



ORSAM WATER BULLETIN

Weekly Bulletin by ORSAM Water Research Programme

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



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24 November – 30 November 2014

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❖ **ISIS seeks to subjugate people by leaving them without water - Turkish researcher**

The seizure of oil and gas fields, as well as water sources in Iraq and Syria by a terrorist organization “Islamic State” (IS, formerly ISIL or ISIS,) indicates the presence of a serious strategy in this direction, the Turkish Center for Middle Eastern Strategic Studies (ORSAM) Water Research Programme Hydropolitics researcher Tugba Evrim Maden told Trend Nov.25.

She went on to add that the “Islamic State” seeks to control such important life objects as sources of energy, irrigation and drinking water.

She said that water can be both means of cooperation between the states and the cause of wars, which is most often seen in recent times.

"It can be noticed in the Armenian-Azerbaijani Nagorno-Karabakh conflict from the Armenians' side, but recently, the most striking example of this has become the “Islamic State,” she said.

The “Islamic State” purposefully seizes such strategic objects as dams and reservoirs, the researcher said.

“Along with the oil and gas fields, they capture the water resources as well,” Maden said. “The Tabqa and Tishrin dams were seized in Syria, as well as Fallujah, Mosul and Sudur dams in Iraq, now there are fights for the Haditha dam.”

She said the IS seeks to break the people's will by denying them access to water supply. By doing so, IS looks to subjugate people, Maden said.

The researcher said that this fact puts a great pressure upon the system of irrigation and agriculture in the region. As an example, she brought up a drought in summer of 2014 that caused great damage.

She said that if the IS is not eliminated, the issue of water security will determine the strategy of the “Islamic State.”

The “Islamic State” (IS, formerly ISIL or ISIS,) was created in 2003 in Iraq. Between 2004 and 2006, the organization was led by Abu Musab al-Zarqawi, and consisted of 11 radical Islamist groups, which had close ties to the terrorist organization Al-Qaeda.

Following the start of military confrontation in Syria between the armed opposition and the government forces, the IS penetrated the country in 2013. The organization said at the time it refuses to take the oath of Al-Qaeda and declared “a holy war” against all groups in Iraq and Syria, as well as the Syrian government forces.

Strengthening of the IS in Syria allowed it to return to Iraq, deploying military actions against government forces there.

In late June of 2014, the IS announced about the creation of the “Islamic Caliphate” on the territories under its control in Iraq and Syria. In turn, Iraqi authorities asked the international community for help in fighting the IS.

“ISIS seeks to subjugate people by leaving them without water - Turkish researcher”, 26/11/2014, online at: <http://en.trend.az/azerbaijan/politics/2337033.html>

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❖ Iraqi Army Wins Back Control over Strategic Dam in Anbar Province

TEHRAN (FNA)- The Iraqi army and tribal forces launched a ground offensive in Anbar province, and seized back control over a strategic dam in Eastern Ramadi after heavy clashes with the Islamic State of Iraq and the Levant (ISIL) Takfiri terrorists.

The army soldiers inflicted heavy casualties on ISIL terrorists in their Saturday operations and freed Al-Sajaria dam in Eastern Ramadi of Anbar Province.

On Thursday, the Iraqi security forces regained control over a number of villages of Heet district in Anbar province.

"The security forces liberated some of the villages in Heet district from the control of the ISIL terrorists," an informed source.

The security sources raised the Iraqi flag in the liberated villages of Heet district, and killed large numbers of the ISIL terrorists, and burned their vehicles.

The crisis in Iraq escalated after the ISIL militants took control of Mosul in a lightning advance on June 10, which was followed by the fall of Tikrit, located 140 kilometers (87 miles) Northwest of the capital, Baghdad.

Soldiers of the Iraqi army and Pishmarga have been engaged in heavy fighting with the militants on different fronts and have so far been able to push them back in several areas.

"Iraqi Army Wins Back Control over Strategic Dam in Anbar Province", 22/11/2014, online at: <http://english.farsnews.com/newstext.aspx?nn=13930901001494>

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❖ **Iraqi, Kurdish forces repel ISIL advance in several fronts**

Iraq's Kurdish forces have recaptured the strategic town of Tal Ward, southwest of the northern town of Kirkuk, just a day after ISIL had captured it.

In Nineveh, the Kurdish troops have also fended off ISIL's assault on Iraq's largest hydro-electric dam - the Mosul Dam. Tens of ISIL militants were reportedly killed in the clashes, while ISIL failed to capture the towns of Sarlaj, Manaa' and Jassan in the dam's vicinity. Meanwhile in Diyala, Iraqi and Kurdish forces backed by volunteer fighters launched an all-out offensive in Qura Taba – near the provincial capital of Baaqouba and liberated 8 towns. Anti-ISIL forces have recently retaken the major towns of Jalawla and Saadiya – which look over a strategic trade route between Iraq and Iran. The developments have proven wrong the presumption that the US-led coalition would play a key role in beating ISIL. Iraqi forces backed by Sunni tribesmen have also managed to retake a government complex in Ramadi – the capital of Anbar province. This after they also managed to recapture the towns of Sarajey and Mahboubeyya west of Anbar, in the district of Heeth. Cutting off ISIL's main supply and logistics routes currently tops the agenda of Iraq's anti-ISIL forces. With the military advance scored in all of Amerli, Zumar, and just recently Saadiya and Jalawla; all eyes are now set on Tikrit and Mosul as the next destinations for the Iraqi army, Kurdish forces and popular committees.

"Iraqi, Kurdish forces repel ISIL advance in several fronts", 28/11/2014, online at:

<http://www.presstv.ir/detail/2014/11/28/387815/iraqi-kurdish-forces-repel-isil-advance-in-several-fronts/>

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❖ Regime attack on Ein Al-Fijeh threatens Damascus water supply

AMMAN: The Syrian army escalated its four-day assault Monday on a rebel-controlled town outside Damascus that is home to a water spring servicing five million people as rebels cut the water supply in retaliation.

After the Syrian army unsuccessfully attempted to storm the town last Friday, “rebels cut off drinking water to some neighborhoods in Damascus...and reduced pumping in other areas,” Hadi al-Manjid, an Orient News correspondent in Deir al-Asafir, told Syria Direct Monday.

Ein al-Fijeh, a rebel-held town 15 km northwest of Damascus in the Wadi Barada area, is home to the main spring which provides drinking water both to the capital, including the wealthy districts of Mezzeh and Malki that count top regime officials and supporters among its population, and the rebel-controlled suburbs.

Last November, Syria Direct [reported](#) that rebels threatened the regime with a water shutoff if government forces targeted the area as part of its campaign to recapture the nearby Qalamoun mountains.

On Monday, regime forces pounded Ein al-Fijeh with artillery shells and surface-to-surface Grad rockets, [reported](#) pro-opposition Smart News Agency.

Although rebels have threatened to blow up the spring, al-Manjid says that move is unlikely as “the regime won't be impacted directly [by the resulting water shortage], rather, it is civilians who will be.”

Blowing up the Ain al-Fijeh spring would also justify the regime storming the town to fight “the terrorists who cut off the water,” al-Manjid said, and subsequently “conduct massacres on this pretext.”

“Regime attack on Ein Al-Fijeh threatens Damascus water supply”, 24/11/2014, online at: <http://syriadirect.org/main/30-reports/1699-regime-attack-on-ein-al-fijeh-threatens-damascus-water-supply>

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❖ Tropical fly-borne illness reported near Damascus: WHO

(Reuters) - At least three wounded people have been infected near Damascus with a tropical disease spread by flies that had never before been reported in [Syria](#), the World Health Organization (WHO) has said.

The outbreak of myiasis, also known as screw worm, stems from deteriorating water and sanitation conditions. While not life-threatening, its presence is an indicator of how bad health conditions have become, according to the global health body.

A video posted online this week appeared to show a doctor removing maggots from the skin in the back of a wounded girl's head and a dozen extracted maggots squirming in a petri dish.

Later it shows her with re-grown hair and small bald patches.

The video claimed to have been filmed in the rebel-held Ghouta area east of Damascus and was posted on YouTube by the Syrian Media Organization, which describes itself as the media arm of rebel groups in southern [Syria](#).

"We are very concerned, not just about the three cases but about public health," Elisabeth Hoff, WHO representative in Damascus, said late on Wednesday.

"We are concerned about the deterioration in the water and sanitation situation, we are not able to deliver regularly in the area, only on an ad hoc basis."

Syrian officials could not immediately be contacted on Thursday for comment. The WHO said the three myiasis cases were reported by the Syrian Arab Red Crescent (SARC) in the eastern Ghouta area last week and confirmed by a local WHO contact person.

Myiasis occurs when fly larvae infect open wounds. Preventative measures include using insecticide to kill flies and washing clothes in hot water or ironing them - all difficult in areas with shortages of insecticide, electricity and soap.

"If there were proper access to water and sanitation services, you could impede it," Hoff said. "The WHO is advocating for better water and sanitation in the area and trying to send hygiene kits."

In one example of the difficult conditions, the WHO said that armed groups took control of two major sources of drinking water for Damascus on Friday last week and cut off two-thirds of the provincial supply for 28 hours.

Since then, there have been negotiations between the government and armed groups to restore a full, constant supply, the WHO said.

It estimated that around 300,000 people in rural areas south of Damascus went without drinking water during the cut because water from their well fields was diverted to the capital's water supply network.

"Tropical fly-borne illness reported near Damascus: WHO", 27/11/2014, online at:

http://www.reuters.com/article/2014/11/27/us-syria-crisis-disease-idUSKCN0JB0XZ20141127?utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=cd487d51c3-RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_c1265b6ed7-cd487d51c3-250657169

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❖ The impact of a hotter Middle East

If you think the summers in the Middle East and North Africa (MENA) region are hot – think again. Summers are likely to become much warmer. Global temperatures are rising; the question now is by how much and what the impact of them will be. People in the region already face very high summer temperatures – and these could get worse. Compared to the rest of the world, the MENA region will suffer disproportionately from extreme heat. The latest climate science – outlined in our new report Turn Down the Heat – suggests a couple of possible scenarios for MENA, looking at the likely impact of the rate of present day (0.8°C) warming across the region, as well as higher rates of 2°C and 4°C.

