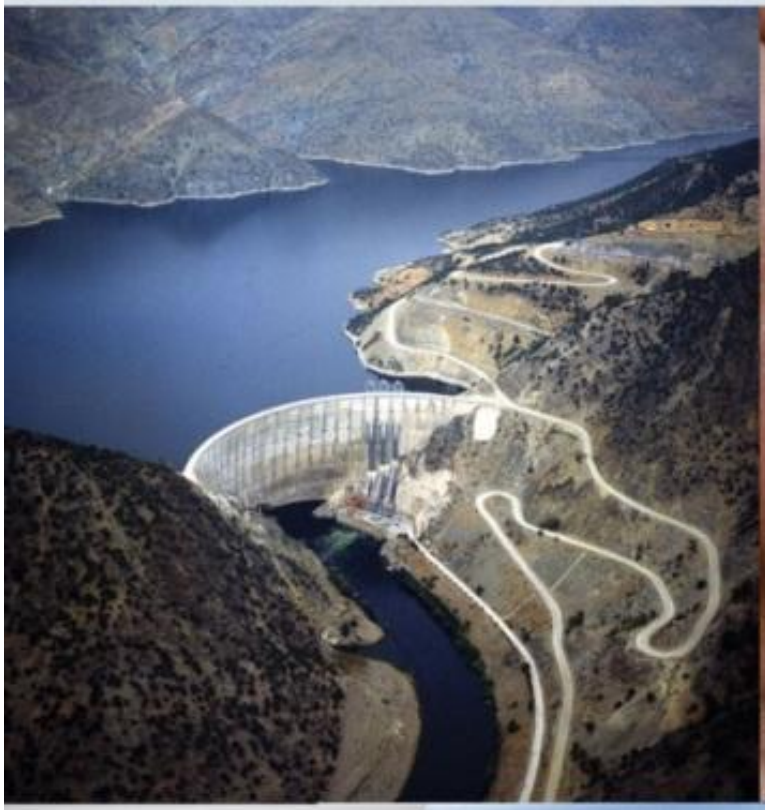


ORSAM WATER BULLETIN

Weekly Bulletin by ORSAM Water Research Programme

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





Issue 134

ORSAM WATER BULLETIN

24 June 2013 – 30 June 2013

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

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

❖ Lake Urmia's water level decreases by 28 cm

Lake Urmia's water level has dropped by another 28 centimeters compared to the same period last year, the head of the department of water and water resources of Iran's Ministry of Energy, Alireza Daimi said, the İRNA agency reported on Saturday.

According to Daimi, the increased use of water from the lake for irrigation of agricultural fields as well as a decrease in rainfall has led to a decrease in the lake's water level.

He noted that there is a need for restrictions on the use of lake water for irrigation of agricultural fields.

Daimi added that due to the reduction in rainfall, the amount of drinking water has decreased as well, and "we are trying to avoid interruptions in the provision of drinking water."

It should be noted that the area of Lake Urmia totals nearly six thousand square kilometers. During the migration of migratory birds, the lake becomes their temporary home. Because of the prolonged drought, Urmia shallows, having an impact on the flora and fauna of the region. Experts on environmental issues say that the measures taken by the Iranian government to save the lake are insufficient.

Previously, general director of the Organization for Environmental Protection of the Iranian Province of West Azerbaijan Hassan Abbas Nejad has said that 3.1 billion cubic meters of water are needed annually to save Lake Urmia. Every liter of water in the lake contains 330 grams of salt. Earlier, the figure was at 160-170 grams per liter.

In 2010, during the visit of Iranian President Mahmoud Ahmadinejad and members of the government to Tabriz, the project for transfer of 600 million cubic meters of water from the Araz River to Lake Urmia was approved. $1.2 billion will be allocated for this project.

In September 2011, the Iranian government has allocated $900 million to prevent shallowing of the lake.

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

"Lake Urmia's water level decreases by 28 cm", 29/06/2013, online at: http://en.trend.az/news/society/2165924.html

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

❖ Iran to build water treatment plant in Afghanistan

Iranian Deputy Energy Minister Alireza Daemi announced the country will build a water treatment plant in Afghanistan for the first time, saying that Iran and Afghanistan's water and wastewater sectors have signed two agreements.

"Based on the Memoranda of Understanding (MoU) on water and wastewater, Iran has conducted the required studies and assists in the establishment of water treatment plant in Kabul which is home to 5,000,000 people," he told ISNA.

He also added the agreements reiterate respecting water rights between Iran and Afghanistan.

Afghanistan is suffering due to lack of drinking water and has built no water treatment plant so far.

Iran is one of the most important donors to Afghanistan which has kept its promises to help to the reconstruction of the war-hit country.

Iran has built some roads, power transmission lines, and border stations, among the other infrastructure projects which would better link the two nations.

Iran has also contributed more than $50 million annually to Afghan anti-narcotics efforts in the last 8 years.

"Iran to build water treatment plant in Afghanistan", 26/06/2013, online at:
http://www.payvand.com/news/13/jun/1191.html

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

❖ Agriculture in Kurdistan: A Long Way to Grow

SULAIMANI, Kurdistan Region - Dutch agricultural entrepreneur Annemiek van Waarden arrived in the Kurdistan Region in 2007 to start growing apples, pears and other fruits, as well as to import seed potatoes and advise Kurdish famers how to grow them.

Since then, she has shifted her main activities to supplying imported first-class produce for luxury hotels in the autonomous Kurdish enclave in northern Iraq. The 45-year-old is also in charge of growing local products that can compete with imports.

But the slow local development Van Waarden has witnessed in her six years here has forced her to speak out, warning that at this rate agriculture in Kurdistan has no chance of competing with production and quality in neighboring countries.

"Agriculture is a knowledge sector. We are constantly busy trying to keep up with development elsewhere, to be able to compete. But the development in Kurdistan is not going fast enough," she complains.

The Dutch businesswoman is no stranger to the history of embargoes, wars and chemical attacks that changed Iraq from an agricultural producer to a consumer. She wants farmers to produce enough to feed Kurdistan's inhabitants, but admits that is a distant goal.

An agricultural engineer by training, she notes that in her own homeland after the Second World War the Dutch government focused on improving agriculture by educating farmers at schools and universities, and through research and free advice. "They visited my granddad weekly to advise him on how to improve growth and production," she recalls.

Because of the importance given to agriculture, it took 50 years for authorities to hand it over to the private sector, Van Waarden says. "Now, we pay for advice, and every farmer has his own advisor to make sure he gets the best results. That is where we should be heading in Kurdistan, because we have to get better than our competition."

When she compares the production of Kurdish farmers with those in neighbouring countries, she thinks the Kurdish potato production is about half of what is produced in comparable circumstances; for fruit it is no more than one-tenth.

Iranian, Turkish and Syrian farmers have more knowledge about when to plant, how much water and feed to give, how to select and use pesticides and the right time and method of harvesting. Because their production is going up, farmers can buy better equipment and seed, raising output even more.

"A farmer has to work hard. If in Holland a farmer does not improve or even achieve the same results every year, he can just about close his farm. That is how fast the competition is moving," Van Waarden says.

For Kurdish farmers, the competition comes mainly from Turkey, Iran and Syria, whose products have flooded Iraqi markets. Many of them are B- or C-grade products, the Dutch entrepreneur says. "A-grade products hardly get into Kurdistan, because the importers have a higher profit margin when they buy lower quality." Yet the Kurdish products are hardly better than imports.

Van Waarden is highly critical of the government's policy of occasionally banning imports to protect local production. "The government has to stimulate and facilitate, not pamper the farmers. They have to be stimulated to become better than the competition. Keeping the competition out creates the wrong incentive, it makes farmers lazy."

Instead of giving tractors and equipment for free to farmers, as in the past, Van Waarden calls for the government to facilitate farmers with cheap loans. To pay back the loans, farmers have to work hard and improve quality and production. "It would be good to create a 'farmer of the year' competition, with a trip abroad as a prize, for instance. That will work as a stimulus," Van Waarden believes.

She notes that most of the greenhouses for cucumbers and tomatoes that the government and aid organisations gave to farmers for free were not being used for a second year. "The farmers did not make money, as they were not stimulated and advised how to use them in the most profitable way," she explains.

Van Waarden advocates that the government should facilitate research, for instance on irrigation and the use of different seeds, feeding products and pesticides. Test fields are needed to see which plant grows the best where. The authorities should provide free advice, she says, so that "farmers should have someone to talk to about their problems."

To help farmers work more efficiently, Van Waarden suggest they unite in a cooperative or make bigger farms. "Small farms are burdened with relatively high costs. To increase the size of the business is a way out, but that has to be well organized and planned. In this world you cannot farm alone. Farmers need to work together on some issues; they need to sell their goods together to make sure they get the best price," she advises.

Speaking from experience in Holland and elsewhere in Europe, Van Waarden is concerned about the lack of agricultural control in Kurdistan. "Everything that is imported into Kurdistan needs a health certificate and is tested. But farmers are not checked on whether they did not spray their products with pesticides right before harvesting, or if they are harvesting when the product is ripe enough.

There is no control at all."

Her conclusion is that the five-year plan the Ministry of Agriculture made for production targets is a good start, but that good policy is also needed to achieve targets.

It can be done, she is sure, because Kurdistan has all the necessary ingredients: good soil, underground water wells, climate and a big reservoir of people who can grow into good farmers.

"The change I have seen in six years? Then, there was little activity, little production and few farmers," she remembers. "Now we have more greenhouse production, a few more orchards and a more activities. But we do not see many more Iraqi products of good quality on the market."

"Agriculture in Kurdistan: A Long Way to Grow", 25/06/2013, online at: http://rudaw.net/english/kurdistan/250620131

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

❖ Water extremes

Walking the meadow this morning, my thoughts traveled to regions and borders around the globe under stress from an increasing competition for precious water. Last summer, rivers across the Midwest dropped to dangerously low levels, temporarily halting essential barge traffic. Intrastate disputes over how much water should be released from dams along the upper Missouri to increase water flow to the lower Missouri heated up as the drought persisted into the fall.

A year later, I cannot remember when I last watered the meadow rose bed where bushes are filled with florabundant blooms. Six blueberry plants are full of fat berries on the edge of ripeness, early ripening red and golden raspberries are being picked daily and white thornless blackberry flowers promise a fat harvest of berries to come in summer.

Between the scratches on my arms from rose and berry thorns and the ticks and mosquito bites that come with each foray into the garden, I'll be wearing long sleeved tops however hot the temperature or high the humidity. In life, there is always a price to be paid for water.

At a recent dinner at the home of Orion and Barbara Beckmeyer, Hartsburg friends going back to the Great Flood of 1993, I mentioned that floodwaters in the southern German city of Passau had reached their highest level since 1501. German Chancellor Angela Merkel had dispatched federal troops to help citizens of towns and cities affected by the rain-swollen Danube and other southern rivers. Hartsburg farmers have a deep history of water extremes.

A sobering article in the June 17, 2013 Tribune--"Nation's dry spots battle over water"—explored the conundrum facing farmers in some of the nation's driest pockets. Energy companies are eager to exploit vast gas and oil reserves west of the Mississippi using hydraulic fracturing—a drilling technique requiring huge volumes of water to blast fine sand and chemicals into the ground to crack open gas-rich shale formations. As the "fracking frontier" expands into drought-stricken regions, farmers must now weigh the value of continuing to plant crops vs. selling water rights to energy companies eager to drill exploratory wells.

In drought-stricken regions around the world, scarce water resources have increasingly led to political conflicts. In the June 2013 issue of Smithsonian, Joshua Hammer's article, "Scarce Tactics," traces the world's earliest documented water war back 4,500 years to armies of the city states of Lagash and Umma located near the junction of the Tigris and Euphrates rivers in what is modern day Iraq. When the ruler of Umma drained an irrigation canal leading from the Tigris, the ruler of Lagash sent his troops into battle.

According to the same article, a dam constructed by Turkey in 1975 has cut water flow to Iraq by 80 percent, and to Syria by 40 percent—leading the affected nations to accuse Turkey of water hoarding. With aquifers being sucked dry in this already volatile region of the Middle East, alternatives such as recycling wastewater or desalination projects are costly but desperately needed, as well as policies for more equitable water sharing across political boundaries.

Hammer's article ends with a hint of optimism, reporting that after Israeli and Jordanian officials met last year for the first time in decades to discuss rehabilitating the nearly dry Jordan River, Israel

agreed to release freshwater down the river. Hammer's article ends by suggesting that today's water-stressed nations might learn lessons from the past regarding how to deal with cross-boundary, water sharing issues.

A cuneiform tablet that now hangs in the Louvre Museum in Paris records the world's first international water treaty. Ultimately stress led to compromise, ending the ancient war between the warring city-states of Lagash and Umma. From the Middle East to the Missouri River, periods of stress created by water extremes continue to create the need for sharing scarce water resources. Compromise, history reminds us, is not only the way of the past, but will increasingly be essential for the future.

"Water Extremes", 26/06/2013, online at:
http://www.bocojo.com/articles/2013/06/26/opinion/doc51cafa91f0e5a196530795.txt

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

❖ The water is running out in Gaza: Humanitarian catastrophe looms as territory's only aquifer fails

The Gaza Strip, a tiny wedge of land jammed between Israel, Egypt and the Mediterranean sea, is heading inexorably into a water crisis that the United Nations says could make the Palestinian enclave uninhabitable in just a few years.

With 90 to 95 per cent of the territory's only aquifer contaminated by sewage, chemicals and seawater, neighbourhood desalination facilities and their public taps are a lifesaver for some of Gaza's 1.6 million residents. But these small-scale projects provide water for only about 20 per cent of the population, forcing many more residents in the impoverished territory to buy bottled water at a premium. The UN estimates that more than 80 per cent of Gazans buy their drinking water. "Families are paying as much as a third of their household income for water," said June Kunugi, a special representative of the UN children's fund Unicef.

The Gaza Strip, governed by the Islamist group Hamas and in a permanent state of tension with Israel, is not the only place in the Middle East facing water woes. A Nasa study of satellite data released this year showed that between 2003 and 2009 the region lost 144 cubic kilometres of stored freshwater – equivalent to the amount in the Dead Sea – making a bad situation much worse.

But the situation in Gaza is particularly acute, with the UN warning that its sole aquifer might be unusable by 2016, with the damage potentially irreversible by 2020. Between 5 and 10 per cent only of the aquifer's water is safe to drink, but even this can mix with poor-quality water during distribution, making it good only for washing.

"The tap water from the municipality is not fit to drink, and my husband is a kidney patient," said Sahar Moussa, a mother of three, who lives in a cramped, ramshackle house in Khan Younis in the southern Gaza Strip, near the Egyptian border. She spends 45 shekels (£8.20) each month – a large sum for most Palestinians in the area – to buy filtered water that she stores in a 500L plastic tank.

Further complicating the issue is Israel's blockade of the Gaza Strip, which activists say has prevented the import of materials needed for repairs on water and waste facilities. Israel says the

blockade is necessary to prevent arms from reaching Hamas, which is opposed to the existence of the Jewish state.

With no streams or rivers to speak of, Gaza has historically relied almost exclusively on its coastal aquifer, which receives some 50 to 60 million cubic metres of refill each year thanks to rainfall and run-off from the Hebron hills to the east. But the needs of Gaza's rapidly growing population, as well as those of the nearby Israeli farmers, means an estimated 160 million cubic metres of water is drawn from the compromised aquifer each year. As the levels sink, seawater seeps in from the nearby Mediterranean. This saline pollution is made worse by untreated waste, with 90,000 cubic metres of raw sewage allowed to flow into the shallow sea waters each day from Gaza, according to UN data.

Even with the aquifer, regular running tap water is a luxury unknown to many Gazans. People living across the territory say that during the summer months water might spurt out of their taps every other day, and the pressure is often so low that those living on upper floors might see just a trickle.

Many families have opted to drill private wells drawing from water deep underground. Authorisation is required but rigid restrictions mean that most households dig their wells in secret. Hired labourers erect large plastic sheets to try to hide their work from prying neighbours. "As you can see, this is like a crime scene," said a 45-year-old father of six, who gave his name as Abu Mohammed. A clothes merchant from Gaza city, he paid his clandestine, seven-strong crew £2,300 to drill a well and came across water at a depth of 48 metres. "We begin the work after sunset and... cover the sound of digging with music," he said. A senior Israeli security official estimates that as many as 6,000 wells have been sunk in Gaza, many without authorisation.

While Israel shares the polluted aquifer, which stretches all the way to Caesarea, about 37 miles north of Tel Aviv, the problem is less acute than in Gaza which is downstream. In addition, Israel can access water from the Sea of Galilee and the mountain aquifer that also spans the West Bank.

As Gaza borders the sea, the obvious answer is desalination. Gaza already hosts 18 small plants, one treating seawater, the others water from brackish wells – most of them supplied by Unicef and Oxfam.

The Palestinian Water Authority has started work on two new seawater desalination plants and is planning a third, larger facility, which is designed to produce 55 million cubic metres of water a year. But with funding for the $450m (£295m) project still uncertain, construction is not due to start until 2017. By that time, cash-strapped Gaza may not have enough electricity available to power the energy-intensive plants. The UN estimates that Gaza needs an additional 100 megawatts of production capacity even before the big water facility is built.

Israel is trying to drum up aid for Gaza, the senior security official said, alarmed at the prospect of a looming water catastrophe and possible humanitarian crisis on its doorstep. "We have talked to everyone we know in the international community because 1.4 million people will be without water in a few years," he said, asking not to be named because of the issue's sensitivity. He said Israel, a leader in the desalination industry, was helping to train a few Gazans in the latest water technology, which the Palestinian Water Authority (PWA) confirmed.

Rebhi El Sheikh, deputy chairman of the PWA, has called on international donors to help fund energy, water and sewage projects, warning of disaster if nothing happens. "A small investment is needed to avoid a bigger one, and it is a humanitarian issue that has nothing to do with politics or security," he said.

Water wars

Water scarcity has become a growing problem in the Middle East, East Africa and the US.

Although the Middle East has experienced water scarcity for quite some time, Jay Famiglietti, principal investigator of a recently published Nasa study, has said that there was an "alarming rate of decrease in total water storage in the Tigris and Euphrates river basins, which currently has the second fastest rate of groundwater storage loss on Earth, after India". With tensions already high in this region, water scarcity could become another cause of conflict.

Sub-Saharan Africa is one of the driest regions in the world. East Africa, in particular the Nile River basin, has seen conflict rise over who controls fresh water supplies. Due to limited resources, the Sudanese civil war between 1983 and 2005 became a struggle over territory which in turn led to conflicts over water supplies. The impact on the population and irrigation of the country would be

substantial. After 22 years of fighting, 400,000 people were killed and 2.5 million were displaced from their homes.

