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***** Drought in Turkey may prompt electricity imports from Bulgaria, Georgia and Iran

Drought that has left water levels in reservoirs running seriously low, especially in eastern and southeastern Anatolia, may prompt Turkey to import electricity from Bulgaria, Iran and Georgia to prevent power cuts this summer, according to Bulgarian and Turkish media reports.

Turkish Minister of Energy and Natural Resources Taner Yildiz also told reporters that Turkey had agreed an option for cheaper Russian gas supplied via the Blue Stream pipeline. He said this after a meeting with Gazprom's Alexander Medvedev.

The 1213km Blue Stream gas pipeline, with an annual capacity of 16 billion cubic meters of gas was commissioned in December 2002 to directly supply gas to Turkey across the Black Sea. Blue Stream supplements the existing gas transmission corridor running from Russia to Turkey via Ukraine, Moldova, Romania and Bulgaria.

Turkey and Russia have agreed in principle to increase the supply of natural gas from Russia through the Blue Stream pipeline, Bulgarian media said, with the two sides planning for an increase in volume from 16 billion cubic meters of 19 billion cubic meters of gas annually.

Referring to potential power supply problems because of the prolonged drought, Yildiz said that Turkey was considering electricity not only from Bulgaria, but also from Iran and Georgia.

Rainfall in March and April had been less than hoped for. If levels did not increase in the coming months, Turkey's electricity generation capacity would be reduced and the country would resort to imports, he said.

However, there is a question mark over whether this would solve the situation. "The options are limited as the connection lines do not allow for large imports," Oğüz Türkyılmaz, chairman of the Board of Mechanical Engineers' Energy Commission, was quoted by Today's Zaman as saying, adding that while he did not foresee a severe crisis playing out, it was likely that there would be temporary power cuts throughout the country.

"Drought in Turkey may prompt electricity imports from Bulgaria, Georgia and Iran", 22/04/2014, online at: <u>http://www.balkaneu.com/drought-turkey-prompt-electricity-imports-bulgaria-georgia-iran/</u>

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Forestry Minister: "There is no need for energy import"

Contrary to the Energy Minister's remarks, Turkish Forestry and Water Affairs Minister Veysel Eroğlu stated that there is no need for energy import due to drought.

Speaking to press members on Tuesday, Eroğlu mentionaed on Energy Minister Taner Yıldız's statements on warnings about energy shortages during summer due to lack of water in dams. Eroğlu claimed that Turkey does not have such a problem.

"The occupancy rate of dams across the country is 50%. There is no need for energy import." Eroğlu said.

"Forestry Minister: "There is no need for energy import"", 22/04/2014, online at: <u>http://en.cihan.com.tr/news/Forestry-Minister-There-is-no-need-for-energy-import-9959-CHMTQwOTk1OS80</u>

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* River Evros at Alarming Levels After Bulgaria Dam Overflow

Authorities are preparing for the worst in the northern Greece regions of Eastern Macedonia and Thrace, where the water level of the river Evros has risen dangerously.

Indeed, the rivers Ardas and Erythropotamos in northern Greece may also flood since Bulgaria's Ivaylovgrad dam overflowed due to mountain meltwater and recent heavy rainfall.

At the moment, authorities have already made an emergency announcement concerning the region, warning farmers to remove any machinery and tools immediately from high-risk areas around the three rivers.

"River Evros at Alarming Levels After Bulgaria Dam Overflow", 22/04/2014, online at: http://greece.greekreporter.com/2014/04/22/river-evros-at-alarming-levels-after-bulgaria-dam-overflow/

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✤ Greece: warning issued over Evros river overflow

(ANSAmed) - ATHENS, APRIL 22 - Regional authorities in Evros, on Greece's northern border, have issued a warning to residents and farmers in the area over fears that Evros River may break its banks after a dam overflowed in neighboring Bulgaria, the state-run Athens-Macedonia News Agency reported on Tuesday.

Farmers are being urged to evacuate livestock and machinery from the banks of the 480-kilometer Evros River, which has swelled significantly over the past few days after a dam at Ivaylovgrad in southeast Bulgaria overflowed due to a surge of water from melting snow and rain. Efforts are underway to strengthen the river's banks and deal with any flooding. (ANSAmed).

"Greece: warning issued over Evros river overflow", 22/04/2014, online at:

http://www.ansamed.info/ansamed/en/news/sections/environment/2014/04/22/greece-warning-issued-over-evros-riveroverflow_206c9d2a-88cb-4fa7-af61-0f163a0af5b3.html

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Lessons Learned on Water Management

Under the framework of the *IPSM-Phase II Programme*, a knowledge sharing workshop was conducted to familiarize the concerned participants from the two pilot areas in Duhok and Najaf on decentralized water management with reform success stories and challenges.

The event was held in Erbil, in the General Directorate of Water and Sewerage on 14-15 April 2014.

Participants from the General Directorate of Water and Sewerage, representatives from Duhok outskirts water directorate, Najaf water directorate, local NGOs, UNICEF and UN-Habitat attended the event.

Two international specialists were engaged to present case studies on water sector administrative reform, and to manage the discussions which focused on the various aspects and tools for reform of the water sector.

The discussions ranged from very broad aspects of policy, regulation, administrative and procedural restrictions applied by some governmental institutions (major concern raised about difficulties with Ministry of Finance) to more concrete measures and suggestions for organisational and institutional reform of the pilot models in Duhok and Najaf. Experiences from Palestine, Syria, Jordan, Egypt and Bosnia-Herzegovina were presented and used to illustrate the ways that reforms in the sector can follow.

