in Katcha area in Sindh, where their lands are irrigated by flood waters each year. It is now an open secret that India is backing the anti-KBD lobby since it knows that KBD would adequately meet the water needs of Pakistan and make it economically prosperous and thus fail its program of drying up Pakistan by constructing large number of dams over Rivers Chenab, Jhelum and Indus.

Gen Ziaul Haq made sincere efforts to build the dam but could not do so because of immense political pressure from these parties. Next Nawaz Sharif tried but had to abandon it because of loud protests. Gen Pervez Musharraf resolved to undertake the project since by that time Indian designs had been exposed and Pakistan's water needs had multiplied. With the help of technical experts which included members from KPK and Sindh, he debated the issue to dispel misperceptions aired by vested interests and tried to convince them that bulk of water flowed into the sea because of absence of storage system. They were told that all the contentions were false.

They were informed that fear of Nowshera getting submerged in water is fallacious. It was stressed that dams do not consume water but store water. Whether there is one dam on a river or ten, no additional water is needed except when the lake of dam is first filled. Water is consumed at the barrages where canals are taken. There is a provision of a right bank high level canal in the design to irrigate the DIK area, and a left bank canal to irrigate South Punjab. But the water for DIK and South Punjab would be drawn from the share of KPK and Punjab respectively. As for Sindh, it will get its 37% share additional water from the KBD of 2.5 million acre feet. The Sindh province would get the



maximum benefit from KBD. When anti-KBD technical experts ran short of arguments, MQM jumped in and forbade Musharraf from undertaking this project and he shelved it under the frivolous plea of lack of consensus. When the PPP led regime took over power in 2008, the first announcement it made was to shelve KBD for good. Instead it opted for highly expensive thermal Rental Power Project (RPP).

Failure to build dams coupled with RPP scam and high-scale corruption in Wapda led to acute energy crisis which resulted in power outages and gas shedding for long hours and destroyed the industrial sector. Policy of appeasement allowed India to deflate freedom movement in occupied Kashmir and to construct 40 big and small dams over our three rivers. Mismanagement, poor governance and insatiable greed to loot and plunder led to high inflation and sky rocketing price spiral, which not only ruined agriculture but also increased poverty and joblessness. Increasing poverty, lack of justice, snobbish attitude of elites towards the have-nots, rulers subservience to the US and intrusion of US in internal matters have all contributed towards fuelling terrorism.

Patronage of criminals and mafias and near absence of accountability promoted lawlessness and gave greater freedom of action to the criminals and target killers to spread bedlam. Sidelining merit and giving preference to favorites ruined state owned public enterprises. Politicization of NAB, police and other law enforcement agencies gave a freehand to the wrongdoers to indulge all kinds of malpractices without any fear. Such recourse resulted in wide scale embezzlement and irregularities in all government and semi-autonomous departments. Corruption in lower courts kept the unprivileged segment of society deprived of ends of justice. Corruption in education department promoted the culture of ghost schools and blocked growth of literacy rate. Avid lust for power and wealth led to degeneration of moral turpitude. While dishonest and corrupt officials were protected and given promotions, the honest and upright were persecuted and punished.

Of all the four provinces, performance of Sindh government was the worst, although Balochistan government was no less. Every MPA of Sindh Assembly should have been held accountable for bloodying Karachi with human blood for five years and for keeping the economic hub centre of Pakistan perpetually destabilized resulting in closure of industries and business centres and exodus of businessmen to other countries. Unholy practices of extortion, bank robberies, burglary and



kidnapping for ransom, carjacking and motorcycle lifting, raping, land grabbing and drug trafficking scaled new heights. Mercifully the people have got rid of parasites and are now eagerly looking forward for a healthy change through elections planned on May 11. Ongoing acts of terrorism against liberal parties are the outcome of previous government's policies.

Foremost duty of the caretakers and ECP was to carry out proper screening of candidates and then hold fair and free elections so that right kind of persons entered the legislature. The duo has not lived up to the expectations of the people since all the black sheep have easily passed the screening test. The two are responsible for ensuring law and order and provide security to the political parties taking part in elections. Series of successful terrorist attacks on leaders and activists and election offices of liberal parties in particular indicate that the duo is failing in this duty as well.

Irrespective of rosy manifestos of each party, foremost duty of next elected government should be to take stock of the magnitude of the problems faced by Pakistan and evolution of methods to solve them. Worsened law and order, enhanced threat of terrorism, faltering economy, energy crisis, poverty and threats from across the border should be accorded top priority. Comprehensive policies should be evolved and resources harnessed to confront these challenges. Lavishness should be replaced with austerity, all holes of corruption plugged, nepotism and cronyism to be ended and merit system restored. Selection of heads of all state corporations and semi-autonomous bodies done with due care to reinvigorate the flagging health of state institutions. Creative economic policy aimed at exploiting own resources and giving up foreign crutches should be framed. Construction of Bhasha and other smaller dams should be expedited and KBD project undertaken.

Toothless accountability bill formulated by the last government should be made effective to net the evil doers and to award them exemplary punishments. Honest officials to be socially upgraded. Allencompassing counter terrorism policy may be chalked out, which should include identification of causes of terrorism and their remedies. Undermined rule of law should be reinstated and one law made for the rich and poor; system of justice further improved to provide cheap and quick justice to the unprivileged class. Long term poverty alleviation program should be unfolded to give relief to those living below poverty line.



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In order to effectively confront external and internal threats, there should be no letup in up gradation of our defence forces and nuclear and missile development programs. A separate counter terrorism force should be created to tackle urban terrorism and paramilitary forces given the frontline duty to deal with terrorism and cross border terrorism in border areas so as to let the Army fully focus on external threat.

"Some suggestions for the next government", 01/05/2013, online at: <u>http://paktribune.com/articles/Some-suggestions-for-the-next-government-243058.html</u>

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Civic body to study impact of dam projects on ecosystem

Inching towards the completion of the Gargai and Pinjal dams to boost the city's water supply, the Brihanmumbai Municipal Corporation (BMC) plans to conduct a bio-diversity study of the projects.

The spots where the dams are to be built and their submergence areas fall in the extended limits of the Tansa wildlife sanctuary. With the study, the civic body will be able to gauge the possible impact of the projects on the ecosystem. The Bombay Natural History Society will conduct the study at both the sites at a cost of Rs85.79 lakh.

"Considering that the BNHS is a member of the National Board of Wildlife, we have appointed them for the study. As the BNHS is also one of the oldest organisations with an expertise in the field of nature conservation, we decided against inviting tenders from other firms," said a senior official from the civic body on condition of anonymity as he is not authorised to speak to the media.

The construction work on both the dams is expected to start by 2015.

The Central Water Commission has approved the water stock availability reports for the projects.

The National Board of Wildlife, in March, gave clearance for the geo-technical survey to be conducted at the Gargai dam site.

The BMC had, in March, obtained the final nod from the state government to carry out work on the Pinjal dam.

The feasibility study reports and environment impact assessment studies for both the projects are in progress, after which the final clearance from the union ministry of environment and forests will be sought.

The Pinjal dam will be built as part of the Damanganga-Pinjal river link project and would provide 2,400 million litres of water daily. Of this, the dam to be constructed by the BMC would yield 865 million litres of water daily. The Gargai dam project would bring 450 million litres of water to the city daily.

"Civic body to study impact of dam projects on ecosystem", 01/05/2013, online at: <u>http://www.hindustantimes.com/India-news/Mumbai/Civic-body-to-study-impact-of-dam-projects-on-ecosystem/Article1-1052985.aspx</u>

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Ministry of Power: Construction of Hydro DAMS in North Eastern States

New Delhi, April 30 -- Twelve (12) hydro electric projects (1812 MW) are under operation in North Eastern Region including Sikkim. Fifteen (15) hydro electric projects (5231 MW) are under construction in North Eastern Region including Sikkim.

Various groups like Krishak Mukti Sangram Samiti (KMSS), All Assam Student Union (AASU) etc. are opposing construction of Subansiri Lower Hydroelectric Project (2000 MW) and other big dams due to the apprehension of downstream impact of the projects in Assam. The construction works of Subansiri Lower Project is stopped since December 2011 due to agitation launched by these groups.

This information was given by MoS (I/C) Power Sh. Jyotiraditya M. Scindia in the Rajya Sabha today.

"Ministry of Power: Construction of Hydro DAMS in North Eastern States", 01/05/2013, online at: <u>http://www.hydroworld.com/news/2013/05/01/ministry-of-power-construction-of-hydro-dams-in-north-eastern-states.html</u>

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* Ministry: Hot weather, giant sponges cleaned up Lake Nasser diesel spill

Ninety percent of the diesel that spilled into Lake Nasser on Sunday has already evaporated due to high temperatures in Aswan, the Environment Ministry claimed on Thursday.

The rest of the spill was mopped up by the Armed Forces with huge sponges, the ministry alleged.

Preliminary investigations suggested that the spillage came from a leaky ship stationed at the port of the High Aswan Dam.

On Thursday Environment Minister Khaled Fahmy ordered the formation of a field committee to perform a full scan of the High Dam port area to ensure that no contamination occurred from the spill.

Edited translation from Al-Masry Al-Youm

Lake Nasser fishing ban begins Friday 17/04/2010

Gamal Nawfl Mohamed el-Sayed Solayman Mohamed ElGohary

Aswan Governor Mustafa el-Sayid has decided to impose a one-month fishing ban on Lake Nasser beginning Friday. The ban also applies to all boats working in the ports of Aswan, Abu Simbel and Garf Hussein and is an opportunity for the lake's fish to repopulate the lake.

The governorate will also stop collecting fees from fishermen and fishermen associations. Previously, fishermen had to pay LE380 per ton of fish, and LE7 for each can of salted fish, the money from which went to protect and develop Egypt's water resources. To help repopulate the lake, the government released 30 million Nile minnows into the lake.



In related news, 3000 fishermen are demanding that the government delay implementation of a decree that forbids fishing in the Mediterranean Sea from 1 May to the middle of June. The decree was issued by Agricultural Minister Amin Abaza to allow the Mediterranean's fish stock to replenish.

The fishermen argue that the decree has eliminated the sole source of income available to them. "The decision to forbid fishing is unjust as it threatens our livelihoods. A delay in the implementation of the decision is beneficial from several angles, as it allows us to get what we need from the sea before the ban takes effect," said Mohamed el-Sawirki, 47, a boat owner.

In related news, approximately 15,000 Red Sea fishermen from Sennar asked Minister Abaza to issue an exemption for fishing with hooks, suggesting that this type of fishing has little effect on fish stocks.

Translated from the Arabic Edition.

Cruising Lake Nasser: When Egypt's past and present collide 20/01/2011

AP

Abu Simbel–In the 1960s, rising water from a new dam threatened to submerge the temples and monuments of Nubia, the ancient home of Black pharaohs in Egypt's far south. To preserve them, the antiquities were dismantled, moved and reconstructed. Today, most of the monuments can be seen only from the lake that nearly destroyed them.