Water cleanliness is an issue that is having considerable impact on sub-Saharan Africa. According to the charity WaterAid, 16.4 million people in Kenya and 43.4 million people in Ethiopia don't have access to safe water.

The US is also facing significant strain on fresh-water supplies. According to WaterSense, a partnership program of the US Environmental Protection Agency: "Nearly every region of the country has experienced water shortages. At least 36 states are anticipating local, regional, or state-wide water shortages" this year, "even under non-drought conditions".

Water scarcity was recently addressed by UN Secretary-General Ban Ki-moon, who warned that by 2030 nearly half the world's population could be facing a scarcity of water, with demand outstripping supply by 40 per cent.

"The water is running out in Gaza: Humanitarian catastrophe looms as territory's only aquifer fails", 30/06/2013, online at: http://www.independent.co.uk/news/world/middle-east/the-water-is-running-out-in-gaza-humanitarian-catastrophe-looms-as-territorys-only-aquifer-fails-8679987.html

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

❖ Israeli water treatment firm to enter UK market

Haifa-based Mapal Green Energy will be bringing its floating aeration system into a municipal wastewater treatment plant in Stanbridgeford, north of London.

An Israeli developer of advanced water purification systems will next week install its technology in an English wastewater treatment plant in the country's Midlands, after signing a contract to do so earlier this month.

Haifa-based Mapal Green Energy will be bringing its floating aeration system into a municipal wastewater treatment plant in Stanbridgeford, north of London, run by Anglian Water. Based on the success of this first installation, Mapal will have the opportunity to upgrade many of the 1,000 waste water treatment plants owned by Anglian Water, which provides water to 6 million customers in the region. The goal is to implement Mapal's floating, fine-bubble aeration system to significant reduce energy consumption as well as operation and maintenance costs of the plants, according to the firm.

"Building bridges between Israeli companies like Mapal and British water companies enables the British water industry to cut its emissions and significant energy costs," said Yoni Dolgin, Cleantech Manager of the UK-Israel Tech Hub. "Looking internationally, British firms – SMEs and larger infrastructure companies – can gain a global competitive advantage by partnering with Israeli water companies who have deep technical expertise in areas such as wastewater treatment, desalination, precision agriculture, and IT solutions for water networks."

The UK-Israel Tech Hub, an initiative based at the British embassy in Israel, has long supported Mapal's penetration into the British market, the company said.

Mapal has been involved with the British Foreign Office's TouchDown program, which helps companies from abroad develop their activities in Great Britain.

In this process, Mapal has now officially established a UK subsidiary called Mapal UK, and has become one of only two Israeli cleantech firms to operate in the British market.

The second is the company Takadu, which provides a software solution for detecting leakage in the aging British water infrastructure.

Mapal initially raised £1.7 million from British investors toward establishing the subsidiary, and has now completed raising an additional £1.5 million, the company said. Concurrently, Mapal is in advanced negotiations with a second leading UK water utility, which also operates hundreds of wastewater treatment plants.

Because the British water market is a private one, Mapal executives feel that the company's technologies are particularly attractive to this sector, according to CEO Zeev Fisher.

"These private entities have a greater incentive to find methods and new technologies to reduce their operation and maintenance costs, mainly the energy costs in the aeration process, and to improve their profitability, as they are rigorously regulated by the government in both water quality effluent and prices," Fisher said.

"Israeli water treatment firm to enter UK market", 25/06/2013, online at: **http://www.jpost.com/Business/Business-News/Israeli-water-treatment-firm-to-enter-UK-market-317705**

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❖ As Gaza heads for water crisis, desalination seen key

(Reuters) - A tiny wedge of land jammed betweenIsrael, Egypt and the Mediterranean sea, the Gaza Strip is heading inexorably into a water crisis that theUnited Nations says could make the Palestinian enclave unliveable in just a few years.

With 90-95 percent of the territory's only aquifer contaminated by sewage, chemicals and seawater, neighborhood desalination facilities and their public taps are a lifesaver for some of Gaza's 1.6 million residents.

But these small-scale projects provide water for only about 20 percent of the population, forcing many more residents in the impoverished Gaza Strip to buy bottled water at a premium.

"There is a crisis. There is a serious deficit in the water resources in Gaza and there is a serious deterioration in the water quality," said Rebhi El Sheikh, deputy chairman of the Palestinian Water Authority (PWA).

The Gaza Strip, governed by the Islamist group Hamas and in a permanent state of tension with Israel, is not the only place in the Middle East facing water woes.

A NASA study of satellite data released this year showed that between 2003 and 2009 the region lost 144 cubic km of stored freshwater - equivalent to the amount of water held in the Dead Sea - making an already bad situation much worse.

But the situation in Gaza is particularly acute, with the United Nationswarning that its sole aquifer might be unusable by 2016, with the damage potentially irreversible by 2020.

Only five to 10 percent of the aquifer's water is presently deemed safe to drink, but even this can mix with poor quality water during distribution, making it good only for washing.

"The tap water from the municipality is not fit to drink, and my husband is a kidney patient," said Sahar Moussa, a mother of three, who lives in a cramped, ramshackle house in Khan Younis in the southern Gaza Strip, near the Egyptian border.

She spends 45 shekels ($12.50) each month - a large sum for most Palestinians in the area - to buy filtered water that she stores in a 500-litre plastic tank.

Further complicating the issue is Israel's blockade of the Gaza Strip, which activists say has prevented the import of materials needed for repairs on water and waste facilities. Israel says the blockade is needed to prevent arms from reaching Hamas, which is opposed to the existence of the Jewish state.

The United Nations estimates that more than 80 percent of Gazans buy their drinking water.

"Families are paying as much as a third of their household income on water," said June Kunugi, a special representative of the U.N. children's fund UNICEF.

SALT AND SEWAGE

With no streams or rivers to speak of, Gaza has historically relied almost exclusively on its coastal aquifer, which receives some 50-60 million cubic meters of refill each year thanks to rainfall and runoff from the Hebron hills to the east.

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POWER FAILURE

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"We have talked to everyone we know in the international community because 1.4 million people will be without water in a few years," he said, asking not to be named because of the sensitivity of the issue.

He said Israel, a leader in the desalination industry, was helping to train a handful of Gazans in the latest water technology, which the Palestinian Water Authority confirmed.

Sheikh called on international donors to help fund energy, water and sewage projects, warning of disaster if nothing happened.

"A small investment is needed to avoid a bigger one and it is a humanitarian issue that has nothing to do with politics or security," he said.

"As Gaza heads for water crisis, desalination seen key", 26/06/2013, online at: http://www.reuters.com/article/2013/06/26/us-israel-palestinians-water-idUSBRE95P0RK20130626?feedType=RSS&feedName=topNews

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

❖ Youths protest water shortages in Bethlehem camp

BETHLEHEM (Ma'an) -- Palestinian youths burned tires and briefly stopped traffic on a main Bethlehem road Tuesday, as they protested against water shortages in the occupied West Bank.

Several dozen residents of Bethlehem's al-Azza refugee camp joined the demonstration in which participants set fire to tires and blocked traffic with a dumpster they dragged into the center of Manger Street.

A Ma'an reporter observed firefighters and police officers arriving at the scene. He said they did not interfere with the demonstration, which ended without injury or damage.

Rights groups like Amnesty International say Israel appropriates Palestinian natural resources and provides an inordinately large water supply to its settler population.

"Youths protest water shortages in Bethlehem camp", 26/06/2013, online at:
http://www.maannews.net/eng/ViewDetails.aspx?ID=608484

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❖ Institutions in Chicago and Israel Want More, Cheaper Clean Water by 2020

JNS.org - Israel's Ben-Gurion University of the Negev (BGU) is collaborating with the University of Chicago to fund nanotechnology research that aims to develop the materials and methods necessary to produce more clean water, and to make it cheaper, by 2020. The Argonne National Laboratory in Lemont, Ill., and the Marine Biological Laboratory in Woods Hole, Mass., will also contribute to the project.

The project was announced Sunday in Jerusalem during a meeting between Israeli President Shimon Peres, Chicago Mayor Rahm Emanuel, and both university presidents. "Clean, plentiful water is a strategic issue in the Middle East and the world at large," said BGU President Rivka Carmi.

"Chicago's worldwide leadership in water management continues to grow as we invest in our water infrastructure, creating jobs for our residents and economic activity in our neighborhoods. I strongly support this partnership," Emanuel said.

"Institutions in Chicago and Israel Want More, Cheaper Clean Water by 2020", 26/06/2013, online at: http://www.algemeiner.com/2013/06/26/institutions-in-chicago-and-israel-want-more-cheaper-clean-water-by-2020/

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

❖ Of Water, Zionism, and Indigenous Rights

An organization called Justice for Palestinians (JfP) is attempting to organize, in conjunction with the Council of Canadians, a public conference titled Indigenous Perspectives on Water: Canada and Palestine. The objective is clearly to portray Palestinian and native rights issues as one and the same. Indeed, it has come to my attention that JFP is seeking a native speaker to participate in the conference and, ideally, one from Idle No More (INM), a native rights movement in which I have been active.

I take strong issue with Palestinians' appropriation of the native cause. Undoubtedly, the Palestinians' situation is not ideal. But that, alone, is not sufficient to draw equivalence between the Palestinians' plight and that of First Nations. And there are many reasons, from a Native perspective, to reject the conflation of Palestinian and Indigenous rights issues.

To begin, though Palestinian propagandists love to characterize Zionism (that is, Jewish nationalism) and its success in re-establishing Israel in 1948 as colonial enterprises, it is the Jews who are the aboriginal people in the Holy Land, not the Arabs. This truth is seldom spoken but, alone among other nations, Jews' language, identity, history, culture, mythology, folklore and values were born and forged in the Holy Land. In stark contrast, Arabs arrived to the Holy Land only in the 7th century, when Arabian armies invaded andcolonized the entire Middle East and North Africa – suppressing countless indigenous populations along the way.

There is no statute of limitations on being indigenous and remnants of empires past don't get to claim indigenous status merely through nebulous ties after colonizing. There must be clear, maternal ties to the land, established through historical and archaeological facts, not rhetoric. To claim that the Jews, a once-displaced indigenous people returned to sovereignty on part of their historic homeland are colonizers is something that I therefore find highly offensive – especially when it is the descendents of colonizers making that claim. In fact, any attempt to delegitimize Israel or Zionism as colonial delegitimizes ALL indigenous peoples everywhere because such attempts trivialize the core criteria that make us who we are: indigenous.

And while it may generate rights, longstanding presence on a certain piece of land is not in any way synonymous with being indigenous. Europeans have been on American soil for centuries and have developed a different identity here. But that alone does not render them indigenous, in the politically-charged sense of the word. Like Arabic culture in the Holy Land, white North American culture was born elsewhere, and imported via invasions and occupation. Tellingly perhaps, the Palestinians are deafeningly silent with respect to the rights of indigenous peoples still dominated by Arabs from Morocco to Iraq. I question a support for indigenous rights that is so self-servingly selective.

Second, there can be no comparison between the Palestinians' experience and that of Native Canadians. It is well known that North American indigenous peoples suffered genocide of unfathomable proportions. Our people were obliterated through war, massacres, disease and starvation. Survivors were treated as vermin and our culture, language and religions were all attacked in a declared attempt to remove us from the pages of history. (This, ironically, was also the declared aim of the Palestinian Arab militias and Arab armies who attacked a nascent Israel in 1947 and 48.) Survivors' children were abducted and forced into assimilation. The numbers speak for themselves: 65 million people reduced to less than 3; a world was erased. THAT is genocide. And it is sacred history. The Palestinians, in shouting contrast, grew from a population of approximately 1 million in

1948 (when Israel was established) to well over 6 million in 2013, an extremely healthy growth rate, to say the least. Moreover, the average Palestinian still living under Israeli rule lives under conditions that our people could only have dreamed of and that, in many cases, are far better than those on many reservations today.

In fact, one could make the argument that no aggrieved people has ever been treated as well as the Palestinians have. (The Palestinian authority has received approximately $30 billion in international aid since 1993). This, despite the fact that Palestinian nationalism's preferred method of political expression has, sadly, been terrorism. In view of this, any comparison to First Nations is enraging.

My reasons for rejecting the conflation of Palestinians and Indigenous Americans do not end with historical fact. I also am offended that my people's cause appears to serve merely as a prop for Palestinian propaganda. I have yet to hear a single Palestinian spokesman genuinely defend a native rights issue on its own merits. Moreover, in my experience, the conversation with Palestinian groups seems very one-sided, with Palestinian groups TELLING us what we should believe about our supposed commonalities yet being extremely reluctant to consider our differing points of view. For example, I have seen Palestinian materials juxtaposing Native-American symbols – for example, the feather, a symbol of peace – to AK-47 assault rifles, a common symbol of Pan-Arabist and Islamist militantism in the Middle East. And yet, unlike most Palestinian nationalist groups across the board, Native rights movements seek to be peaceful and inclusive. These crucial differences are systematically ignored by Palestinian groups who seem only too eager to wrap themselves in the indigenous mantle while limiting their solidarity to the cosmetic. Zionist and Jewish activists, on the other hand, seem genuinely motivated to help and have, for example, shared with numerous native groups their innovative agricultural techniques and linguistic programs. Moreover, they never exaggerate the very real tragedies they have suffered in order to gain sympathy with Native Americans. And they listen. The importance of this cannot be overstated.

The stakes are high. The Canadian Government is currently fighting to remove protections from our waters. The impact of these measures could be considerable as many Indian communities still rely heavily on natural water sources. By ignoring treaties and its duty to consult with Native communities, the Canadian government could essentially circumvent all protections established in the Indian Act. Accordingly, Natives cannot let themselves be used merely as ornamentation to Palestinian propaganda. We do not want or need such "solidarity".

For too long we natives have let an uncompromising and reactionary Palestinian narrative substitute for facts. I can only trust and hope that once the facts become known, native people will re-assess highly questionable sympathies. Our own self-interest demands no less.

Ryan Bellerose *is a Metis from Alberta. He founded Canadians for Accountability, a Native rights advocacy group, and is an Idle No More movement organizer. He is also a founding member in the Calgary United with Israel (CUWI) organization and is a self-proclaimed Zionist.*

"Of Water, Zionism, and Indigenous Rights", 26/06/2013,online at: http://www.themetropolitain.ca/articles/view/1303

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❖ Egypt, Ethiopia Water Dispute Threatens Nations

The drums of war are beating again in the Middle East and the Horn of Africa. But this confrontation doesn't concern Syria, Somalia, Israel or the Palestinians. The adversaries are Egypt and Ethiopia. The flashpoint is the waters of the Nile.

As part of the construction of its Grand Renaissance Dam, Ethiopia began partially diverting the course of the Blue Nile, which joins the White Nile in Sudan before flowing on to Egypt, in late May. For Ethiopia, the 6,000-megawatt Grand Renaissance project -- the largest hydroelectric plant in Africa -- promises power for the 83 percent of the population lacking access to electricity, as well as energy for export.

For Egypt, though, the dam raises an existential alarm. Egypt receives almost no rainfall. It depends on the Nile for 97 percent of its renewable water resources. The Nile, in turn, depends on Ethiopia. More than four-fifths of the water in the river first falls as rain in the Ethiopian highlands.

Ethiopia maintains the Grand Renaissance project won't harm its neighbors. But Egypt fears the mile-long, 560-foot-tall dam -- and the 74 billion cubic meter reservoir behind it -- could diminish the vital water supplies ultimately available downstream.

Despite the saber rattling rhetoric, there's little chance Egypt and Ethiopia will actually cross swords over the Nile. Both countries have far too much to lose from war. Yet, while a clash of arms remains highly unlikely, the clashing demands on the Nile's shared waters are real and symptomatic of similar conflicting claims over scarce water resources in other nations as well.

Around the world, growing population pressures, unsustainable consumption patterns and escalating environmental stresses are imposing mounting strains on freshwater resources.

From the Nile to the Tigris-Euphrates to the Indus, many of the Earth's major river basins are increasingly considered "closed." This means that all their available renewable water is already allocated to various human and environmental needs, with little or no spare capacity.

Some closed rivers, such as the Colorado in the U.S. and Yellow River in China, no longer always run to the sea. With scant buffers to absorb new demands or fluctuations in supply, water use changes in one part of the system readily reverberate to users elsewhere in the basin, squeezing consumers and policymakers alike.

More than 1.4 billion people now live in closed basins. If present trends continue, rising water demands for agriculture, industry and domestic needs will risk outrunning sustainable supplies in many more regions worldwide.

According to projections by the 2030 Water Resources Group -- a consortium led by the World Bank and the consulting firm McKinsey -- global water requirements will exceed renewable resources by 40 percent in 2030 if there aren't considerable efficiency gains and policy improvements. In China, available water supplies will fulfill just three-quarters of anticipated demand 17 years from now; in India, only half.

Global climate change will exacerbate these challenges. Shifting precipitation patterns threaten to reduce water availability in some regions while inflicting stronger storms on others, increasing both potential droughts and floods.

Meeting the world's growing water needs will require far more effective use of available resources. An alarming amount of the water now drawn from rivers and lakes or pumped from underground aquifers is wasted. In many countries, for example, 40 percent or more of all the water withdrawn for agriculture is squandered, evaporating into the air or seeping into the ground from poorly maintained canals before ever reaching farmers' fields. Many cities lose a similar proportion of their municipal water supplies to leaky pipes.

Ultimately, however, sustainable management of the world's freshwater supplies will necessitate enhanced collaboration, between sectors and communities within nations, and between countries in international basins.

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

Shared water resources tie consumers inextricably together. Water policy choices made by one user can impact the timing, location and amount of water available to other users. Contrary to the martial rhetoric currently heard on the Nile, confrontation can't navigate these trade-offs and conflict can't help meet rising water demands. Only cooperation can.

On the Colorado River, for example, a creative new agreement between the U.S. and Mexico allows U.S. states to finance irrigation improvements in Mexico and then share in the additional water supply freed by the ensuing efficiencies.

Similar cooperative approaches could defuse tensions on the Nile. Funding the Grand Renaissance project currently exerts substantial pressure on the Ethiopian treasury, even as Ethiopia aims to export much of the resulting hydropower. A joint venture with downstream Egypt and Sudan to manage the project together could ease Egyptian anxieties, while facilitating financing for the dam and securing partners and markets for expanding the regional power grid.

Unlike policymakers, water resources ignore political boundaries. Water managers must learn to manage the world's shared water supplies as allies rather than adversaries, or we will all suffer the consequences of increasing water shortages.