Following to that, the participants discussed appropriate reform models that can be applied in the local context of Duhok and Najaf. Discussions extended to action points as the necessity of clear job description and efficient performance appraisal systems.

Proposed action plans under IPSM were reviewed and agreement was made on the following steps regarding the pilot models on water sector administrative reform. Consensus was reached on the importance of awareness and lobbying at the political level as well as at the community level by international development organization and CSOs together with the concerned water departments to overcome challenges and implement reform actions.

I-PSM: The Iraq – Public Sector Modernisation Programme is a Government of Iraq-led UN joint programme supporting Iraq's Strategic Government Plan and its National Development Plan. The programme is fully aligned with the UN Development Assistance Framework. It has four themes:

i) Developing policy and building machinery at the centre of government for managing Public Sector Modernisation;



ii) Supporting system-wide reform for development management, gender mainstreaming, egovernance and national statistics;

iii) Piloting reform in the three key sectors of health, education and water and sanitation (Watsan); and

iv) Supporting decentralised service delivery and local governance initiatives.

"Lessons Learned on Water Management", 22/04/2014, online at: <u>http://www.iraq-businessnews.com/2014/04/22/lessons-learned-on-water-management/</u>

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Effects of the Al-Anbar Crisis on Iraq's water management

As a vitally important resource both for the economy and survival, water turns out to be a matter of conflict in the domestic policy and this inevitably poses threat for the whole of Iraq.

The clashes that erupted at the end of 2013 in Fallujah, a city in the Iraqi province of al-Anbar, have continuously posed a danger for the security of the country. There are no estimations as to when the conflict between the Islamic State of Iraq and the Levant (ISIL), an al-Qaeda-linked organization, and troops of the central Iraqi government will come to an end. This conflict has regional influences as well.

Some ISIL-affiliated groups active in the cities of Fallujah and Ramadi seized the control of the Fallujah dam. The dam, built for irrigation in 1985, does not include a hydroelectric power station. The Iraqi general staff explained that the dam, constructed to irrigate more than 500,000 acres of land in central and southern Iraq, has been shut down by ISIL militants. The decline in the generation of hydroelectric power on the rivers located down the Euphrates was also mentioned. The dams and irrigation channels in Fallujah have the potential to block the operations of the Iraqi army in the city. The Fallujah dam situated in the southern part of the city has two main bodies. There are ten penstocks on the right side, while eight others are on the left one. These penstocks are used to sluice the water to the channels that are on both right and left sides of the Euphrates.

As a result of the clashes that have been continuing since January 2014, the Iraqi army launched a series of operations in Fallujah. The ISIL-affiliated groups, which are supported by tribes, have taken control of Fallujah. They aim to repel the operations of the Iraqi army and prevent it from approaching the city by releasing the water to channels on the left side.

As there is a dam reservoir in the south of the city, it is impossible for the Iraqi army to enter the city from the south. The route that starts from Baghdad and continues to Fallujah and Ramadi through Abu Ghraib is located in southeast of city, a zone that is full of irrigation channels. The western side of the city is divided by the Euphrates that prevents the Iraqi army from approaching the city through this way. The route that passes from the north and heads to Ramadi through Habbaniya is the only entry point for the Iraqi army.



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However, here is a very flat ground and therefore every kind of military activity can be seen easily.

Within this scope the developments in this region, which are the main sources of tension before the next parliamentary elections on April 30, will bring about serious challenges in water management in the Euphrates River valley. The decrease in agricultural production that intensifies as the irrigation season nears and desiccation of Basra's swamps are at the top of these problems. Moreover, the close of the penstocks in this period, when the flow rate of the Euphrates is high, constitutes serious dangers for the dams' safety.

The Iraqi constitution divides water sources into two groups: the one originating from inside the Iraq (internal) and the other coming from outside (external).Article 110 regulates the exclusive authorities of the federal government. According to this article, the federal government has the authority to enforce policies relating to external water sources and to guarantee the rate of water flow to Iraq and its fair distribution in line with international laws and conventions.

Article 114 regulates common authorities shared by the federal and regional governments. According to this article, federal and regional governments share the authority of formulating and regulating internal water sources policy in a way that guarantees fair distribution as regulated by a law.

According to article 115, if the federal and regional governments happen to pursue conflicting water sources development policies, priority shall be given to the law of regions and governorates not organized in a region in case of dispute.Similarly, article 121 stipulates, "In case of a contradiction between regional and national legislation in respect to a matter outside the exclusive authorities of the federal government, the regional power shall have the right to amend the application of the national legislation within that region."

However, there is something wrong with the water management laws in the Iraqi constitution. The point of sharing the task and authority between the federal and regional governments is not yet clarified. The federal government is entitled to control external water sources that are the main tributaries of the Tigris and Euphrates.



There is no tributary that is joined to the Euphrates in Iraq and hence no constitutional problem concerning this. But there is a challenge in the case of the Tigris River. Just before the main tributary of the Tigris from Turkey, the average annual flow is measured only as 16 billion cubic meters in Cizre's metering station. The total annual flow average of the river is around 50 billion cubic meters. Some of the remaining 34 billion is provided from northern Iraq, while a substantial amount is provided by the rivers of Khabur and the Great Zab, which originate in Turkey and Great Zab's smaller tributary that rises from the Zagros Mountains in Iran.

It is necessary to make a clear distinction between the internal and external waters in the constitution as the authorities on water management are regulated accordingly. If the tributaries of the Tigris - which originate from other countries and are joined by others in Iraq - are accepted to be within the domain of the federal government, the Kurdistan Regional Government's (KRG) scope of water management will be narrowed. However, if these waters are all considered to be internal waters, a hydrological truth will be denied and this will negatively contribute to the water management regarding the issue.