In a 2°C hotter world, the annual number of days with exceptionally high temperatures and high thermal discomfort is expected to increase in some of the region's capital cities, from 4 to 62 days in Amman (Jordan), 8 to 90 days in Baghdad (Iraq), and 1 to 71 days in Damascus (Syria). The greatest increases are expected in Beirut (Lebanon) and Riyadh (Saudi Arabia), where the numbers of hot days are projected to reach 126 and 132 days per year respectively. In a 4°C hotter world, the average number of hot days is projected to exceed 115 days per year in all of these cities. That would make for a very long and very hot summer.

What would this mean for the region?

MENA is the most water scarce region in the world. The availability of renewable water sources is generally below 1,000m³ per capita per year (with the exception of a few countries), and as low as 16m³ per capita in the United Arab Emirates. This compares to about 3,500m³ per capita per year in Mexico, 4,500m³ in East Asia Pacific countries, and 9,000m³ in the USA. But the region has already done an impressive job coping with its inherent water scarcity; Yemen's climate smart agriculture and Djibouti's adoption of drought resistance management techniques are both examples of this. So there is no reason to doubt that it can also adapt to the new environment. It's just that the stakes have become much higher.

Over time, rainfall is expected to decrease in the Maghreb and Mashreq regions. Lower rainfall, coupled with an increase in evaporation, will render local conditions even more arid. From the

current situation of critical water and arable land scarcity, both the 2°C and 4°C warming scenarios would put further pressure on water resources and agriculture. Lower rainfall and higher temperatures will shorten the growing period of some crops. Some crop yields are expected to drop by 30 percent in a 2°C world and by 60 percent in a 4°C. For a region dependent on food imports, this could have serious consequences for food prices.

In addition, mountainous areas in Morocco, Algeria, Lebanon, Syria, Iraq, Iran and Turkey play an important role in the water supply of the region as they store a fraction of rainfall as snow. Projected reduction in snowfall and snow water storage will further decline water availability.

But this does not have to be our future

Together, we can take action to reduce climate change by placing a high price on carbon; reducing harmful fossil fuel subsidies; increasing investment in energy efficiency and renewable energy; encouraging climate smart agriculture; and building low carbon, climate resilient cities. Already, Yemen has increased its crop yields by improving local seed varieties and Morocco has invested massively in solar power, setting a regional—and global—example in reducing dependency on fossil fuels and cutting greenhouse gas emissions. This is a start, but we need to do more before the summers get even longer and hotter.

“The impact of a hotter Middle East”, 25/11/2014, online at: <http://forumblog.org/2014/11/the-impact-of-a-hotter-middle-east/>

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❖ The future of desalination research in the Middle East

Desalination plants have evolved rapidly during the last two decades to extract fresh water from the sea. Currently, approximately 150 countries rely on desalination to meet their fresh water requirements. Globally, around 80 million m³ of potable water is being produced daily by more than 17,000 desalination plants and of these, 50% are utilizing sea water as the source¹.

While most countries in the Middle East are rich in fossil energy resources, water is a rare commodity in the region^{2,3}. According to the AQUASTAT report published in 2005, 4.4% of the world's population inhabit the Middle East, but it only receives 1.1% of the global renewable water resources⁴.

Developing efficient technologies and scalable infrastructure to meet potable water demands is, therefore, among the chief priorities of local governments. Desalination of the brackish water from the Arabian Sea and the Gulf Sea is an obvious solution to the problem and focus of R&D in the Middle East and 70% of the world's desalination plants are located in the Middle East. Saudi Arabia alone is producing 20% of the world's desalinated water.

There are two well-developed desalination technologies: thermal desalination and reverse osmosis (RO) desalination. Both are being used in the Middle East with Saudi Arabia running the world's largest thermal desalination plant, producing (640,000 m³ per day).

Since the 1960's, water authorities in the Middle East have been using thermal desalination as the major process to produce potable water. However, the high-energy demands of thermal desalination have shifted the focus to less energy intensive desalination technologies such as RO.

Globally, 70% of the thermal desalination plants have already moved over to RO but, in the Middle East, only 50% of desalinated water is treated in this way because the membranes used for RO process have yet to be fully customized for the high salinity of Red Sea and Gulf seawater⁵. Another limitation is the high temperature of the region which impacts the operational capacity of RO plants.

Most current research in this technology is focused on the development of new high throughput membranes which can operate at low pressure and high temperature and are resistant to fouling contaminants⁶. But researchers also need to further focus on the development of pretreatment processes considering the high-salinity of Persian Gulf and Arabian seawater.

Future technologies

There are several new desalination technologies being developed to reduce consumption and produce sustainable desalination processes based on renewable energies.

Adsorption Desalination (AD) is considered as one of the most energy efficient processes available. A team of researchers at King Abdullah University of Science and Technology (KAUST) have conducted a successful pilot and the first industrial scale AD pilot has been approved for construction in Saudi Arabia⁷. AD can use direct solar energy or industrial waste-heat to desalinate high-salinity water, but there are still issues with its initial capital cost which need to be addressed through modeling and investigating its payback cycle.

Membrane distillation (MD) is a thermally driven low-energy process that utilizes a hydrophobic, microporous membrane to separate fresh water by liquid-vapor equilibrium. The process is based on the combination of conventional distillation and membrane technologies involving heat and mass transfer.

Preliminary studies have shown that with higher flux hydrophobic membranes can produce good quality water at temperature gradients as low as 10°C between the hot and the cold streams⁸. However, several major hurdles, including the low permeate flux and low thermal efficiency of MD modules, prevent its mass commercialization. More research is needed to develop novel MD membranes with high throughput to increase the permeate flux and thermal efficiency by using industrial waste-heat or by incorporating the direct use of solar energy^{9 10}.

Forward osmosis (FO) processes can be used directly or indirectly to make the desalination process more energy efficient. Indirect FO desalination processes use low salinity feed solution like wastewater to dilute higher salinity seawater and produces partially desalinated water, which can be used for irrigation. Ongoing research shows that the fouling on membrane surfaces is lower while a complete removal of contaminants, such as micropollutants, natural organic matter, trace metals and nutrients from the feed water is possible^{11 12}. However, there are still a number of aspects that need to be explored before the technology can be applied for commercial production in the Middle East. The development of high throughput FO membranes will be a breakthrough towards process scale-up and commercialization.

As the demand for fresh water grows in the Middle East, the future of desalination will depend on combining established and emerging technologies. Researchers need to focus on the hybridisation of forward osmosis (FO), membrane distillation (MD), and adsorption desalination (AD) coupled with and without conventional desalination processes such as thermal desalination and reverse osmosis.

This combination will assist the development of energy efficient and renewable energy-driven desalination technologies. Besides development of energy efficient and environment-friendly desalination technologies, good planning and management of water resources is essential. There is a huge potential in reusable water techniques to improve utilization of treated domestic and industrial wastewater to produce ample fresh water supplies.

“The future of desalination research in the Middle East”, 26/11/2014, online at:
<http://www.natureasia.com/en/nmiddleeast/article/10.1038/nmiddleeast.2014.273>

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❖ MENA to spend US\$300bn on water projects by 2022

Governments in the Middle East and North Africa (MENA) region are expected to spend US\$300bn on water and desalination projects by 2022

The prediction was made by organisers of the International Water Summit (IWS), scheduled to be held from 19-22 January 2015 in Abu Dhabi, where more than 70 global experts will address major water sustainability and security challenges in the region.

Specifically, the IWS conference titled *Promoting Water Sustainability in Arid Regions* – scheduled to take place from 20-22 January 2015 – will address the water-energy nexus and its effect on regional and global food security.

Rashed Al Rashdi, deputy director general of the Abu Dhabi Regulation and Supervision Bureau and a partner of IWS, said, “With Abu Dhabi’s population and economy forecast to grow steadily over the coming years, harmonising strategies that support the sustainable supply of potable water is of key importance to that growth.

The International Water Summit is a prime opportunity to share global best practices, and promote collaborative efforts towards conserving precious resources for future generations and ensuring water is available to support future economic prosperity and social development.”

The conference will also discuss water conservation and future sustainability, strategic direction within the GCC, regional project investment, integrated water resource management, use of water in industries, clean technology desalination and used water treatment.

In addition, 2015 marks the end of the United Nations’ Decade for Action on Water Scarcity – an initiative designed to promote the Millenium Declaration, pledged to resolve water and related issues.

Faraj El-Awar, programme manager of UN Habitat’s Global Water Operators Partnerships Alliance, said, “Water is perhaps the most complex of the three major resource challenges because it is seen as a free resource and declared by the UN General Assembly in 2010 as a human right. Yet, the reality in arid regions is that it is a scarce and incredibly precious resource. This must be reflected through robust policies, integrated strategies and sustained investment, particularly as populations grow.”

IWS is supported by the Abu Dhabi Water & Electricity Authority (ADWEA), the Environment Agency of Abu Dhabi, the Regulation and Supervision Bureau (RSB), and Abu Dhabi Sewerage

Services Company. IWS will take place during the Abu Dhabi Sustainability Week (ADSW), which is scheduled to be held from 17-24 January 2015. Additionally, the World Future Energy Summit (WFES), Ecowaste and Zayed Future Energy Prize Awards would also be featured during ADSW.