"Egypt, Ethiopia Water Dispute Threatens Nations", 26/06/2013, online at: http://www.ibtimes.com/egypt-ethiopia-water-dispute-threatens-nations-1324189

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❖ Renaissance Dam wont Affect Sudan, Egypt: Ethiopian Ambassador

Khartoum - The Ambassador of the People's Democratic Republic of Ethiopia to Sudan, Abadi Zemo, appreciated the actual facts included in the address given by the President of the Republic, Field Marshal Omer Al Bashir, at the recent meeting of the Shura Council of the National Congress concerning the establishment of the Ethiopian Renaissance Dam and its benefits for both Sudan and Ethiopia.

In an Interviewed with SUNA, the Ethiopian Ambassador also appreciated the genuine facts reflected by the Minister of Information, Dr. Ahmed Bilal with regard to the establishment of The Renaissance Dam.

He expressed his gratitude to the people of Sudan for standing alongside the Ethiopian people regarding the construction of The Renaissance Dam and for their understanding to its importance for the development and combating poverty in the two countries.

The Ethiopian Ambassador pointed out that neither Sudan nor Egypt will be affected by the establishment of the Renaissance Dam.

He said that the establishment of the dam will enable Sudan to utilize its cultivable lands, enhance irrigation and obtain electricity from Ethiopia at a low and reasonable price, adding that the Renaissance Dam will lead to increasing the generated electricity power in Ethiopia.

Ambassador Zemo said that the establishment of The Renaissance Dam will free the Sudanese dams from the silt accumulation and floods, indicating that it will guarantee regular and stable water flow throughout the year, providing bigger quantities of water and reducing evaporation.

He said that the Renaissance Dam is being established through pure efforts of the government and people of Ethiopia without foreign assistance, adding that the studies for the construction of the dam were conducted by experienced international companies.

The Ethiopian Ambassador said that the Renaissance Dam is being established in an area that is free from volcanic activities, adding that it is located at an area which is 160 kilometers away from the Sudanese Roseiris Dam.

He said that a committee composed of six experts, two from each of Egypt, Sudan and Ethiopia and four independent experts, has carried out assessment of the dam's project and has submitted the final report on May 31, 2013 which affirmed the benefit of the Renaissance Dam to Ethiopia Sudan and Egypt.

"Renaissance Dam wont Affect Sudan, Egypt: Ethiopian Ambassador", 30/06/2013, online at: http://news.sudanvisiondaily.com/details.html?rsnpid=224165

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❖ Mursi waves the Egyptian flag over Nile 'threat'

It worked for about 24 hours. For a full day the government addressed the issue of the planned Ethiopian dam on the Nile. It began with Prime Minister Hisham Qandil's declaration that the Grand Ethiopian Renaissance Dam is "a matter of life and death," and a "high level security issue" in a relatively sober address to a relatively somber Shura Council. And then, at night, President Mursi called upon all Egyptians, and obviously the organized opposition, to unite against this threat. "We will defend each drop of Nile water with our blood if necessary," he said.

Mursi's speech was billed by the government and the state press as the keynote address "to a national convention on the rights of Egypt to Nile River waters." The President did invoke peaceful pieties – that dialogue with Ethiopia and the other African countries from which the Nile either rises or flows through Sudan and Egypt, was the best way to resolve the crisis. But it was his defiant phrases that drew tremendous cheers and chanting from the Cairo Convention Hall audience as well as thousands outside hearing and watching the speech on large screens. Mursi acknowledged the waves of applause by saying he was certain that all Egyptian political figures would respond favourably to his appeal for national reconciliation in the face of this threat – which Egypt says will divert the waters of the Nile. However, the Ethiopians declared that the Nile River waters would continue to flow uninterrupted.

Contradictions

But right there were the first of a couple contradictions. This "national convention" where Mursi appealed for national unity at a moment of grave danger with "all options on the table" (which is the polite way to threatening war) was a conference convened by 11 Islamist parties, including the Muslim Brotherhood's own Freedom and Justice Party (FJP). Almost all of the other 10 parties - be they more moderate or more radical - were allies of FJP/MB government.

The domestic problems that face Egypt are grave and getting worse, but the nature of this conference, with its all-Islamist audience; the periodic chanting invoking Allah, and condemning the dam as some sort of Zionist conspiracy, could only alienate the very leaders Mursi seemed so certain would rally to the flag.

By noon the next day, the leaders of the Rebel Campaign, and many of the opposition parties supporting the June 30th Rebel million man march calling on Mursi to resign in the face of the many millions signing the Rebel Declaration to that effect, were dismissing the speech as opportunism. They did this even though some opposition leaders had already gone on the record saying that Egypt would not tolerate the loss of one drop of Nile water.

The Ethiopians have not only stressed that Egypt would not lose one drop from temporary diversion necessary for construction, but that the purpose of the dam was to generate electricity –which means no water would be diverted for agriculture, water would simply be used to power generators at the crest of the dam. Ethiopia states only 20 percent of the river will be held back behind the walls to build up the height of the reservoir so that its flow across the top will generate electricity, There remains, however, one rarely mentioned hard fact. It is not the temporary diversion of the Nile that is a threat- and in that limited sense the emotional appeal over this event is demagogic- but the actual threat is that once the dam has been completed and the river is back on course, that diversion will take three to four years, and during those years Egypt will be denied many, many, drops of Nile water.

Mursi's implied call to arms is a highly emotional way, as the opposition is now charging, of diverting public opinion for concerns about the still lingering near absence of security. Tourists are now being warned by the U.S. embassy to stay away from the pyramids because of gang attacks at the approaches to the site; traffic police are still a rare sight, for example. Opposition demonstrations that flared up at the end of 2011, and continued during the first months of 2012, were violent from the beginning , and that too scared off both investment and tourism. But Mursi's speech is also a legitimate expression of concern about a looming crisis about the supply of Nile River waters, even if for just three or four years.

Egypt's many problems

The morning of Mursi's speech was the worse day in the on-going fuel crisis – none of the dozens of gas stations my driver or my friends checked had any diesel fuel. These

gas stations had long lines of big and small trucks waiting for diesel to eventually arrive. As for the four grades of gas once available for automobiles, most of the stations had none at all, and those who did only had the highest and most expensive, that is simply beyond the means of most Egyptian car owners.

Power cuts are becoming more frequent, during daylight as well as at night, and they are becoming longer in duration as our on-going heat waves drive more and more air conditioners into operation. Factories are also disrupted both by power cuts and the erratic nature of transporting goods, given the diesel shortage that hampers both the power generating stations and the trucking industry.

Inherited problems

In fairness, many of the problems undermining the economy were inherited by Mursi – the lack of security since the January-February 2011 uprising and the chaos that has followed discourages both investors as well as tourism, as does the declining value of the Egyptian Pound That has been going on since 1967 when Egypt broke relations with the United States in the wake of the Six Day War. And that meant the end of an American subsidy for Egypt's very large purchases of American wheat.

Egypt had a huge gold reserve prior to the Nasserist revolution when every Egyptian Pound was guaranteed by its worth in gold. But even before the devastating Six Day War Nasser began to draw down the gold reserves, to buy off Yemeni tribes either to support the Republican side in the Yemeni civil war, or at least keep them from joining the tribes supporting the Yemini Imam who had survived the initial coup d'etat .

According to my friend Samir Miladi, the former Regional Advisor to the U.N. on nutrition, when the American subsidy ended Nasser turned to Canada which would not accept payment in Egyptian Pounds since it was not an international currency of exchange (there are many currencies that are strong in dollar value but unlike a handful of currencies, are not considered currencies of international exchange). So Egypt had to draw down its gold reserves to pay for wheat for the next few years. Over time, as the gold as well as hard currency reserves declined, the Egyptian Pound deteriorated and a black market prevailed. This went on until the last years of Sadat's rule and Mubarak's assumption of power when the effect of U.S. grants, combined with high levels of

investment as well has hard currency remittances from the more than one million Egyptian workers in Saudi Arabia, the Gulf states and Libya, restored the economy. But that boom was increasingly squandered by corruption and crony capitalism in the last decade of Mubarak's rule.

The Egyptian pound free falls

To slow down the renewed free fall of the Egyptian Pound the Central Bank has periodically drawn down the reserves, slowing down the descent but generating for the first time in years a renewed and growing black market. From one Egyptian Pound (EGP) worth five dollars 60 years ago, one dollar is now worth seven EGP at the official rate and more than eight EGP on the black market, driving up the costs of all imports which must be paid for in ever declining dollars. Banks are restricted more and more by the government from selling dollars to their customers, further fueling the black market in dollars.

It is now one year since Mursi was elected president however the Neo-Liberal economics of the Mubarak regime remain in place. The MB/FJP program has been characterized by critics as "extreme capitalism" set as policy by the most politically conservative wing of the MB, which is headed up by wealthy businessmen. Austerity measures demanded by the IMF for its long overdue loan, and being implemented by the government, are devastating for the poor.

The MB has been very good at providing charity to the poor which alleviates hunger. But charity does not generate either employment or the revival of public services such as state education, public health care, livable minimum wages and pensions. Nor is there any effort to revive the state's provision of food security, and state investment which the Nasserist regime - whatever its other drawbacks - did provide for Egypt's poor.

Infrastructure projects

Instead, in interviews and policy papers the MB/FJP talk is about more privatization, which has already led to increased unemployment. In some cases factories, once purchased by the private sector, are closed and torn down so that middle class to luxury

housing complexes can be built on what was once public property. Government funded infrastructure projects, which are not being implemented, would not only generate employment but also ultimately encourage both foreign and domestic private investment - precisely because they improve infrastructure.

One year in and there is no resumption of planning or a national industrial policy that characterized the Nasserist state, and all public-owned services and facilities continue to deteriorate. Mursi's government is as opposed to independent trade unions as Mubarak's (the once independent trade unions were effectively "nationalized" by Nasser). The official trade unions, now largely led by MB officials, still identify with the interests of the state bureaucracy as well as private capital, not with the working classes they theoretically represent.

Tourism

There is great potential for expanding tourism - what could be called religious tourism, since the chronic insecurity is less likely to deter a pilgrim then ordinary pleasure-seeking tourist. But the obvious Arab, Islamic and global targets for that traffic are precisely the Iranian and Arab Shiites who would be drawn to the tomb-shrines of the Prophet's immediate descendants – the Ahl al Bayt - (Iranian tourists can now go to the beaches in the Sinai but are banned from Cairo with its shrine tombs). Additionally, the many millions of Muslim Sufis be they Arab, Turk, Indo-Pakistani, Malay or Indonesian would flock- if encouraged with bargain-rate Egypt air travel - to both the Tomb shrines of the Prophet's family and those of Egypt's many Sufi Saints. And finally of course, Christian tourists who could, and in limited numbers already do, retrace the steps of the Holy Family when it fled from Palestine to Egypt. But Islamists, if Salifist, are generally very hostile to all three of these religious communities and the less-Salifist driven Islamists are still uncomfortable with Shiite, Sunni Sufis and those Christian tourists who are religiously driven; who take up the Cross to carry in the streets rather than take up bathing suits to wear on the beaches.

But it is the on-going crisis of public services that is all too reminiscent of the Egypt in the early 70s, both before and right after the 1973 War, before the peace process and

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

the good times, before U.S. aid and foreign investment rolled in. When the telephone system was so bad that if I wanted to call my family in the suburb of Maadi I would, as bureau chief, use the NBC News bureau's one direct dial international line to call the NBC News Desk in New York and have them place an international call to my home in Maadi and then connect me. Now, like everybody else I have a mobile phone, but calling Al Arabiya in Dubai is not going to get my air conditioning units running.

"Mursi waves the Egyptian flag over Nile 'threat", 25/06/2013, online at: http://theamericanmuslim.org/tam.php/features/articles/mursi-waves-the-egyptian-flag-over-nile-threat/0019893

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❖ Will Ethiopia's 'Grand' New Dam Steal Nile Waters from Egypt?

Africa's largest hydropower project, a new 6,000-megawatt dam on the Blue Nile, has sparked a row between Egypt and Ethiopia. But it could increase the overall water flow in the Nile.

By William DavisonEthiopia started to divert the flow of the Blue Nile river to construct a giant damEthiopia started to divert the flow of the Blue Nile river to construct a giant dam

Somalilandsun – Egypt is newly worried about a huge Ethiopian dam now under construction on the Nile's main tributary – a concern that reflects arid Egypt's overwhelming reliance on the world's longest river.

Egypt and the Nile are bound together: The Nile, called "God's gift to Egypt," helped the nation become one of the first agricultural civilizations, and it still supports most farming there.

But Ethiopia – the source of almost 86 percent of the water flowing to Egypt – is equally adamant that it has been denied a fair share of the river by agreements between Sudan and Egypt in the 1950s that divided the river between them.

Ethiopia two years ago started building what will be Africa's largest dam on the Blue Nile. It is a clear indication, despite anger from Egypt, that upstream Nile countries will no longer simply accept what they feel are inequitable water-sharing deals.

Ethiopia says its Grand Ethiopian Renaissance Dam, 20 miles from the Sudanese border, will not be used for irrigation. That means that once the 6,000-megawatt hydropower station is at full generating capacity, it will not consume precious water flowing to Egypt.

Yet Ethiopia's decision on how quickly or slowly to fill a needed reservoir with Nile water flowing toward Egypt, plus potential rates of evaporation, are major potential sources of contention between the two nations.

After heated rhetoric, including military threats by Egypt and an unbending response by Ethiopia, the nations' two foreign ministers met last week. They agreed to study the dam's potential impact – but only as construction proceeds.

Ethiopia aims to fill the needed new dam reservoir quickly, in five years, to start generating power. Experts say five years is ambitious. They argue that wildly varying levels of rainfall in the Blue Nile basin requires a flexible approach. The job may take 20 years, in this view.

To divert water into the new reservoir quickly, especially in low-rain years, may bring harm downstream, they say.

Long-term strategy

Yet in the long run, the Nile water can be conserved by moving storage away from inefficient dams such as the Aswan High Dam, which straddles the scorching border of Egypt and Sudan, and into cooler Ethiopia where there is lower evaporation.

As for evaporation rates, no consensus or exact science exists. But more usage and storage in Sudan and Ethiopia – and a reduced volume at Aswan – could save some 4 billion cubic meters of water a year, some studies say.

When it is filled, Ethiopia's new reservoir or artificial lake will be about half the size of the US state of Rhode Island. Filling may start towards the end of next year, and swallow hills, forests, roads, bridges, and villages in this far-flung corner of western Ethiopia.

Last month, Italian dam builder Salini Costrutorri hosted a ceremony to mark the diversion of the Blue Nile as part of the construction process.

Flash point: the filling of the reservoir

While that step raised ire in Egypt, it is more the reservoir filling that is a "major concern" to Sudan and Egypt, said an Ethiopian government official, Debretsion Gebremichael, who wore a red cap marked Salini in the sweltering opening ceremony.

The volume of water to be captured in the reservoir is 74 billion cubic meters (bcm), according to project documents. That figure is almost equivalent to the entire annual volume of the Nile that flows into Egypt's High Aswan Dam, or 84 bcm.

If Ethiopia decided unilaterally to fill the reservoir as quickly as possible, that would be disastrous for Sudan and Egypt. It would consume the entire flow of the Blue Nile, or around 54 bcm, for more than a year.

The Ethiopian ministry of water and energy says it wants to fill the reservoir over a period of five or six years. Mr. Debretsion says Ethiopia is willing to "accommodate" other nations.

To fill the dam over a six-year period would mean 14 to 18 percent less Nile water moving to Egypt each of those years, if rainfall is average and the dam is filled evenly. That is the idea in Addis Ababa, the Ethiopian capital.

Experts say that idea may not be so simple. It is unlikely that water can be impounded evenly in an area where rainfall and river volumes vary dramatically, says Simon Langan, director of Nile Basin and East African studies at the International Water Management Institute (IWMI).

Ethiopia's Blue Nile, for example, has run as high as 70 bcm in 1929, and as low as 30 bcm in 1972 and 1984, this from a 2008 study of sediment in the Nile by Abdalla Abdelsalam Ahmed, a UN water expert from Sudan.

"They will draw 'excess' water during the wet season," Mr. Langan says. "With some proactive management, hopefully it could be varied even more with greater amounts of water in wet years and smaller amounts in drier summers."

Most of the Blue Nile's flow follows a three-month rainy season in the Ethiopian highlands that ends around September.

Filling the dam only during rainy season in wet years would mean "the effects on downstream users may be quite small," says Aanund Killingtveit, professor of hydrolics and environmental engineering at the Norwegian University of Science and Technology.

But that approach could take decades, argues Paul Block, an expert on from Drexel University in Philadelphia, who has been modeling the impact of the reservoir filling in light of climatic variability.

The approach to capturing water needs to be "flexible" depending on how much rain falls in Ethiopia's Blue Nile basin, Langan says. If the first few years of filling were "drier years this could

have drastic implications," agrees Mr. Block, who is a professor of civil engineering and an expert on climate risk modeling and hydrologic forecasting.

Unpredictable future rainfull patterns complicate a scenario where Ethiopia wants to fill the dam as quickly as possible to generate electricity for export.

If Ethiopia fills the dam with 25 percent flow of the Blue Nile per year, the dam will fill in 11 years, says Block; if Ethiopia diverts only 10 percent, the time will extend past two decades, he figures.

Michael Hammond, a hydrologist from Exeter University in the UK, says such figures are about right. Yet even with less water in Aswan's reservoir, which holds a huge 150 bcm, Egypt may not lose out.

"My understanding is that if the impoundment is managed and operated well, Egypt could be assured a highly reliable supply of 55 bcm per year," Mr. Hammond argues. This is the figure Egypt set in a historic 1959 deal with Sudan.

Evaporation rates can be managed by small-scale conservation and reduce the some-500 bcm current loss in Ethiopia's highlands, says Langan. When the Renaissance dam is at full volume, it may have a loss only a fifth of the Aswan Dam's evaporation, or 10 bcm a year, according to the numbers offered by Block, whose studies are about to be peer-reviewed.

“Will Ethiopia’s ‘Grand’ New Dam Steal Nile Waters from Egypt?”, 27/06/2013, online at: http://somalilandsun.com/index.php/regional/3208-will-ethiopias-grand-new-dam-steal-nile-waters-from-egypt

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

❖ Ethiopia's Plan to Dam the Nile Has Egypt Fuming

The heat is stifling but the construction workers and red-hatted engineers don't let up. Mechanized excavators batter into the mighty, arid peaks on either side of the site of Ethiopia's Grand Renaissance dam, set to be the largest in Africa. The foundations are growing. The dark brown waters of the Nile River flow through the site. But the punishing sun and tough terrain aren't the only challenges facing the dam's progress. Downstream, Egypt is furious — and some politicians there have talked in private of war. Ethiopia is defiant. "There is nothing that will stop Ethiopia now from realizing our country's dream," says Bereket Simon, an Ethiopian government spokesman, as he walked around the site on a recent morning.