Cruises on the 480-kilometer-long Lake Nasser, one of the largest manmade lakes in the world, include stops to visit nearly a dozen temples. Four- and five-day trips are offered on two elegant cruise ships, the Eugenie and the Kasr Ibrim, that hark back to the golden age of 1920s travel.

The vast lake is a welcome respite from the din of Egypt's teeming cities and offers a contrast to the intensely farmed verdant fields of the Nile Valley. Birds wheel overhead, and crocodiles slip unseen through the water. The only other sound is the gentle chug of the ship's engine.



The temples' preservation by the international community is one of the most dramatic feats of engineering and conservation the world had ever seen. The structures were painstakingly cut into pieces and rebuilt on higher ground.

The most amazing project was the dismantling of the massive statues of Pharaoh Ramses II at Abu Simbel into a thousand pieces. They were rebuilt over a period of four years as the rising water lapped at their feet.

Lake Nasser, which crosses into Sudan, was created when Egypt, with the help of the former Soviet Union, built the High Dam, which would yield half of Egypt's electricity in the 1970s. It also protected the country from the droughts and famines that ravaged east Africa in the ensuing decades.

But while some 50 countries, including the United States, pitched in to save the monuments, nothing could be done for the people.

Some 60,000 people were relocated north to rudimentary housing in Aswan, far from the fields and orchards they grew up in. Accounts describe families kissing the ground and pocketing handfuls of soil before leaving.

To this day, the people are trying to preserve their language and culture. When the government started talking about cultivating the desert shores of the lake once again, the Nubians demanded to be allowed to return.

For now, though, the lake's rocky shores remain deserted, with the occasional fisherman sailing around the barren islands that were once the crests of distant hills.

The lake also is the last home of Egypt's famed crocodiles, with some 5,000 flourishing in the cool water, along with monitor lizards, Nile geese and numerous birds that can be seen from comfortable lounge chairs on the Kasr Ibrim's polished wooden promenade deck.

The cruise begins with cocktails as the ship sails past the Tropic of Cancer, the northern boundary of the tropics. As the awesome statues of Abu Simbel rise into view on the final day, the triumphal sounds of Egypt-inspired Verdi opera "Aida" burst out of the ship's speakers.



Finally, the trips to the temples. Passengers clamber aboard motor launches and dart across the lake to the ruins. Many date from the time of Ramses the Great, Egypt's megalomaniacal pharaoh, who filled the Nile Valley with statues of himself in the 13th century B.C.

Ramses was only the latest Egyptian pharaoh to invade and subjugate Nubia, carrying off its gold, ivory and cattle and forcing its men into his armies.

At the Beit al-Wali temple near the High Dam, he filled the walls with carvings of his victories over the Nubians, his chariots trampling defeated armies and lopping off enemy heads.

Farther south at Ramses' Wadi el-Seboua temple, which includes an avenue of sphinxes at the entrance, crosses carved in the wall and paintings of St. George above the altar speak of the arrival of Christianity to the deep south.

Egypt experienced massive persecutions by the Roman Empire, culminating in 284 with Emperor Diocletian's "Time of Martyrs" that so scarred the Christians that the Egyptian Church now dates its calendar to it.

Many Christians fled to remote monasteries in the desert or deep into Nubia to escape the Romans. They converted old temples into churches, often defacing images of the gods even as they worshipped in their shadow.

The temple of Kalabsha near Aswan and the Dakka temple farther south date to Egypt's Greek and Roman periods around 1,000 years after the heyday of the pharaohs. Mindful of the culture of the country they were occupying, the Ptolemaic and Roman overlords closely mimicked the ancient styles and honored the old gods – with a few improvements.

Greek-trained craftsmen carved familiar Egyptian deities in the contemporary bas-relief style with more detail, yielding beautiful wall carvings that now are artfully lit from below. The ancient Egyptians often covered temple walls with plaster and carved into it – an easier method that did not stand the test of time.



One exception is the Amada temple, one of the oldest in Nubia dating back 3,400 years to the 18th Dynasty's Thutmosis III. It hosts a particularly fine collection of plaster carvings that posed a challenge to the French engineers who had to save them in the 1960s.

Afraid the carvings would be damaged if the temple were disassembled like the others, the French carefully chipped it out of its rock base and slid it along on rails for 2.4 kilometers at a rate of about 30.4 meters a day.

"Ministry: Hot weather, giant sponges cleaned up Lake Nasser diesel spill", Egypt Independent, 02/05/2013, online at: http://mideastenvironment.apps01.yorku.ca/?p=7185

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Climate change forcing Egypt to change agriculture practices

Agriculture Minister Salah Abdel Momen commissioned the Agricultural Research Center to review their recommendations for harvesting wheat, corn, cotton and rice following the release of new information regarding the impact of climate change on crop cycles.

"The current year witnessed climate changes that ordinary citizens noticed, including underground fluctuations and sharp rises and drops in temperature, which confounds all our expectations," said Agricultural Research Center head Abdel Moneim al-Banna in a press statement on Thursday.

The center will bring its agricultural experts together to discuss how to revise growing and harvesting cycles in the midst of these new weather patterns to maintain high productivity in the cultivation of wheat, corn and rice, Banna added. The center will then submit their recommendations to the ministry to approve before implementing them in the next planting season.

The meetings will also determine actions that could address problems arising from climate change, such as changing irrigation practices to reduce the risk of frost damaging citrus, mango and other crops, he said.

"Climate change forcing Egypt to change agriculture practices", Egypt Independent, 02/05/2013, online at: http://mideastenvironment.apps01.yorku.ca/?p=7189

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* Farmers say Egypt's wheat crop hopes are 'a dream'

Egypt's Islamist-led government must be dreaming if it expects a bumper wheat harvest over the next six weeks that will save the country billions of dollars in imports, says farmer Farid Boshra Abdel Malek.

"How can they expect any increase in wheat production when they are not providing us with water, fuel for our machines or much-needed enrichment seeds?" said the wheat grower in Matay village, near the city of Minya in the lush but slender Nile valley that is this desert nation's granary.

"They are giving us nothing and expecting more."

Farmers say Cairo is over-optimistic in expecting a significant increase in this year's crop as their long-standing complaints about bad fertilizer, shortage of irrigation water and of plant-enhancement seeds remain unresolved.

New worries about a shortage of diesel fuel to power pumps, tractors and trucks to bring in the harvest and transport it have added to the uncertainty.

"Only God knows how much we will harvest this season, given the problems, but we are doing our best," farmer Hana Munir said.

Egypt, the world's top wheat importer, aims to cut imports this year by around 10 percent, hoping a bigger home crop and modified storage will help the most populous Arab state keep its 84 million people in low-cost subsidized bread.

The country has endured political and economic turmoil since the overthrow of autocratic President Hosni Mubarak in 2011. Foreign reserves have fallen from \$30 billion to \$13.4 billion – less than three months' imports – raising doubts about the state's ability to import basic foodstuffs such as wheat.

Egypt usually imports about 10 million tonnes a year, which might cost it just over \$3 billion. But this year the state says it will buy only around 4-5 million tonnes abroad, hoping to get the rest from local production.



"For the government to expect 4 to 5 million tonnes of local wheat for bread is a dream, a nice dream but nothing more than that," said Abdel Malek, who owns a 13 feddan (5.5 hectare) farm in one of Egypt's biggest wheat-producing regions.

A bread shortage in 2008 and similar problems in the 1970s provoked riots at a time when protests were not as routine as in post-revolutionary Egypt, where any lack of bread is likely to trigger violence, if not another uprising. Small protests have already begun in some villages in Minya over bread shortages.

"Overestimations"

Minister of Supply Bassem Ouda told Reuters this month that bread is the top priority for his administration since he took office in a cabinet reshuffle earlier this year.

"The old regime's policy was never in favor of Egypt or our local wheat crop, and it treated farmers badly as it used to humiliate any Egyptian, but that era has ended," said Ouda, who is from the Muslim Brotherhood movement, which supports President Mohamed Mursi.

He forecast a 9.5 million tonne domestic wheat harvest, of which about half ends up in government flour mills. Egypt would sign import deals, if needed, only with countries that "fit our plans, time schedule and give us the best offers and credit facilities", Ouda added.

A ministry official who asked not to be named said Egypt would always need to import wheat. Local production could be increased if the government improved soil and fertilizers and worked harder to solve farmers' problems, but that would take years, he said.

The latest U.S. Department of Agriculture report on Egypt forecast production will increase 2.3 percent to 8.7 million tonnes this year due to an expanded area under cultivation. But it said diesel fuel shortages could disrupt the harvest.

"The trade and other knowledgeable interlocutors estimate Egyptian wheat production at about 6-7 million tonnes," it said.



"The government is forecasting wheat procurement (from local farmers) at 4 to 5 million tonnes, but this appears unrealistic.

"The government is setting import procurement and wheat stock policies based on (significant) local crop production overestimations."

It forecast that Egyptian wheat imports would have to rise to 8.5 million tonnes in the fiscal year beginning in July from 8 million tonnes in the current year, which was sharply down from 11.65 million tonnes in 2011/12.

USDA said wheat stocks are likely to plunge below 1 million tonnes by June 30 because the economic crisis has crippled purchases from the world market. The government has held off imports to save hard currency and says it still has 2 million tonnes in reserve, enough to last 81 days. The United States is one of Egypt's main suppliers, along with Russia and France.

Enhanced fields

Aiming to harvest 1.4 million hectares from April 15 to May 20, the government is pioneering a technique that smoothes fields so farmers can plant more wheat on the same area.

It announced plans last month to build 150 silos before the 2014 wheat harvest and said in February it would raise the price it pays for local wheat to 400 Egyptian pounds (\$58.30) per ardeb (150 kg) up from 380 pounds. Many existing silos are outdated and contribute to loss of grain.

"We have over 2,000 fields to demonstrate a new style of planting that saves up to 25 percent of soilenhancement seeds and water and has already been implemented in Sharqia," said Salah Moawed, a senior agriculture ministry official.

As a result, the Nile delta region of Sharqia, one of the biggest wheat growing areas, is expected to nearly double the amount it harvests to 1.4 million tonnes this year, according to deputy minister of agriculture there Mohy el-Din Mahmoud.

According to Moawed, Egypt grows 9 to 9.5 million tonnes of wheat a year but more than half never reaches the market.



"We waste a lot of our production due to the lack of proper storage as we only have silos to store up to 5 million tonnes, besides losses during harvesting and transport," he said.

Farmers keep back some wheat to make their own bread, to feed livestock and for seeding in the next season.

"We are not putting any pressure on the farmer to plant wheat, but we are giving him incentives and solving his problems to make him want to do so," Moawed said.

But Minya farmer Mohamed Hussein said: "We don't feel there is a government that cares about farmers. We never protest, we don't do anything except work and eat. Yet no one ever looked at us or took our problems seriously."

Farmers' problems

Matay farmers gather daily to talk over their problems and ease stress during a mid-day break before they go back to work.