“MENA to spend US\$300bn on water projects by 2022”, 26/11/2014, online at:

<http://www.technicalreviewmiddleeast.com/events/eventnews/mena-to-spend-us-300bn-on-water-projects-by-2022>

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❖ UN declares emergency in Gaza over floods

The United Nations has declared a state of emergency in the Gaza Strip after two days of heavy rains and flooding in the war-battered enclave.

The UN Relief and Works Agency (UNRWA) declared the state of emergency in Gaza City on Thursday, after torrential rain overwhelmed some areas and caused flooding.

“Hundreds of residents in the flooded areas around Sheikh Radwan storm water lagoon have evacuated their homes,” the UN agency for Palestinian refugees said, referring to a northern district.

UNRWA said it closed 63 schools and was supplying “emergency fuel to municipalities, water, sanitation and health facilities”.

Robert Turner, UNRWA director of operations in Gaza, said the agency was “very concerned about such severe storms this early in the season and on the back of unprecedented damage and destruction” from the war.

“Such devastation exacerbates the already poor humanitarian situation for refugees and non-refugees in Gaza, which is dealing with the aftermath of a recent conflict and an acute fuel and energy crisis”.

An estimated 100,000 Palestinians remain homeless in Gaza three months after Israel ended its offensive on the Gaza strip.

Gaza’s 1.8 million residents have endured daily electricity blackouts, with major pieces of infrastructure, from roads to sewage treatment plants, still seriously damaged.

“UN declares emergency in Gaza over floods” , Al Jazeera, 28/11/2014, online at:

<http://www.aljazeera.com/news/middleeast/2014/11/un-declares-emergency-gaza-over-floods-2014112801026355872.html>

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❖ Reverse Osmosis Water Plant Inaugurated in Burj Barajneh Camp

UNRWA has inaugurated a new reverse osmosis water plant in Burj Barajneh camp, Beirut. The plant will improve the quantity, quality and affordability of water in the camp, as well as access to potable water. This development forms part of UNRWA efforts to enhance water services for communities in Palestine Refugee camps and was made possible through a generous donation from Switzerland.

Reverse Osmosis is a process where salty water is demineralised using a semi permeable membrane at high pressure. As a result, clean potablewater is produced.

The inauguration ceremony was attended by the Swiss Ambassador to Lebanon H.E. François Barras, Palestinian Ambassador to Lebanon H.E. Ashraf Dabbour, UNRWA Acting Director Heli Uusikyla, the Representative of the Lebanese Palestinian Dialogue Committee (LPDC) Lina Hamdan, representatives of the Palestinian Popular Committees, the Burj Barajneh Camp Water Committee and representatives of the Burj Barajneh camp community.

Mr. Barras said: “Switzerland is active in tackling threats of a global water crisis and is advocating for a dedicated Global Goal on Water in the post-2015 Sustainable Development Agenda. This Project here in Burj Barajneh is an example of the continuous commitment of Switzerland to contribute to the improvement of the water accessibility in the Palestine Refugee camps through UNRWA, in partnership with the Popular Committees. We hope that the success of the project will be the fruit of a constructive participatory effort from all concerned groups.”

Ms. Uusikyla thanked the Swiss Government for the generous funding, without which it would not have been possible to access potable water inside the camps. She added that the cooperation of the community inside the camps has played a major role in the success of this project, and congratulated all involved.

In his speech, Mr. Dabbour said: “This project is the embodiment of the concept of partnership and cooperation between donor countries, UNRWA and the embassy of the state of Palestine. It also embodies the Swiss government’s commitment to the right of the Palestinian people to live in dignity.”

Ms. Hamdan welcomed the improvement of the camp's residents living conditions, and praised the support of Switzerland in funding this project, which helps secure a dignified life for Palestine refugees in Lebanon and strengthens stability.

Switzerland has contributed US\$ 17 million to UNRWA for a wide range of projects relating to environmental health and solid waste management; a self-help shelter rehabilitation approach; enhanced employment opportunities for Palestine refugees and the establishment of employment services centres; the reconstruction of an UNRWA school; Nahr el-Bared Camp reconstruction; the development of an UNRWA school management system; cash assistance to Palestine refugees from Syria; and studies and assessments of UNRWA schools' physical environment health profile and electricity running costs in all UNRWA installations in Lebanon. In addition, Switzerland supports UNRWA reform by enhancing the capacity of UNRWA programmes through the secondment of experts.

BACKGROUND INFORMATION

UNRWA is a United Nations agency established by the General Assembly in 1949 and is mandated to provide assistance and protection to a population of some 5 million registered Palestine refugees. Its mission is to help Palestine refugees in Jordan, Lebanon, Syria, West Bank and the Gaza Strip to achieve their full potential in human development, pending a just solution to their plight. UNRWA's services encompass education, health care, relief and social services, camp infrastructure and improvement, and microfinance.

Financial support to UNRWA has not kept pace with an increased demand for services caused by growing numbers of registered refugees, expanding need, and deepening poverty. As a result, the Agency's General Fund (GF), supporting UNRWA's core activities and 97 per cent reliant on voluntary contributions, has begun each year with a large projected deficit. Currently the deficit stands at US\$ 56 million.

"Reverse osmosis water plant inaugurated in Burj Barajneh Camp", UNRWA, 28/11/2014, online at:

<http://www.unrwa.org/newsroom/press-releases/reverse-osmosis-water-plant-inaugurated-burj-barajneh-camp>

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❖ Food security requires tricky tradeoffs

Arabs import half of what they need in terms of basic foodstuffs. Agricultural production in the Arab countries faces tremendous challenges – mainly drought, limited arable land, scarce water resources and accelerated population growth, all amid the adverse impact of climate change.

However, Arab countries have largely failed to adequately deal with the challenges posed by limited natural resources. The deteriorating condition of agricultural production is attributed mainly to inappropriate policies, meager investment in science and technology, poor agricultural development and the absence of regional cooperation. These are some of the conclusions reached in a report on food security to be released this week by the Arab Forum for Environment and Development at the organization's annual conference in Amman.

Still, the AFED report outlines a potentially positive conclusion. Though the situation is critical, as the Arab world largely relies on imported food and exploits its scarce natural resources in an unsustainable manner, the report emphasizes that Arabs can reverse this trend through a package of measures.

At the forefront of these are improved land productivity and higher irrigation efficiency, which do not exceed half of the recognized international rates. Alongside calling for the adoption of more effective policies and the advancement of agricultural scientific research, the report urges regional cooperation based on the exploitation of comparative advantages in a region known for significant discrepancies in natural resources and income levels.

The AFED report illustrates success stories of model projects in Egypt, Morocco, Sudan, Syria and Tunisia. Productivity increased through the successful employment of integrated management

methods for water use and crop production. However, the report points out that some of the successes were undermined as a result of armed conflict in the region during the few past years.

In addition to improved irrigation efficiency, water productivity can also be enhanced through the use of alternative agricultural commodities with similar nutritional value, but that are less water-intensive. The adoption of nonconventional methods is also necessary, most importantly the reuse of treated wastewater.

Food and water are interrelated, especially in the driest region on earth. The per-capita share of renewable fresh water in the Arab world is eight times less than the global average. Thirteen out of the 22 Arab countries suffer severe water scarcity. The AFED report placed six Arab countries in a new “exceptional water scarcity” category, meaning they possess renewable water resources of less than 100 cubic meters per capita.

To make matters worse, there are regions where there is a lack of arable land alongside abundant fresh water; or arable land with a dearth of fresh water. The challenge increases as 85 percent of the water is used for agriculture, given low rates of irrigation efficiency and land productivity. The average irrigation efficiency in 19 Arab countries does not exceed 46 percent, compared to a global average of 70 percent. If Arab countries managed to reach the global average, they could save 50 billion cubic meters of water, an amount enough to produce 30 million tons of grains, half the total of the region’s imported grains.

Improving food security will require reducing food loss in transportation and storage, whether domestically produced or imported. Losses in imported wheat to Arab countries as a result of inefficient storage and transportation exceed 3 million tons per year. This is equivalent to 40 percent

of total local production of wheat, for a value of \$4 billion per year, equivalent to four months of wheat imports. The AFED report concludes that by developing the transportation sector and mainstreaming procedures for the passage of foodstuffs through border crossings, food prices can fall by 25 percent and budget deficits slashed by 30 percent.

The report also states that Arab countries, as a group, have the potential to become self-sufficient in seafood production, while they consume significant amounts of red meat, mostly imported. As a result, the report calls for promoting fish and poultry production and consumption, to replace a large portion of the red meat consumed – for economic, environmental and health reasons.

It is also necessary to shift to agricultural production that consumes less water. All this necessitates a change in food consumption patterns. This would become a necessity, not merely an option, if Egypt, for example, were not to have enough water to grow rice. In such a case, Egyptians would have to turn to other commodities to feed an estimated 200 million people by 2050. Can Saudi Arabia, on the other hand, continue to expand its milk exports and sustain its vast number of 200,000 dairy cows by depleting groundwater to grow fodder?

The shift in consumers' habits is a daunting challenge. When the former Saudi trade minister Hashim Yemani asked Saudi citizens a few years ago to change their dietary habits, starting with the replacement of rice for a few days of the week by another product, following a spike in world food prices, he was subjected to a fierce campaign that led to his replacement. Yemani may find consolation in the AFED report in that it emphasizes the necessity of adjusting dietary habits as an essential component of any sound food security plan. The challenge in the region is not restricted to volatile and rising prices of imported products, because the day may come when we will not find sufficient quantities of water to produce rice in Egypt or grow fodder to feed cows in Saudi Arabia.

Some may perceive the AFED report on food security in Arab countries as unrealistic in a region that is currently struggling with major problems. However, in the aftermath of wars and conflict we will still need to feed some 400 million people day daily. This is feasible by increasing land productivity, improving irrigation efficiency and changing food consumption patterns, in parallel with enhanced regional cooperation. All these measures can be successful only if coupled with environment protection, given that the preservation of natural resources remains at the heart of promoting production and attaining food security.