The Ethiopian government believes that the dam, which is due to start generating electricity next year and will be paid for from the proceeds of government bond sales, will become an image of national pride and a symbol of the country's recent development. Egypt, a country whose identity and economy are already inseparable from the Nile, feels deeply threatened by the project. Egypt's President Mohammed Morsi said in a speech in Cairo on June 10, "We will defend each drop of the Nile with our blood," but he has also said that dialogue is the best means of solving the crisis. Not all of Egypt's politicians have been so diplomatic; during a cabinet meeting on June 3, which was being broadcast by Egyptian state TV without the knowledge of the political figures attending, several told Morsi that he must destroy the dam through any means available.

On June 18 tempers seemed to calm a little when the Ethiopian foreign minister met his Egyptian counterpart in Addis Ababa, afterwards saying relations remained "brotherly" and that the two men had agreed to conduct further studies to ascertain the likely future impact of the dam on all countries through which the river flows. But the specter of a regional conflict remains. In February, Saudi Arabia's deputy defense minister was harshly critical of the dam project. "The Dam is being built close to the Sudanese border for political plotting rather than for economic gain and constitutes a threat to Egyptian and Sudanese national security," said Prince Khaled bin Sultan, the deputy minister. "Ethiopia is hell-bent on harming Arab peoples." (Bin Sultan was dismissed by the Saudi king in April; it is unclear whether there is any connection between his dismissal and his comments about the dam). On Ethiopia's side, both South Sudan and Uganda recently said Egypt should not undermine Ethiopia's right to the Nile.

The challenge Ethiopia faces is to persuade not just the Egyptian government but a whole nation that appears convinced right now that Ethiopia is about to plug the Nile. There is no geographical feature of Egypt more important to its people. As the Greek historian, Herodotus, put it in 50 B.C., Egypt is the "gift of the Nile." Extremely arid and lacking in rainfall, Egypt has always relied heavily on the Nile for its freshwater. Following Sudan's independence, Egypt negotiated with Sudan in 1959 that it would have rights to over 14,500 billion gallons per year of the Nile's flow, leaving over 488 billion gallons for Sudan, and less for the upstream states — Ethiopia, Uganda, Rwanda, Kenya, Tanzania and Burundi. Ethiopia was not party to these talks, and many Egyptians now see the new dam as a way for Ethiopia to bypass the agreement, control the Nile, and gain leverage over Cairo. For Ethiopia and Egypt, whose populations are predicted to grow steeply in the coming years, the water of the Nile and how they use it could determine whether they can cater for the demands of their fast growing populations.

Experts differ on whether the dam will, in fact, negatively impact the Nile. According to Dia El-Quosy, the former chairman of Egypt's National Water Research Centre, the dam will reduce water flow anywhere from 1,300 billion gallons to 6,600 billion gallons per year. El-Quosy also argues that the reduction in water flow would increase pollution in the river and harm the fisheries in Egypt, as well as making it difficult for ferries and other boats to navigate the river. Another serious concern, el-Quosy says, is the possible reduction in fertility for farmland along the banks of the river that could be caused by the dam holding back nutrient-rich salts. He claims that every 260 billion gallon reduction in water flow created by the dam will mean half a million farmers lose their farms. "So if we lose 30bn kilolitres (8,000 billion gallons) in water flow, that would mean losing 25% of Egypt's cultivated land," he says.

Not all experts, though, agree that the dam necessarily spells disaster for the downstream states of Sudan and Egypt. According to Professor Dale Whittington, an expert on the Nile's hydropower potential, hydropower dams do not generally consume water. "After the reservoir behind the Grand Renaissance Dam is filled, the dam will not reduce the total water supply available to Egypt and Sudan," he says. Whittington also says, however, that Ethiopia needs to recognize that Egypt has legitimate concerns about how Ethiopia will operate the Grand Renaissance Dam. If Ethiopia attempted to fill the dam's reservoir during years of drought and at a time when there was little water stored in Egypt's Aswan High Dam Reservoir, for example, this would seriously reduce Egypt's

water supplies at a crucial time. "Similarly, during a multi-year drought in the Nile basin, Egypt needs guarantees that Ethiopia will not act strategically to withhold water, but instead will coordinate the operation of the Grand Renaissance Dam with Egypt's Aswan High Dam in order to minimize the costs of the drought on all the" countries through which the Nile flows, said Whittington.

Although the Egyptian government has been highly vocal in its opposition to the dam, Sudan appears to support the project. "Our government is mostly positive about the dam," says Alhajj Hamad, a Khartoum-based political analyst. "There is a small minority of Islamists who feel they should back their Islamist brothers in Cairo but mostly our government is being pragmatic and sees the benefits." Experts have noted that the dam could reduce sediment flows down the Nile, which would increase the lifespan of hydropower dams in Sudan, of which there are six, mostly built during colonial times. It would also reduce the fertility of Sudan's farmlands, however. "No one is sure quite yet," said one Sudanese water official. Although Egypt also has two dams on the Nile, which could coordinate with Ethiopia's dam to efficiently regulate water flow, it is the size of Ethiopia's dam that is irking Egypt — and the perceived secrecy by which the dam is being built.

In spite of the uncertainty surrounding the dam project — and its potential to create friction in the region – it could ultimately turn out to bring greater harmony to the countries through which the Nile flows. "If transparency is increased then this dam can be a great opportunity for the region to work together," says Cleo Paskal, a specialist in water and food security at London's Chatham House think tank. "Ethiopia will now be a stakeholder of the Nile and it will be in all the countries' interests to increase dialogue and to protect the river in a way that benefits all."

"Ethiopia's Plan to Dam the Nile Has Egypt Fuming", 28/06/2013, online at: http://world.time.com/2013/06/28/ethiopias-plan-to-dam-the-nile-has-egypt-fuming/#ixzz2XeYL5YIt

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❖ Egypt, Ethiopia, the River Nile

For over a fortnight now, the normally frosty relationship between Egypt and Ethiopia took a turn for the worse, with Egypt threatening to go to war to protect its share of the 'gift of the Nile water.'

This flare up is coming at a time when the general forecast is that waters of the Nile will recede because of the ongoing construction of the Great Ethiopian Renaissance Dam, started during the tenure of late Prime Minster Meles Zenawi. The Nile is the longest river in the world, flowing through some 11 countries, including Ethiopia, South Sudan, Sudan and Egypt. It is the primary source of water for many of these countries, particularly Sudan and Egypt, whose mainly desert landmass is made fertile by the river as it flows into the Mediterranean, thereby making it invaluable for agriculture and industrial development. Indeed, the Nile is central to Egypt's economic wellbeing because on it depend its cotton and tourism industries, two major foreign exchange earners, which may explain Egypt's sabre-rattling. The present deplorable state of affairs can be traced to Egypt's disdain for matters of the Nile basin and indeed Africa during Hosni Mubarak's 30-year rule.

A major tributary of the Nile--the Blue Nile takes its source from Lake Tana in Ethiopia, but about 60 per cent of the water flows downstream through the two Sudans to Egypt, leaving Ethiopia to grapple with the challenge of irrigating its patched and parched land in order to sustain its agriculture. Ethiopia several years ago suffered one of the most devastating famines ever witnessed in Africa, caused by severe drought that claimed many lives. Several initiatives to discuss water sharing among the Nile Basin countries were snubbed by Egypt, which not only had gone ahead to build the Aswan Dam but also continues to insist that it reserves the right to hold on to the largest share of the Nile water based on the Nile Water Agreement of 1959. President Mohammed Morsi's response to the latest crisis arising from the Ethiopian dam is consistent with Egypt's stance on the issue. But that is not sustainable, in the long run.

Morsi's belligerence could be bluster; Egypt, though with a strong army bolstered by U.S. weaponry, has been weakened internally by the protracted and bitter uprising of 2011 that toppled Mubarak to enthrone democracy. Moreover, it is inconceivable that the conflict-weary Egyptians would support any war which logistics and distance would make its prosecution well-nigh too much of a price anyway; nor would the U.S. now working closely with Ethiopia to stem the tide of terrorism and

piracy in the Indian Ocean permit such a war. The Egyptians should dispense with the budding "hydro- hegemony" and nurture a more creative and sustainable diplomatic avenue for talks with its neighbours that would be economically beneficial to all countries in the Nile Basin. Culture and language demands that Egypt retains its affinity to the Middle East, but the reality of geography and the need to share the Nile water- an important resource- equitably and in mutually beneficial manner with other countries means it must be alive to African issues, particularly those pertaining to the river and countries in Nile Basin. The policy of regional integration enunciated in the 1980s by the African Union was aimed at ensuring African countries pool resources for the common benefit to the region. While elaborate infrastructure has got off the ground in both West and Southern Africa, whose social and economic integration are growing steadily, the Horn of Africa, including the entire north east region which harbours the Nile Basin, is way behind in this endeavour. Hence the Ethiopian dam and the Egyptian response to it rather than degenerating into a shooting war offers opportunity to renew commitment in the revitalisation of the sub-regional group at the north east of Africa capable of providing a vehicle not only to resolve conflicts but also to serve as the engine for economic development and prosperity.

When the Nile Basin economic group takes off, it should be possible for the constituent countries to agree on the most beneficial way the Nile water can be channelled to serve the entire region, and foster growth and integration.

"Egypt, Ethiopia, the River Nile", 27/06/2013, online at: http://allafrica.com/stories/201306271306.html

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

❖ The Renaissance Dam V. Fallouts of the Nile Water Agreement, 1959

Khartoum – Ahmed Abdul Ghait, the former Egyptian Foreign Minister, after signing on behalf of his country the Comprehensive Peace Agreement (CPA) between the Government of Sudan and the Sudan People's Liberation Movement (SPLM) on January 9, 2005 was unnecessarily repeating that Egypt supports the right to self-determination for the people of South Sudan on condition that the referendum leads to the unity.

It is quite astonishing for many people who were equally struck by the oddity of that statement as the CPA, which he had signed, granted the people of South Sudan the right to self determination, and ultimately, secession and so, what was the meaning of Egypt's condition that contradicted the Agreement as well as the logic and developments of the events? This attitude is repeated nowadays without much change on the dispute over the Ethiopian Renaissance Dam as the fiery statements coming out from Cairo are equally characterized by the same sort of contradictions.

Egypt repeats that it supports the right of the Nile Basin states to exploiting the Nile water for the purpose of economic development in those states on condition, Egypt stated, that this would not impair a single drop of water flowing to Egypt!!

These statements go beyond that when President Mohamed Mursy declares that Egypt "will defend with blood every drop of the Nile water. If a single drop decreases, our blood will be the substitute." The similarity between the two statements is that they are contradictory and illogical.

Egypt and Sudan decided that all the Nile water is their exclusive right according to the Nile water agreement they signed alone on November 8, 1959 and therefore divided all the Nile water between them. The two countries used all the water, leaving not a single drop to the other nations. For this reason, any use by any Nile nation will be at the expense of Egypt which takes the lion's share, about 87%, while the Sudan consumes about 13% of the Nile water.

How then could Egypt recognize the right of the other Nile Basin nations to utilizing the Nile water for development purposes and then threaten those nations by waging war if they dare to do so?

The current Nile Basin crisis, especially with regards to the Ethiopian Renaissance Dam, originates from the Nile Water Agreement of 1959 which is characterized by superiority and exclusion in dealing with all the remaining Nile Basin nations.

This agreement was quite inappropriate and has remained a source of both grievance and mockery on the part of the Nile Basin nations which have in the past years decided to retaliate in double and snatch their rights by themselves and in the same way Egypt and the Sudan had followed under that agreement.

In fact, all disputes of the Nile Basin nations over the past 50 years resulted from this unfortunate agreement. This article is aimed at discussing this issue and shedding light on the positions the 1959

Nile Water Agreement attempted to impose on the other Nile Basin nations and how this has recoiled against Egypt and the Sudan in the form of decisions by the source nations to build their projects, including the Ethiopian Renaissance Dam, in absolute disregard and defiance of this agreement.

Ethiopia knew that the Sudan and Egypt had decided to conduct negotiations on distribution of the Nile water since their first meeting in 1954 and sent messages to both countries in June 1955 demanding participation in the negotiations. The two countries ignored this Ethiopian demand, prompting Ethiopia to send another memorandum to Egypt and the Sudan on 23 September 1957.

In this memorandum, Ethiopia made reference to a previous statement that was issued on June 13, 1956 on its rights in the Nile water. However, Egypt and the Sudan continued ignoring the Ethiopian demand and upon the signing by Egypt and the Sudan of Nile Water Agreement on June 8, 1959, Ethiopia sent memoranda to the two countries and the United Nations declaring full opposition to the agreement and stressing its rights in the Nile water.

Britain, earlier on October 9, 1959 asked for participation in the negotiations, representing its three colonies of Kenya, Uganda and Tanganyika, but Egypt and the Sudan also ignored this request. On 30 November 1959, Uganda declared, on behalf of the Equatorial Lakes' states, that the agreement is rejected and is not binding to those states.

It must be indicated at this point that, according to the basic and primary principles of the international law, the international treaties do not impose commitments on a third state unless that third state explicitly or implicitly agrees to the agreement.

This is why we were astonished by the repeated statement by the legal advisor of the Sudanese negotiating delegation that the 1959 agreement is binding on the other Nile Basin countries (see the TV programme "Till the Picture is Completed " of October 8, 2012 on our website and also on the website of Al-Tahir Hassan al-Toam).

So, the exclusion began with rejection by Egypt and the Sudan of participation by the Nile Basin nations, particularly Ethiopia, in the negotiations on the Nile water. The irrationality, and lack of logic and fairness of the rejection are apparent when we remember that Ethiopia is the source of about 86% of the Nile water, while the remaining 14% comes from the nations of the Equatorial Lakes.

The evaporation and seepage take away all the rain water the Sudan and South Sudan add to the Nile water, while Egypt contributes nothing.

However, the rejection by Egypt and the Sudan of participation by the other Nile Basin countries was only the beginning of the exclusion. The 1959 Nile water agreement was full to the rim of provisions for monopolizing the Nile water and denying the other Nile Basin states the simplest rights to the Nile water as stipulated by international law, let alone the rules of fairness, logic and rationality.

Let's have a quick glance at those provisions of the agreement.

First: The exclusion of the other Nile Basin countries was clear in the very title of the1959 Nile water agreement which indicates that Egypt and the Sudan have placed under their control all water of the River Nile for their full benefit. The title of the agreement reads: "Agreement between the United Arab Republic and the Republic of Sudan for full utilization of the water of the River Nile." The preamble of the agreement further explains "the full utilization" by stating: "Whereas the full utilization of the Nile waters for the benefit of the United Arab Republic and the Republic of Sudan …" So, the title and preamble of the agreement stipulate the full monopoly of the Nile water and increasing its water supply for the interest of the two countries only.

Secondly: The 1959 Nile water agreement divided all water of the Nile between Egypt and Sudan. The second paragraph of the agreement indicates that the net water of the River Nile measured at Aswan after the construction of High Dam is 84 billion cubic meters and after deducting the quantity of the evaporated water from the High Dam lake, which is 10 billion cubic meters, the agreement divides the remaining 74 billion cubic meters between Egypt and Sudan and, according to the 1959 agreement, Egypt got 55.5 billion cubic meters and the Sudan 18.5 billion cubic meters.

So, with this division, the agreement did not leave a single drop of the Nile water to the other countries of the Nile Basin. Still, the Egyptian brothers are reiterating the right of the other Nile Basin countries in the Nile water for development provided that this would not affect a single drop of water from Egypt's rights. How come?

Let's look below for further exclusion and superiority in the agreement.

Third: Paragraph two of the fifth part of the Nile water agreement makes reference to demands by the other Nile Basin nations for a share in the Nile water and to the agreement between Egypt and the Sudan to discuss together those demands to reach a unified position on them. If they agree on granting any quantity to any of those nations, this quantity, counted at Aswan, would be deducted equally from their shares.

The agreement entrusts the joint Egyptian-Sudanese permanent technical commission to make sure that this granted quantity is not exceeded. Therefore, this paragraph of the agreement gives Egypt and the Sudan only the right to determining the share of any Nile state on condition that this state submits a request to Egypt and Sudan.

The agreement also gives the two countries the right of rejecting or accepting this request and determining the quantity of water they will grant to that state and the joint Egyptian Sudanese Commission will see to it that the state will not exceed that quantity. This paragraph completely ignores the principles of the international law, logic and fairness.

Do Egypt and Sudan really expect that any other Nile riparian state to submit to them a request for water and leave it to Egypt and Sudan to decide whether to accept or reject the request? Such a

request implies that the other Nile Basin countries recognize the 1959 agreement to which they are not party, in addition to their recognition of the full monopoly by Egypt and Sudan over the River Nile, including the right of Egypt and Sudan to refusing to appropriation of any quantity of water to anyone of those littoral countries.

It also implies that those countries are relinquishing the right guaranteed by the international law to each one of the riparian nations for benefitting in a fair and reasonable way from any common river.

For instance, were Egypt and Sudan expecting that Ethiopia, which is the source of 86% of the Nile water, to submit to them a request for appropriating a quantity of the Nile water for it?

As we have mentioned earlier, Ethiopia demanded several times participation in the negotiations but Egypt and Sudan ignored this demand. Reference should also be made to a statement by Mr. Hall, the First Under-Secretary of the Ugandan Ministry of Commerce and Industry on November 30, 1959, in which he said he was greatly astonished with the arrogance that prevailed throughout the 1959 Nile water agreement which provides that the water share of the Nile Bas countries is a grant by Egypt and Sudan rather than a legitimate right to those countries, according to the international law.

Fourth: The fifth paragraph of the Nile Water Agreement details the jurisdictions of the Joint Sudanese-Egyptian Nile Water Technical Commission which include accomplishment of technical cooperation between the governments of the two republics, continued research and studies necessary for the River control projects and the water supply for the interest of the two countries, in addition to continued water monitoring at the upper points.

This paragraph indicates that if the research results in agreement for implementation of operations beyond the borders of the two Republics, the Joint Technical Nile Water Commission, after contacts with the concerned authorities of the relevant countries, will draw up all technical details of implementation, operation systems and whatever necessary for maintenance of those operations.

After approval of those details by the concerned governments, the Joint Technical Commission will be tasked with supervising implementation of the provisions of those technical agreements. This Paragraph is remarkably bewildering as, after Egypt and Sudan turned down participation by the Nile Basin countries in the negotiations and stripped them off any rights in the Nile water, the two countries decided that it is their right to set up projects in the other Nile Basin states to increase the Nile water for use by Egypt and Sudan rather than those other states.