According to Abdel Malek, farmers complain of a decrease in the Nile water coming from Ethiopia and the government's failure to provide them with enough subsidized seeds and fertilizer.

"Subsidized fertilizer costs 75 Egyptian pounds a 50-kg bag, while we pay 150 pounds for the same amount on the black market to meet our needs," farmer Gerges Ayad said.

Urban sprawl is also eating into available farming land.

"A lot of good agricultural land has been used for housing as the government does not have money to build multi-floor houses and only builds one or two-floor homes, so it has to build more to cope with the increasing population, which is eating up our land," farmer Abdel Malek said.

Egypt's economic crisis has also hit fuel supplies hard.

On two visits to Minya this month and in late March, only one in five filling stations had the lowgrade diesel fuel that farmers use, and there were long queues of trucks and buses.



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But Moawed said the ministry of petroleum had been briefed to make sure farms received enough fuel in harvest time.

"Farmers say Egypt's wheat crop hopes are 'a dream", Egypt Independent, 02/05/2013, online at: http://mideastenvironment.apps01.yorku.ca/?p=7191

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WWW.ORSAM.ORG.TR

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



Amid political instability, farmers' plight goes from bad to worse

As government politics continues to remain in a state of turbulent and violent uncertainty and instability — clashes abound, parliamentary election dates are announced and soon canceled, farmer loan forgiveness is promised with no follow-through — the lives of Egypt's farmers are going from bad to worse.

When, in 2009, the World Bank estimated that about 40 percent of Egyptians live below the poverty line of US\$2 a day, the majority were small farmers and rural families.

It is difficult to imagine how much worse things could actually get.

Mahmoud al-Mansy, spokesperson for the Sons of the Soil NGO and a longtime farmer says, "We basically are 'food' farmers who are unable to find food to eat." Sons of the Soil was established in the mid-1990s to fight for farmers' rights soon after former Agriculture Minister Youssef Waly dissolved the farmers' cooperatives.

The plight of Egypt's farmers has always been serious, particularly for small- to mid-sized farmers who simply farm land to sell produce. The bigger players, on the other hand, have registered corporations with thousands of feddans, and allegedly have a monopoly on the market, yet make up a small percentage of the farming population.

But now, rural negligence over the past two years, along with mixed messages from ministers and government officials, have given rise to new issues.

Mansy says the increasing inability to access quality seeds, irrigation, fertilizers and pesticides has led to a growing black market.

"The bigger farms, some of which are Brotherhood-run, import their seeds and have showed zero interest in helping the smaller players," he says. "The black market fills that void, but for a price."

Mansy explains that the black market is both expensive and unreliable, meaning farmers often lose as their produce is sold to city markets for very little money.



Additionally, he says, this situation has caused communal farmers, who used to share land and resources, to start turning on each other and steal and lie about produce and access to inputs.

"It's a complete mess," Mansy says. "Most farmers have given up on politics completely. Nobody can afford to protest, physically or financially."

Mansy explains that this situation has also increased indentured labor among farmers, particularly young children. Indentured labor entails harsh working conditions by which the farmers either rent themselves or their families out to work for larger farms or are contracted out to traveling labor gangs to work in poor conditions for little or no pay.

While the Agriculture Ministry is supposed to be responsible for ensuring farmers' access to resources, Mansy says it hasn't been able to do this yet and hasn't tried. At the time of writing, the ministry had made no comment.

After former President Hosni Mubarak's ouster in February 2011, rural communities and farmers felt unbridled optimism. But in terms of diminishing revolutionary fervor, Egypt's farmers were probably among the first to throw in the towel.

"Many of us don't have the time, money or power to keep following news and laws and then protest and rally, among other things. We tried for a while, but now we're too busy losing our lives in order to make the food so everybody else in the cities can sit around eating and protesting," says Al-Hag Mahmoud, an older, well-respected farmer and activist who serves as a spokesperson for several hundred small farmers in Upper Egypt, due to his family's respected farming lineage.

Recently, farmers' optimism was dealt another blow with an unfulfilled promise from President Mohamed Morsy. In August, he had announced the cancellation of small-scale farmers' debts with the Agricultural Bank.

The promise resonated among farmers, many of whom say that during Mubarak's rule, they were "tricked" into signing contracts and taking out poorly understood bank loans with high compound interest rates, meaning some farmers now owe hundreds of thousands of pounds for borrowing



LE10,000 or LE20,000 a decade ago. These loans have left many farmers crippled with debt or bankrupt.

Mubarak often said the loans would be forgiven, but after years of these promises never materializing, many farmers gave up. Interim Prime Minister Kamal al-Ganzouri made the same announcement in December 2011, sparking a little more optimism, but again, the loan forgiveness did not materialize.

Under Morsy, the Agricultural Bank says it "also heard about the promise," but as of now its staff "still haven't been given any instructions" on how to implement it.

"It's worse this time, because Morsy is the leader who was expected to change things after the revolution," says Mahmoud, who acted as a coordinator between the Agricultural Bank and smaller farming associates, who were or unable to effectively communicate with the bank themselves, due to illiteracy for instance.

This has made many rural farmers even more bitter and hateful toward Morsy and the Brotherhood in general. This is especially because, Mahmoud says, many farmers were given "gifts" — food, seeds, medicines — to vote for Morsy.

Now, many of these farmers appear to long for the Mubarak days, when farmers had very few rights and the majority lived below the World Bank poverty line.

"It's depressing, but most farmers miss those days," says Mahmoud. "At least we had access to water to drink — let alone farm — most of the time. It has now become a frightening issue."

Most recently, Mansy says some farmers tried to gather together to rally for representation in the upcoming parliamentary elections, as the new Constitution, temporarily retains the 50 percent seat quota for farmers and workers.

However, after the dissolution of the Parliament, which contained some members with whom Mansy was in discussions for months, along with the indefinite delay of the upcoming elections, Mansy says most farmers feel discouraged, or are physically and financially incapable of rallying for the



elections. Mansy is certain that Brotherhood members who own large farms and can campaign and buy votes will likely take the seats.

"[Urban people] and government officials live on a different planet," he says. "[They] don't understand that for small, poor farmers, this isn't some Internet, Facebook political battle that we can sit around waiting for."

Politicians aren't interested in helping farmers, he adds.

"It doesn't matter what Morsy or anyone says or doesn't say, or even if he is replaced," says Mansy. "We are starving and living hand to mouth and do not have resources for politics, and nobody cares. We've accepted that."

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

"Amid political instability, farmers' plight goes from bad to worse", Egypt Independent, 02/05/2013, online at: http://mideastenvironment.apps01.yorku.ca/?p=7193

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* Irrigation Ministry: Prevent rice cultivation in deserts

Water Resources and Irrigation Minister Mohamed Bahaa Eddin has called for the prohibition of rice cultivation in desert lands, which is already forbidden by law, so as to reduce overdraft of water from aquifers.

"The groundwater went down 2.5 meters," he warned in a statement Wednesday. "Future generations may not find water."

His statement came on Wednesday during a celebration of the International Accreditation Certificate ISO 17025 that was awarded to the ministry's groundwater laboratory in the New Valley Governorate.

"This is the first lab of its kind to win the award despite the logistical and financial challenges it had to face," said laboratory director Abdel Hamid Ahmed. "It is an important step towards providing a global level of services."

He added that the laboratory made LE5 million in profits this year from services rendered to the private sectors and individual users.

"Irrigation Ministry: Prevent rice cultivation in deserts", Egypt Independent, 02/05/2013, online at: http://mideastenvironment.apps01.yorku.ca/?p=7195

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Cairo Climate Talks: Climate change hits nation's poor the hardest

Cairo Climate Talks held its 15th panel discussion on Wednesday night, focusing on how Egypt should address the consequences of climate change, particularly in regards to poor urban populations and those living in informal housing.

The inconvenient truth is that approximately 60 percent of Egyptians live in informal and unregistered housing without proper sewage and drainage facilities. This population — which represents the majority of the nation — is at the highest risk to suffer from the adverse effects of global warming.

For instance, as climate change has caused sea levels to rise, flooding occurs, particularly in the Delta region, which has already prompted many residents to elevate their houses several feet off of the ground as a quick fix to the problem.

The altered water salinity levels that are brought on by climate change, as another example, are detrimental to agriculture and food security in a country where water is already scarce. For these issues, there are as of yet no real solutions, or even any quick fixes.

Wednesday's discussion was called "Getting Ready," as it was intended to be a first step in publically acknowledging and discussing the issues with all stakeholders — the public sector, research institutions, international organizations and civil society institutions — in order to create a framework for dealing with these issues.

As Saber Osman, a panelist from the Egyptian Environmental Affairs Agency (EEAA) — an agency under the umbrella of the Ministry of Environmental Affairs — humbly admitted on Wednesday night, "there currently is [no framework], and that is why I am here."

The discussion between these stakeholders comes in light of the Intergovernmental Panel on Climate Change's (IPCC) latest assessment on global warming, which concludes that most of the MENA region — particularly Egypt — is highly vulnerable to the impact of climate change. Additionally,



last week, Agriculture Minister Salah Abdel Momen announced that global warming is forcing the country to change its agricultural practices.

Even acknowledging these serious environmental hazards is somewhat of a breakthrough for the government, because, as Osman reiterated many times on Wednesday, "For 30 years we have had a regime that was pretending to address these issues while sitting at their desks. Now that we [the new government] have been handed these very large-scale problems, we are attempting to build bridges and learn from people who have been already working on it for years."

Flying in from the UK to participate on the panel was David Dodman, a senior policy researcher at the International Institute for Environment and Development (IIED), who opened up the discussion with a brief presentation highlighting what he considers to be the most critical environmental issues facing a country like Egypt, and what solutions they may require. Dodman has international experience tackling similar concerns in developing countries such as the Philippines and the Dominican Republic.

He briefly summarized the major issues in developing countries as: Rapid urbanization in low and middle income communities; very little to no association between the industries who cause climate change and those who are affected by it on the peripheries; how those most at risk are the ones least empowered to address the underlying causes; and the huge challenges to fight this problem for a politically turbulent and cash-strapped country like Egypt.

Dodman emphasized the importance of Community Based Adaptation (CBA), which involves doing extensive research, bridge building between various stakeholders, and determining "what exactly is a high risk area, and what determines when and how third parties should intervene."

As Osman stated, "We are now aiming to focus on high risk areas and develop solutions." However, when asked how they determined a high risk area, Osman admitted that he did not know.

Dodman's concern was that a top-down approach of actively intervening without giving voice to various communities could be quite detrimental. He stressed that Egypt now has a major issue of trust between the government and poor urban communities, and hence the government must strive to rebuild that trust.



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The panel was not focused on offering concrete plans of action, but rather highlighting the current problems. Regina Kipper, another panelist who has been working on CBA-related solutions in Egypt for a few years, stated that they are still working hard to develop a framework in which to highlight these issues, and that significant progress has been made in the field following the 25 January revolution.