More recently, the water has been used as a weapon in the domestic conflicts. The claims by the KRG it will not release the water in the Tigris for irrigation resulted in disputes between the central government and the KRG. As a vitally important substance both for the economy and survival, water turns out to be a matter of conflict in domestic policy and this inevitably poses threat for the whole Iraq.

The Tigris, another river in the basin, could not help being the source of political turmoil that persists in Iraq.

The water crisis, which has become an object to show off strength between the central government and KRG, also started to affect the Turkmens living in the country. The tension has arisen between these two, mostly because of the issue of exporting petroleum that is drilled from the KRG.

The tension further rose when in recent weeks the KRG closed the penstocks it controls. This came after the central government announced it would not pay KRG officials' salaries, which left the



Turkmens in a tight spot as in most cases. Upon reactions, a little amount of water was released, however this was not sufficient.

Aside from the Dukan and Darbandikhan dams, the Mosul dam is under the control of the KRG and this is regarded as important political ammunition for the KRG.

The lands of the Turkmen farmers suffer from a water shortage that came after the cut of irrigation water by the KRG officials. Fortunately, they did not close the potable water channels. Exposure of agricultural lands to water shortages will inevitably have political and social results. It will end in the evacuation of the Turkmen villages and force Turkmen villagers to move to the outskirts of big cities like Kirkuk. Along with these, the present political instability will deepen further because of the political tension.

"Effects of the Al-Anbar Crisis on Iraq's water management", Daily Sabah, Seyfi Kılıç, 28/04/2014, online at: <u>http://www.dailysabah.com/opinion/2014/04/28/effects-of-the-alanbar-crisis-on-iraqs-water-management</u>

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* 1700 families flee flood-hit area of Iraq's Fallujah

BAGHDAD – At least 1700 Iraqi families have fled their homes in Fallujah's Abu Gharib district in the restive Anbar province after militants in control of a local dam opened its floodgates and inundated the area with water.

The Ministry of Migration and Displaced Persons has registered 700 families from Abu Gharib whose homes have been submerged. It is currently registering 1000 more who fled to neighboring areas, especially Baghdad, ministry official Haidar Aday told Anadolu Agency.

The Fallujah dam was recently seized by the Islamic State of Iraq and Levant (ISIL) group, which took control of large swathes of the city last December.

The militants had closed off the dam for days, temporarily halting the water supply to most southern provinces, Anbar local authority chief Sabah Karhout had told Anadolu Agency earlier.

Since last December, the Iraqi army has waged a major offensive in the Sunnimajority Anbar province with the stated aim of flushing militants – who Baghdad claims are linked to Al-Qaeda – from Ramadi and Fallujah.

Many local Sunni tribes opposed to Iraq's Shiite-dominated government, meanwhile, continue to voice anger over the operation's mounting civilian death toll.

Since the offensive began last December, hundreds have been killed and injured in Fallujah and Ramadi, according to government officials.

"1700 families flee flood-hit area of Iraq's Fallujah", 24/04/2014, online at: http://www.turkishpress.com/news/403128/

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* Tigris oil spill pollutes Iraq water supply

The April 16 bombing of pipelines near the Tigris has sent oil spilling into the river and endangered the water supply for millions of Iraqis, with water stations still closed in both Tikrit and Beiji.

On April 16th, a bomb exploded under an oil pipeline near the northern city of Beiji causing huge quantities of crude oil to spill into the Tigris River, a police official told AP. The U.S. military said in a statement that the part of the pipeline that was hit was some 7 feet underground and covered with a slab of concrete.

The oil slick was subsequently set ablaze by emergency crews from the North Oil Company, blackening the skies over Tikrit. Oily water was then diverted at the Samara Barrage further south and directed into Tharthar Lake to avoid the slick from affecting water treatment facilities further south on the Tigris.

An Iraqi police official, speaking on condition of anonymity said the bomb went off before dawn, delaying the firefighters' arrival at the scene to extinguish the blaze. Because of the danger across the country, Iraqis avoid going outside before daylight.

Beiji, 155 miles north of Baghdad, is the home to Iraq's largest oil refinery.

"This act of terrorism is barbaric and demented. This demonstrates al-Qaida does not care about the Iraqi people or the environment," U.S. military spokesman Lt. Col. Michael Donnelly told The Associated Press.

Donnelly said workers from Iraq's Northern Oil Company were trying to prevent the spill from endangering the river, crops and livestock dependent on river water.

It was not clear if irrigation officials would allow the spill to reach Baghdad or would block it at Samarra dam, which diverts water into Tharthar lake north of the Iraqi capital.

"Tigris oil spill pollutes Iraq water supply", 24/04/2014, online at: <u>http://www.arabianoilandgas.com/article-12343-tigris-oil-spill-pollutes-iraq-water-supply/#.U1-Wifl_uFU</u>

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* Iran waiting on Armenia to assess changes in joint power plant Project

Iran has reviewed the joint project of hydroelectric power plant over the Aras River and has made some changes to it.

Iran is planning to implement the project with Armenia.

The applied changes are minor, no serious changes have been made to the project, managing director of Iran Water and Power Resources Development Company Mohammad Reza Rezazadeh said, Iranian Mehr news agency reported on April 23.

Iran has informed the Armenia about the revisions and their experts are studying the project, he added.

The Armenian experts who were worked on the project during the former Soviet Union period already have confirmed validity of Iranian experts' revisions, he underlined.