The 1959 Agreement then tasked the Joint Sudanese-Egyptian Permanent Technical Commission with supervising implementation of those projects. It is not strange that this provision has remained mere ink on paper throughout the past 50 years and has aggravated the anger and grievance of the nations of the sources of the Nile.

Fifth: The Nile Water Agreement expands the jurisdictions of the Joint Technical Commission by granting it the right to monitoring the Nile levels and flowing courses at all of the upper points in the source countries (Ethiopia, Uganda, Tanzania, Burundi, Rwanda, Congo, Eritrea and South Sudan).

The Agreement provides that this task will be carried out under the technical supervision of the Joint Commission by Egyptian and Sudanese engineers. This means that those engineers have the right to enter the other Nile Basin countries to monitor the Nile water levels whether this is accepted or not accepted by those countries.

This provision certainly contracts the simplest sovereignty principles of any nation. How come that the two countries have decided to include it in a bilateral agreement? Did they really expect this provision would be implemented? Such provisions in the 1959 Nile Water Agreement only incite grievance and anger among the other nations of the Nile Basin.

This was exactly what those provisions have caused, and the continued talk by Egyptian and Sudanese politicians and technicians about cooperation with the other countries of the Nile Basin in spite of those provisions means that either those people are unaware of the implications of these provisions, or they are aware but believe that cooperation must prevail within and under them.

The first case, which is more likely, means that they are not adequately familiar with the content of the Agreement, while the second case implies continued superiority and exclusion.

Nobody can deny Egypt's full dependence on the Nile water, but in the same measure, nobody can deny the rights of the other countries to development and use of the Nile water and the right, rather, the duty of those countries to fighting famines, darkness and thirst among their peoples by using the Nile water, exactly like Egypt and the Sudan. Egypt and the Sudan, which consume all of the Nile water for those purposes, have to acknowledge the rights of the other countries and consult and cooperate with them for reaching middle-of-the-road solutions that ensure each state a fair and reasonable share of the Nile water in accordance with the international law, logic and fairness.

It was saddening (and embarrassing) to see the entire world following the strong opposition by Egypt and Sudan to "Shin Yanga" project in which Tanzania built a canal for conveying water from Lake Victoria for drinking purposes in a number of villages hit by drought and thirst. The quantity of water needed for drinking purposes in those villages did not exceed a billion cubic meters, but its impact on Egypt and Sudan would not exceed a hundred million cubic meters, because of the regulation of the Sudd swamps in South Sudan of the flow of the White Nile water.

Egypt and Sudan made a big row in opposition to this project and threatened to strike it. This occurred at a time when more than 17 billion cubic meters of the Nile water are lost to evaporation in Egypt and Sudan (10 billion from High Dam Lake and 7 billion at the Sudanese dams, including 2.5 billion at Jebel Awlia, the purpose of which has now been nullified).

Tanzania ignored the protests and went through with its project supported by the world's nations and international organizations along with the experts of international water law. This clearly exposed the Egyptian and Sudanese isolation on the Nile water issues and their lack of sensitivity and appreciation of the needs of the other Nile countries, even for the drinking water which is considered by law, sharia and ethics as an undisputable human right.

Ethiopia, for its part, built four dams on the Blue Nile and a large one on the Atbara River without heeding threats by Egypt and Sudan (despite Wiki leaks talk on the presence of an Egyptian team of commandos during the era of former President Hosni Mubarak tasked with the mission of blowing up the Ethiopian dams).

Uganda also continued building its dams on the White Nile and completed construction of Boja Ghali Dam and began planning for Karoma Dam. Those were the projects which were executed by Ethiopia, Uganda and Tanzania and the fact that they were not brought to discussion and consultation with Egypt and Sudan was the logical result of the 1959 Nile Water Agreement and the complete disregard by Egypt and Sudan of the other Nilotic nations and their rights in the Nile water.

It was odd of Egypt and Sudan to demand the other Nile Basin nations to notify them of their projects, while the two countries, after signing the Nile Wart Agreement, carried out several projects without notifying or consulting anyone of the Nile Basin states.

Those projects included the High Dam, Toshka project and the Peace Canal (in Egypt), and al-Rosaries, Khashm al-Girbah and Merowe dams (in Sudan. Egypt even offered Nile water to Israel through the Peace Canal which conveys the Nile water to Sinai desert.

The offer was made by late Egyptian President Anwar Sadat during his visit to Israel in Haifa on September 5, 1979. Sadat himself had on several occasions, declared that he would not permit anyone of the Nile Basin countries to use a single drop of the Nile water. Although the Nile water is little and limited, its usage can be rationalized and its supply can be increased to achieve the goals of the Nile Basin states. It is to be noted that Egypt decided it needs 55 billion cubic meters in 1959 when its population was 22 million, and now its population is close to 100 million people using the same quantity of water more than 50 years ago.

This situation made Egypt the world's top importer of wheat as it now imports 60% of its wheat needs despite its high consumption of the Nile water. This necessarily implies that Egypt requires much more additional water.

However, the usage rationalization, maximum utilization of the Nile Basin water and adding new quantities of water require cooperation in good faith, equal footing and abandoning the policy of superiority, disregard and exclusion on which the 1959 Nile Water Agreement was based.

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

This Agreement rejects recognition of the rights of the other Nile Basin countries, the source of all water of the Nile. The Agreement does not even recognize the sovereignty, borders and territorial integrity of those countries.

For all the reasons we have mentioned in this article, we believe it is high time for Egypt and Sudan to part with the 1959 Nile Water Agreement and join the Entebbe Agreement alongside the other seven Nile Basin nations.

This will provide opportunities for cooperation in good faith, seriousness and equal footing for the development and progress of the Nile Basin and benefitting from its waters in a fair and sustainable way for the interest of the peoples of the Basin the majority of whom is suffering from poverty, hunger, thirst and darkness.

The Renaissance Dam will turn into a development project from which all countries of the Nile Basin, including Egypt and Sudan, will benefit from the tremendous, cheap and clean hydro-electric power it will generate, the power which all countries of the Basin need urgently.

This, of course, is in addition to the tremendous and numerous benefits the Sudan will gain and which we have discussed in previous articles. Genuine cooperation will then prevail in lieu of the existing disputes and the common benefits will then replace the unilateral programmes and war drums.

*Dr. Salman Mohamed Ahmed Salman is an Acadmic Researcher, and the former Water Law and Policy Adviser of the World Bank in Washington, United States of America. Note: This article is the English translation of an Arabic article that was published in Sudanile electronic newspaper on June 15, 2013.

"The Renaissance Dam V. Fallouts of the Nile Water Agreement, 1959", 30/06/2013, online at: **http://news.sudanvisiondaily.com/details.html?rsnpid=223971**

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

❖ Egypt and Ethiopia must find a way to agree on Nile flows

Egypt's president, Mohammed Morsi, spoke bluntly: "If a single drop of the Nile is lost, our blood will be the alternative." He was talking, this month, about Ethiopia's $4.7 billion (Dh17.3 billion) Grand Renaissance Dam, now under construction on the Blue Nile.

That river, which drains much of the Ethiopian highlands, contributes about 86 per cent of the water that feeds into the Nile entering Egypt. The Nile is a strategic resource without which Egypt cannot survive; it is almost Egypt's only source of fresh water.

Egypt fears that the dam will reduce the Nile's flow, especially during the several years it will take to fill the vast reservoir behind the structure. Ethiopians, however, consider the water theirs and say construction is not negotiable.

High-level talks have so far settled little. There are various possible solutions to the crisis but all of them require compromise that does not yet seem forthcoming.

One possible solution is to apply the 1997 UN Convention on non-navigational uses of international watercourses. It says an upstream state is free to use a water system that originates within its territory, so long as there is no "significant harm" to a downstream state.

This convention is a guide to good conduct but is ambiguous. It does not specify what "significant harm" means.

It does imply that upstream states should exercise due diligence not to overuse or withhold more than their entitlement.

But today, under a 1929 agreement between Egypt and "Anglo-Egyptian Sudan" signed under the auspices of Britain, then the colonial power, only Egypt and Sudan were allowed Nile water; Ethiopia has no legal share of the Nile.

Still, the UN convention option has been applied with some success in other international water systems including the Colorado River in North America, the Mekong in Asia and the Danube in Europe.

If this route is to be followed, Ethiopia's project should continue, but what is meant by "significant harm" would have to be determined by experts.

Fortunately, Egypt has previous experience with the Owen Falls Dam in Uganda, where it stationed engineers to monitor the amount of water that flows into the White Nile. This approach would certainly be preferable, for Egypt, to going to war or engaging in diatribes.

The second option is to finalise the contentious Nile Basin Cooperative Framework Agreement that stalled in mid-2011 after Egypt and Sudan refused to sign.

Six upstream states had apparently reached preliminarily agreement, before the talks broke down, on sharing the Nile's water "in an equitable and reasonable manner". The agreement says this should consider geographic and climatic factors, the social and economic needs of the states concerned, the population dependent on the water resources; existing and potential uses; and other factors.

These criteria resonate with the Helsinki Rules of the Uses of the Waters of International Rivers passed by the UN in 1996. If applied, this option would mean Egypt's historic share would be reduced, giving some of the water to other states.

As experience shows, any redistribution of a public good is a recipe for conflict. But if the criteria are applied to the letter, I believe Egypt stands to benefit relative to upstream states that get more rain. Also the current use pattern and population figures work in Egypt's favour. And other than Ethiopia, Tanzania and probably Uganda, other countries upstream have no substantive need for more of the Nile system's water.

Given that the stakes for Egypt are higher than those for Ethiopia, it seems rational that Egypt should take the lead to ensure that the draft framework is finalised.

The upstream states are presently in agreement about their right to use the water; six (Ethiopia, Tanzania, Uganda, Rwanda, Burundi and Kenya) have already signed the agreement, and South Sudan is expected to sign before the end of this month

"Egypt and Ethiopia must find a way to agree on Nile flows", 24/06/2013, online at: http://www.thenational.ae/thenationalconversation/comment/egypt-and-ethiopia-must-find-a-way-to-agree-on-nile-flows

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

❖ The Nile Basin States Are Gifts Of The River

"Egypt is the gift of the Nile." This Fifth Century BC pronouncement of Greek Historian Herodotus was reaffirmed when Egyptian President Mohamed Mursi declared that his country is keen not to risk losing a "single drop of Nile water" on which their civilisation is based.

Speaking to supporters, President Mursi declared that Egypt had no intentions to wage war against Ethiopia but vowed to keep all options open. According to Ayman Shabaana, political science professor at Cairo University, the Nile is the state and a threat to the river constitutes a threat to national security.

President Mursi's remarks came following a move a by Ethiopian authorities to divert the waters of the Blue Nile to in advance of its planned $4.7 billion (Sh403.4 billion) dollar Grand Renaissance Dam. This will be Africa's largest hydropower plant, producing 6,000 megawatts of electricity and creating a reservoir with a capacity of 63 billion cubic metres.

A report of a tripartite technical committee comprising Egypt, Ethiopia and Sudan has announced that its findings are inconclusive on the planned dam's effects on Egypt and Sudan. However, it is estimated that Egypt could lose up to 20 per cent of its "water share" over the three–five years needed to fill the dam. Over the last couple of weeks, bellicose rhetoric, including talk of hostile acts to force Ethiopia to halt the dam has raised concerns of conflict over the waters of the Nile.

With an annual discharge of 2,830 cubic metres per second, just six per cent of the mighty Congo River, the Nile basin is worryingly water constrained. The population of its upstream neighbours are growing rapidly, fueling increased demand for more water and food.

Projections by the UN show that the combined population of the Nile Basin countries will grow to circa 340 million by 2030. The enduring ghosts of the colonial agreements, which preclude inclusive upstream cooperation, aggravate this grim reality.

The agreements are absurd. For example, Ethiopia, the source of the Blue Nile, which contributes an estimated 85 per cent of the Nile River, has no rights over the water to the extent that it infringes the natural and historical rights of Egypt in the waters of the Nile.

A 1929 agreement with Britain—representing East African colonies—gave Egypt the right to veto upstream projects that would affect its "water share". With the posturing in Cairo, Egypt is essentially defending its unbridled historic rights over the Nile waters.

The enduring binding nature of the treaty beyond the British colonial rule is largely because of the compulsory transmission of all the rights and obligations of the predecessor upstream colonial state to their independent successor.

Egypt's natural and historical rights over the Nile waters was challenged in 2010 when a new water-sharing agreement, Nile Cooperative Framework Agreement, was signed among six upstream states, including Ethiopia, Kenya, Uganda, Rwanda, Burundi and Tanzania. Congo and South Sudan have signaled that they will sign the CFA.

Last week, Ethiopia's Parliament ratified the Nile Cooperative Framework Agreement; an agreement intended to replace colonial-era agreements that gave Egypt and Sudan the biggest share of the Nile waters.

Buoyed by this ratification, Ethiopia has indicated that it is happy to talk with the Egyptians but such talks would not entertain any consideration to halt or delay the construction of the dam.

Unanimous agreement and ratification of the CFA has not been achieved largely because of unhelpful inclusion of the nebulous notion of "water security" and the insistence by Egypt and Sudan that Article 14 (b) should obligate upstream states not to adversely affect their water security and current uses and rights.

Egypt and Sudan are also unyielding in their demand for early notification mechanism before upstream countries undertake any irrigation or hydropower projects. Egypt wants the CFA to guarantee its access to the historical 55.5 billion cubic metres based on the 1959 agreement with Sudan.

Given the enduring colonial legacy, the Nile is the only major river basin without a permanent legal and institutional framework for its use and management.

Herodotus was wrong. All the Nile basin states are the gift of the Nile.

Egypt and Sudan must return to the negotiating table. They must work cooperatively with the upstream Nile basin states on inclusive binding rights and responsibilities, beyond distracting and unattainable delusions such as water security. Relinquishing exclusive rights over the waters of the Nile is the bitter but necessary pill Egypt and Sudan must swallow.

"The Nile Basin States Are Gifts Of The River", 25/06/2013, online at: http://www.the-star.co.ke/news/article-125603/nile-basin-states-are-gifts-river

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❖ Uganda: Govt to Ratify New River Nile Agreement

Uganda is to ratify the Cooperative Framework Agreement (CFA), a new treaty that is seeking to replace the controversial colonial agreements governing the Nile, according to Professor Ephraim Kamuntu, the minister of water and environment.

Kamuntu told New Vision that the old agreements of the Nile were being used to block development of hydro-electric power and irrigation agriculture that would enhance energy security and food security.

He also said the old agreements were archaic because they addressed only the interests of the users and ignored the contributors of the water.

"The CFA was signed by member countries including Uganda," Kamuntu told New Vision. "By law the CFA has to be ratified and that is under the Ministry of foreign affairs who will then submit to Cabinet and finally to Parliament."

He added, "The Ministry of Water and Environment has already submitted to the Ministry of Foreign affairs and the process of ratification is on track."

The upstream states did not participate in the negotiations of the 1929 (between Egypt and Britain-Uganda's former colonial master) and 1959 agreement (between Egypt and Sudan).

"We were not consulted and we did not negotiate or sign the colonial era agreements," said Kamuntu, adding, "Egypt should accept the CFA because shared resources can only be secured if the affected countries cooperate for mutual benefit."

For two decades, the CFA was discussed by countries of the Nile Basin Initiative (NBI) namely Uganda, Kenya, Tanzania, Rwanda, Burundi, DR Congo, Ethiopia, Sudan and Egypt. Eretria participates as an observer. South Sudan is the newest member of NBI.

"Uganda: Govt to Ratify New River Nile Agreement", 24/06/2013, online at:
http://allafrica.com/stories/201306242282.html

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

❖ Millennium Dam: Facts and fallacies (1)/(2)

Millennium Dam: Facts and Fallacies (1)

Facts:

Ethiopia has begun lately the construction of a dam it called "Grand Ethiopian Renaissance Dam" formerly known as the Millennium Dam or "Hidase" Dam in their Amharic language. Actually the Preliminary construction work has begun two years ago since the second of April 2011, on the Blue Nile River in Ethiopia's Benishangul-Gumuz region 40. Km from Sudanese borders Recently Ethiopia started diverting the flow of the Nile to facilitate the construction works of the Dam. The project is currently about 21 percent complete, as knowledgeable sources say.

Ethiopia says the Purpose of the Dam is to generate Power with a Maximum capacity of 6,000 MW using French made16 x 375 MW Francis turbines. The first two generators are expected to become operational after 44 months of construction. The project is expected to be completed and officially opened in July 2017 under the supervision and ownership of the. Ethiopian Electric Power Corp. The construction cost is estimated at $4.8 billion USD.

The Height of the dam is planned to reach170 m (558 ft) while its Length is planned to be 1,800 m (5,906 ft) to create a Millennium Reservoir with a Capacity of 63,000,000,000 m3 (51,074,931 acre•ft) long gravity-type composed of roller-compacted concrete and will have two power houses, each on either side of the spillway. The left and right power houses will each contain 8 x 350 MW Francis turbine-generators. Supporting the dam and reservoir will be a 5 km (3 mi) long and 50 m (164 ft) high saddle dam.] The dam's reservoir will have a volume of 63,000,000,000 m3 (51,074,931 acre•ft)*(Wikipedia).

The Commission date for the beginning of filling the reservoir is planned to be in 2018. Ethiopia takes it for granted that the construction of the renaissance dam is a sovereign right for her, and says the Dam doesn't affect any other state.

"Millennium Dam: Facts and fallacies (1)", 23/06/2013, online at: http://gmsudan.com/20130623/millennium-dam-facts-and-fallacies-1/

Millennium Dam: Facts and Fallacies (2)

Concerns:
When Ethiopia Recently started diverting the flow of the Blue Nile to facilitate the construction works of the "Grand Ethiopian Renaissance Dam", many concerns in Sudan and Egypt, countries that are highly dependent on the water of the world's longest river, arose.
Sudan and Egypt have serious concerns about the project; Egypt, according to some media reports,

has even threatened to go to war over its "historic rights" to Nile River water allocations, and the Dam construction was viewed as a declaration of war. In a live televised discussion, with President Mursi, some Egyptian political leaders suggested methods to destroy the dam, including support for anti-government rebels.

Some media reports said Egypt has requested that it be allowed to inspect the design and the studies of the dam, in order to allay its fears, but Ethiopia has denied the request unless Egypt relinquishes its veto on water allocation.

Experts from both countries, Sudan and Egypt, expressed varied concerns about the possible environmental impacts of the dam.

Specialists say the precise impact of the dam on the downstream countries is not exactly measured or known, and there are no published scientific studies that fully researched the impact on the three countries, including Ethiopia itself.