Sarah Rifaat, 350.org's Arab world coordinator, added that initiatives such as rooftop gardening, though small-scale, have the potential to tackle issues revolving around food security and access to arable land.

It was clear throughout the discussion that Egypt's biggest hurdle right now is finding holistic approaches and big picture solutions, which all panelists admitted is next to impossible to push for right now given the political climate. However, what was impressive from Wednesday's talk, and speaking to Osman following the discussion, is the government's seemingly newfound commitment to transparency regarding climate change, and how willing they appear to be to listen to solutions.

Hearing public sector representatives answer many of my questions with a simple "I don't know, but I would like to figure it out too," was already a breath of fresh air compared to previous encounters with governing bodies who downright ignored that the issue exists.

A good start for Egypt, but there is a very long way to go, and the detrimental consequences of climate change are now to be expected, not just anticipated.

"Cairo Climate Talks: Climate change hits nation's poor the hardest", Egypt Independent, 02/05/2013, online at: http://mideastenvironment.apps01.yorku.ca/?p=7199

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Final Issue: In Egypt, environmental journalists are endangered species

This piece was written for Egypt Independent's final weekly print edition, which was banned from going to press.

Two months before word about Egypt Independent's potential closure first surfaced, Noor Noor, executive coordinator of the NGO Nature Conservation Egypt, discussed the loss at stake.

"Egypt Independent is one of the only Egyptian media outlets that allocates staff solely to cover environmental issues in Egypt," he wrote. "Environmentalists all across the world follow Egypt Independent for news and updates on environmental issues in Egypt. If anything was to compromise Egypt Independent's ability to cover environmental issues, this would be an enormous loss, locally and internationally."

Back in 2009, when it made the conscious decision to dedicate an entire section of the newspaper to environmental and scientific issues, Egypt Independent stuck to its pledge to tell every story that matters.

For the past four years, the section's journalists have reported in-depth on issues relating to political ecology, biodiversity, the preservation of native seeds, the struggles of farmers, habitat destruction, food sovereignty, energy, scientific discoveries, urban planning, solid waste management, industrial pollution, and the controversial drilling practice of hydraulic fracturing, while the rest of the Egyptian media has provided cursory coverage at best.

Some of the environmental violations are plainly visible but many other tragedies, such as destructive government policies, are less conspicuous and can easily go unnoticed. While kilometers-long oil slicks floating along the Nile are easy to spot, detrimental governmental policies are often unknown outside of ministerial offices.

Egypt Independent's small but dedicated environment team has been committed since its inception to bringing into the public purview issues large and small that impact Egyptians and their environment.



One important feature in this section has been the endangered species series. Threatened local flora and fauna such as the African sacred ibis, the Egyptian tortoise and even various medicinal plants were featured to bring attention to their potential extinction.

However, now, as Egypt Independent receives news that this print issue will be its last under the leadership of Al-Masry Media Corporation, the series seems to have turned inward. It now appears that environmental journalism in Egypt has been shifted from the "vulnerable" to the "endangered" category.

Traditional media outlets grant little to no coverage of environmental issues and often treat them as secondary to mainstream political dialogue, as well as the revolution's demands of "bread, freedom and social justice."

But, by engaging with environmentalists and spending time with those most affected by environmental issues — often rural Egyptians, who themselves tend to garner little media attention — it becomes clear that environmental issues and political concerns are very closely intertwined.

For many Egyptians, the majority of whom live in rural areas, being able to access clean water, land to farm and resources to build a home, as well as natural resources and food security, are essentially what the revolution was about.

By extension, this leads us to believe access to natural resources is one of the most fundamental human rights issues of our time, regardless of whether the effects are indirect, through wars fought over oil resources, or direct, because hydraulic fracturing has made one's drinking water flammable.

We believe the majority of Egyptians are less interested in who rules the country than equal and free access to the aforementioned resources required to sustain life, particularly when more than 40 percent lived below the poverty line of US\$2 a day under the rule of former President Hosni Mubarak in 2009, according to the World Bank.

Yet many of Egypt's environmental activists and civil society members continue to voice frustration that a majority of Egyptians and those in power struggle to discern the direct link between the politics of nature — political ecology — and the problems now facing Egypt.



Hence, many environmental issues often fall by the wayside, solely because they are called "environmental issues."

We believe environmental concerns are not just a luxury for the well-off to worry about, and we work hard to make our readers understand that these issues touch every level of society.

For example, there is nothing luxurious about demanding access to clean water and healthy food. And what is overpopulation, other than an innate awareness that one's equal access to certain natural resources, essential for survival, is being threatened?

We believe that if issues like these were to be treated and discussed as such, Egypt would be better equipped to address its network of issues holistically. By embracing naturalist ideas, one's perspective of the commonly referenced but loosely understood issues that appear to be threatening the country, such as economic issues, can be broadened.

Mahmoud al-Mansy, spokesperson of the Sons of the Soil NGO, has fought for farmers' rights and access to resources since the mid-1990s, when his family fell victim to the common practice of land grabbing. He says the most important aspect of environmental journalism is that it's dedicated to focusing on contentious issues over the long term.

"Our problems are not stories that appeal to headline journalists," says Mansy. "There is no story. There is no catchy issue."

Problems facing farmers are not well-addressed in the media, he says.

"Our very existence from the day I was born is the issue. It is taken for granted that we will remain poor and suffering so the mainstream debate can continue to take place," he says.

Part of the issue is time, he adds.

"Nobody is interested in covering agricultural land and water issues because it is too timeconsuming, and at the end of the day, it won't sell as many papers as the death of one urban boy," Mansy says. "But environmental issues are systematically killing our rural youth and destroying our lives every day."



Ezzat Naiem, founder of the Zabaleen rights NGO Spirit of the Youth, elaborates on Mansy's point, saying the key ingredient is "care."

"Although I know in journalism there is supposed to be a professional distance between journalists and the subject matter, covering issues related to the Zabaleen — not sensationally, as with the documentary 'Zabaleen Dreams' — requires persistence over long periods of time, with the knowledge that there is little positive gain. I believe this requires real care in the matter," Naiem says.

Amr Ali, managing director of Hurghada Environmental Protection and Conservation Association, has been a strong supporter of Egypt Independent.

"I must emphasize the importance of environmentalism journalism in Egypt, although I don't agree with calling it environmental journalism. This type of journalism has greatly helped isolated activist groups around the country raise awareness of the important issues Egypt is facing with regard to natural resources — issues that few people were aware of before," he says.

Ali says the environmental focus helped nonprofits pressure authorities.

"It helped greatly by quickly building public contempt toward certain topics, allowing for groups to put pressure on those responsible," he says. "However, secondly, and more importantly, is the constant effort of this type of journalism to expose instances of corruption in the most unlikely of places — places that people were largely completely unaware of after the revolution."

Ali adds that in a country after a major uprising or revolution, "it usually takes years of education to instill within the public awareness of their rights with regard to these resources because it is their national heritage. Egypt Independent was a huge catalyst in trying to fill this void."

Noor says the Egyptian press occasionally has a piece or section dedicated to environmental news, even governmental publications, but the difference between English and Arabic coverage of such issues is that between breaking a story and covering an issue in-depth.



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"Whereas, occasionally, the Arabic press will just touch on the news or report a specific event, it has yet to engage in investigative journalism when it comes to environmental issues," Noor says. "That, I think, is Egypt Independent's biggest contribution to the local media."

"Final Issue: In Egypt, environmental journalists are endangered species", Egypt Independent, 29/04/2013, online at: http://mideastenvironment.apps01.yorku.ca/?p=7167

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Sudan says dam project in north will flood 12 villages

May 4, 2013 (KHARTOUM) – Youssef Tahir Qureshi, an adviser to the governor of Sudan's Northern state on electricity and dam matters, said that the Kajbar dam project is expected to flood 12 villages in the east and west banks of the river Nile covering 3,600 acres.

Despite this, Qureshi said that the government is determined to proceed with the dam construction which is expected to generate 360 megawatts of electricity.

The official who was speaking at a forum hosted by Sudan official news agency (SUNA) underscored the importance of the dam in boosting economic and social development in the region. He noted that the dam would contribute to the creation of many heavy industries there using iron and minerals.

Qureshi stressed his government's keenness to compensate and resettle affected villagers saying it will create two agricultural projects for them covering an area of 17,000 and 29,000 acres respectively while promising to establish state of art resettlement areas which has all the required services and facilities.

He said that the upcoming stage will witness an open dialogue with anti-dam elements and urged citizens to understand the economic benefits of the dam which he said will result in a complete turnaround and create a prosperous future for the people.

A museum will be founded to collect the historical artifacts found in the region, Qureshi said adding that implementation of the dam project will start only after the process of compensation and resettlement is completed.

The Chinese-financed project has provoked strong opposition from the residents of the region and in 2007 police clashed with protestors killing four people.

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[&]quot;Sudan says dam project in north will flood 12 villages", 04/05/2013, online at: <u>http://www.sudantribune.com/spip.php?article46466</u>



* Mysterious Lake Threatens Ethiopian Sugar Ambitions (Addis Ababa)

ADDIS ABABA, Ethiopia — A saline lake in Ethiopia that's baffled scientists by its 15-old growth threatens to spill into the nation's longest river and damage plans by Africa's biggest coffee grower to become a commodities powerhouse.

Lake Beseka in the Rift Valley has grown to its largest size ever amid irrigation runoff and seismic shifts in past years. Should salt waters contaminate the Awash River, they would risk Ethiopia's oldest state-owned sugar estate and an India-funded project downstream that's key to the government's \$5 billion plan to turn the country into a top sugar exporter.

"The fear is for the river," Water and Energy Ministry groundwater chief Tesfaye Tadesse said. "If it discharges by itself without any control, the river is going to be contaminated forever."

River basins including the Blue Nile and rugged highlands bless Ethiopia with plentiful hydropower and the continent's second-largest water resources. The government is counting on Indian financing, a Saudi billionaire and Chinese loans to grow sugar, rice, bananas and oranges for export to expand the fastest-growing African economy without oil reserves.

It's crucial that efforts be made to stop a possible overflow before the seasonal rains start in June, said Endashew Tadesse, a technical specialist at the Upper Awash River Basin Authority. A spill by the lake east of the capital Addis Ababa may flood towns and drive nomadic herdsmen from the area.

Beseka, fed by hot springs at 954 meters (3,130 feet), has swollen from a 3-square-kilometer (1.16 square-mile) pond in the 1960s to 45 square kilometers, causing the diversion of a road from Addis Ababa to Djibouti's port, a main trade route in landlocked Ethiopia.

Over the past 14 years, the government has unsuccessfully installed pumps and built canals to try to keep Beseka at bay.

Irrigation projects are increasing the flow of water into the lake through the hot springs that feed it, said Assistant Professor of Civil Engineering Megersa Olumana Dinka from Haramaya University in



Ethiopia, who wrote papers on the phenomenon in 2009 and last year. Seismic activity may also be a factor, Megersa said in an email.