When it comes to food safety, officials have to examine the whole food chain to detect problems, not limit attention to the end product, as we recently witnessed in Lebanon when the health minister highlighted the lack of cleanliness of food products and erroneously confused food safety and food security.

Najib Saab, the secretary-general of the Arab Forum for Environment and Development, is co-editor of the report on food security in Arab countries which AFED is releasing on Nov. 26 in Amman, Jordan. This

commentary is being published simultaneously on the Arab Food and Nutrition Security Blog, an initiative of the International Food Policy Research Institute.

“Food security requires tricky tradeoffs” , Daily Star, 25/11/2014, online at:

<http://mideastenvironment.apps01.yorku.ca/2014/12/food-security-requires-tricky-tradeoffs-daily-star/>

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❖ Arab countries import half their food

AMMAN — The Arab region, which imports about half of its food needs, can boost its food production primarily by improving productivity and irrigation efficiency, in addition to regional cooperation, according to a report that will be launched in Amman on Wednesday.

The 2014 annual report by the Arab Forum for Environment and Development (AFED) on food security points out that Arab countries face serious challenges in their quest to enhance food self-sufficiency, including aridity, limited cultivable land, scarce water resources and population growth, in addition to the serious implications of climate change.

An advance copy of the report, which was made available to The Jordan Times, also blames weak policies, insufficient investment in science and technology in agricultural development, and a lack of regional cooperation as factors that contributed to “the impoverished state of agricultural resources and to their inefficient use and low productivity”.

The food deficit is underscored by a self-sufficiency ratio of about 46 per cent in cereals, 37 per cent in sugar, and 54 per cent in fats and oil, according to the report, which will be launched at AFED’s annual conference that opens in the capital on Wednesday.

According to a statement released by organisers, around 1,000 leaders in agriculture and food production are participating in the two-day conference, including 75 ministers, heads of organisations and development funds, senior strategic experts and CEOs of major corporations in the Arab world.

A point of focus for participants will be the link between food and water, the statement said, highlighting the issue of water scarcity, as reflected in the fact that the annual renewable water resources per capita are less than 850 cubic metres, compared to a world average of about 6,000 cubic metres.

“This regional average masks the widely varying levels among countries, of which 13 are classified in the severely water scarce category, at less than 500 cubic metres per capita. The situation is so alarming in six of these countries, with availability of renewable water less than 100 cubic metres per

capita, that this report has created a special ‘exceptionally scarce’ category for them,” the statement explained.

The water scarcity issue is critical for Jordan which now ranks as the world’s second water-poorest country, where water per capita is 88 per cent below the international poverty line of 1,000 cubic metres annually, according to government officials.

This dilemma has been aggravated by the swelling of the population, with the Kingdom currently hosting around 1.4 million Syrian nationals escaping the conflict in their country.

According to AFED, water scarcity in the Arab region is accentuated by the utilisation of about 85 per cent of total water withdrawals for the agriculture sector, which is characterised by low irrigation efficiency and crop productivity.

It quotes the UN Food and Agriculture Organisation as saying that countries are in a critical condition if they use more than 40 per cent of their renewable water resources for agriculture and could be defined as water-stressed if they extract more than 20 per cent of these resources. Based on this definition, 19 Arab countries could be defined as water-stressed because their current abstraction rates from their renewable water resources for agriculture greatly overshoot the defined limits, according to the report.

“Arab countries import half their food” , Jordan Times, 26/11/2014, online at:
<http://mideastenvironment.apps01.yorku.ca/2014/12/arab-countries-import-half-their-food-jordan-times/>

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❖ Kibbutz residents rally against Israel's planned water pipeline to Jordan

Government says channel, slated to pass through farmland of four Jordan Valley kibbutzim, will not harm land.

About 100 Jordan Valley residents held a demonstration on Tuesday to protest a planned pipeline that would convey water from Lake Kinneret to the Hashemite Kingdom of Jordan, claiming that the pipeline will ruin large open areas through which it is slated to pass. Israel is obligated by its bilateral peace agreement to provide water from Lake Kinneret to its neighbor.

Opponents to the plan want the water to be sent to the Jordanians via the existing Jordan River channel, from the Degania dam to the old Naharayim electric power station, and from there to Jordan. This plan, they say, will cost less, still allow Israel to meet its obligations and also contribute to the rehabilitation of the southern Jordan River.

The purpose of Tuesday's rally, held in the pouring rain, was to "wake up the sleeping bears and prompt the decision-makers to reconsider and realize that there is a much more logical way to transfer the water," says Kibbutz Degania Bet resident Ram Hachmon, one of the leaders of the protest. According to Hachmon, the local planning and building committee is to meet soon to discuss the plan with Mekorot, the national water company, and the residents want their alternative to be presented at that meeting.

The residents have also organized a petition, with 500 signatures so far, and launched a Facebook page.

Mekorot said in response that it had submitted an application for construction of the water line along the shortest possible route between the two points. "After examining the alternatives and national, engineering, planning and monetary considerations, the means of transporting the water was approved by the water authority."

Mekorot also said the line is part of the national master plan on water, has already been discussed by the local planning and building committee "and coordinated with the kibbutzim, in some cases planned at their request." Mekorot said the line is planned to pass through farmlands of four kibbutzim in the Jordan Valley, and that three of them had already signed the permit. Mekorot is

taking part in a plan to rehabilitate the Jordan River that is being advanced by the Water Authority, the company's statement said.

The Water Authority — the government branch in charge of Israel's water economy — said that channeling the water to the Hashemite kingdom through the Jordan River channel itself was not feasible, but even if it were, it would cost some 60 million shekels (approximately \$15.8 million) more than the existing plan and would take at least two years longer. Conveying the water by pipeline provides better control over quantity and quality, the authority said, adding that the existing plan will not harm the lands through which it passes.

As part of the peace treaty between the two countries, Israel sells Jordan 35 million cubic meters of water a year from Lake Kinneret (at cost price), and Jordan allows some 20 million cubic meters of water from the Yarmouk River to flow into Israel during the winter, with some of it returning to Jordan over the summer.

“Kibbutz residents rally against Israel's planned water pipeline to Jordan”, 26/11/2014, online at: <http://www.haaretz.com/news/national/1.628589>

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WWW.ORSAM.ORG.TR

❖ Cabinet briefed on Al-Zarqa River Project

Amman, Nov. 26 (Petra) -- The Cabinet on Wednesday was briefed by the President of Moriyama and Teshima company, Drew Wensley, about the implementation of an integrated project to rehabilitate the Al-Zarqa river and address its environmental impact.

Moriyama and Teshima, a Canadian company, will implement the first phase of the project which will cover 107 kilometer stretch of the river, at the company's expense and will cost up to \$75,000.

Environment Minister Tahir Shakhshir said that the Al-Zarqa governorate, located 12 miles (19 km) northeast of Amman, is facing an environmental problem, especially that of industrial water pollution.

Prime Minister Abdullah Ensour instructed to form a higher committee headed by Minister of Water and Irrigation Hazem Nasser to follow up on all aspects of this project, which will take five years to be implemented.

“Cabinet briefed on Al-Zarqa River Project“, 26/11/2014, online at:

http://petra.gov.jo/Public_News/Nws_NewsDetails.aspx?lang=2&site_id=1&NewsID=173969&CatID=13

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❖ Pegasus Agritech With a Viable Solution to Meet Middle East's Water Problems

The Hydroponic farming leader of MENA region, Pegasus Agritech has implemented the technology of soilless farming, to meet the food and water scarcity issues of the world today. The water situation in the Middle East is precarious. Many countries in the Middle East face problems of water shortage due to the semi-arid climate and an increasing demand created by population and economic growth. Middle Eastern countries like the United Arab Emirates, Yemen, Iraq and Saudi Arabia are facing distinctive problems that necessitate instant global attention.

Pegasus Agritech is supporting MENA region to attain maximum food security and increased fresh water supply, with a production technique which uses 90% less water than traditional agriculture. They grow crops hydroponically without the use of any pesticides or fertilizers which contaminate the ground water. In most of the Middle East Countries, renewable freshwater will barely cover basic human needs within two decades. The Middle East countries have faced many ecological distresses recently; and shortage of freshwater availability is the foremost of them.

Millions of people in this region already lack access to sanitary water; as fresh water resources are becoming increasingly scarce. Agriculture uses 85 percent of water in this region. It is common to misuse land by heavy irrigation in the Middle East. The overuse of water in traditional agriculture is also affecting the countries' already short water resources.

Pegasus Agritech adapts latest technologies in organic farming, with an aim to combat land and water shortage and moderates dependence on food imports mainly in the highly urbanized Middle East Countries. The company strives to combat the effects of urban growth, through implementing hydroponic farming methods.

The company has proven that its technology of soilless faming could save the fresh water supply of these countries up to a large extend and save their limited but precious water resources from the harmful effects of traditional agriculture. Pegasus Agritech offers utmost care to our natural environment, desire to protect it from damaging acts and preserve natural resources. We also assure considerably minor carbon footprint than others in the field.

“Pegasus Agritech With a Viable Solution to Meet Middle East's Water Problems”, 26/11/2014, online at:
<http://www.prnewswire.com/news-releases/pegasus-agritech-with-a-viable-solution-to-meet-middle-east-s-water-problems-283936581.html>

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WWW.ORSAM.ORG.TR

❖ Future Impact of Climate Change Visible Now in Yemen

Water shortages in Yemen provide a glimpse of what the future may look like for the entire Middle East and North Africa region.

A new World Bank report reveals that if current trends continue as a whole the region will get hotter and drier.

Shorter growing seasons could threaten food security and competition for dwindling natural resources could fuel conflict.