Rezazadeh went on to say that if Armenia approves the reviewed project, the implementation will begin.

In 2012, Iran and Armenia agreed on construction of a joint hydro-electric power plant on the Aras River, which borders the two countries.

Iran's then energy minister Majid Namjou and Armenian President Serzh Sarksyan attended in the project's groundbreaking ceremony in Nov. 2012, however its construction has been delayed so far.

Upon completion, the plant will be able to produce 260 megawatts of power, and includes two 130megawatt plants, one in Iran and the other one in Armenia, according to the Iranian media outlets.

Armenia and Iran are scheduled simultaneously start the power plant construction in former's Meghri



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and latter's Qarachilar regions.

The project is financed with \$ 560 million and \$500 million in credits respectively from Armenia and Iran.

"Iran waiting on Armenia to assess changes in joint power plant Project", 23/04/2014, online at: <u>http://en.trend.az/regions/iran/2266224.html</u>

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* Iran drafts new proposals for reviving Lake Urmia

A working group on Lake Urmia's revival has prepared a new package of proposals to save Lake Urmia, which is experiencing its worst drought condition for many years.

The package of proposals will be submitted to the Iranian administration by early June.

Over 70 percent of Lake Urmia's water has dried up. The level of the water has been declining since 1995.

Issa Kalantari, the secretary of the working group tasked with Lake Urmia's revival, said 19 solutions had been proposed earlier to save the lake, but they proved to be impractical, Iran's ISNA news agency reported.

So, the new package of proposals, which is science-based and practical, will be submitted to the administration, Kalantari added.

He noted however, some 12 years will take to restore the lake.

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

The shoaling problem of Lake Urmia is a matter of concern not only to the Iranian government, but also to the other countries and international organizations of the world.

UN Resident Coordinator Gary Lewis in October 2013 proposed ways to prevent the death of the world's largest saltwater lake, the Lake Urmia.

Lewis warned in his report that the slow death of the Lake Urmia signals a warning for the future.

Iran has allocated 220 billion rials (about \$8.9 million) to the revival of Lake Urmia in the next Iranian calendar year, which starts on March 21, the Mehr News Agency quoted head of Iran's Environmental Protection Organization, Masoumeh Ebtekar as saying on February 6.



She added that a final approach to save the lake will be declared by the end of spring. The organization will then start its action plans regarding the revival of the lake.

The area of Lake Urmia is the third largest salt water lake on earth, which has 6,000 square kilometers surface. During the migrations of birds the lake becomes their temporary home. The lake's drying up has an impact on the flora and fauna of the region. Experts on environmental issues say that the measures taken by the Iranian government are not enough to save the lake.

The project on directing 600 million cubic meters of water from Araz River into Lake Urmia was launched during a visit by former Iranian President Mahmoud Ahmadinejad and government officials to Tabriz in 2010. Some \$1.2 billion is to be allocated to implement the project.

The Iranian government allocated \$900 million to prevent Lake Urmia's drying up in September 2011.

Also, the United Nations Environment Program (UNEP) has allocated \$135 million to Iran to resolve environmental problems with shoaling of the lake.

"Iran drafts new proposals for reviving Lake Urmia", 21/04/2014, online at: http://www.azernews.az/region/66306.html

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* Iran's dust problem: potential causes and strategies

Iranian officials have expressed hope that residents of the country's western provinces will have fewer problems with dust particles this year due to the heavy precipitation anticipated in Iraq. The observed environmental changes in Iran and neighbouring countries reduce the possibility of such optimism and appear to indicate that in the coming year and for at least a number of years to come, this unpleasant phenomenon will remain a part of people's lives in many regions of Iran.

The problem of dust particles in Iran has been exacerbated in recent years, and many regions - especially western and southern provinces - face grave problems as a result and have to shut down entire cities on some days. Ziaeddin Shojai, the head of the Environment Department's task force to fight dust particles, says the frequency of dust particle attacks has increased by over 15 percent in the past 12 years. At a press conference in April 2014, he said, however, that a 70- to 73-percent rise in precipitation in Iraq will mean fewer days of dust particle problems in Iran.

What is the source of dust particles?

There is no definite answer as to the absolute cause of the dust particles that storm Iran. Many Iranian official bodies including the Department of the Environment and Parliament regard the neighbouring countries of Iraq, Jordan and Syria as the source of these dust storms.

Shojai says satellite photos show that the dust particles originate from the larger region of Mesopotamia and travel to Iran. In recent years, the scope of the dust particles has even reached Tehran, the capital, which, in addition to pollution and poisoned air, has also had to deal with dust particles.

There is, however, a difference of opinion between Iranian authorities and those in other countries. Iran's Department of the Environment maintains that the neighbouring countries refuse to assume responsibility in this matter. Iran has on several occasions offered to enter into a collaborative plan with Iraq to combat the problem of dust particles; however, Iraq's internal problems have so far blocked any progress in these plans.

Why are being dust particles produced in the Middle East?

Despite a lack of consensus as to the cause of dust particles in the larger Middle East region, a general belief links them to climate change in the region and particularly to the drying of wetlands



and the mismanagement of water resources. A series of natural and human causes have led to the drying of wetlands in Mesopotamia. The abandonment of agricultural land for economic and security reasons and the drying of dams have turned large areas of Iraq into sources of clay earth, which add to the problem of dust particles during windy and stormy conditions. Shojai says 5.6 million hectares of land stretching from Iraq and Syria to Jordan are now sources of these dust particles.