Authorities have attributed Beseka's growth to irrigation runoff in the Metahara area. That includes the Upper Awash Agro Industry Enterprise company bought this year from the government by Horizon Plantations, a venture majority owned by Mohamed al- Amoudi, the largest single investor in Ethiopia.

Studies haven't proven Upper Awash Agro to be a source of the lake's growth, Horizon General Manager Jemal Ahmed said in a phone interview. If it has any environmental impact, "we will investigate and cooperate with the government," he said.

Al-Amoudi has moved into agriculture with plans to export rice, bananas and processed coffee from Ethiopia. Horizon is seeking to double orange production to 50,000 tons a year by investing 432 million birr (\$23 million) in Upper Awash Agro.

The Tendaho sugar factory 380 kilometers northeast of Addis Ababa that's financed with a \$640 million line of credit from the Export-Import Bank of India could suffer if the Awash becomes saline. India is the world's largest sugar consumer and second-biggest producer.

Metahara and Addis Ketema, towns with more than 30,000 residents, the sugar estate at Metahara east of the capital as well as Tendaho's sugar facility in the arid Afar region are at risk should the lake continue its mysterious growth.

Sugar is important to Ethiopia's growth plans as raw sugar futures are 50 percent higher than at the end of 2008. They've dropped almost 9 percent this year after falling 16 percent in 2012.

Of importance too to Ethiopia, whose longtime leader Meles Zenawi died last year, in its drive to transform a nation of 90 million residents into a middle-income country are the cotton farms supplying a growing textiles industry. Cotton plantations in the Middle Awash area run by the Amibara Business Group would also suffer from a salty river. The former state farms have already lost over 2,000 hectares to salt water since 1984, according to the International Water Management Institute.



Amibara's Middle Awash Agricultural Development Enterprise is "concerned" at the growth of the lake before the rains, Deputy General Manager Wubshet Yilma said. "If it goes into the Awash now, the problem will be much bigger" for Amibara's cotton farms, he said in a phone interview.

Any saline spill also jeopardizes Ethiopia government plans to develop the Afar area including building a sugar crusher at Tendaho, whose plantation will use water from a dam on the Awash to produce as much as 600,000 tons of cane a year.

"If it rains, it's over," Endashew said in an interview at an office near a school submerged two years ago by the lake.

Its pace of growth has increased since the regional government began constructing the Fantalle canal for a 467 million-birr irrigation project in 2008 following a drought, said Engida Zemedagegnehu, a hydrogeology manager at the Ethiopian Water Works Design & Supervision Enterprise.

Even with runoff from farms a probable cause of the lake's increasing rate of growth, "our efforts to pump more water didn't reduce the expansion," Tesfaye said. The river contains 4 percent lake water and any more could be ruinous, he said.

Whatever the reason for the swelling, "the lake has potential to flow to Awash River and devastate Metahara Sugar Estate in the next few years," professor Megersa said. "It would then also negatively impact all downstream irrigation developments in the Awash basin, including Tendaho."

Beyond Tendaho, state-owned Sugar Corp. is building 10 refineries, including six for the Kuraz Sugar Project in the South Omo region near Kenya. It's working too in the Awash area with China National Complete Plant Import & Export Corp., or Complant, on the Kessem sugar project. The \$150 million Kessem is funded by state-owned Development Bank of China.

Sugar Corp. managers didn't respond to emails and phone calls to spokesman Yilma Tibebu seeking comment since March 16.



From Metahara, the 1,200-kilometer Awash, which originates in Ethiopia's highlands, flows northeast into Afar before drying near Djibouti. The area is studded with thorn trees and hot rocky outcrops inhabited by about 1.5 million people.

The Afar, primarily nomadic herders that carry long, curved daggers in sheaves on their hips, drink the river water, as do livestock. The effect of contamination on those that use the river would be "terrible," Megersa said.

A group of experts and officials are studying the lake and will advise on how to deal with its growth, Tesfaye said. "For the time being, we don't have a very good direction on what action we should take," he said.

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[&]quot;Mysterious Lake Threatens Ethiopian Sugar Ambitions (Addis Ababa)", 04/05/2013, online at: <u>http://www.northjersey.com/news/crime_courts/206089891_Mysterious_Lake_Threatens_Ethiopian_Sugar_Ambitions_Addis_Ababa_.html</u>



***** Water Woes in MENA Countries

The Middle East and North Africa (MENA) region is the most water scarce region of the world. The region is home to 6.3 percent of world's population but has access to measly 1.4 percent of the world's renewable fresh water. The average water availability per person in other geographical regions is about 7,000 m³/year, whereas water availability is merely 1,200 m³/person/year in the MENA region. The region has the highest per capita rates of freshwater extraction in the world (804 m³/year) and currently exploits over 75 percent of its renewable water resources.

Due to burgeoning population and rapid economic growth, the per capita water availability is expected to reduce to alarming proportions in the coming decades. By the year 2050, two-thirds of MENA countries could have less than 200 m^3 of renewable water resources per capita per year. Around 85 percent of the water in the MENA region is used for irrigation. This level of irrigation is not inherently sustainable and leads to overuse of scarce renewable water resources, which in turn results in increased salinisation.

MENA's average water use efficiency in irrigation is only 50 to 60 percent, compared to bestpractice examples of above 80 percent efficiency under similar climate conditions in Australia and southwest US. Similarly, physical water losses in municipal and industrial supplies in the region are way above world averages. Nonrevenue water is 30 to 50 percent in some cities, compared to global best practice of approximately 10 percent.

Many countries in the MENA region are dependent on water resources that lie beyond their borders. For example, Syria, Jordan and Palestine rely on trans-boundary water resources. Palestine is almost entirely dependent on water essentially controlled by Israel. The trans-boundary nature of the water resources in the Middle East makes cooperative management of these resources critical as they have the potential to induce economic and social development and reduce the risks of conflict.

Despite significant investment in the water sector, water management still remains a serious economic and environmental problem in MENA countries, as shown by frequent droughts and floods. Public health, agricultural productivity and environment is suffering due to overpumping of aquifers and deterioration of water quality as well as water quality. Improved irrigation efficiency in agricultural water use would significantly increase water availability for other sectors.



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Managing demand, particularly of agricultural water use, will be the key to reduce the high costs of filling the water gap. Similarly, improvements in water management in domestic and industrial sectors could reduce system losses to globally acceptable levels. Failure to save water and to reduce uneconomic use will have severe socioeconomic repercussions because the only alternative will be desalination.

The administrative structures of both drinking water and irrigation systems are characterized by weak governance and incoherent water laws. Some countries including Egypt, Jordan and Palestine have approved national water resources plans. Other countries have developed frameworks which contain elements of policy, in the form of strategy or master plans. In general, MENA countries are beginning to recognize the importance of an integrated approach to water management. The demand for water will continue to rise across the region, due to population increase and economic growth.

"Water Woes in MENA Countries", 30/04/2013, online at: http://www.cleantechloops.com/water-woes-mena/

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Does Outside Aid Offer a True Water Crisis Solution in Africa or Mask a Deeper Problem?

Government and foreign aid are interlocked when addressing the water crisis in East Africa. This region has 187 km³ of renewable freshwater resources per year, yet governments and organizations are in a crusade against the odds to provide water to its <u>inhabitants</u>. Although the Millenium Development Goal (MDG) to increase water access was reached on a global level last year, in East Africa the change was not evident. Only 55 percent of the population in East Africa has access to improved sources of drinking water, which is 23 percent below the target set for <u>2015</u>. In fact, the majority of the countries in this region are expected to experience extreme water stress by <u>2025</u>.

Authorities struggle to find long-term solutions, yet the population of this region has been suffering from some of the harshest drought conditions ever recorded in the last few <u>decades</u>. The government's receptiveness to any outside aid and favorable conditions in the economy made it propitious to innumerous NGOs, international organizations and social businesses to attempt to alleviate the <u>issue</u>. Are these external pursuits only patching holes or are they contributing to a brighter future?

Government in Eastern Africa

Every country in East Africa is amongst one of the 50 least-developed economies in the world. Due to these circumstances, these countries suffer severe problems with respect to both human capital and infrastructure. This undeniable truth makes these countries extremely vulnerable to natural disasters, war and other disruptive forces. As a result, every sector becomes a top priority for government assistance. Even though government resources are scarce, officials understand that water accessibility is a natural human right and have allocated significant effort into solving the problem effectively.

Since the 1970s, governments have cultivated countless policies to eradicate the water problem. However, substantial results have been rare and overall superficial. Tanzania's National Water Policy (1991), Ethiopia's Water Resource Policy (1999), and Uganda's Poverty Eradication Action Plan (PEAP, 2000) and Sector Wide Approach to Planning for Water and Sanitation Sector (2002), are all examples of policies that represent government action in attempting to solve the water crisis. Each and every policy had the the same result: there is a vast gap between the creation of policies and their implementation.



Government corruption is one of the biggest barriers to development in East Africa. According to the <u>Corruption Perception Index</u>, Tanzania has the best corruption ranking in the region, occupying the 102nd position out of 176 countries evaluated. Kenya and Uganda were not much worse, representing the 139th and 130th position respectively. The corruption results in a misallocation of resources that culminates in programs that theoretically should be efficient, but in reality do not fulfill their purpose.

One successful attempt to both minimize corruption and provide water was created in Kenya. The <u>Water and Sanitation Services Improvement Project</u> was established recently and is a project that combines Water Action Groups, use of water and sanitation report cards, and a real-time feedback mechanism. Although results of the program are still too premature to measure, the success of the policy comes from the structure allowing for accountability.

NGOs stepping up to the problem

The diverse number of programs and policies have not been capable of producing palpable results. However, the open arms policy towards foreign aid has been crucial to saving lives in Eastern Africa. The intervention of NGOs, social businesses and other philanthropic organizations who have attempted to address the water problem have proven to be essential to these countries. In 2008, the Ethiopian government enacted a policy to put a stop to foreign aid in the most vulnerable region of their <u>country</u>. In just a few months, this policy was overturned due to the number of people suffering and the inability of the government to provide adequate resources.

There are a number of initiatives targeted at eradicating this issue that have proven themselves indispensable. The Global Water Initiative (GWI), International Water Management Institute (IWMI), and the International Rescue Committee's International Water and Sanitation Centre are all examples. Water filtration devices, such as LifeStraw and Biofit, which are distributed through a number of NGOs, have helped millions of **people** in Kenya, Somalia and Ethiopia access clean water. Policies that allow non-governmental institutions to resolve fundamental problems might hinder long term development in the region.



Are these solutions long term?

The UN has declared that access to water is a human right and stated that water is a social and cultural good, not an economic <u>commodity</u>. However, in East Africa, achieving this goal is complicated due to the manner in which water supplies are managed.

George Ayittey, the president of Free Africa Foundation, based in Washington D.C., stated that foreign aid is not free and cannot create development on its own. Foreign aid brings an external workforce, money and technology; it does not try to mend local market problems, but instead goes around the government to achieve its own **goals**. When taking a look at programs initiated by foreign aid in East Africa, it is easy to identify with Ayittey's argument.