Deep underground, Yemen's old, natural sources of clean, fresh water are drying up. Its reservoirs are depleted faster than they are replenished; its groundwater levels plummet by six meters a year in crowded, mountainous regions outside the cities of Sana'a, Taiz, Dhamar, Amran and Sa'ada. Yemenis say ten future generations' worth of Yemen's water is being used up now.

Yemen today is a glimpse of what's in store for other parts of the Middle East and North Africa (MENA) as climate change and rapid population growth combine to put more and more pressure on the resources essential to human life, like water. Already, Yemenis have as little as 86 cubic meters of renewable water sources left per person per year—not the lowest figure in the region, but as one of the region's poorest countries, Yemen is among the least able to adapt.

In Sana'a and Taiz, people have piped water once a week at most. Otherwise, they have to buy it, and for the ordinary worker, it's pricey. For others, fetching water is a daily challenge. "In our area, which is not served by piped water, we spend up to five hours a day fetching water," said Hajjah Zuhra from the Haraz tribe, west of Sana'a. "Our crops dry up, while we desperately wait for rain." Some towns in the Yemeni highlands have as little as 30 liters of municipal water available per person a day.

A new World Bank report, Turn Down the Heat, Confronting the New Climate Normal draws on climate data to map out various scenarios if the world continues to heat up at the rate it is doing now. Jim Yong Kim, President of the World Bank Group, says the report confirms what scientists have been saying all along—that past emissions have set the planet on an unavoidable path to global warming. Areas north of the 25°N line of latitude will get drier. This includes most of Morocco,

Algeria, Tunisia, Libya, and Egypt, and all of Lebanon, the West Bank and Gaza, Syria, Iraq and Iran—most of the MENA region, in fact.

Food security is likely to drop, increasing the region's need for imported grains. Tunisia's wheat growing season may shrink by about two weeks if temperatures rise by 2°C and about a month if they rise by 4°C. By the end of this century, farming will have to shift 75km north in much of the Maghreb and Mashreq.

More people mean less water

MENA's population of about 355 million looks set to double by 2050. Yemen's population of 24 million isn't particularly large yet, but it's growing fast. And together with more qat cultivation (qat leaves have a mild narcotic effect), this has led to a surge in water use—estimated in 2010 at 3.9 billion cubic meters (bcm) against a renewable supply of 2.5 bcm.

The 1.4 bcm shortfall is being met by water pumped up with modern tube wells or boreholes, depleting reserves of underground water. In rural areas, when wells run dry, social tensions escalate into local conflicts. Mass displacement from water scarcity causes migration and fuels the risk of wider conflicts. The dangers posed by flash floods increase in densely-populated cities, particularly for the urban poor.

The cultivation of the shrub qat (whose leaves have a mild narcotic effect) has compounded Yemen's water problems. Qat covers 38 percent of Yemen's irrigated areas; in places, food crops are being uprooted and replaced with it. Since 1970, the amount of irrigation has increased by 15 times, while rain-fed agriculture has declined by nearly 30 percent. Because of water shortages, more than half the investments made in rural Yemen last no longer than five years.

The Yemeni government has struggled to put a modern water-governance framework in place. Water use lies in the hands of hundreds of thousands of fiercely independent local Yemeni households. Top-down regulatory approaches to water management have gained little traction. Bottom-up approaches

have had more success, with communities forming associations to demand better services and protect local water sources from pollution.

More weather extremes

Because it lies south of the 25°N latitude, Yemen may get wetter as a result of global warming. But more rainfall may also bring greater extremes, with monsoon-like storms coming off the Gulf of Aden. In 2008, floods in south-eastern Yemen, inland from the Gulf of Aden, caused US\$1.6 billion in damages and losses—the equivalent of six percent of the country’s Gross Domestic Product. In + 2°C world, heat waves could hit low-lying coastal areas of Yemen, Djibouti and Egypt. Sea water is leaking into freshwater coastal aquifers, making water and soil brackish.

Scientists think that taking the right steps now, however, will make a difference. “The good news is that we can take action that reduces the rate of climate change, and promotes economic growth,” said Kim, “ultimately stopping our journey down this dangerous path.” World leaders, he said, should pursue affordable solutions now, such as carbon pricing, which shifts more investment into clean public transport, cleaner energy and energy efficient workspaces.

“Future Impact of Climate Change Visible Now in Yemen”, 24/11/2014, online at:

<http://www.worldbank.org/en/news/feature/2014/11/24/future-impact-of-climate-change-visible-now-in-yemen>

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❖ **Egypt: water, demography, economy**

Editor's note: The following article from the Moshe Dayan Center at Tel Aviv University begins with economic policy but then pivots to the analysis of two central issues of regional environmental sustainability: water (and the associated overpumping of groundwater) and demands on environment resources from high population growth. SS

IQTISADI: "Egypt's Economy: Sisi's Herculean Task" – November 25, 2014

Paul Rivlin

In July 2014, two months after his election, President Sisi announced a massive cut in subsidies, which accounted for 30 percent of budget expenditures. This radical step will reduce the budget deficit by the equivalent of 2.5 percent of GDP. As a result, the price of octane-95 unleaded gas, mainly used by newer and luxury vehicles, increased by seven percent, while octane-80, used by public and private buses and minibuses that serve a much wider public, rose by 78 percent. Natural gas, the main fuel for taxis, rose by 175 percent and the price of gas for domestic use rose by 350 percent. The prime minister, Ibrahim Mehleb, has said that subsidy cuts will save 50 billion pounds (or \$7 billion) annually. The budget for the current fiscal year (1 July 2014 – 30 June 2015) drastically reduced social welfare subsidies that target the poor. Subsidies for medicines and baby milk were cut by 55 percent, while subsidies marked for housing for low-income families were cut by 50 percent, and subsidies for health insurance were ended. The budget for the army, judiciary, and constitutional court were increased by 28 percent.

Subsidized bakeries, on which many citizens rely, have increased the price of a single piece of bread from five Egyptian pence to 35 pence, a seven-fold jump. As a result, the price of a poor person's cheapest meal rose from 50 Egyptian pence (\$0.07) to two pounds (\$0.28). Fruit and vegetable prices have shot up: before the coup, mangoes were two Egyptian pounds per kilogram (\$0.28) and by October 2014 they were 14 to 16 pounds per kilogram (\$1.96-\$2.24), while the price of tomatoes rose from 75 pence (\$0.10) to 6-8 Egyptian pounds (\$0.84-\$1.12).

The price of electricity has risen sharply, while the electricity supply has been cut from six to four hours daily. There are already regular blackouts in Cairo and other parts of the country because of a

shortage of electricity, and industry is operating at about 60-70 percent capacity as a result, adding to the problems of unemployment and shortages of vital commodities, such as cement. The issue is not a shortage of generating capacity, but the country's inability to import the raw materials necessary to produce power. Egypt already relies on cheap oil and gas from its Gulf allies and has not been able to finance all the extra supplies needed.

In order to reduce leakages to the black market and present consumers with a wider array of subsidized food options, the government is introducing a new system of wheat distribution. Those with a monthly income less than E£1,500 (about \$210) will be able to register for it.

As a result of the subsidy cuts and tax increases, inflation has accelerated. In July 2014 the consumer price index for urban areas rose by 3.5 percent, compared with an average monthly increase of 0.5 percent, while the index for food prices rose even faster.

Other announcements were designed to increase the level of economic activity, raise morale, and improve the government's standing as it faces huge economic and security challenges. In September, President Sisi announced plans to build a parallel channel to the Suez Canal at a cost of \$8 billion. The canal, which allows ships to travel from Europe to Asia without having to pass southern Africa, only provides one-way traffic, with occasional room for ships to pass each other. The new 45-mile channel would allow ships to travel in both directions for just under half of the canal's 101 miles. Some sections of the existing canal will be widened and deepened, and car and rail tunnels will be dug underneath. The president has ordered that the project's original three-year construction be reduced to one year in order to demonstrate political strength.

To help finance the canal's expansion, state-owned banks will issue investment certificates open only to Egyptians for E£60 billion (\$8.4bn). The project should eventually increase Suez Canal revenue by 260 percent: in 2012-2013 Suez Canal tolls brought in \$5 billion a year.

Domestic and foreign investors will be invited to participate in the second phase after a master plan has been completed in approximately eight months. Since the official launch of the project in August 2014, some 50 companies supervised by army engineers have been reported to have started digging the parallel channel.

The subsidy cuts and tax increases have impressed international capital markets for two reasons. First, they were much more radical, or harsh, than had been expected. Second, they were met with little if any resistance. Egypt has lived in the shadow of the riots that accompanied President Anwar Sadat's decision to end subsidies on flour, rice, and cooking oil in January 1977. The decision led to riots throughout Egypt, and as many as seventy-nine people were killed and over 550 injured in the protests that only ended with the deployment of the army and the re-institution of the subsidies.

As a result of the current subsidy cuts and tax increases, in October 2014, Moody's Investors Service changed its assessment of Egypt's outlook from negative to stable and affirmed its low (Caa1) government bond rating. The reasons given for the change in outlook were the stabilized political and security situation, the launch of fiscal consolidation, signs of a growth recovery and an improvement in macroeconomic stability, and strong support from external donors. However, Egypt's Caa1 government bond rating remains affected by high fiscal deficits and government debt, very large fiscal borrowing needs, and continued challenges hindering the recovery of economic growth in the post-revolutionary political and economic environment.

Another serious problem that President Sisi has promised to tackle is the shortage of agricultural land and water. Egypt depends on water from the Nile, but relies on agreements dating back to colonial days that limit use of the river's water by most of the countries through which it flows. Those countries are no longer willing to accept these limitations and are claiming more water for themselves. This is a threat to Egypt, which already suffers from a water shortage and the situation could get worse over the next few years.

Sisi has announced a plan to reclaim and cultivate an additional 4 million acres of agricultural land, despite the country's dwindling water supply from the Nile, estimated at 55 billion cubic meters yearly.