Iran's part in generating dust particles

While a large portion of the dust particles are being brought into Iran by storms traveling over the neighbouring countries, Iran's own role in generating dust particles must not be overlooked. Drought and long stretches of water shortage in Iran together with the mismanagement of water resources have led to the destruction of many of the country's wetlands, and many more are on the verge of drying completely. The southeastern province of Sistan-Baluchistan is heavily affected by this phenomenon.

Should they come to terms with dust particles?

The head of the Environment Department's task force to fight dust particles says overcoming them is a long-term task, adding that in the short term, people must learn how to live with them. He says that in China, a similar effort to combat dust particles and stabilize 2.5 million hectares of desertified land in Mongolia took more than 25 years. He therefore believes that what can be done in the short term is to prepare people and industries to reduce the damages resulting from this phenomenon. Such shortterm strategies include: public health education; assistance to industries to help produce adequate filters to prevent dust particles from getting into air conditioning shafts; heavy-duty masks could be used by the public, and standardized regulations could be established for public gathering places such as schools.

"Iran's dust problem: potential causes and strategies", 21/04/2014, online at: <u>http://www.payvand.com/news/14/apr/1130.html</u>

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* Mekorot Loses Portugal Deal, Faces Global Protests

Lisbon's water company EPAL has announced that it has terminated a technology exchange deal with Israeli state water company, Mekorot, following protests over Mekorot's role in Israel's 'water apartheid' over Palestinians

Portuguese MPs and campaign groups had argued that the deal amounted to support for Mekorot's role in the theft of Palestinian water.

Mekorot, who lost out on a \$170m contract with Argentinian authorities earlier this year following similar protests, illegally appropriates Palestinian water, diverting it to illegal Israeli settlements and towns inside Israel. The state owned company is the key body responsible for implementing discriminatory water polices that Amnesty International has accused Israel implementing "as a means of expulsion".

"Many Palestinian communities suffer from a lack of access to adequate water due to the encroachment of Israeli settlers on water resources and to Israeli policies and practices that deny Palestinians the human right to water," explained Dr. Ayman Rabi from Friends of the Earth Palestine / PENGON.

"Mekorot Loses Portugal Deal, Faces Global Protests", 21/04/2014, online at: http://www.imemc.org/article/67602

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Driest season in decades hits Jordan's Dead Sea

(WNN/IRIN) Amman, JORDAN, WESTERN ASIA: Jordan, one of the world's most water scarce states, is facing a "perfect storm of pressures" including chronic scarcity, over-use, waste, and a massive increase in demand caused by refugee arrivals, according to a <u>report</u> published this month by the NGO Mercy Corps.

To add to the water stress, the country is currently undergoing its driest rainy season in decades.

One proposed solution is due to be implemented by mid-2018 following Jordan's signing of a controversial water sharing agreement with Israel and the Palestinian authorities in December 2013 after decades of discussions.

The agreement paves the way for the long-discussed Red Sea Dead Sea Water Conveyer (RSDSWC) project, though in a much reduced form. It includes the construction of a desalination plant at the Jordanian port of Aqaba, which will desalinate 800-1,000 million cubic metres (mcm) per year shared by participating countries, and the pumping of brine to revive the Dead Sea via a 180km pipeline/canal.

According to the Ministry of Water and Irrigation, Jordan will have chosen the contractor by April 2015, construction will begin at the end of 2015, and implementation will last almost 2.5 years.

"With this, we will have solved Jordan's problems at least for the next 30 years," said Nabeel Zoubi, programme manager for the Red-Dead Sea programme at the ministry.

The plant is expected to produce at least 80 mcm every year, according to Zoubi. "Israel will buy approximately 50 mcm from Jordan at a cost of US\$0.42 per cubic metre and the rest – approximately 30-40 mcm – will go to Jordan's governorate of Aqaba," Zoubi added.

According to the agreement, Jordan can purchase around 50 mcm of water from Israel (from the Sea of Galilee) to provide water to Amman and the northern part of Jordan.

"There is no other way Jordan can address water scarcity given the increasing population and challenges brought by climate change," said Zoubi.

Cost concerns

But some experts have voiced concerns about the RSDSWC project due to the cost, estimated at US\$4 billion, and the potential environmental risks of delivering brine to the Dead Sea.

"It is a suitable solution, but it is very challenging due to the current political context, regional unrest, geographical location and its high cost," environmentalist and climate change expert Amal Dababseh



said. "The project will be located along the Rift Valley, which is quite seismically active. That will make any donor think twice before they fund a project like this."

The project has received moral and technical support from the World Bank, which published a <u>feasibility study</u>, but so far no funding has been earmarked for the project, and it is still not clear who will pay for the infrastructure.

Jordan says it is trying to secure funding for the pipeline phase of the project from "neighbouring and friendly" countries: "Saving the Dead Sea is an international responsibility and not only Jordan's," said Zoubi.

The World Bank office in Jordan said that "Jordan is eligible for the World Bank's loans and financial instruments but has not requested any financial assistance from them for the Red-Dead [project]."

Environmental impact

As well as providing a source of fresh water in a water-scarce country, the pipeline project aims to revive the Dead Sea, which has been receding at a rate of more than one meter a year.

"There is a unique ecosystem in the Dead Sea area – plants, birds, insects, micro-organisms that must be protected. Also, mineral extraction [for beauty products] is very important for Jordan and must be maintained," said Dababseh.

But water expert and international consultant Valerie York argues that "the amounts of water/brine channeled into the Dead Sea would be a fraction of the amount required to compensate for annual decline in Dead Sea levels."

"Moreover," she says, "such a Red Sea Dead Sea link could lead to environmental disaster."