Governments in East Africa are overwhelmed by the situation in their countries. Without the necessary resources to resolve the water crisis on their own, because of various internal struggles, these governments have turned to external aid. With the purpose of saving lives, NGOs, social businesses and other external forces are doing their best to help and are focused on the immediate and short-term impact; masking the true extent of the problems these countries are facing. These conditions push long-term development to the background, leaving East Africa extremely susceptible to irreparable water conditions.

"Does Outside Aid Offer a True Water Crisis Solution in Africa or Mask a Deeper Problem?", 30/04/2013, online at: http://www.triplepundit.com/2013/04/aid-stepping-true-solution-covering-deeper-problem/

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28,000 Rivers Disappeared in China: What Happened?

As recently as 20 years ago, there were an estimated 50,000 rivers in China, each covering a flow area of at least 60 square miles. But now, according to China's <u>First National Census of Water</u>, more than 28,000 of these rivers are missing. To put this number into context, China's lost rivers are almost equivalent, in terms of basin area, to the United States losing the entire Mississippi River.

Why have these rivers "vanished" from the maps and national records?

Official explanations from the Chinese government have <u>attributed</u> the significant reduction to statistical discrepancies, water and soil loss, and climate change.

"The disparity in numbers was caused mainly by inaccurate estimates in the past, as well as climate change and water and soil loss. Due to limited technology in the past, the previous figures were estimated using incomplete topographic maps dating back to the 1950s," said Huang He, China's Deputy Director of the Ministry of Water Resources, in <u>an interview</u> with the *South China Morning Post*.

While this explanation seems plausible, Chinese web users, an active and formidable force for raising environmental issues with the Chinese government, are not satisfied. One<u>user named Yami Laoliu</u>, writing on the popular Chinese social media platform Sina Weibo, voiced skepticism: "I am surprised to learn that 28,000 rivers have already disappeared in the map. Is it natural disaster? Or man-made mistake? I think both played a role, but it was mainly a man-made mistake."

Peter Gleick, president of the Pacific Institute and a <u>leading water expert</u> agrees: "Climate change is a real threat to the world's resources, and we already see evidence of impacts on water availability, quality, and extreme events. But the water challenges in China are far greater than just climate change," he said.

Pinning the rivers' disappearance on climate change is politically palatable right now, and the human origin of global warming is not controversial in China. But in an unusual twist, blaming climate change allows officials to absolve themselves of the poor management, governance, lack of



groundwater extraction controls, and rapid development that are more likely culprits for the river's disappearances.

"As China's population and economy have rapidly grown, the country has experienced serious degradation of its water resources, including massive overuse and contamination," Gleick said. "The 'disappearance' of major rivers and streams is far more likely to be directly connected to uncontrolled and unsustainable extraction of water for industry and agriculture, though climate change may play a greater role in the future."

The past 30 years in which these rivers vanished have coincided with a phase of rapid industrialization and urban growth in China. From 1990 to 2000, urban areas expanded by more than 5,000 square miles, an area the size of Puerto Rico, and the expanding economy has correspondingly strained water and energy resources. In Yale University's<u>2012 Environmental Performance Index</u>, China is one of the worst performers (ranked 116 out of 132 countries) with respect to its performance on changes in water quantity due to consumption, including industrial, agricultural, and household uses.

Poor management of water resources has also exacerbated the situation. The main water resource law in China only requires permits for groundwater extractions for "large-scale" projects. The lack of specificity in this language has led to what <u>Gleick says is substantial overdraft of groundwater</u> throughout the country. Weak water governance also caused last September's red water flow in to the Yangtze River, an occurrence that left even Chinese officials perplexed.

What about the statistical discrepancies that the government says could have factored in to the rivers' disappearance? While some updates to river classification are plausible, cartography and mapping techniques have been very sophisticated in China for many years. One user on Sina Weibo tweeted an <u>old map of waterways</u> for Qingdao, showing abundant waterways in considerable detail. The maps are accurate and Qingdao's rivers have not been wiped away by "improved surveying methods" -- they have simply been converted into Qingdao's sprawling roadways, said one of the city's urban historians.



So why is the Chinese government blaming only climate change and statistical inaccuracies? Climate change is an easy and popular scapegoat and allows the government to save face by pinning the disappearance on natural causes rather than anthropogenic (and arguably preventable) ones.

However, as the Chinese online reaction demonstrates in this case and in recent air pollution events, the Chinese public may not be as willing to accept such a backseat approach to environmental management. Given the current state of the waterways and growing demand for water in China, authorities would be better served by thoroughly examining the root causes of the challenge and striving to be more transparent about both the certainties and the uncertainties surrounding the issue.

"28,000 Rivers Disappeared in China: What Happened?", 29/04/2013, online at: http://m.theatlantic.com/china/archive/2013/04/what-happened-to-chinas-rivers/275365/

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* Expert: India-China need water-sharing treaty on Brahmaputra

New Delhi, May 5: China has assured India that it is "essentially" engaged in a run-of-the-river project on the Brahmaputra and there is no cause for worry for downstream riparian countries. But with Beijing not keen to share details about its construction work on the river, experts say India should not go by mere verbal assurances and push for a treaty. When Prime Minister Manmohan Singh raised concerns about the Brahmaputra, which originates in the Tibetan plateau, during talks with Chinese President Xi Jinping at Durban last month and asked Beijing for a joint mechanism, he was assured the projects on the Yarlung-Tsangpo are "run of the river". But Takam Sanjoy, Congress MP from Arunachal Pradesh, says most of the works on the Yarlung-Tsangpo by China are not yet commissioned, and the real impact on the downstream river flow cannot be assessed till then. "They have started lot of projects, but they are not yet commissioned," Sanjoy said. Choosing his words carefully, the Lok Sabha MP said that with the "political system in India and that in China being varied" and with not much information coming out from Beijing, "if China says it is run-of the river we can believe that, but some suspicions remain as the governance there is not like in India". Sanjoy said he had urged the UPA government "that all construction on Brahmaputra, run-of-river projects, diversion of water - everything should be taken up through dialogue, through bilateral approach with the Chinese government". Despite the prime minister raising the issue of a joint mechanism, China is learnt to have shown unwillingness to move on the issue. Beijing is believed to have told New Delhi that their Expert Level Mechanism, under which they share hydrological information, is "adequate" to decide on the issue. Ramaswamy R Iver, a former secretary in the water resources ministry, said, "Earlier, water never figured in India-China talks. Now water is regularly on the agenda." He said India has told China that "if you divert any water, it will impact us, so please tell us. They said no, we are not doing anything, but satellite pictures have showed otherwise and then they acknowledged it." "And now they have said the projects are only run-of-theriver. But that is only word of mouth, we can't go and see it. We have told them being the lower riparian country, share information with us, show us your engineering designs, what impact it may have on downstream flows or on biodiversity and ecology. They say they will but are not regular with it," Iver said. The expert said the Mekong river is shared by six countries, including China. But Beijing is not a member on the Mekong River Commission, but only an observer, "and when it is told of concerns by other countries, it says it will look into it". There is a feeling among Mekong riparian countries "that China will give assurances, but go on building dams," said Iyer, adding that "lately China has shown greater sensitivity to the Mekong countries". India is not a signatory of the UN convention on water sharing and does not have a treaty with China. "India should try and get China to sign a treaty. I think this is the long term aim of India, and we have already mooted it. But first China will have to agree to a treaty in principle, then on the text. The negotiations with Pakistan on the Indus treaty took 10 years. China will be a much tougher negotiator," Iyer pointed out.



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"You are virtually destroying communities - the wildlife and the ecology - so run-of-the- river projects do much more harm in this way," Iyer maintained.

"Expert: India-China need water-sharing treaty on Brahmaputra", 05/05/2013, online at: http://news.oneindia.in/2013/05/05/india-push-for-treaty-with-china-on-brahmaputra-expert-1209636.html

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WWW.ORSAM.ORG.TR

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



* China to unify bottled water quality standards

BEIJING, May 3 (Xinhua) -- China is working to unify different sets of bottled water quality standards, said a major food safety agency on Friday, in the wake of a public outcry for supervision of the industry.

The National Health and Family Planning Commission is clearing up four state quality standards related to bottled water as well as a number of local and industrial standards and will finish the work by the end of this year, said the China National Center for Food Safety Risk Assessment, a state agency in charge of monitoring and assessing food safety risks.

A new unified national standard will come out by the end of 2015, according to a statement from the agency.

Since April, several media reports including the latest one in Friday's Beijing News have argued that various standards are being implemented by the bottled water industry, under inefficient supervision.

The agency rebutted public concern that the quality standard of bottled water is lower than that of tap water.

The current food safety law and state standards clearly regulate that producers should bottle water that meets the same quality standards as tap water, the statement said.

The agency welcomes the public to visit its website and put forward proposals, it added.

"China to unify bottled water quality standards", 03/05/2013, online at: <u>http://news.xinhuanet.com/english/china/2013-05/03/c 132357953.htm?utm source=Circle+of+Blue+WaterNews+%26+Alerts&utm campaign=566f542bfd-RSS EMAIL CAMPAIGN&utm medium=email&utm term=0 c1265b6ed7-566f542bfd-250657169</u>

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Safe drinking water disappearing fast in Bangladesh – study

DHAKA, Bangladesh (Thomson Reuters Foundation) — The availability of safe drinking water, particularly in Bangladesh's "hard-to-reach areas," is expected to worsen as the country continues to suffer the effects of climate change, experts say.

According to a <u>study</u> by the World Bank's Water and Sanitation Program, some 28 million Bangladeshis, or just over 20 percent of the total population, are living in harsh conditions in the socalled "hard-to-reach areas" that make up a quarter of the country's land area. The study found that char — land that emerges from riverbeds as a result of the deposit of sediments — is among the most inaccessible, along with hilly areas, coastal regions and haors, bowl-shaped wetlands areas in northeastern Bangladesh.

"People living in hard-to-reach areas are often vulnerable to natural calamities like flooding, riverbank erosion and siltation," said Rokeya Ahmed, a water and sanitation specialist at the World Bank. "As a result of climate change, salinity in Bangladesh's coastal areas has increased (a great deal), causing a lack of sweet water. Women of coastal and haor areas need to go miles and miles to collect a pitcher of safe drinking water."

Worsening weather extremes, that bring floods, storm surges and cyclones, are contributing to increases in water salinity and other problems accessing clean water, the report said. Shahdat Hossain, a grocer in Matlab district, a hard-to-reach area some 50 kilometres from Dhaka, the country's capital, said his town is now subject to regular river erosion and flooding.

"River bank erosion has turned many people of this area into refugees," he says. "Since this area is very close to the Bay of Bengal, the amount of arsenic in the groundwater is also very high. We need to dig much deeper to get arsenic-free water."

Experts fear that the approaching summer could intensify the struggle to find potable water. Shareful Hassan, a consultant on geographic information systems and a researcher on the World Bank study, says surface water sources have already dried up in many parts of the country, which will have a heavy impact on drinking water access, sanitation and ecosystems.