Egypt and Sudan fear a sure reduction of their water share, though temporary it might be due to the filling of the dam, but most of their fear is centered on a permanent reduction of water share because of evaporation from the reservoir. The reservoir volume is about equivalent to the annual flow of the Nile at the Sudanese-Egyptian border (65.5 billion cubic meters). Though this loss of water share to downstream countries would most likely, as Ethiopia say, would be spread over several years, the downstream countries (Sudan and Egypt) are still skeptical.

"Millennium Dam: Facts and Fallacies (2)", 30/06/2013, online at:
http://news.sudanvisiondaily.com/details.html?rsnpid=224143

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

❖ River Nile is international property, no single state has ownership

CAIRO: Experts have said that River Nile is international property, no single state has ownership. The ownership of the Nile undisputedly is a matter of international law and thus no single state has the authority to claim rights over the river, said an expert here on Saturday.

Dr. Nader Nuriddin, professor of water resources and agriculture at the University of Cairo, told KUNA that no country has the right over the ownership of the Nile River, adding that the 11 countries of Tanzania, Uganda, Rwanda, Burundi, Democratic Republic of the Congo, Kenya, Ethiopia, Eritrea, South Sudan, Sudan, and Egypt could not take measures to restrict or prevent the flow of water from the river.

Dr. Nuriddin claimed that the Ethiopian government's plans to build several dams will affect agriculture in both Sudan and Egypt, noting that Ethiopia, the Nile River's source of origin, could not embark on building any dam until all Nile countries agree upon such a plan in accordance with international law.

Catastrophic events could also occur if one of any dam broke, said the Egyptian expert who indicated that Egypt and Sudan would be at the receiving end in case of a disaster.

In this regards, Egypt initiated diplomatic steps to contain the situation with Foreign Minister Mohamed Kamel Amr visiting Ethiopia to converse on the issue with officials there.

After his return to Egypt, Amr said an agreement with Ethiopia was reached to address the situation according to international law. He noted that the Nahda Dam, a project to be carried out by the Ethiopians, should be built according to specific standards that would prevent any accident from occurring.

The Ethiopian side assured the Egyptian minister that the dam project was not a threat to the interest of Egypt. The Foreign Minister stressed that Egypt was keen on the development of Ethiopia, adding that the government in Cairo would work with its counterpart in Addis Ababa to achieve mutual benefit for all involved parties.

"River Nile is international property, no single state has ownership", 27/06/2013, online at: **http://nvonews.com/2013/06/27/river-nile-is-international-property-no-single-state-has-ownership/**

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❖ Indian flood deaths blamed on 'mindless' construction

Almost 20,000 people are stranded and at least 1000 confirmed dead in the wake of extreme floods in northern India, caused by an early monsoon.

Experts are blaming poor local planning and a destructive approach to development in the Himalayan foothills. They say these have left the region vulnerable to floods and landslides – which will only get worse under climate change.

"The current devastation and human misery is largely man-made," saysMaharaj Pandit, head of the department of environmental studies at the University of Delhi. "Rampant unauthorised and mindless building activities on the river flood plains in the Himalaya", deforestation and other activities that destabilise slopes are responsible for the loss of life, he says.
Cutting trees on mountainsides loosens up the soil, making landslides more likely. In addition, the government has earmarked 292 dams for construction in the Indian Himalayas. Their construction involves diverting rivers, destroying ecosystems and increasing industrial traffic – all of which destabalises the soil on the mountainsides, making landslides more likely, says Pandit.

The dams also directly cause flooding that wouldn't happen otherwise, he says. During heavy rain, dam operators release more water to safeguard their infrastructure. "Delhi, for instance, was flooded because Hathnikund barrage in upstream Haryana released more water," Pandit says.

Early monsoon

Allowing enormous flows of religious pilgrims into the area was irresponsible, says Pandit, making the human impact worse as many were caught out by the earlier-than-usual monsoon rains. "We may not have seen the worst," he warns.

Bhupendra Nath Goswami, director of the Indian Institute of Tropical Meteorology in Pune, warns that the rapid bursts of heavy rain behind this flood are increasingly likely to happen. "The frequency of extreme rain events is increasing over the Indian continent," he says.

According to Goswami, a strong updraft was produced in recent weeks as warm moist air from the south encountered cold air from the north. "In such a case, all the moisture precipitates in a short time leading to an extreme rain event." It's not clear whether this particular event is linked to climate change, but similar events are likely to happen more frequently. "We must prepare ourselves," says Goswami.

Responsible development is key, he says. "Most of the current devastation is due to mud slides and landslides. For the same amount of rain, an order of magnitude larger damage takes place."

Despite the difficulties predicting weather in the tropics, Goswami says these rain storms were predicted three days in advance. "Still we were not prepared. This is entirely a failure of our disaster preparedness system and disaster management strategy."

"Indian flood deaths blamed on 'mindless' construction", 25/06/2013, online at: http://www.newscientist.com/article/dn23753-indian-flood-deaths-blamed-on-mindless-construction.html#.UdA0_9Ke_PZ

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❖ India floods: a man-made disaster

When the rains came in Uttarakhand, it was runaway building projects, dams and official failures that made them catastrophic

The terrible floods in India's tiny north Himalayan state of Uttarakhand, which killed more than 1,000 people, left 70,000 stranded for days and destroyed livelihoods, have been officially termed a natural calamity caused by cloudbursts and unprecedented heavy monsoon rainfall.
However, the true causes of the epic tragedy lie in the grievous damage recently wrought on the region's ecology by the runaway growth of tourism, unchecked proliferation of roads, hotels, shops and multistory housing in ecologically fragile areas, and above all mushrooming hydroelectricity dams that disrupt water balances. Underlying the disaster are multiple governance failures, too.

These man-made factors turned an extreme weather event into a social catastrophe. True, the region experienced heavy rainfall of 340-370mm within 24 hours on June 16-17, leading to flash floods. But such precipitation isn't unprecedented. Uttarakhand has recorded single-day rainfall in excess of 400mm several times, including 450mm in 1995 and 900mm in 1965. Cloudbursts, floods and rapid swelling of fast-flowing rivers aren't uncommon.

But this time the floodwaters, laden with tens of thousands of tonnes of silt, boulders and debris from dam construction, found no outlet. The routes they took in the past, including ravines and streams, were blocked with sand and rocks. The waters inundated scores of towns and villages, submerging some buildings under several feet of mud, smothering life.

Aggravating the devastation were two downpours of water and rocks from the higher mountain ranges, in all probability caused by glacier lake outburst floods (GLOFs), which deluged the Kedarnath temple, a major Hindu pilgrimage centre. GLOFs, or the explosive bursting of glacier lakes, are thought to be a consequence of human-induced climate change, which is causing rapid melting of glaciers in the Himalayas, themselves warming at twice the global rate.

Such a massive loss of life could have been greatly reduced if an early warning system, effective evacuation plans and a responsive disaster management system were in place. They weren't. In fact, as the comptroller and auditor general pointed out in April, the Uttarakhand Disaster Management Authority, formed in October 2007, has never met or formulated "rules, regulations, polices or guidelines". Modestly priced radar-based technology to forecast cloudbursts would have saved lives. But it wasn't installed. Nor were emergency evacuation plans drawn up.

There was local-level governance failure, too. Haphazard, unregulated construction of roads and bridges was allowed on crumbling, landslide-prone ridges and steep slopes, ignoring the region's fragile geology and high earthquake vulnerability. Forests were destroyed on a large scale. Hundreds of buildings were constructed in the flood plains of rivers, their "natural" terrain, which should be no-

go areas. Riverbeds were recklessly mined for sand. As construction debris accumulated, land contours and flows of streams and rivers changed.

Indiscriminate building of hydroelectric dams was the worst culprit. These involve drilling huge tunnels in the hills by blasting rocks, placing enormous turbines in the tunnels, destroying soil-binding vegetation to build water channels and other infrastructure, laying transmission lines and carelessly dumping excavated muck. Many dams have been built on the same river so close to one another that they leave no scope for its regeneration.

Dams steal water from local people. They alter the hydrological cycle and natural course of rivers. Uttarakhand's 70 completed large dams have diverted more than 640km, equivalent to half the length of its major rivers. They have profoundly destabilised its ecology. Yet another 680 dams are reportedly in various stages of commissioning, construction or planning, mainly by private companies, which would be largely unaccountable.

A 2009 CAG report complained that the government was "pursuing hydro-power projects indiscriminately", ignoring the damaging "cumulative effect" of multiple run-of-the river dams. Technically, India's environment ministry follows an environmental impact assessment process, but that's badly compromised by the Indian elite's insatiable appetite for electricity and promoters' pressure.
When I was on the expert appraisal committee (EAC) on river valley projects in the 1990s, none of the dozens of projects we examined had adequate documentation on the impact on forests, wildlife, hydrology or rehabilitation. All were rejected. The present EAC has approved all 262 projects placed before it over six years, without seriously evaluating their impact or the rivers' carrying capacity. This is a recipe for yet more Uttarakhands.

"India floods: a man-made disaster", 28/06/2013, online at: http://www.guardian.co.uk/commentisfree/2013/jun/28/india-floods-man-made-disaster

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❖ India: Water security at risk as agreement with China fails

China and India recently failed to sign a bilateral agreement on how to share the water of the Brahmaputra River despite meeting to discuss the issue in May. Prime Ministers from both countries met in New Delhi to discuss several bilateral issues, however an agreement that sets out how both countries may develop the river and utilise its water was not signed.

For China, as the upper riparian state on the Brahmaputra, this is of little concern. However India cannot allow the issue to continue on as it has, as it puts at risk the country's future water security by not getting an agreement signed.

Originating in China, the Brahmaputra River flows down onto the Indian subcontinent from the Himalayas, crossing the border between China and India. The water from this river has been able to supply both nations for centuries, but the rapid economic and demographic expansion of China and India has put the water supply into jeopardy. By 2030 the demand for water in both India and China is expected to rise by 60%, which would put both countries into a 'water stressed' state according to international standards.

As 'water stressed' states, both nations would struggle to provide sufficient drinking water for their people, however, this classification has meanings that go beyond the availability of drinking water. The majority of water used in both countries goes into other processes that are equally vital to people's livelihoods.

In India, it is agriculture that takes up the majority of the country's water resources. A drop in the amount of water available would therefore reduce annual harvests and feed for livestock. Likewise, industrial processes such as energy, production and sewage management are all systems that utilise vast quantities of water.

In recent years, the issue of water supply has brought both nations to the negotiating table. In 2002 China and India agreed to share data on the flow of the river in order to better manage its resources and mitigate against floods, and this agreement was recently renewed in May 2013 when both countries met.

Further to the agreement, two memoranda were also signed, which touted that China and India would both share their knowledge and expertise in water management in order to better manage the Brahmaputra. Such agreements give the impression that both nations are working together to sustainably develop the river, however hydropolitical cooperation to date has been weak in reality.

The greatest problem lies with the fact that none of the agreements signed go any way toward dealing with the issue of water sharing. The agreements that both signed do not stipulate how the river may

be developed by either party, or how much water they may extract from the river. With no agreement clearly stating how both countries may use the river, there is scope for inappropriate development. As the upper riparian state on the river, the greatest danger lies with China. If they were to autonomously develop the Brahmaputra without consulting India, then it would only be India who would suffer the consequences.

Such instances of poor communication between both states have occurred along the river in the past and caused tensions to rise. China began the construction of the Zangmu Dam in 2009 without informing India, but news of the dam's construction soon reached New Delhi. India protested the construction but China played down their fears by saying that it was a small run-off-the-river project that would not adversely affect the flow of water to India.

Construction of the dam is still not complete, so it is too early to determine who may be right, but this experience serves as a worrying example of how hydropolitics may develop in the future. Further, China is looking to build a North-South water diversion system which would involve the construction of multiple dams; including the construction of a dam three times the size of the Three Gorges Dam. On an individual level, these dams may be too small to affect the flow of water to India, but collectively they could have an impact.

There are international mechanisms in place that aim to protect against such unsustainable and inequitable developments on interboundary water resources. International customary law upholds the principle of 'do no harm', a measure that forbids one riparian state from damaging a water resource used by other countries. Likewise, in 2010 the UN declared access to water a basic human right, elevating the importance attached to how water is shared between nations.

However, China and India do not appear to be proactive on the issue of water sharing. The 1997 UN Convention on the Law of the Non-Navigational Uses of International Watercourses, which aims to promote the equitable use of water resources internationally, was rejected by China and abstained from by India.

Similarly, in 1960 India signed a water sharing agreement, the Indus Water Treaty, with Pakistan. The treaty was a significant achievement at the time, but it is in dire need of an update in order to meet current demands and no further agreements on water have been made between the two countries. Likewise, on the Mekong River, China is a part of the Mekong River Commission but only holds a dialogue partner status which does not truly integrate China with the efforts of the commission to sustainably manage the river.

The trend is worrying and the nationalist Indian NGO, Jana Jagriti, raised an important point when they recently argued that India needs to take hydro-political issues with China more seriously. India needs to work harder to ensure that a proper water sharing agreement is signed with China over the

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

Brahmaputra River. India is the downstream state and it is therefore in the country's greatest interests—more so than China's—to sign an agreement on the Brahmaputra. The future security of India's water supply would be better protected, and China and India could focus on sustainable development projects without having to worry about tensions over water arising.

"India: Water security at risk as agreement with China fails", 27/06/2013, online at: http://www.theforeignreport.com/2013/06/27/india-water-security-at-risk-as-agreement-with-china-fails/

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❖ Lao Dams, Mining Ruining Sekong Water Quality In Cambodia

Dam-building and gold mining in southern Laos are ruining water quality downstream on the Sekong River in Cambodia, where villagers are no longer able drink or use the water, according to an environmental group.

The activities undertaken by Lao and Vietnamese companies on the Sekong's tributaries are making the river water muddy and full of silt, said Meach Mean of the Cambodia-based 3S Rivers Protection Network, which monitors environmental issues in the Sekong, Sesan, and Srepok rivers in the Vietnam-Laos-Cambodia border area.

Because of the sediment in the Sekong, villagers downstream in Cambodia's Stung Treng province do not dare drink the water from the river and want the Lao government to address the problem, according to the group.

"For Cambodians, the important thing is that countries should not cause problems for other countries, whether through building dams or through dredging for gold," Meach Mean said.

Currently, the muddy waters were being caused by construction work under way on the Xe Pian-Xe Nam Noy hydropower dam on the Nam Noy River, a Sekong tributary, Meach Mean said.

"The construction of the Xe Pian-Xe Nam Noy dam is causing the Nam Noy River… to become very silty," before it flows into the Sekong, he said.
The dam, which will produce electricity for export to Thailand after it is completed in 2018, is one of a dozen hydropower projects Laos has planned or under way on the Sekong and its tributaries, including a series on the Sekaman that had previously caused silt downstream.

The Sekaman dams had been a "serious cause" of water quality problems in Cambodia until work on the Sekaman 3 wrapped up last year and construction on the Sekaman 1 was suspended over the past year, Meach Mean said.

Dredging for gold

Now, dredging for gold on the river's tributaries in southern Laos's Attapeu and Sekong provinces has become a bigger issue than the muddiness caused by dam construction, he said.

"The main problem now is the dredging of the Xekaman and Xesou Rivers in Attapeu province and the Sekong River in Sekong province for gold by Vietnamese companies and Lao companies working with Vietnamese companies."

The companies use backhoes to scoop up soil from streams and riverbanks, then extract the gold onsite using chemicals, which likely include mercury, he said.

"This obviously causes a lot of turbidity downstream," he said, referring to a measure of how much particulate is suspended in the water.

Previously, dredging had been done by Chinese-owned boats in the Sekong River, but now the heavy machinery used by Vietnamese companies is causing more sediment to flow downstream.

Chemicals such as mercury are often used in the mining process to get gold out of rock, and residents in southern Laos have complained of toxic pollution from gold mining along the Sekong waters for years.

Sekong River Basin

Some 30,000 Cambodians and tens of thousands of Laotians—many of them members of ethnic minorities in both countries—live in the Sekong River Basin and rely on the waters for their livelihoods.

Environmental groups have said dams in the basin threaten fish stocks and sediment flows, with global green group International Rivers warning that little study has been done on what kind of long-term effects the dams will have on local communities.

The only large dam in full operation so far in the Sekong River Basin, the Houy Ho which was completed in 1998, proved "disastrous" for downstream communities in Laos and Cambodia, according to International Rivers.

The projects are part of a "hydro boom" in land-locked, impoverished Laos, which has mountainous terrain suited to hydropower and is aiming to become the "battery" of power-hungry Southeast Asia by selling electricity to its neighbors.

Laos has come under fire from neighboring Cambodia and Vietnam for plowing ahead with construction on the Xayaburi dam, the first dam across the main stem of the Mekong River, over their objections.

The Sekong and the other 3S Rivers form important tributaries flowing into the 4,000-kilometer (2,500-mile) Mekong, Southeast Asia's key artery.

'Little attention' to local communities

Earlier this month, two hundred environmentalists and riparian community representatives from Cambodia, Laos, Vietnam, Thailand, and southwestern China met in the Cambodian capital Phnom Penh to discuss how dams on the Mekong and the 3S rivers built by Laos and other countries were affecting their local river environments and living standards.

Tek Vannara, deputy director of the Cambodia NGO Forum that hosted the meeting, said regional governments including Laos "pay little attention" to local communities when making the decisions to build the dams.

According to Laos's Ministry of Energy and Mines, as of March Laos had 14 dams under construction across the country, 24 in the planning stage, and 32 in the feasibility study stage, in addition to 16 that had recently become operational.

Aside from selling electricity to its neighbors, Laos has also aimed to capitalize on its natural resources with mines, and its mining industry is growing fast.

According to the Ministry of Energy and Mines, there are currently more than 150 mining firms in Laos operating more than 200 mining projects.

Significant gold reserves have been found in Laos's southern provinces, and the Ministry of Planning and Investment said recently that foreign investors are interested in exploring new gold, lignite, and silver mines near the Sekong and Sekaman rivers.

"Lao Dams, Mining Ruining Sekong Water Quality In Cambodia", 26/06/2013, online at: http://www.eurasiareview.com/26062013-lao-dams-mining-ruining-sekong-water-quality-in-cambodia/

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

❖ Warning over Laos dam construction

Work to construct the yet-to-be-approved Don Sahong hydropower dam project continues to progress, posing a major threat to the livelihoods of families living on the Mekong, despite the fact a consultation into the scheme has not been carried out, it has been warned.

Environmental campaign group International Rivers visited the Don Sahong dam site last week in the Khone Falls area of Southern Laos, less than two kilometres upstream from the Laos-Cambodia border.