The Nile Basin Initiative (NBI) was launched in February 1999 by the nine countries that share the river: Egypt, Sudan, Ethiopia, Uganda, Kenya, Tanzania, Burundi, Rwanda, the Democratic Republic of Congo (DRC), with Eritrea as an observer. NBI is a partnership among the Nile riparian states to develop the river in a cooperative manner, share socio-economic benefits, and promote regional peace and security. In May 2010, five upstream states signed a Cooperative Framework Agreement

to seek more water from the River Nile — a move strongly opposed by Egypt and Sudan. Ethiopia, Kenya, Uganda, Rwanda and Tanzania were original signatories and Burundi joined at the signing in February 2011.

Egypt and Sudan are threatened by the initiative in that they would lose their share of the Nile's water supply set by previous agreements. As Egypt's share of the Nile's waters is not large enough to meet its needs, Sisi has ordered the government to search for alternative water sources for his proposed ambitious agricultural cultivation project. This may involve using groundwater, processing agricultural wastewater and reusing it, or industrial desalination of sea-water. The Ministry of Water Resources and Irrigation declared that it would be possible to provide the needs of the first phase of the cultivation project, which will be implemented during the first year of Sisi's mandate, and covers an area of 1 million acres, including the controversial Toshka project begun under Mubarak in southwest Egypt. This will be accomplished by drilling wells to extract groundwater.

These plans to extract groundwater are taking place despite evidence suggesting that the sources of groundwater are nonrenewable, leading to a wave of objections from water experts. Opponents have stated that there is no groundwater reservoir in Egypt capable of catering to the needs of a project this size. Relying on groundwater to conduct the project would drain its limited supply and will harm the quality of water in the aquifers. Previous governments have already made the same mistake in projects such as Toshka.

The shortages of agricultural land and water should be viewed alongside Egypt's demographic crisis. Egypt is now suffering from the effects of the acceleration of population growth that occurred during recent years. The number of births in 2013, at 2.6 million, was 15 percent higher than in 2010 and almost 50 percent higher than it had been ten years earlier. Population policies, that had been relatively successful during the 1980s and 1990s, started to weaken during the last years of Hosni Mubarak's government – and were neglected in the chaos that followed his removal in 2011. And after the Islamist Mohamed Morsi was elected president in 2012, negligence became official policy and his administration publicly declared that population control was not a government concern.

According to the demographers Mona Amer and Philippe Fargues, when child and infant mortality declines there is often a lag before fertility declines. As a result, the early stages of demographic

transition are characterized by rapid population growth that eventually slows as fertility declines. In Egypt, this process led to a demographic phenomenon known as the “youth bulge,” a period characterized by the rapid rise and then eventual decline of the share of youth in the population.

In 1988 the peak of the bulge was among the 0-4 year-olds, who survived at increasing rates because of medical advances that lowered mortality rates in early childhood. By 1998, the peak of the youth bulge was centered around 10-14 years of age. Because the decline in fertility caught up with declines in mortality, in 1998 there were fewer 5-9 year olds than 10-14 year olds. At the same time the leading edge of the youth bulge, the 15-19 age group, entered the labor force, which accelerated growth of the labor supply. By 2006 the peak of the youth bulge was centered among the 15-24 age group and continued to exert substantial pressure on the labor market. By 2012, the peak of the youth bulge was in the 25-29 age range.

By then the youth bulge had been integrated into the labor market. Following the youth bulge was a “trough,” especially among those 15-19 years old in 2012, a group which was substantially smaller than the preceding youth bulge cohorts. The relatively smaller size of this group is currently exerting less pressure on the labor market and education systems than was the case earlier. Besides being integrated into the labor market, the youth bulge generation is now taking on parenthood. This is apparent in the “echo” of the youth bulge, which had already begun in 2006 when the leading edge of the youth bulge became parents. As of 2012, the echo had grown substantially, with a cohort of 0-9 year-olds that was much larger than the cohorts of 10-19 year-olds that preceded them. The echo of the youth bulge is the result of several demographic forces, including the unprecedented number of mothers of prime childbearing age, but also rising fertility rates among these mothers. The number of children, especially young children, is unprecedented. The generation that formed the peak of the youth bulge, those who were 25-29 in 2012, was about 8 million. In contrast, there are more than 9 million 5-9 year olds and more than 11 million 0-4 year olds as of 2012.

The increase in births has yet to level off, and all signs indicate that even greater numbers of children will be born, at least for the next several years. The 2.1 million children born in 2008 are now, in 2014, turning six and are entering primary school. These already represent an unprecedented number of primary school entrants, with more to follow. The 2.6 million children born in 2013, five years later, will represent a 28 percent increase in the number of potential primary school entrants,

assuming enrollment rates do not increase further. In addition, starting within a decade, there will be an unprecedented number of labor market entrants. Egypt needs to be ready for these new workers, and to take advantage of the temporary lull of slower growth in the current labor supply to reform the labor market.

As a result of these demographic trends, between 600,000 and 800,000 young people are entering the labor market a year. Between 2010 and 2013 the rate of unemployment rose from 9 percent to 13.2 percent. In 2010 there were 2.4 million unemployed, and in 2013 3.6 million were unemployed. In 2013, 31 percent of the unemployed were university graduates while only 10 percent were illiterates. The rate of unemployment has risen and demand for better educated workers remained lower than demand for less well or uneducated workers.

The unemployment rate does not reflect changes in job quality, job security, and labor force participation. All jobs are not created equal; as in other lower middle-income countries, many Egyptian workers are informally or irregularly employed. Distinguishing formal employment from these potentially lower quality jobs provides a more nuanced view of the vitality of the Egyptian job market. The official unemployment rate also masks the degree to which unemployment is concentrated among two vulnerable groups, youth and women.

The fiscal measures have been announced while the government is fighting terrorism in Sinai and elsewhere in Egypt on an unprecedented scale. The President's decision to cut subsidies is a significant indication of his determination to improve Egypt's very tough economic conditions. Sisi has strong support from the Gulf Arab states that have given Egypt billions of dollars since he took power. Whether he can galvanize the bureaucracy and push the economy onto a growth path and change demographic trends remains to be seen.

"Egypt: water, demography, economy – İQTİSADİ)", Moshe Dayan Center, Tel Aviv University), 26/11/2014, online at: <http://mideastenvironment.apps01.yorku.ca/2014/11/egypt-water-demography-economy-iqtisadi-moshe-dayan-center-tel-aviv-university/>

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❖ Bennett in China to Help Build 'City of Water'

Israeli companies hold a pilot for water technology in Chinese city, as Economics Minister urges Israelis to enter Chinese market.

In a further sign of Israel's blossoming ties with China, in addition to [Japan](#) and [India](#), Economics Minister Naftali Bennett (Jewish Home) left for an official week-long visit to China on Sunday to advance cooperation in the field of water technology.

During the visit Bennett and members of his ministry chose the city of Shaogong as a pilot for the "city of water" project, in which dozens of Israeli technology companies will take part in managing the water in the city, including stages of production, preservation, measurement and recycling. China, owner of the world's second largest GDP, is funding the project.

The project comes on the heels of a [landmark plan](#) in May to boost bilateral financial ties during Chinese Vice Premier Liu Yandong's visit to Israel, in addition to an agreement for [bilateral cooperation](#).

Bennett toasted the new project with his Chinese counterparts over a glass of wine and the Jewish blessing over wine. Afterwards the minister met with Jack Ma, founder of the massive Chinese "Alibaba" corporation which is similar to Google, and invited him to Israel, an invitation which Ma accepted.

Around 20 representatives of Israeli water technology companies accompanied Bennett in the visit, including those from Mekorot, Shtang, Arad, Amiad and others. Each company is to hold business meetings with potential Chinese clients during the week-long trip.

"I know that the political situation in Israel is foggy, but we must continue growing our economy," said Bennett. "The world isn't really waiting for us to organize ourselves."

The minister said his ministry would help private Israeli businesses to enter the Asian market.

"I ask that every Israeli company in every field that is interested in breaking into China or Asia in general make contact with us at the foreign trade branch of the Economics Ministry - we'll help you devotedly. Our financial attaches are professional and empathetic - be helped by them."

During a previous visit to China last July, Bennett promoted business with the country saying the Chinese do not foist political visions on their business ties with Israel, a welcome change given recent moves in Europe and America, including threats of sanctions by the European Union.

That willingness not to mix business and politics at times can be a double-edged sword however. Even as it increases its ties with Israel, the Iranian government recently announced that China is set to double its investment in infrastructure projects in the Islamic republic.

"Bennett in China to Help Build 'City of Water'", 24/11/2014, online at:

<http://www.israelnationalnews.com/News/News.aspx/187810#.VHwyMjGsVz8>

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❖ What Chinese dam on Brahmaputra means to India

Two days ago, on Sunday, [China](#) operationalised its first major dam on the middle reaches of the Brahmaputra. The first section of the 510 MW project began generating power.

China's official Xinhua news agency said the first section of the \$1.5 billion dam went into operation on Sunday afternoon. Five other sections will be completed next year. The dam will generate 2.5 billion kilowatt hours of electricity every year, reported the agency.

The implications of construction of the dam for India are on several fronts. It reduces water flow in the river. This is not so serious if the [dams](#) are RoR (run of river) hydro stations. But if reservoirs are built, or waters diverted, it could affect the river's ecosystem in the upper stretches.

Second, it gives China a stronger say in water sharing discussions because it has established claim of use of these waters. India will have to move quickly to establish its own user rights quickly.

Also, rapid development of infrastructure in the N-E could create social tensions with local tribes. That must be avoided to prevent China instigating [Arunachal Pradesh](#) locals to agitate against India.

The Zangmu dam construction began in 2010. It sparked off panic among China's southern neighbours, including India. The fear was that China may actually drain this river of water, just as it had done with the Mekong river.