"In the drought-prone Barind Tract area, in north Bangladesh, you have to dig more than 350 metres to get safe drinking water," he said, adding that the situation is expected to worsen since unusually low rainfall in the area means underground aquifers are not being replenished.

DISAPPEARING GROUNDWATER

Even in Dhaka, people have been reporting dwindling water supplies. Eftekharul Alam, an engineer for the Bangladesh Agricultural Development Corporation, said groundwater levels in the city are falling drastically as a result of excessive extraction to meet the growing megacity's needs.

Dhaka's underground aquifers are usually recharged with water that percolates underground in nearby districts, but the levels of underground fresh water in those districts have also dropped, allowing seawater to start seeping into the capital's aquifers. If this continues, experts say, Dhaka's drinking water could become increasingly undrinkable.

According to Ainun Nishat, a climate change expert and vice chancellor of BRAC University in Dhaka, over the last five years rainfall across Bangladesh has dropped by 50 percent and become increasingly unpredictable. That has led to a variety of problems, including growing salinity in groundwater.

"Salinity in the water of coastal areas has now reached over 20 parts per thousand, but the human body can only tolerate 5 parts per thousand," he said.

Nishat says the best option for drought- and saline-prone areas is to preserve rainwater in artificial ponds and distribute it to communities. And he agrees with other experts that the government must turn to technology to bring drinking water to those who need it.

Filtration and desalination plants are expensive, but experts say they offer the only chance to avert a looming crisis. Nishat suggests installing sand filter systems, in which hand pumps are used to suck water from artificial ponds through a filter that makes the water potable.

For those living in hard-to-reach areas, the search for a solution has become a matter of urgency.



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"We now frequently face cyclones and flash floods which cause the swamping of croplands by saltwater and put us in danger," said Shafiqul Islam, a farmer in Barisal, a southern Bangladesh district that the World Bank study categorised as an "extremely" hard-to-reach area. "Our lives are under severe threat. Getting safe drinking water has become a big challenge."

"Safe drinking water disappearing fast in Bangladesh – study", 02/05/2013, online at: <u>http://www.trust.org/item/20130501131556-</u> <u>n4rwl/?source=hptop&utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=566f542bfd-</u> <u>RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_c1265b6ed7-566f542bfd-250657169</u>

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Mekong region has lost a third of its forests in 30 years, may lose another third by 2030

The Greater Mekong region of Cambodia, Laos, Myanmar (Burma), Thailand and Vietnam will lose a third of its remaining forest cover by 2030 unless regional governments improve management of natural resources and transition toward a greener growth model, warns a new report issued by WWF.

The report lays out two scenarios for the Greater Mekong. The first is a business-as-usual approach which relies on continued degradation of its forests and freshwater ecosystems. The second is based on a greener economic model that emphasizes the importance of services afforded by healthy ecosystems, translating to a 50 percent drop in annual deforestation and an increase in protected and more sustainably-managed areas.

"The Greater Mekong is at a crossroads," said Peter Cutter, Landscape Conservation Manager with WWF-Greater Mekong. "One path leads to further declines in biodiversity and livelihoods, but if natural resources are managed responsibly, this region can pursue a course that will secure a healthy and prosperous future for its people."

"The green economy approach is the choice for a viable future in the Greater Mekong. Regional leaders have already affirmed that healthy economic growth goes hand in hand with healthy and productive ecosystems, but fast and effective responses are needed now to avoid permanent environmental degradation."

The two sharply contrasting forecasts are based on analysis of trends in the region. WWF estimates that between 1973 and 2009, the Greater Mekong countries lost nearly a third of their forest cover, led by Thailand and Vietnam which each cleared more than 40 percent of their forests. Cambodia, Laos, and Myanmar lost nearly a quarter of their forests during the interval. Old-growth forests have been nearly wiped out in Vietnam, while declining steeply in other countries.

Meanwhile a series of dams planned for the Mekong River and its tributaries could disruption fish migration and nutrient flows, potentially wreaking havoc on local livelihoods.

"Decision-makers in the Mekong river basin face a difficult dilemma: how can countries that share the freshwater resources of the Mekong River profit from a renewable energy source such as hydroelectric power without at the same time degrading the fisheries and ecological services that



support at least 60 million people?" aks the report. "To produce energy through hydropower, up to 11 new dams are planned for the main stem of the Lower Mekong River alone. Their construction will negatively impact both wild fish populations and the many people who rely on wild fish as their major source of protein."

The report also tracks decline in regional biodiversity, including several charismatic species like the tiger, Asian elephant, Irrawaddy dolphin and the endemic saola. It says ongoing fragmentation, degradation, deforestation, and poaching could leave some wild populations of these animals on the brink of extinction in the region. WWF adds that regional governments are too often failing to maintain protected areas or take effective action against illegal logging.

"Many protected areas exist in name only," said Cutter. "Even relatively secure protected areas are under intense pressure from poaching and timber theft, while others have been reduced in size by government's eager to cash in on land concessions to mining companies or plantation owners."

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[&]quot;Mekong region has lost a third of its forests in 30 years, may lose another third by 2030", 03/05/2013, online at: http://news.mongabay.com/2013/0502-mekong-forests.html



Deforestation threatens Mekong region

If current deforestation rates continue, The Greater Mekong subregion in Southeast Asia risks losing more than a third of its remaining forest cover within the next two decades, says a new report.

BANGKOK, May 2 (UPI) -- If current deforestation rates continue, the Greater Mekong region in Southeast Asia risks losing more than one-third of its remaining forest cover within two decades, a new report said.

The WWF report, "Ecosystems in the Greater Mekong," says that from 1973 through 2009, the five countries comprising the region -- Cambodia, Laos, Myanmar, Thailand and Vietnam -- chopped down almost one-third of their forests for timber and to clear land for agriculture.

During that period, Cambodia lost 22 percent of its 1973 forest cover, Laos and Myanmar lost 24 percent and Thailand and Vietnam lost 43 percent.

"Core forests" a 1.86 square mile-block of uninterrupted forest, have dropped from 70 to 20 percent of total forest area, the analysis says.

"The Greater Mekong is at a crossroads," Peter Cutter, Landscape Conservation manager with WWF-Greater Mekong said in a release. "One path leads to further declines in biodiversity and livelihoods but if natural resources are managed responsibly, this region can pursue a course that will secure a healthy and prosperous future for its people."

WWF based its findings on analysis of satellite data and some of the findings conflict with official figures from the five countries, Voice of America reports.

The United Nations' Food and Agriculture Organization also has reported that official country figures in the region showed a decline in deforestation rates from 2000-10.

But WWF says those figures could be misleading because some countries identify agriculture plantations for rubber trees, cassava and palm oil as forested areas.



"Many protected areas exist in name only," Cutter said. "Even relatively secure protected areas are under intense pressure from poaching and timber theft, while others have been reduced in size by government's eager to cash in on land concessions to mining companies or plantation owners."

The report considers two possible future scenarios for the region's ecosystems: an unsustainable growth model in which deforestation and degradation continues as in the past decade, while the other scenario assumes slashing the annual deforestation rate by 50 percent and a future based on "green economy growth."

Under the "green" scenario, core forest areas still existing in 2009 across the five countries would remain intact.

"The green economy approach is the choice for a viable future in the Greater Mekong," Cutter said.

The report cites the Xayaburi Dam development as a key threat to the health and productivity of the Mekong River and delta. Laos has started construction on the controversial \$3.8 billion hydroelectric project. About 95 percent of the dam's 1,260-megawatt capacity is intended for export to Thailand.

"Deforestation threatens Mekong region", 02/05/2013, online at: <u>http://www.upi.com/Business_News/Energy-Resources/2013/05/02/Deforestation-threatens-Mekong-region/UPI-80261367514097/</u>

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Mekong forest facing sharp decline: WWF

BANGKOK — Demand for farmland may strip the Greater Mekong region of a third of its remaining forest cover over the next two decades without swift government action, a leading conservation group warned Thursday.

Forests are being cleared for commodities such as rubber and rice while illegal logging is decimating many protected zones, WWF said in a report, adding a contentious dam on Mekong river will deepen already severe ecosystem damage.

"The Greater Mekong is at a crossroads," said Peter Cutter of the WFF, adding Cambodia, Laos and Myanmar lost between 22-24 percent of their forests from 1973 -- the first point of available data -- to 2009, while 43 percent of woodland was stripped from Thailand and Vietnam.

"One path leads to further declines in biodiversity and livelihoods... but if natural resources are managed responsibly, this region can a pursue a course that will secure a healthy and prosperous future for its people."

Myanmar, a nation expected to undergo rapid economic growth after the end of junta rule, is on a "deforestation front" -- especially in its border areas -- as are the southern Mekong sections of Vietnam and Cambodia, the study found.

The reform-minded government has banned the export of logs from next year in a bid to tackle rampant illegal logging of its precious woods.

The WWF said large undisrupted areas of "core forest" across the region have also been fragmented by plantations and rapid urbanisation, while swathes of mangroves have been converted into rice paddy and for shrimp farms.

If deforestation continues, the report warned that 34 percent of remaining woodlands "will be lost and increasingly fragmented" by 2030 with only 14 percent of core forest left, destroying the habitat of wildlife including tigers and elephants.

Laos' Xayaburi dam was also highlighted as a "key threat" to the Mekong river ecosytem, saying it will have "devastating consequences" for 60 million people -- blocking fish and vital sediment from reaching the lower areas of the water system.

The \$3.8 billion hydroelectric project, which is due to be completed in around five years, has sharply divided the four Mekong nations -- Laos, Vietnam, Cambodia and Thailand.



Impoverished Laos hopes the dam will help it become "the battery of Southeast Asia" and plans to sell most of the electricity to Thailand, but Cambodia and Vietnam say it could ruin their farming and fishing industries.

The report offers glimmers of hope saying Thailand has made great strides to protecting its forests -the kingdom has an extensive network of national parks -- while the other nations have all backed policies to prevent deforestation.

"Mekong forest facing sharp decline: WWF", 03/05/2013, online at:

http://www.google.com/hostednews/afp/article/ALeqM5gne71JK0eYiX3MySnJJ2cB6vtfIA?docId=CNG.7e3699c11eaee 63aec95d9313993ffb2.11

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✤ Japanese water firms eye opportunities in UAE

The first stop of the International Water Summit (IWS) road show in Tokyo last week highlighted the significant role that IWS seeks to play in the global effort to promote sustainable water resource management solutions.

Attended by representatives from 40 top Japanese companies, the road show presented the main challenges that arid regions face globally, with a focus on the UAE and GCC.

Stressing the importance of 'Global collaborations for solving water-related issues', Ara Fernezian, Divisional Managing Director – UAE at Reed Exhibitions, organizer of the International Water Summit, engaged the audience in discussions on water challenges and the multi-fold approach to the water issue in the Middle East region. "Rising concerns on water sustainability in arid regions globally makes it pertinent for business leaders, water-technologists and policy makers to share best practice, to collaborate and foster innovation and business opportunities on an international level."