International Rivers claim that "numerous activities" are underway at the project site, even though the Laos government has not yet initiated the Mekong River Commission's (MRC) required consultation process, set out in the 1995 Mekong Agreement.

Ame Trandem, International Rivers' Southeast Asia program director, said work to prepare for building the dam's access roads and bridge has started. The actual construction of the roads and bridge is apparently scheduled to begin next year.

The group also raised concerns that work had begun on the project last September, when locals reported that dam builders had blasted a waterfall near the Don Sahong site.

Last week, villagers told International Rivers that construction on the Don Sahong dam's bridge and access roads will begin in 2014, Ms Trandem said, adding that the dam's developer, Malaysia's Mega First Corporation Berhad, has hired local people to place markers indicating which land will be used for the bridge and roads.

The Don Sahong project is the second of 11 proposed hydropower dam schemes for the Mekong. Work on the first - the Xayaburi dam in Laos – began last year. Much of the electricity generated by the dams will be exported to Thailand.

International law and the Mekong Agreement prohibit one government from starting to implement projects on the river while the other affected governments are still evaluating proposals for any such scheme.

But International Rivers say developers began work at the Xayaburi dam site, signed the power purchase agreement with Thailand, and signed financing agreements with Thai banks, while discussions at the Mekong River Commission were still underway.

"It's clear that the Don Sahong dam is following the same trajectory that the Xayaburi dam took, in which secrecy and illicit project implementation topples regional cooperation," Ms Trandem said. "Sadly, what is happening at Khone Falls is emblematic of the failure of the MRC to address the problems related to the Xayaburi dam."

"The Xayaburi dam has set a dangerous precedent that undermines future regional cooperation and illustrates the need for urgent reform of the MRC's prior consultation process before additional projects proceed."

Activists claim the dams will hurt fisheries, agriculture and food security downstream in Thailand, Cambodia and Vietnam, destroying the livlihoods of people who rely on the river as a source of food and income. No compensation will be provided to fishermen who can no longer use traditional fish traps.

"The Don Sahong dam would be an environmental calamity," said Ms. Pianporn Deetes, International Rivers' campaign coordinator for Thailand. "The project is aimed at increasing Mega First Corporation's profits while exacerbating the already known and very serious impacts of the dam on regional fisheries and biodiversity.

"If built, the Don Sahong dam will inevitably and irreversibly block the only channel in the Khone Falls that fish can migrate upstream and downstream during the dry season, leading to predictably serious impacts on fish catches, species and the livelihoods of millions of people in the region."

The Don Sahong dam will not only block the only channel in the Khone Falls area that allows for year-round fish migration, but also threatens one of the few remaining habitats of the already endangered Irrawaddy dolphins, she added.

Ms. Kumpin Aksorn from the Thai community organisation Hug Namkhong joined International Rivers on the site visit.

"The Mekong River's fisheries do not stop at each country's political boundaries. Projects affecting the river need to be decided on a regional basis," she said. "The Don Sahong and other mainstream dams are foolhardy and dangerous, as they threaten to fundamentally change the nature of the river and its resources, which serves as the lifeblood for millions of people in the region.

"Before cross-border tensions grow, full public disclosure of the project's environmental impact assessment is urgently required, as well as meaningful consultations with affected communities and neighboring countries."

A report by the Mekong River Commission published last year found that the construction of 12 proposed dams in the lower Mekong River would cause serious problems for the two million people living downstream in Laos, Thailand and Cambodia, because the dams would stop 55 per cent of the river from flowing freely.

"Warning over Laos dam construction", 26/06/2013, online at: http://www.bangkokpost.com/breakingnews/357034/laos-dam-builders-start-work-without-consulting-locals

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❖ Lower Mekong Basin highly vulnerable to climate change – study

BANGKOK (Thomson Reuters Foundation) - Climate change will bring higher temperatures and longer wet seasons to the Lower Mekong Basin, affecting the cultivation of rice and other crops the majority of its 65 million inhabitants rely on for food and income, experts say.

"It is one of the most vulnerable watersheds in the world to the threat of global climate change," Paul Hartman, director of the Mekong Adaptation and Resilience to Climate Change Project (Mekong ARCC), told Thomson Reuters Foundation.

The Mekong, flowing from the Tibetan plateau to the South China Sea through China, Myanmar, Thailand, Cambodia, Vietnam and Laos, is the world's 12th largest river.

More than four out of five people living in the fertile lower basin, which covers Cambodia, Laos, Vietnam and Thailand, are rural and highly dependent on the river. Experts say fish and other aquatic animals provide between 40 and 80 percent of animal protein in local diets.

An average global temperature increase of 2 degrees Celsius is seen by scientists as a threshold to dangerous changes in the Earth's climate. Yet according to a **preliminary report** by the Mekong ARCC, released in March, the Lower Mekong Basin could see average temperatures rise between 3 and 5 degrees by the end of the century, with some pockets predicted to experience much larger increases.

This could affect commercial crops such as coffee and rubber, as well as food staples such as rice, the basin's most important crop, and cassava.

"A decrease in average rice yields of just a few percent per hectare would have dramatic impact on (Lower Mekong Basin) food security and food production," said the draft report, which is currently being peer-reviewed.

WINNERS AND LOSERS

The key message is that the basin's climate is shifting, said Hartman, who hopes the study will help countries prepare better.

"The better you can plan and prepare, and develop these processes for governments, communities and businesses, the better off you'll be in the long run," he added.

"Across the basin, the study forecasts a 1.5 to 4 degree shift in average maximum daily temperature. And you're looking at an increase of more than 5 percent in peak daily rainfall across the entire basin," Hartman said.

The central highlands of Vietnam, an important coffee-growing region, and Cambodia's eastern plains will see the largest temperature rises across the basin, according to the study. Annual precipitation is projected to increase between 3 and 14 percent across the basin.

Optimal growing conditions for robusta coffee varieties, rubber and cassava will shift from lower altitudes to higher altitudes centered on northern Thailand and northern Laos, Hartman said.

Changes in precipitation, temperature and drought conditions are also expected to affect the growing cycles of crops, leading to falling yields in some areas and increases in others.

For instance, rain-fed rice and irrigated rice on the lowlands will likely yield less in some areas due to temperatures above 35 degrees during the growing stage, while northeast Thailand can expect a higher yield of rain-fed rice due to increased rainfall.

"There are some winners and there're some losers. How you adapt to climate change impacts will further determine where you'll come out in the end," Hartman said.

DEVELOPMENT ADDS TO CONCERNS

Hartman said the next step for the Mekong ARCC, which is funded by the U.S. Agency for International Development (USAID), is to use information from the study at a handful of priority sites across the basin to help local communities strengthen their capacity to adapt to climate change.

It is also working with the Washington-based World Resources Institute to calculate economic impacts based on the study's projections.

Development activities in the Mekong - from renewable energy to population growth and forest exploitation - are expected to exacerbate the impacts of climate change.

"Things like hydropower dams will affect fisheries to a greater extent than climate change. But when you combine these two things, then the effect gets magnified," Hartman said.

Plans to build a series of mega dams on the Mekong have been especially controversial, with activists charging they pose serious threats to food security and income for hundreds of thousands of people.

International Rivers said on Wednesday the Don Sahong Dam in Laos would be **"an environmental calamity"**. It would "irreversibly" block the only fish migration channel in the area, harming species, fish catches and the livelihoods of people in the region, the U.S.-based organisation said.

"Lower Mekong Basin highly vulnerable to climate change – study", 26/06/2013,online at: http://www.trust.org/item/20130626094850-b09gh

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

❖ Second Lao dam on Mekong underway – group

BANGKOK, Thailand - Preparatory work on the Don Sahong Dam on the Mekong River in Laos is under way, despite a lack of approval from Laos' neighbors, an environmental group said Wednesday, June 26.

According to International Rivers, which last week visited the site of the dam at the Khone Falls in Champassak province in southern Laos, the project's developer - Malaysia's Mega First Corporation Bhd - has hired local people to place markers for access roads and a bridge and to clear river channels in the neighborhood.

"Villagers reported to us that construction on the Don Sahong Dam's bridge and access roads will begin in 2014," said Ame Trandem, International Rivers' Southeast Asia Program Director.

The preparatory work is going on even though the Lao government has yet to start the Mekong River Commission's prior consultation process, as required under the 1995 Mekong Agreement, she said.

Under the regional agreement, any dam built on the lower Mekong requires the approval of the riparian countries of Southeast Asia's longest waterway, which include Cambodia, Laos, Thailand and Vietnam.

Laos in November officially began construction on the first dam on the Lower Mekong in northern Xayaburi province, despite serious objections from the Mekong River Commission partners and ongoing concerns about its potential impact on fisheries.

"It's clear that the Don Sahong Dam is following the same trajectory that the Xayaburi Dam took, in which secrecy and illicit project implementation topples regional cooperation," Trandem said.

Both the Xayaburi and Don Sahong are run-of-river dams, requiring only small reservoirs and little displacement of villagers.

The Xayaburi project's developers have included fish ladders and fish elevators in their dam designs, but questions remain about the potential impact on fish migration in the 4,880-kilometers-long Mekong.

The Don Sahong Dam would construct a barrier between two islands in the Mekong on the Hou Sahong Channel, which is currently the only channel in the area that allows year-round fish migration.

The area is home to Laos' only year-round population of Irrawaddy dolphins and a migratory passage point for the Mekong giant catfish, both of which are endangered species.

"Second Lao dam on Mekong underway – group", 26/06/2013, online at: http://www.rappler.com/world/32227-laos-dam-mekong-underway

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

❖ Dams could signal death knell for Mekong giant catfish

Already rare, the giant catfish could be pushed over the edge

June 2013. Damming the mainstream of the lower Mekong River would represent a significant new threat to the survival of the Mekong giant catfish, one of the world's largest and rarest freshwater fish, according to a new study commissioned by WWF.

The study sheds new light on the status of this elusive species, including data on its numbers, distribution, threats and measures needed to prevent its disappearance. While the exact population size is unknown, there could be as few as a couple of hundred adult Mekong giant catfish fish left.

According to the study, the Xayaburi dam on the Mekong mainstem in northern Laos would prove an impassable barrier for the migratory giant catfish - which are capable of reaching up to three metres in length and weighing as much as 300kg - and risks sending the species to extinction.

"A fish the size of a Mekong giant catfish simply will not be able to swim across a large barrier like a dam to reach its spawning grounds upstream," said the study's author and associate research professor at the University of Nevada, Dr. Zeb Hogan.

"These river titans need large, uninterrupted stretches of water to migrate, and specific water quality and flow conditions to move through their lifecycles of spawning, eating and breeding."

Already in steep decline

Numbers of Mekong giant catfish are already in steep decline due to overfishing, habitat destruction and dams along the Mekong's tributaries. In the Mun River, the largest tributary to the Mekong, a dam already blocks the migrations of the Mekong giant catfish and has isolated the Mun River from the remainder of the Mekong river basin. The study claims that the controversial Xayaburi dam could disrupt and even block spawning, and increase mortality if the fish pass through dam turbines.

Migration corridor

"It's likely the Mekong giant catfish use the stretch of river of the Xayaburi dam as a migration corridor, with adult fish likely passing through this area on their migration from floodplain rearing areas to upstream spawning sites," added Dr. Hogan. "It is also possible the giant catfish spawn in the area where the dam is now located."

Environment and water ministers had agreed at the Mekong River Commission meeting in 2011 to delay a decision on building the Xayaburi dam pending further studies on its environmental impacts. This agreement was swept aside last November when Laos decided to forge ahead with construction.

Criticism of the US$3.5-billion Xayaburi project has been growing with concerns centred on the serious gaps in data and failures to fully account for the impacts of the dam, particularly concerning fisheries and sediment flows.

Fish ladders!

Pöyry, the Finnish firm advising Laos on the dam construction, argues that "fish passages" can be built to enable fish to get past the dam's turbines and swim up and down the river. But this claim has never been successfully put into practice.

"You can't expect fish ladders to work without understanding your target species, their swimming capabilities, and the water current that will attract these fish toward the pass entrance," said Dr. Eric Baran with the World Fish Centre. "Research is still needed to ensure mitigation efforts will work."

Once common

Mekong giant catfish were once widely distributed through the Mekong river basin, possibly as far as Myanmar and south-western China, and were relatively abundant up until the early 1900s. Their numbers have since plummeted and the species is now limited to the Mekong and its tributaries in Cambodia, Laos and Thailand.

Once caught in their thousands

Catch figures also offer sobering evidence of the species decline, with numbers dropping from thousands of fish in the late 1880s, to dozens in the 1990s, and only a few in recent times. Despite laws being in place in Thailand, Laos and Cambodia to regulate fishing for Mekong giant catfish, with a ban on fishing the species in Thailand and Cambodia, the species is still fished illegally and caught accidentally in fisheries targeting other species.

"Catches should be monitored to ensure that Mekong giant catfish are not being illegally targeted by fishers," added Dr. Hogan. "Incidental catch should also be monitored since it is one of the best and only sources of information about the distribution, life history and abundance of this river giant."

The study identifies key measures to prevent the river giant's disappearance, including urgent efforts to safeguarding migratory corridors and critical habitat, and increased international cooperation, such as basin-wide management planning, since the species occurs in an international river and crosses country borders to complete its life cycle.

"The Mekong giant catfish symbolizes the ecological integrity of the Mekong River because the species is so vulnerable to fishing pressure and changes in the river environment. Its status is an indicator of the health of the entire river, and its recovery is an important part of the sustainable management of the Mekong basin," said Dr. Lifeng Li, Director of WWF's Global Freshwater Programme.

"The Mekong giant catfish can be saved, but it will take a level of commitment from all lower Mekong countries, as well as international organizations and donors, that currently does not exist."

"Dams could signal death knell for Mekong giant catfish", June 2013, online at: http://www.wildlifeextra.com/go/news/mekong-catfish013.html#cr

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

❖ Russian expert feels solutions for Asian water disputes not easy, but possible

Regulating the use of water resources belonging to multiple states is one of the 21st Century's greatest challenges but there are ways to reach common ground.

The Indian government is perturbed by Chinese economic activity on the Brahmaputra. It is the largest artery in northeastern India, and, according to China's 12th Five-Year Plan, Beijing intends to actively develop it. In particular, the Celestial Empire has plans to construct several hydroelectric power stations which, according to Delhi, threatens India's economic and environmental interests.That is not the only example. There are plenty of similar conflicts all over the world, like in Central Asia, for example, where a series of disputes between republics arose from the manner of operation of hydroelectric plants. One such disagreement between Uzbekistan and Tajikistan resulted from the construction of the Rogun plant. In Africa, Ethiopia and Egypt cannot share the waters of the Nile, and Burkina Faso and Ghana share a similar problem with the Volta River.

In the Middle East, Ankara and Damascus have repeatedly quarreled over the construction of dams on the Euphrates.Experts predict that in the near future, wars will be fought over water rather than energy. History has already witnessed such examples as the Six-Day War, among whose causes was Tel Aviv's newly gained access to a fresh water source.How should the use of water resources belonging to multiple states be regulated in the 21st Century? This problem is particularly pressing where several states share rivers and groundwater connected to shared basins with their own ecosystems. From a legal point of view, finding a solution is not easy, but it is certainly possible.According to Camil Bekyashev, arbitrator at the Permanent Court of Arbitration in the Hague, the most effective, peaceful way out of such complex disputes over water is the international court system. The regulations for the use of both still and flowing bodies of water are determined by the 1997 UN Convention on the Law of the Non-navigational Uses of International Watercourses, which provides the option of appealing to international arbitration in order to resolve disputes stemming from use of international watercourses.

"Practice in this field is quite controversial, yet rich at the same time. For example, in one case concerning a dispute over the Gabčíkovo-Nagymaros dam project with Hungary vs. Slovakia in the International Court of Justice in 1997, the court invoked the principle of fair use and held that although Slovakia had the right to unilateral control over a shared resource, it could not deprive Hungary of its right to fair and reasonable use of the Danube's natural resources. All of these disputes are very complex, and sometimes it takes several years to solve them. Possibly even 25-30," says Bekyashev.

The Permanent Court of Arbitration in the Hague – an international arbitration court – has also had successful experiences with litigation. The most recent example was its adjudication of the dispute between India and Pakistan over the use of the Indus River's waters. In this case, Islamabad expressed its frustration with Delhi's actions. Several years ago the Indian government began construction on the Kishanganga Hydroelectric Plant upstream of the Indus River, sparking criticism from Pakistani authorities, who are also building a plant farther downstream, which they fear will not

have enough water. Islamabad insisted that allowing the Indian plant to draw its water upstream would be infeasible. As a result, in February of this year, the court issued a partial solution which ruled in Delhi's favour, but ordered the Indian government to maintain a minimum water level in the river. In closing the case, the court will determine the amount of water it must allow downstream by the end of the year.

World Ocean in danger

Not long ago, the International Court of Justice heard another case, this time involving a dispute between Uruguay and Argentina over pulp mills on the Uruguay River. In 2010 the court handed down its decision in which it recognized certain violations on Montevideo's part for having authorized the construction of environmentally hazardous factories, but refused Argentina's request to dismantle one of the two Uruguayan companies and require compensation for its alleged damages.

There is a caveat, however. Despite the fact that the court hands down verdicts based on existing international treaties and conventions, as of today both the International Court of Justice and the Permanent Court of Arbitration may hear cases only with the consent of all concerned parties. Moreover, establishing a case in the international court is rather difficult in that each state must pursue its own interests.

Experts believe that the strategic competition for water resources will continue to shape the dynamics of Asian security in the near future. Security risks can be mitigated if Asia's leaders establish norms and institutions aimed at creating judicial cooperation. Unfortunately, little has been done in this regard to date. For example, 53 of Asia's 57 transnational river basins are not subject to treaties concerning ownership of watersheds or cooperation agreements.

"Russian expert feels solutions for Asian water disputes not easy, but possible", 24/06/2013, online at: http://indrus.in/world/2013/06/24/russian_expert_feels_solutions_for_asian_water_disputes_not_easy_but_po_26417.html

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❖ Wars for water become reality today

While major powers continue to cross swords around Syria, a little further south, at a distance of a thousand kilometers, another conflict is flaming. The conflict between Egypt and Ethiopia may become the first struggle of a new type for natural resources, or water, to be more precise. Futurists are correct in their predictions as the 21st century will become the century of wars for survival.

Ethiopia, thanks to the support of the Soviet Union, was at the peak of its power during the 1970s. The country was a regional leader in East Africa. Since that time, the country has experienced several economic crises, multiple civil clashes and two wars - with Eritrea and Somali armed groups.