The 4,350 km long Mekong is the 12th largest river in the world, the 7th largest in Asia. It originates from Tibet (China) and flows through Myanmar, Laos, Thailand, Cambodia and Vietnam. Today, all the downstream countries of the Mekong river accuse China of starving them of water.

Could this become the fate of India's North-East and [Bangladesh](#) as well? This is because out of the Brahmaputra's total length of 2,880km, 1,625km is in Tibet (or China), 918km in India, and 337km in Bangladesh.

After all, China's water resources are scantier than India's and its needs many times greater (<http://www.dnaindia.com/money/report-russia-india-china-the-new-global-centre-of-gravity-1993067>) -- never mind the fact that India squanders even the plentiful water that it has (<http://www.dnaindia.com/money/report-policy-watch-india-splurges-51-of-water-it-could-have-otherwise-saved-1995733>).

But, on the other hand, the average annual rainfall is just 400mm in Tibet, but 3,000mm on the Indian side. This is in spite of the fact that (according to data provided by the Central Water Commission), of the total catchment area of 580,000 sq km, 50% lies in Tibet, 34% in India, and the balance in Bangladesh and Bhutan. Significantly, only 40% of the water comes from the Chinese catchment area.

Some policymakers in Delhi believe that the precipitation in China contributes only 7% to the flow. It is the Brahmaputra's tributaries in Arunachal Pradesh, along with the rains in India, that contribute to the rest of the river's water supply.

That could explain the absence of any shrill reaction from New Delhi. But there is tremendous cause for concern.

First, many experts believe that the 7% precipitation theory is all hogwash. You cannot compartmentalise any river, they say. Brahma Chellaney, a noted China and water expert, warns that any diversion of water from the upper reaches of the [Brahmaputra](#) could have devastating consequences for the way the river flows for downstream areas (<http://www.dnaindia.com/india/report-india-losing-water-war-1982524>). He believes that all sorts of data is being fed to journalists, and that the only reliable data is from the United Nations.

According to the United Nations, the cross border annual aggregate flow of Brahmaputra river system is around 165.4 billion cubic metres (bcm). That, add experts, is greater than the combined trans-boundary flow of the three key Asian rivers—Mekong, Salween and Irrawady—that run from the Tibetan plateau to South East Asia.

Second, reservoirs along the river could staunch the flow of water into India. True, most of the hydro-projects China is building are of the run-of-the-river (RoR) type, generating electricity from the flow of the river and not trapping any of the water in dams. However, reservoirs are also being built, and it is only a matter of time that much of the water originating and collected in China could get trapped in reservoirs for diversion to the northern parts of China.

But, most critically, almost every policymaker in New Delhi is painfully aware that under international law, a country's right over natural resources it shares with other nations becomes stronger if it is already putting these resources to use. China has already begun first use of the Brahmaputra waters.

If India does not move fast and establish its own claims over water use, it could lose out in subsequent water sharing discussions under international law.

That partly explains the Modi government's urgency in building projects and linking Arunachal Pradesh to the rest of India. It also throws light on why Indian strategists are suspicious of any moves by environmental groups protesting against the setting up of such projects along the Brahmaputra.

“What Chinese dam on Brahmaputra means to India”, 27/11/2014, online at: <http://www.dnaindia.com/money/report-what-chinese-dam-on-brahmaputra-means-to-india-2038737>

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❖ **Premier Li says China to speed up water conservation projects: Xinhua**

(Reuters) - Chinese Premier Li Keqiang said [China](#) would accelerate water conservation projects to tackle its water shortage and bolster wider economic growth, the official Xinhua news agency said on Wednesday.

[China](#) is set to launch 172 key water conservation projects in coming years, with those already under way worth around 600 billion [yuan](#) (\$98 billion).

Li made the comments during a visit to the Ministry of Water Resources on Monday, noting that water conservation was as important as investment in urban renovation and railway [construction](#), Xinhua said.

“Premier Li says China to speed up water conservation projects: Xinhua”, 26/11/2014, online at:

http://www.reuters.com/article/2014/11/26/us-china-water-idUSKCN0JA01K20141126?utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=3392d92588-RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_c1265b6ed7-3392d92588-250657169

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❖ China's Lake Ebinur has been shrinking dramatically, NASA Image shows

As this NASA satellite image shows, Lake Ebinur, located in northwestern China near the border of Kazakhstan, has shrunk by 50 percent since 1955 as a result of development, agriculture, and natural fluctuations in precipitation. The lake's saline water is light blue, and the dried lake bed appears white due to salts and other minerals that have been left behind as the water evaporates. Lake Ebinur sits at the bottom of a drainage basin with no outlet, and is surrounded by mountains, farms, and settlements. The lake's size fluctuates from year to year due to natural variations in snowmelt and rainfall, and human activity also plays a key role, Chinese researchers say. The nearby city of Bole, with a population of 425,000, consumes significant amounts of water, and farmers irrigate their crops — especially cotton — with water that would otherwise flow into the lake, researchers say. The exposed salty lake beds also pose a number of challenges. Frequent saline dust storms contribute to desertification, damage soils, harm wetlands, and may be hastening the melting of snow and glaciers downwind, researchers say.

“China's Lake Ebinur has been shrinking dramatically, NASA Image shows”, 25/11/2014, online at:
http://e360.yale.edu/digest/chinas_lake_ebinur_has_been_shrinking_dramatically_nasa_image_shows/4307/?utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=cd487d51c3-RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_c1265b6ed7-cd487d51c3-250657169

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❖ **Diverting a river from ecological disaster in northwestern China could provide new sustainable model**

Population expansions and high-speed economic development along major rivers have triggered ecological disasters across the world. In northwestern China, a massive water diversion project helped rescue the Heihe River and reverse environmental damage. Integrated management of the river ecosystem and the economy, and measures aimed at protecting the entire river basin, outlined in a new study by Chinese scientists, could provide a model for saving rivers in other parts of China and worldwide.

For tens of thousands of years, modern humans have used the waterways to spread out across the surface of the planet. Major civilizations developed along massive rivers like the Nile in Egypt and the Yellow River in China, and massive water channels propelled the expansion of economies around the world. But in recent decades, according to a team of scientists at the Cold and Arid Regions Environmental and Engineering Research Institute, Chinese Academy of Sciences, in the northwestern Chinese city of Lanzhou, the competition between economic growth and the ecosystem of rivers has triggered a series of environmental crises around the world. In northwestern China, they write in a new study, "many of the inland river basins ... have experienced a common challenge."

"With the population booming and the rapid economic development in the up- and mid- stream areas of the river basins, the consumption of water increases dramatically and diminishes the water available for ecological processes," they state in an article published in the Beijing-based journal National Science Review.

"The terminal lakes dry up, sandstorms become more common and the *Populus euphratica* forests die, causing a series of severe ecological disasters," add Professor Guodong Cheng and co-authors of the new study, "Integrated study of the water-ecosystem-economy in the Heihe River Basin."

Around the turn of the century, an ecological water diversion project involving the Heihe was implemented under the management of the central government of China. As a result, the severe deterioration of ecosystems in the downstream areas of the Heihe River Basin has been reversed to a great degree.

Studies on the water, atmosphere, ecology and anthropogenic activities along the Heihe have built a foundation for supporting the sustainable development of other inland river basins. In their new article, Professor Cheng and co-authors review integrated studies of the water-ecosystem-economy of the Heihe River as a potential model for the sustainable development of other inland river basins.

They present an array of findings:

1. The river basin must be viewed and managed in its entirety in order to coordinate water resources utilization, ecological health and economic development.
2. Decision support systems based on integrated watershed models are useful tools for managing water resources.
3. Integrated studies of the river's ecosystem and the related economy in the Heihe Basin can serve as a model to guide sustainable development strategies developed for other inland river basins.

The population boom and rapid economic development that triggered environmental disasters along the Heihe River also impact other rivers in China and worldwide.

The competition for water between the economy and the ecosystem is intensifying all over the world. The solution to this looming crisis must involve the careful and rational use of limited water resources in ways that not only support economic development but also sustain the health of the ecosystems.

The Heihe is a typical inland river basin, located in arid region of northwest China, and has become an experimental testing ground to carry out integrated studies of the ecosystem and economy.

Scientific research has been playing a key role in supporting ecosystem rehabilitation along the Heihe River Basin.

Since an ecological water diversion project was launched in 2000, severe deterioration of ecosystems in the downstream areas of the Heihe has been greatly alleviated.

However, there have also been negative effects on groundwater depth and the regional woodlands, and managing overall water resources is still a big challenge.

Emerging sciences such as ecological economics and ecohydrology have been introduced as new research directions in the integrated study of the river.

Eco-hydrological studies focus on improving the output per cubic meter of water. Eco-economic studies focus on coordinating ecosystem health and economic development.

The co-authors of the study propose that an evaluation of environmental losses and ecosystem service should be introduced into the national economic accounting system.

They also state that despite the initial successes of the Heihe diversion project, conflicts between the demands of economic growth and those of the ecosystem, and among different regions of the river basin, still present challenges.

An integrated platform that incorporates monitoring, modeling and data manipulation has been developed to support integrated study of the Heihe. Integrated models have been used to understand complex interactions within the "water-soil-air-plant-human" continuum.

Future work should focus on developing an increasingly sophisticated solution to balance the interests of the water ecosystem and economic development that incorporates scientific findings and models to support sustainable development of the river basin.

Advances made in reversing ecological harm along the Heihe River Basin can be used to guide ecological progress and socioeconomic development of other inland river basins.

“Diverting a river from ecological disaster in northwestern China could provide new sustainable model”, 26/11/2014, online at: <http://phys.org/news/2014-11-river-ecological-disaster-northwestern-china.html>

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❖ South Sudan, Egypt Ink \$26 Million in Bilateral Deals

JUBA—South Sudan and Egypt have signed agreements worth \$26.6 million to launch water and technical development projects in South Sudan, a high-ranking official in President Salva Kiir's office has said.