"GCC is a thriving economy that is investing in water", he highlighted. "Over \$300 billion will be invested in GCC water sustainability projects between the period of 2012 - 2022, presenting vast business opportunities to leading providers of cutting-edge technologies."

Fernezian also said that the water-technology potential of Japan is enormous.

"Japan is a world leader in membrane water treatment technology. Currently, Japanese manufacturers account for 60% of the global water treatment membrane market. Japan's global market share of highly energy-efficient reverse osmosis membrane products is nearly 70 per cent."

"Japan's technological advancement and experience, especially in water-saving technology and efficient water management systems constitute a remarkable strength. Through a common platform such as IWS, Japanese technology providers can share their experiences and know-how in the water sector and expand their related businesses internationally."

He urged Japanese companies to participate at the 2014 International Water Summit to be held in Abu Dhabi from 20-22 January co-located with World Future Energy Summit, 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. To seriously address the global energy challenge, the relationships between economic development, poverty eradication, energy security, water scarcity and climate change cannot be overlooked. The largest gathering on sustainability in the history of the Middle East, ADSW encourages actionable outcomes to carve a pathway toward sustainability worldwide.

To discuss the opportunities in the GCC water sector and to encourage dialogue and international cooperation at the International Water Summit 2014, the road show will travel to France, Switzerland, Germany, Netherlands, Singapore, USA and UK.

The 2nd IWS in 2014 will continue to garner strong local support from partners such as the Ministry of Environment and Water, Abu Dhabi Water and Electricity Authority (ADWEA), Environment Agency-Abu Dhabi (EAD), Abu Dhabi Sewerage Services Company (ADSSC) and Regulation and Studies Bureau (RSB).

The International Water Summit 2013, the inaugural edition held in January, hosted by Masdar with the strategic Partnership of ADWEA, was attended by over 4700 attendees from 75 countries and contributed significantly to addressing global water issues such as water scarcity in Arab regions, sustainable growth and economic development in arid regions, the future challenges of water availability and cross-boundary collaboration through international water governance and the water – energy nexus.

IWS 2013 brought together world leaders, government organizations, policymakers, public and private sector investors, business leaders, consultants, experts, contractors and developers under one roof at the Abu Dhabi National Exhibition Centre (ADNEC) to discuss, debate and display the latest thinking in water sustainability.

The conference proceedings at IWS 2013 were led by more than 110 of the world's leading water experts from global organizations such as UN Habitat, the Global Water Operators' Partnership Alliance (GWOPA), the World Bank, UN Water, the International Desalination Association, UNESCO, the Public Utilities Board Singapore, the Arab Countries Water Utilities Association and the UN Secretary General's Advisory Board on Water.



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The conference was further supported by more than 162 exhibiting companies, represented by 120 exhibitors from 20 countries, who showcased the latest innovations and solutions in the water sustainability sector.

"Japanese water firms eye opportunities in UAE", 30/04/2013, online at: <u>http://www.emirates247.com/business/economy-finance/japanese-water-firms-eye-opportunities-in-uae-2013-04-30-</u> <u>1.504642</u>

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* Indigenous Peoples Launch New Occupation on Belo Monte Dam Site

Tribes from Xingu and Tapajós rivers unite to protest violations of rights to prior consultations in construction of Amazon dams

Altamira, Brazil--(ENEWSPF)--May 3 - Some 200 indigenous people affected by the construction of large hydroelectric dams in the Amazon launched an occupation today on one of the main construction sites of the Belo Monte dam complex on the Xingu River in the Brazilian Amazon. The group demands that the Brazilian government adopt effective legislation on prior consultations with indigenous peoples regarding projects that affect their lands and livelihoods. As this has not happened, they are demanding the immediate suspension of construction, technical studies and police operations related to dams along the Xingu, Tapajos and Teles Pires rivers. Shock troops of the military police were awaiting indigenous protestors when they arrived at the Belo Monte dam site, but they were unable to impede the occupation.

The indigenous protestors include members of the Juruna, Kayapó, Xipaya, Kuruaya, Asurini, Parakanã, Arara tribes from the Xingu River, as well as warriors of the Munduruku, a large tribe from the neighboring Tapajós river basin. The indigenous peoples are joined by fishermen and local riverine communities from the Xingu region. Initial reports indicate that approximately 6,000 workers at one of the main Belo Monte construction sites, Pimental, have ceased operations as a result of the protest. The occupation, according to the indigenous communities, will continue indefinitely or until the federal government meets their demands.

"Our forest and our river are one of the last natural heritages of Brazil. It's sad to think: why are there so many dams planned on only one river?" Said Saw Exebu, spokesperson for the general chief of the Munduruku."We don't want this to happen on our lands. We don't want dams built in our home, the Tapajós."

Occupations against the Belo Monte dam complex and mobilizations against other Amazonian dams have become increasingly commonplace. Construction on Belo Monte has been halted on at least seven occasions over the last year due to the efforts of affected indigenous communities and fishermen to call attention to the failures of the Norte Energia dam building consortium and



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government agencies to comply with the project's mandated environmental and social conditions. On March 21st, approximately 100 indigenous peoples, riverbank dwellers (ribeirinhos) and small farmers expelled dam workers and occupied the Pimental site, maintained by the Belo Monte Construction Consortium (CCBM). Additionally, recent strikes and protests by dam workers have created additional unrest at CCBM construction sites.

The Munduruku indigenous people and other local communities have mobilized against a cascade of over a dozen large dams slated for construction on the neighboring Tapajós river and its major tributaries, the Teles Pires, Juruena and Jamanxim. One of the first major dams under construction, UHE Teles Pires, has been the subject of lawsuits by Federal Public Prosecutors for lack of prior consultations with the Kayabi, Apiaká and Munduruku indigenous peoples. In recent weeks, the removal of funeral urns of the Munduruku people by dam contractors at the Sete Quedas rapids, considered a sacred site for indigenous tribes, provoked outrage.

Last March President Dilma Rousseff signed Decree no. 7957/2013 allowing the use of the National Guard and other armed forces to ensure that dam construction at places like Belo Monte and technical studies for planned Amazonian dams are not interrupted by indigenous protestors. In April, upon a request of the Ministry of Mines and Energy, approximately 250 federal and military police troops were dispatched to the Tapajós region to ensure continuation of technical studies for the first two large dams scheduled for construction, São Luiz do Tapajós and Jatobá. The military operation came in response to protests from the Munduruku people, whose traditional lands would be directly affected by the two large dams and who have suffered from a history of military operations on their lands.

"Today's protest demonstrates the relentless resistance of a growing group of united peoples against Belo Monte, Tapajós and other destructive dams throughout the Amazon," said Leila Salazar-Lopez, Amazon Watch Program Director. "These are the final moments to change course as construction closes in on the Xingu and other lifeline rivers of the Amazon."

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[&]quot;Indigenous Peoples Launch New Occupation on Belo Monte Dam Site", 03/05/2013, online at: <u>http://enewspf.com/latest-news/science/science-a-environmental/42768-indigenous-peoples-launch-new-occupation-on-belo-monte-dam-site.html</u>



Hydraulic Fracturing Faces Growing Competition for Water Supplies in Water-Stressed Regions

A new Ceres research paper on water use in <u>hydraulic fracturing</u> operations shows that a significant portion of this activity is happening in water stressed regions of the U.S., most prominently Texas and Colorado, which are both in the midst of prolonged drought conditions. It concludes that industry efforts underway, such as expanded use of recycled water and non-freshwater resources, need to be scaled up along with better water management planning if shale energy production is to grow as projected.

The report, announced today, is based on well drilling and water use data from <u>FracFocus.org</u> and water stress indicator maps developed by the <u>World Resources Institute</u> (WRI). The research shows that nearly 47 percent of the wells were developed in water basins with high or extremely high water stress. The research was based on FracFocus data collected on 25,450 wells in operation from January 2011 through September 2012.

"These findings highlight emerging tensions in many U.S. regions between growing hydraulic fracturing activity and localized water supply needs," said Ceres president Mindy Lubber, in announcing the report, *Hydraulic Fracturing & Water Stress: Growing Competitive Pressures for Water*, at Ceres' annual conference in San Francisco.

FracFocus.org was launched in 2011 as a voluntary national hydraulic fracturing chemical registry. The database provides the location and date that each oil and gas well was developed and the chemical additives and total volume of water injected down each well.

WRI's water stress indicator maps are part of a recently launched <u>Aqueduct Water Risk Atlas</u>, which provides a comprehensive, high-resolution picture of water-related risks worldwide. The baseline water stress indicator maps show the level of competition for water in different U.S. regions by measuring total annual water withdrawals against the percentage of water that is available. Extremely high water tress means more than 80 percent of available water is already being allocated for municipal, industrial and agricultural uses.

By linking the two datasets together through matching latitude and longitude coordinates, the report provides valuable insights about the extent and distribution of well production activity in regions with water competition challenges.

Colorado and Texas showed the highest exposure to water stress. In Colorado, 92 percent of the wells were in extremely high water stress regions. In Texas, which accounts for nearly half of the total wells analyzed, 51 percent of the wells were in high or extremely high water stress regions. In some Texas counties, water use for hydraulic fracturing accounted for more than 20 percent of the region's total water use. In Pennsylvania, 70 percent of the wells were in medium to high water stress water basins and only 2 percent were in high water stress basins.

"Given projected sharp increases in shale oil and gas production in the coming years, competition over water should be a growing concern to energy companies, policymakers and investors," the report concludes, noting a projected doubling of oil and gas fracturing production in the coming



years. "Shale energy development cannot grow without water, but in order to do so the industry's water needs and impacts need to be better understood, measured and managed."

As the report outlines, the industry has made progress in boosting the use of recycled water and other alternative water sources for fracturing wells. Operators are starting to use non-freshwater alternatives such as wastewater, saline water, seawater and acid-mine drainage. "Overall water recycling and the use of non-freshwater sources must increase considerably to have a significant impact," the report says.

The report includes key recommendations for companies and regulators, among those:

- Comprehensive mandatory disclosure by companies of how much freshwater, non-freshwater and recycled water they are using region by region as well as how much water is returning to the surface and where it is ending up.
- Requirements for companies to set quantifiable water use targets, including recycling and non-freshwater use targets.
- Ensure that both companies and local regulators are conducting sufficient water management planning.
- Ensure that companies have a local stakeholder engagement process in place on water issues.

Today's report is part of a larger, more comprehensive study Ceres is undertaking to analyze water risks across the entire hydraulic fracturing lifecycle—from water sourcing to final treatment and disposal of wastewater—across different regional basins in North America. The research is aimed primarily at investors who have financial stakes in operators and support services in these regions.

"Hydraulic Fracturing Faces Growing Competition for Water Supplies in Water-Stressed Regions", 02/05/2013, online at: <u>http://ecowatch.com/2013/hydraulic-fracturing-competition-for-water-supplies/</u>

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