Citing the World Bank's feasibility study, York said in a telephone interview that the mixing of the two seas' waters (the introduction of brine into the Dead Sea) "could produce a chemical reaction that would possibly create gypsum and algae".

Last month, the Ministry of Water and Irrigation issued a statement warning that it is already concerned about "meeting people's needs" for drinking water this summer after the country received only 31.3 percent of its long-term average annual <u>precipitation this winter (rainy season)</u>, which left its dams at 43 percent of their capacity.

"With few additional resources within the country that can be developed to narrow the gap, Jordanians could face absolute water poverty with only 90 cubic metres per head per year by 2025," writes York in a <u>working paper</u>.



York and many environmentalists argue for an alternative solution to Jordan's water problems: stronger regional water sharing and better use of existing resources. Many experts worry the pipeline scheme will not provide enough water, and will take years to finish, as Jordan's water crisis continues to deepen.

Acute scarcity

Ranked as at best the fourth most water scarce country in the world, Jordan has an annual per capita supply of 145 cubic meters, down from 360 cubic meters in 1946, which was two years before Jordan welcomed many of the 700,000 Palestinians who fled the 1948 war.

Groundwater, which makes up 54 percent of total water supply, is challenged by "unsustainable abstraction" due to "population growth and agriculture expansion", according to the government's <u>2010-2022 water strategy</u>. Water experts warn that groundwater sources in Jordan are over-exploited by up to 200 percent of the safe yield level.

"Ten out of the 12 groundwater sources in Jordan are facing over-extraction, sometimes at about twice their recharge rate," said Atef Kharabsheh, from the International Research Center for Water, Environment and Energy at the Balqaa Applied University.

"This is alarming as the population continues to grow," he said.

Things are not any better above ground: Jordan's access to surface water is limited and is subject to <u>trans-boundary water agreements</u>. Jordan has long accused Israel of <u>over-pumping the Jordan</u> river, which is now highly <u>polluted</u>, and has also <u>claimed</u> that neighboring Syria violates a 1987 agreement on sharing of the Yarmouk river.

"Syria built over 47 dams over Yarmouk river, which obstructed Jordan's access to it," said Dababseh.

Hosting pressure

Since the beginning of the Syrian crisis, Jordan has received more than 1.3 million Syrians. Over 600,000 of them are registered as refugees with the UN Refugee Agency (UNHCR).

This has added tremendous pressure to the country's limited water resources. Zaatari camp, which is home to 92,000 Syrians, consumes over a million litres of water every day, according to the <u>UN</u> <u>Children's Fund (UNICEF)</u>.

The result has been delays and even interruptions to state water supplies to Jordanians, provoking protests and riots, especially in northern governorates, where more than 80 percent of Syrians reside in host communities.



Even purchasing water has become "impossible" for some Jordanians. "We beg the trucks to stop and sell us some water, but they continue their way to the camp [Zaatari]," said Ahmad Maseed, a resident of Mafraq city in Jordan.

"Things were never that bad two years ago," he added.

"Driest season in decades hits Jordan's Dead Sea", 21/04/2014, online at: http://womennewsnetwork.net/2014/04/21/driest-dead-sea/

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* New projects to improve water supply in northern, central regions

AMMAN — The Ministry of Water and Irrigation has signed agreements worth over JD2 million to improve water supply in the northern and central regions, which host the majority of Syrian refugees, according to officials.

"New projects will be implemented in Jerash, Balqa, Ajloun and Irbid governorates to improve water and wastewater services... and meet the increasing demand for water in communities hosting tens of thousands of Syrian refugees," Water Minister Hazem Nasser said in a statement e-mailed to The Jordan Times.

The projects, which will be carried out by local contractors, entail extending new water pipes in Jerash Governorate at a cost of JD250,000 to improve water supply in the northern town, Nasser added.

"The project will be implemented in 90 days and should be ready by August," he noted.

In addition, a local engineering company will carry out studies, and draw up blueprints and tender documents at a cost of JD102,000 for extending main and tertiary wastewater pipes in Balqa Governorate.

The third project entails the expansion, rehabilitation and renovation of water networks in Jerash and Ajloun at a cost of JD350,000, the minister said, noting that the project will be completed within two years.

The ministry will also extend new water pipes and carriers in Irbid at a cost of JD1.5 million, Nasser said.

The projects are part of the ministry's "resilience plan" that seeks to address the exceptional surging demand for water in light of scant rainfall and the ongoing influx of Syrian refugees into the country, according to Omar Salameh, the ministry's spokesperson.

The resilience plan proposes the implementation of new infrastructure projects in case Syrians continue to take refuge in the Kingdom over the next few years, according to the ministry.

"The projects are funded by the Gulf grant," Salameh told The Jordan Times.



In 2011, the Gulf Cooperation Council allocated \$5 billion to finance development projects in Jordan during the 2012-2016 period.

The grant is divided between Saudi Arabia, Kuwait, the United Arab Emirates and Qatar, with each country paying \$1.25 billion.

A list of development projects was prepared by a committee, with some \$425.40 million allocated for water and sanitation projects.

"New projects to improve water supply in northern, central regions", 24/04/2014, online at: <u>http://jordantimes.com/New+projects+to+improve+water+supply+in+northern,+central+regions-72610</u>

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IDE wins award for Sorek desalination plant

Global Water Intelligence: IDE will remain at the cutting edge of the desalination industry. <u>IDE</u> <u>Technologies Ltd.</u>, a joint venture of <u>Delek Group Ltd.</u> (TASE:<u>DLEKG</u>) and <u>Israel Chemicals</u> <u>Ltd.</u> (TASE: <u>ICL</u>), has won awards for its Sorek desalination plant from British trade journal<u>Global Water Intelligence</u>. IDE's initiatives "will ensure that IDE remains at the cutting edge of the desalination industry for at least another four decades," says the award citation

The awards won by IDE included Desalination Company of the Year, and Desalination Plant of the Year, as well as Desalination Deal of the Year, which IDE won with its partners in 2013 for the Carlsbad Project, the largest seawater desalination plant in the western hemisphere.