Leftist forces, led by the recently deceased Meles Zenawi, proposed a concept of national renaissance. The concept stipulated the construction of a large power plant on the Blue Nile that would be called "The Grand Ethiopian Renaissance." The height of the dam will be 170 meters, its length - almost 2 kilometers.

For Africa, it would be a fantastic project, just like the cost of it - nearly $ 5 billion. The design capacity of the plant is 6000 MW, and there are no other similar power plants on the black continent. As soon as the plant is launched, Ethiopia receives a powerful impetus for development, satisfies the needs of its own economy in energy and water, and also obtains a reliable channel of revenues from the export of electricity. This is a classic example of how a variety of economic and geopolitical problems could be solved in nearly one day.

However, these intentions of Addis Ababa turned out to be highly disturbing to Egypt, the territory of which lies upstream of the Nile. In case the hydropower plant is built in Ethiopia, Egypt loses more than 20 percent of water supplies and at least 40 percent of energy produced by hydroelectric power plants (mostly the Aswan one). This is a disaster for the economy and agriculture of Egypt. Egyptian President Mursi said that he was ready for anything, because the river Neil was the natural wealth of Egypt. "If Egypt is the Nile's gift, then the Nile is a gift to Egypt. The lives of the Egyptians are connected around it... as one great people. If it diminishes by one drop then our blood is the alternative, Mursi stated.

A mufti of Egyptian Islamist group Al-Gama'a al-Islamiya stated on *Al Arabiya* TV channel that he would declare Jihad to Ethiopia, should the country begin the construction of the power plant. The

mufti also accused Israel of being a part of the project. According to him, the construction of the dam was a "conspiracy to put pressure on Egypt."

We would like to note here that the mufti is wrong. Israel learned how to put pressure on Egypt (and some other countries) a long time ago, by funding politicians of interest directly. Needless to say that this method is a lot less expensive.

In the beginning of June, Egypt urgently sent a delegation to the territory of former Somalia to assess the prospects for the revival of the Somali army that used to be at war with Ethiopia, and the creation of a military alliance with the unrecognized state of Somaliland. It is highly likely that Eritrea will take Egypt's side, taking into consideration the fact that Ethiopia defeated Eritrea in 2000. The governments of Sudan and South Sudan supported the Ethiopian government. Another developed country (by African standards) - Kenya - has not expressed its opinion on the matter. However, Kenya is interested in receiving cheap electricity from Ethiopia.

Six African countries, including Burundi, Kenya, Rwanda, Tanzania, Uganda and Ethiopia signed an agreement that replaced a number of documents of the colonial era. Egypt used to consume up to 70 percent of the Nile waters and could veto any decision on the construction of any type of hydro-technical facilities. Nowadays, restrictions and quotas have been lifted.

As for Egypt, if it were only about the military conflict, then the army of Egypt, which is 10-15 times superior to the armed forces of all signatories and their allies in terms of manpower and 20 times - in terms of tanks and combat aircraft, would crush the enemy in a few days. However, Egypt and Ethiopia have no common border, so the Egyptian military maneuver around semi-guerrilla forces, Somali groups and unprofessional Eritrean armed forces. In addition, the political situation in Egypt is far from being stable. A war could make matters even worse.

To crown it all, Egyptian President Mohamed Mursi has a very limited set of moves to resolve the crisis. Mursi is doomed to start combat actions. If he uses political methods, many would accuse him of betraying vital interests of the country, which would lead to a national revolution. Quite on the contrary, a successful military campaign against Ethiopia would retain the balance of the Egyptian economy and dramatically reduce the political weight of the opposition. In this case, Mursi would be able to take full control of the political situation and finish his reforms.

Should the conflict occur, it will go down in history as the first large-scale war for water.

Herbert Marcuse, the founder of the theory of overpopulation of the Earth, predicted that by the middle of the XXI century, wars for water, food and energy resources would completely replace class wars for geopolitical influence. In a nutshell, people will fight for misery that will help them survive. Will his predictions come true?

"Wars for water become reality today", 26/06/2013, online at: http://english.pravda.ru/hotspots/conflicts/26-06-2013/124950-war_water-0/

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

❖ Humans could exhaust fresh water supplies in two generations

Over a billion people struggle to find safe drinking water on a daily basis. Now, a new report suggests that fresh water scarcity could turn into a global crisis within two generations.

The startling prediction, published in a statement by the Global Water Systems Project, identifies mismanagement, pollution, overuse, and climate change as the most likely causes of water shortages—all of which the report claims are entirely avoidable.

Founded in 2004, the Global Water Systems Project, or GWSP, is an international organization based at the University of Bonn, Germany, dedicated to monitoring fresh water resources around the globe.

GWSP researchers note that the rising world population and urban sprawl are only part of the problem. Largely, water shortages are also driven by inefficiencies in the water supply system, including storing water in reservoirs for hydroelectric projects, wasteful personal habits, and overuse of ground water and aquifers.

In the report, the GWSP lists six priorities that scientists, lawmakers, and businesses need to acknowledge in order to get in front of the crisis. These include more research into underground water supplies, developing risk assessments, training more water scientists, further utilizing satellites to monitor the state of the water supply, a greater embrace of green alternatives, and investment in the water institutions that protect our drinking water supply.

"Stewardship requires balancing the needs of humankind and the needs of nature through the protection of ecosystems and the services that they provide," says the report. "Without such a design framework, we anticipate highly fragmented decision-making and the persistence of maladaptive approaches to water management."

This is not the first time the GWSP has sounded the alarm on the world's water problems.

In the 30 September 2010 issue of the Journal Nature, the GWSP compiled the first international study on water security, claiming at the time "that nearly 80% of the world's population is exposed to high levels of threat to water security."

"Humans could exhaust fresh water supplies in two generations", 28/06/2013, online at: http://www.digitaljournal.com/article/353332

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

❖ Water issues: Scientists call for construction of dams

Pakistan needs to build new dams regardless of apprehensions regarding the damage that will be inflicted on flora and fauna or the reservations from environmentalists.

This was the consensus reached by American and Pakistani scientists at a workshop on "Water issues in Pakistan," held at Quaid-e-Azam University (QAU) on Thursday. They said dams would control the damage wrecked by floods and check wastage of water.

QAU Professor Dr Nasrullah said that the Indo-Pak conflict is based on neo-realistic interests which converge in Kashmir. "Besides Kashmir, the Indus River may also incite war in the region.

He said we don't have time to deny the need to build a dam to produce energy considering Pakistan has not constructed any dam in the last decade.

Prof. Shroder from the University of Nebraska talked about the potential of water channels flowing from Afghanistan for producing cheaper and cleaner hydraulic power. He hinted at the flaws in the Indus Water Treaty signed in 1970 between India and Pakistan.

He said. "One wonders why large rivers like Indus have not been desalinated for years, resulting in soil erosion and floods."

Pakistan has no option but to build dams as every year glacier melt is more than the previous year and requires a water management system.

"Water issues: Scientists call for construction of dams", 28/06/2013,online at: http://tribune.com.pk/story/569290/water-issues-scientists-call-for-construction-of-dams/

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

❖ Overcoming energy crisis: construction of large dams essential: FCCI

Construction of large dams is absolutely vital to overcome energy crisis and storage of precious water to agriculture and industry. This was stated by Mian Zahid Aslam President Faisalabad Chamber of Commerce & Industry (FCCI), here on Thursday. He said that since 1974 no large dam has been constructed and country is now in looming grip of severe electricity shortage and lesser availability of water to agriculture.

He said that thermal generation of electricity is a costly option and our oil import bill is crossing $14 billion now. He said that 12-hour of scheduled, unscheduled loadshedding is anti-industry, anti-businesses and anti-workers whereas it has already retarded the GDP growth of the country to 2-3 percent per annum, huge unemployment and rendering the export targets unachievable in the previous year. He said that country will be facing water crisis if construction of multi-purpose dams would not be started without further delay.

He referred to the recent World Bank Report wherein it is projected that droughts likely to hit India, Pakistan and Afghanistan in the next 20 to 30 years due to water shortage and weather extremes. Mian Zahid said Pakistan has the world's best irrigation system and might take benefit of perennial irrigation to the agriculture by construction of dams, which contributes to 35 percent to GNP, employs about 44 percent of labour force and providing raw materials to our industries.

Referring to India, he said that India has constructed and planned huge number of dams and power generation plants to its rivers and apprehended that India can take benefit on the pretext of 'right to use water' if we continue to waste the water into sea every year. He said that construction of large dams is most essential as capacity of existing water reservoirs of Mangla Dam, Terbela Dam and Chasma Barrage reservoir has been much reduced with the passage of time.

He urged the government to start immediately construction of multi-purpose large dams in the country to produce cheap electricity for industrial growth and also to avoid the food security problem which is taking pace regionally and world-wide.

"Overcoming energy crisis: construction of large dams essential: FCCI", 28/06/2013, online at: http://www.brecorder.com/fuel-a-energy/193/1204507/

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

❖ Tough inspections for Hydro-electric projects

VietNamNet Bridge – Deputy Prime Minister Hoang Trung Hai on June 26, asked for dams involved in hydro-electricity projects across the country to undergo thorough safety inspections

This has resulted after a 40-metre breach of the Ia Krel 2 dam in the Central Highlands province of Gia Lai was discovered two weeks ago.

The Ministry of Construction is responsible for reviewing the legal regulations on quality management at all hydro-electricity projects.

This is to settle all the current loopholes that could possibly lead to violations as well as improve the effectiveness of the local authorities' state management.

The ministry has also been tasked with adding more regulation to the design, construction and competence and experience of consultants in these projects.

The ministry, in co-operation with the ministries of Industry and Trade and Agriculture and Rural Development, conducts quick inspections and assessments on the safety of reservoirs and dams at hydro-electricity projects. The results are fed back to the Prime Minister.

The Ministry of Agriculture and Rural Development takes responsibility for drawing up plans with localities to improve the quality of dams and reservoirs and manage the safety of these projects.

The Ministry of Industry and Trade needs to ask hydro-electricity plants to stop storing water and generating electricity if they detect a risk, to protect the people living in low-lying areas.

These projects are only allowed to operate when they adhere to all the safety conditions contained in the legal regulations.

The provincial and city-level people's committees need to boost supervisions and appraisal of the management of hydro-electricity projects.

If any errors are detected, the investors will have to cease operating.

Also yesterday, Central Highland Gia Lai Province released the result of an inspection into the cause of the dam breach at the 5 Megawatt Ia Krel 2 project.

The failure of the construction company to stick to the approved design and the investor irresponsibly when managing the projects quality are prime causes for the breach.

According to the design, the inside of the dam should have been covered by a layer of cement 20cm-thick and 250m-long. However, the construction company failed to abide by this design as most of the dam was built with soil.

Moreover, the construction company also allowed vehicles to travel on top of the network of pipes, which was unfinished and damage subsequently appeared.

Last month, the project's investor - the Bao Long-Gia Lai Hydro-Electricity-Industry Company - stored five million cubic metres of water, equal to half of the highest capacity before being authorised by the relevant agencies.

The province's inspection team told the investor to rebuild the dam from scratch if they wanted to continue with the project.

The investor will also be fined and have to compensate local people for their losses which are estimated to reach VND10 billion.

When the dam burst two weeks ago, ten residents were swept away by the torrent, but were later found safe and well while many houses and trees were destroyed.

Construction on the plant started in 2010 and it is expected to come into operation in the third quarter of this year.

"Tough inspections for Hydro-electric projects", 28/06/2013, online at:
http://english.vietnamnet.vn/fms/society/77758/tough-inspections-for-hydro-electric-projects.html

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

❖ Inadequate access to water responsible for food insecurity, says FAO

THE Food and Agriculture Organisation (FAO) has attributed the growing statistics on food insecurity and malnutrition, especially in Africa, to unreliable access to water for food production particularly in rural dryland areas.

According to the FAO, efforts are underway to tackle critical development challenges in such areas.

In a report obtained from FAO's website, the agency noted that there are 870 million chronically hungry people with almost 200 million children suffering from stunting due to acute malnutrition – a significant impact on future generations.

"Water insecurity is a related and pressing global challenge. This crisis has been building for decades due to growing populations, intensification of agriculture through an unsustainable use of groundwater, and diversion of ever-more fresh water resources for farming uses.

"Today there are 34 countries with per capita fresh water levels below the so called "water poverty-line", which is considered to be 1000 cubic meters per year. To tackle these critical development challenges, nearly 200 policy makers, development partners, NARS, NGOs, donors and representatives of the private sector from 30 countries would at the "International Conference on Policies for Water and Food Security in Dry Areas", deliberate on innovative ways to improve water management on a sustainable and equitable basis while ensuring food security for smallholder farmers from the world's dry areas.

"The meeting promotes a unique approach for two reasons. On the one hand, it encourages the exchange of expertise between a number of dryland countries on enabling policies, practices and recent innovations on enhancing food and water security.

"On the other hand, through the contribution of senior policy makers and water and agriculture experts, it aims at deliberating on how to more effectively get research innovation into use through the development of more farmer-centered policies. To think out of the box, this is what the conference encourages the participants to do in order to bring new and effective solutions to improve water and food security in low income countries", the report added.

The agency then tasked nations to invest more in science and technology, technology transfer, water infrastructure, such as irrigation and drainage systems and their sustained maintenance in a way that is not totally dependent on public funds.

"It is imperative for food security to reduce water overuse and inequality by expanding supply to areas that are not reached today. This is a wise and strategic investment for countries to give more priority to for significant economic and social pay-offs – a clear message to be conveyed during the conference's deliberations", FAO stressed.

"Inadequate access to water responsible for food insecurity, says FAO", 26/06/2013, online at**:** **http://www.ngrguardiannews.com/index.php?option=com_content&view=article&id=125524:-inadequate-access-to-water-responsible-for-food-insecurity-says-fao&catid=89:industry-watch&Itemid=594**

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

❖ Dams controlled floods, says water panel chief

Countering what he called "uninformed speculation", Central Water Commission (CWC) chairman Rajesh Kumar Monday said dams in Uttarakhand had reduced the flooding of towns and villages after torrential rains last week.

"Flood levels at Haridwar and Rishikesh would have been much higher than the worst levels this time if the Tehri reservoir had not been there," Kumar told The Indian Express.

He said the water level in the dam was under control and did not breach the maximum tolerance zone even at the height of the rains and flooding.

The construction of the Tehri dam had been bitterly contested by interest groups. They had claimed the stored water could create a disaster in the earthquake-prone Himalayan region and lead to a flood havoc.

But Kumar pointed out that this was an uninformed debate as dams in India pass through several layers of clearances before construction starts. The CWC is the country's premier technical organization for water management.

He said the devastation in the hill state was restricted at places where water flowing down the hills was successfully trapped in reservoirs. There was havoc where there were no such reservoirs.

Kedarnath was ravaged by water coming down the hills above the snowline and had no safety zones such as dams where the flow could be channeled. The pilgrim centre remains snow-bound for six months in a year and therefore has no major commercial or large residential structures in the area. "So there is no question of any human-created reason for the floods from either industry or from the dams," Kumar added.

Uttarakhand has 19 dams that qualify as large - 15 metres or more in height - according to the CWC, with six of them under construction. The dams at Tehri over the Bhagirathi and over the Ramganga in Pauri Garhwal are designated as dams of national importance.

"Dams controlled floods, says water panel chief", 25/06/2013, online at: http://www.indianexpress.com/news/dams-controlled-floods-says-water-panel-chief/1133470/

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❖ Red-Dead conduit to be jointly promoted by gov't

Biennial World Leadership Conference focuses on sustainability and global environmental cooperation.

Development of the proposed Red Sea-Dead Sea conduit will occur under the joint administration of the State of Israel and Keren Kayemeth LeIsrael-Jewish National Fund, leaders from both parties announced on Tuesday.

Energy and Water Minister Silvan Shalom, KKL-JNF chairman Efi Stenzler and presidents of JNF chapters from all over the world agreed to the joint pursuit of this enormous project at the KKL-JNF World Leadership Conference, which has been taking place all week in Jerusalem.

Related:

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Environmentalists slam Red-Dead Sea plan

http://www.jpost.com/Enviro-Tech/Environmentalists-slam-Red-Dead-Sea-plan

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Spar erupts over proposed Red-Dead Sea pipeline

http://www.jpost.com/Enviro-Tech/Spar-erupts-over-proposed-Red-Dead-Sea-pipeline

The World Leadership Conference, which occurs every two years, brings together KKL-JNF leaders from all over the world to focus on achieving sustainability for generations to come.

While the World Bank has determined that the 180-kilometer pipeline project to replenish the dwindling Dead Sea with Red Sea water is feasible, there has been heavy opposition to the plan from environmental groups. Not only will the project be highly energy intensive, but green organizations also fear that the influx of seawater will cause changes to the unique composition and appearance of the Dead Sea.

After months of examining various options, however, KKLJNF teams decided that the Red-Dead Canal is the ideal vision for generating growth in the Negev, replenishing the Dead Sea and catalyzing cooperation with the Jordanians, who would play a critical role in the project's development.

Stenzler said he was confident that the joint plan of KKLJNF and the government to move forward with the Red- Dead conduit would be a success, as "KKL-JNF knows how to harness the entire Jewish people to change-inducing projects."

On the previous day of the conference, the participants also discussed cross-border environmental cooperation, particularly looking at collaborations on forestry and water.

"Due to climate changes, many countries are facing challenges similar to those of Israel, which has made KKLJNF's knowledge more relevant than ever," said David Brand, chief forester of KKL-JNF.

"Together with the KKL-JNF representatives in different countries, we can promote international collaborations. This can contribute a great deal to the image of Israel as well as to the involvement of the younger generation in KKLJNF's work."

Suhail Zeidan, director of groves and grazing in the KKLJNF forestry department, stressed how important cooperation between KKL-JNF and the Palestinian Authority remains concerning forestry and wild land management. In the past two years, he explained, there have been numerous joint workshops on afforestation as well as fire prevention.

"As a result of this cooperation, we hope to see progress in the PA with regard to runoff water harvesting in the desert, the creation of community forests, the improvement of grazing areas, the preservation of nature and biodiversity and the establishment of improvement areas and a gene bank."

Environmental Protection Minister Amir Peretz, meanwhile, praised KKL-JNF for embodying one of his most reiterated mottos – "One cannot separate environment justice and social justice."

Characterizing the KKL-JNF leaders as being among "the first green activists," he stressed the importance of continuing to develop the land while maintaining environmental consideration.

"Our country has changed its appearance and its landscapes thanks to the sustainable management of the land and of the water, much of which has been done by KKL-JNF," Peretz said.

"Red-Dead conduit to be jointly promoted by gov't", KKL-JNF – Jerusalem Post, 25/06/2013, online at: http://mideastenvironment.apps01.yorku.ca/?p=7347

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