The deals were signed last week during a visit by Mr. Kiir to Cairo, Awan Riak, the Minister in the Office of the President, told reporters.

Minister of Water Resources Hossam al-Moghazi signed the agreement for Egypt and South Sudan Minister of Electricity and Dams Jima Tono Komba signed for her country, the Egyptian information agency said.

Komba is a member of the official delegation that accompanied Mr. Kiir on his visit to Egypt.

Several businessmen who were also part of Mr. Kiir's entourage met with their Egyptian counterparts and agreed on numerous other projects, covering, "... the areas of water, electricity, education, youth and sport, petroleum and ... health," Riak said.

"It was a very successful visit and both countries are looking to close their ties together to benefit from the expertise of one another and also the resources that are in our country," he said.

Nile Basin Initiative

South Sudan and Egypt are members of the Nile Basin Initiative (NBI), which brings together nations connected by the Nile River. Others members of NBI are Burundi, Rwanda, Tanzania, Kenya, Ethiopia and Sudan.

Egypt is at loggerheads with Ethiopia over the construction of a dam that Egypt says would dramatically reduce the volume of Nile River water that flows into Egypt. Tens of millions of Egyptians depend on the Nile for almost all of their water needs.

Riak said Mr. Kiir and his Egyptian counterpart Abdel Fattah al-Sisi held one-on-one talks during the South Sudanese president's visit. Among the topics that came up for discussion were the Ethiopian dam project and its potential impact on NBI member states, Riak said.

Egypt says that, under a 1929 deal crafted by colonial Britain and amended in 1959, it is entitled to two-thirds of the Nile's waters. Another quarter is allocated to Sudan, and the rest is divided up between the other countries that use the waters of the Nile. Many of those countries say the British agreement is unfairly weighted in Egypt's favor.

“South Sudan, Egypt Ink \$26 Million in Bilateral Deals”, 24/11/2014, online at: <http://www.voanews.com/content/south-sudan-egypt-water-agreement/2532358.html>

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❖ Corruption claims delay Tanzania ratification of Nile deal

Corruption allegations in the energy sector debated by the Tanzanian National Assembly (parliament) are likely to cause the delay of the ratification of the Nile Basin agreement by the legislature to next year, the parliament's clerk said Thursday.

A controversy surfaced recently after the Public Account Committee (PAC) released a report accusing senior government officials of having fraudulently authorized payment of at least \$122 million of public funds to a private company.

According to assembly's program released earlier this month, the legislature was supposed to ratify the Nile Basin agreement on Thursday, one day before the parliament is due to go into recess until February.

"The house cannot engaged in any other activity apart from the ESCROW account corruption saga which is hitting the nation," the Assembly's Clerk Thomas Kashililah told The Anadolu Agency on phone from Dodoma, the Tanzania's capital.

"Earlier, the government was supposed to table before the house the Nile Basin agreement for ratification. It was in the cause list, but we had to remove it from the list after the ESCROW saga came up," Kashililah added.

The assembly sessions are due to be adjourned on Friday and is expected to resume in February of next year.

The Minister of Sates in President's office Mark Mwandosya told AA in an earlier interview that the cabinet approved the agreement and it was supposed to be tabled before the parliament for ratification in November.

The PAC report is based on an official Auditor General's investigation report ordered by the assembly upon claims from opposition lawmakers that some senior government officials had transferred that amount from an ESCROW account jointly held by the state power company TANESCO and independent power producer IPTL.

Prime Minister Mizengo Pinda, Attorney General Frederick Werema, Minister of Energy Sospeter Muhongo and other senior government officials are under pressure to resign over the scandal that has captured national attention in recent months.

In 2010, upstream states Ethiopia, Kenya, Uganda, Rwanda and Tanzania all signed the Cooperative Framework Agreement regulating Nile water use. Burundi signed on to the treaty in 2011.

The deal aims to replace a colonial-era treaty that gives Egypt and Sudan the lion's share of river water.

Ethiopia, one of the upstream countries, says it has never recognized the treaty.

Relations between Ethiopia and Egypt had been strained due to a multibillion hydroelectric dam now being built by Addis Ababa on the Nile's upper reaches.

Egypt has repeatedly voiced concern about the dam's potential impact on its traditional share of Nile water. Ethiopia, however, insists the project won't affect Egypt's water supply.

The two countries agreed to resume tripartite talks – which also included downstream country Sudan – after Ethiopian Prime Minister Hailemariam Desalegn and Egypt's President Abdel-Fattah al-Sisi met in Equatorial Guinea in June.

“Corruption claims delay Tanzania ratification of Nile deal”, 27/11/2014, online at:
<http://www.worldbulletin.net/news/149386/corruption-claims-delay-tanzania-ratification-of-nile-deal>

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❖ EU takes legal action against controversial French dam

The European commission has sent France a final notice to explain how it can reconcile EU environmental law with a proposed dam project that sparked riots, which claimed a protester's life last month.

Rémi Fraisse, a 21-year-old student, died after being hit in the back by a grenade during police attempts to prevent a site occupation on 25 October.

The Sivens dam project in France's Tarn region has received an estimated €2-3m (£1-2m) of taxpayer money from an EU fund worth €8.5m, although commission officials say they want France to clarify the exact amount.

France must also explain how the proposed dam can be reconciled with Article 4 of the water framework directive, which demands sustainable long-term management of water and preventing it from deteriorating.

“The French authorities seem to have authorised the project without a complete evaluation of all the effects that the amounts of water concerned could have on the environment,” Enrico Brivio, a commission spokesman, told the Guardian.

The project appeared to have been approved “despite the environmental deterioration of the bodies of water in question and the further deterioration that the project might involve,” Brivio said.

France now has two months to respond, although work on the dam has been suspended until the end of the year to allow negotiations between local green protesters and the socialist government on alternative ways of using the waterway.

“The contents of this European letter will permit the renewed project to meet the right criteria,” the French environment minister, Segolene Royal, said after a cabinet meeting in Paris.

Advertisement

Organisers of the dam protests in southwest France, welcomed the commission's announcement. "We are very happy about the commission's decision," Ben Lefetey, a Collectif Testet leader said. "The EC is now also saying that the French government does not respect natural law or EU law with this project."

The issue has become a lightning conductor for tensions between Francoise Holland's governing socialists and the green party, which left his administration in April.

Environmentalists have bitterly condemned impacts from the proposed dam such as the flooding of 13 hectares of wetlands, which currently host 94 protected species of mammals, birds, butterflies and snakes.

"The Tescou river's water quality would also be degraded by the dam and its volume would be reduced to provide water for 30 different farms, most of which want to produce more maize," said Lefetey. "This kind of production uses a lot of pesticides and fertilisers. It is why we fight against the dam."

Wildcat protests broke out across France after Fraisse's death last month, with tear gas used against 600 protesters in Nantes, the scene of a long-running battle against the Notre Dame des Landes airport construction.

The Zone À Défendre (Zad) group from Nantes were also active in confrontations with the police over the dam project, Lefetey said.

But local opinion was equally divided on the dam's construction, with small farmers and organic food producers facing off against larger sharecroppers, he added.

"EU takes legal action against controversial French dam", 26/11/2014, online at:
http://www.theguardian.com/environment/2014/nov/26/eu-takes-legal-action-against-controversial-french-dam?utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=cd487d51c3-RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_c1265b6ed7-cd487d51c3-250657169

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❖ **Some climate change impacts unavoidable: World Bank**

(Reuters) - Some future impacts of climate change, such as more extremes of heat and sea level rise, are unavoidable even if governments act fast to cut greenhouse gas emissions, the World Bank said on Sunday.

Past and predicted emissions from power plants, factories and cars have locked the globe on a path towards an average temperature rise of almost 1.5 degrees Celsius (2.7 Fahrenheit) above pre-industrial times by 2050, it said.

"This means that climate change impacts such as extreme heat events may now be simply unavoidable," World Bank President Jim Yong Kim told a telephone news conference on the report, titled "Turn down the Heat, Confronting the New Climate Normal."

"The findings are alarming," he said.

Sea levels would keep rising for centuries because vast ice sheets in Greenland and [Antarctica](#) thaw only slowly. If temperatures stayed at current levels, seas would rise 2.3 metres (7 ft 6 in) in the next 2,000 years, the report said.

Average temperatures have already risen by about 0.8 degree(1.4F) since the Industrial Revolution, it said.

"Dramatic climate changes and weather extremes are already affecting millions of people around the world, damaging crops and coastlines and putting water security at risk," Kim wrote in the report.

As examples of extremes, he pointed to the hottest November day in [Australia](#) during a recent Group of 20 summit "or the five to six feet of snow that just fell on Buffalo" in the United States.

Still, the worst impacts of global warming could be avoided by cutting greenhouse gas emissions, the report said.

For example, a rise of 2 degrees (3.6F) in average world temperature over pre-industrial times would mean a reduction in Brazilian crop yields of up to 70 percent for soybean and up to 50 percent for wheat in 2050.

Officials from almost 200 nations will meet in [Peru](#) from Dec. 1-12 to work on a deal due in Paris in late 2015, to slow climate change. [ID:nL6N0TB496]

Kim defended World Bank policies that permit investments in fossil fuels in developing nations in rare cases, saying it was often for power plants to supply electricity vital to help end poverty.

"Sub-Saharan Africa has a total of about 80 gigawatts of installed (electricity generating) capacity, which is less than [Spain](#)," he said.

"Some climate change impacts unavoidable: World Bank", 23/11/2014, online at:
http://www.reuters.com/article/2014/11/23/climatechange-impacts-idUSKCN0J70Z920141123?utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=09f5c8f426-RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_c1265b6ed7-09f5c8f426-250657169

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