The Sorek facility, jointly built with Hutchison Water International Holdings Pte. Ltd., is the world's largest and most advanced seawater reverse osmosis (SWRO) desalination plant. IDE says that the award recognizes the plant as the most impressive technical and ecologically sustainable achievement in the industry.

The Sorek plant provides clean water for more than 1.5 million people, or 20% of Israel's municipal water demand. "In a revolutionary departure from other large-scale SWRO facilities, the Sorek plant employs 16-inch membranes in a vertical arrangement. This innovation reduces the number of elements, pressure vessels and piping headers required [and] allows fast installation and increased accessibility," states Global Water Intelligence . "Smart design and construction within the boundaries of a uniquely challenging site footprint has enabled the plant to be environmentally sensitive, despite its gargantuan size, with no shoreline impacts due to underground pipe-jacking technique."

IDE completed the 150-million cubic meter a year Sorek plant in 2013, as well as a 70-million cubic meter a year plant at the Tianjin SDIC power station in China, and a 21.9-million cubic meter a year plant at the Vasilikos power plant in Cyprus. It has also begun construction of 74.6 million cubic meter a year Carlsbad plant in San Diego, under a 30-year BOT contract. In addition, Reliance Industries Ltd. chose IDE's SWRO solution to expand India's largest desalination plant, and Mulpha Australia selected the IDE ProGreen chemical-free, modular RO 'plant in a box' to provide high-



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quality clean water to its Hayman Island resort. The company has strategic partnership with Beijing Enterprises Group and set up a research partnership Clean Harbors to increase the reliability of Mechanical Vapor Compression (MVC) evaporators to treat oil sands produced water in Canada.

"IDE wins award for Sorek desalination plant", 22/04/2014, online at: <u>http://www.globes.co.il/en/article-ide-wins-award-for-sorek-desalination-plant-1000933165</u>

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* This machine makes drinking water from thin air

Tel Aviv, Israel (CNN) -- Water. A vital nutrient, yet one that is inaccessible to many worldwide. The World Health Organization reports that 780 million people don't have access to clean water, and 3.4 million die each year due to water-borne diseases. But an Israeli company thinks it can play a part in alleviating the crisis by producing drinking water from thin air.

<u>Water-Gen</u> has developed an Atmospheric Water-Generation Units using its "GENius" heat exchanger to chill air and condense water vapor.

"The clean air enters our GENius heat exchanger system where it is dehumidified, the water is removed from the air and collected in a collection tank inside the unit," says co-CEO Arye Kohavi.

"From there the water is passed through an extensive water filtration system which cleans it from possible chemical and microbiological contaminations," he explains. "The clean purified water is stored in an internal water tank which is kept continuously preserved to keep it at high quality over time."

Energy efficient

Capturing atmospheric humidity isn't a ground-breaking invention in itself -- other companies <u>already</u> <u>sell atmospheric water generators</u> for commercial and domestic use -- but Water-Gen says it has made its water generator more energy efficient than others by using the cooled air created by the unit to chill incoming air.

"Several companies tried to extract water from the air," says Kohavi. "It looks simple, because air conditioning is extracting water from air. But the issue is to do it very efficiently, to produce as much water as you can per kilowatt of power consumed."

He adds: "When you're very, very efficient, it brings us to the point that it is a real solution. Water from air became actually a solution for drinking water."

The system produces 250-800 liters (65-210 gallons) of potable water a day depending on temperature and humidity conditions and Kohavi says it uses two cents' worth of electricity to produce a liter of water.

Civilian uses

Developed primarily for the Israel Defense Forces (IDF), Water-Gen says it has already sold units to militaries in seven countries, but Kohavi is keen to stress that the general population can also benefit from the technology.

He explains: "We believe that the products can be sold to developing countries in different civilian applications. For example in India, [drinking] water for homes is not available and will also be rare in the future. The Atmospheric Water-Generation Unit can be built as a residential unit and serve as a perfect water supply solution for homes in India."

Kohavi says Water-Gen's units can produce a liter of water for 1.5 Rupees, as opposed to 15 Rupees for a liter of bottled water.

Read: Why Haiti's deadly cholera epidemic could strike again

Dirty water



Another product Water-Gen has developed is a portable water purification system. It's a batteryoperated water filtration unit called Spring. Spring is able to filter 180 liters (48 gallons) of water, and fits into a backpack -- enabling water filtration on the go.

"You can go to any lake, any place, any river, anything in the field, usually contaminated with industrial waste, or anything like that and actually filter it into the best drinking water that exists," says Kohavi.

Major Alisa Zevin, head of the Facilities and Specialized Equipment Section for the IDF, says the unit is revolutionary for them.

"This unit gives logistic independence for the forces and make us ensure that we provide the soldiers high quality water," she says.

In 2013, the IDF took Spring to the Philippines after Typhoon Haiyan devastated the island country and left 4.2 million people affected by water scarcity. The system filtered what was undrinkable water into potable water, and that is what Water-Gen hopes to accomplish elsewhere where the technology is needed.

"It's something as a Westerner you cannot understand because you have a perfect water in the pipe, but people are dying from lack of water," says Kohavi.

Although Water-Gen's developments aren't a solution for the water crisis, Kohavi believes that the technology can do for countries that lack clean water, such as Haiti, what it has done for the Philippines. It can be the technology used to not only to filter water, but to save lives.

"They could actually bring solution, perfect solution, to the people over there," says Kohavi. "For the kids ... They can use the technology to filter water in the field. People are going days just to carry water. And all our solutions can be an alternative for that."

"This machine makes drinking water from thin air", 24/04/2014, online at: http://edition.cnn.com/2014/04/24/tech/innovation/machine-makes-drinking-water-from-air/

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* Claims of corruption add to Al-Qaa water woes

AL-QAA, Lebanon: On a warm spring day in the Bekaa Valley town of Al-Qaa, Hana Rizk stood outside his neighbor's one-story house, a tired grimace on his face from coping with the town's insufficient water supply.

"The water came for two hours today," Rizk said with quiet anger. "The last time it was turned on was two days ago and now it probably won't come for another two to three days. How much use can we get out of two hours of water?"

Many residents in Lebanon's semi-arid Bekaa Valley have received what they say are inadequate amounts of water in recent months, a situation attributed to complications including the lack of precipitation this past winter and the torrential influx of refugees from neighboring Syria.

The water concern is magnified in Al-Qaa, a Greek Catholic town 10 kilometers from the Syrian border, by tales of mismanagement and accusations of corruption among the town's municipal water committee.

The Bekaa Valley is Lebanon's driest region and normally receives an average of up to 600mm of rainfall each year. And as summer rapidly approaches fears of drought are escalating because the region has only received 240 milimeters of rainfall, making 2014 the driest in 100 years.

"It didn't rain or snow enough this year and many people are pumping wells that aren't deep enough," said Dr. Nadim Farajallah, faculty research director of the Climate Change and Environment in the Arab World Program at the American University of Beirut.

Competition for water has also intensified following the startling influx of Syrian refugees into the Bekaa Valley, thought to clock in at a figure significantly higher than UNHCR's estimation of 352,000.

"People are competing for limited resources that are perishable and this year there's a limited supply," Farajallah said.



"There are so many more people in this area, specifically Labweh, Al-Ain, Ras Baalbek and Arsal. Many Bekaa villages are complaining about the competition for water."

"This sudden dramatic rise in population has a deep impact on the limited water resources of the region and increases the strain on the economies of the mostly underdeveloped villages of the Bekaa," read a report released earlier this month by AUB's Issam Fares Institute entitled the Impact of Population Growth and Climate Change on Water Scarcity, Agricultural Output and Food Security.

Al-Qaa is currently home to 8,422 registered refugees, according to the UNHCR, though local officials claim the real figure is substantially higher considering its proximity to the porous Syrian border.

The deluge of refugees and a lack of rainfall aren't the only factors concerning residents. Also of concern are allegations of corruption as many locals and officials hold the municipality's water committee responsible for the shortage.

Eid Mattar has been acting-president of Al-Qaa's water committee, responsible for distributing water and bill collecting in the town, since 2010. His assuming of the post was controversial, with various sources accusing him of strong-arming the last committee head out of office.

A lawsuit was subsequently filed against Mattar with the Shura Council, where it has been pending for the last few years.

In the meantime, a long list of his adversaries has charged him with corruption and mismanagement, on top of other illegal activities.

"Eid Mattar is a thief," said a former employee at the Energy Ministry, who spoke to The Daily Star on condition of anonymity.

The former employee, who has since moved on to another ministry, began working for the Energy Ministry in 2012 and was introduced to Mattar while working on a project in the town last year.



Mattar said at the time that his treasury had accumulated thousands of dollars in losses, a claim disputed by the former ministry employee.

"He's stealing money and not keeping financial records. He should be in jail," he said.

The former employee and a member of the town's municipal office separately accused Mattar of hiring staff and appropriating their salaries.

"He hired these employees and registered them with the daman [NSSF]. But instead of paying them he takes their salaries," the former employee said. "It's a huge thing."

Elie Chahoud is an elected member of Al-Qaa's municipality and the son of Mattar's predecessor Camille Chahoud, giving his crusade against Mattar a personal twist.

At his home in Dikwaneh, he showed The Daily Star a letter written by Elias Khalil Mattar, a money collector with the local committee who has no relation to Eid Mattar.

In the letter dated Oct. 23, 2010, Elias Khalil Mattar addresses Hassan Jaafar, head of the Bekaa Water Authority's Union Workers, and accused the president of the water committee of keeping his own financial records and not declaring the money in his treasury.

Elias Khalil Mattar wrote that he was unable to register financial records with the government because he had not received any information from Eid Mattar.

This claim was supported by Al-Qaa's Mayor Miled Rizk.

"Collectors and the treasurer are not receiving money. The treasurer came to my office and since I have the authority I asked him about the money. The treasurer said 'I don't know. I have no role, I'm just a face.' Eid Mattar collects the money and keeps his own records," he said.

Rizk added that the treasurer hasn't been able to pay for generator fuel needed to extract water from the well because Mattar was in control of the required finances.



"There are three wells in town. The well we dug is huge and should provide drinking water for at least 10 months out of the year," the former employee said.

The former ministry employee said that during his stint working in Al-Qaa, he tried to bring Mattar's committee under the rule of the Water Authority after receiving complaints from three mukhtars, members of the water committee, and a Parliament member.

In 2000, Law 221 was passed ordering water committees to come under the control of the regional Water Authority.

Nevertheless, four out of the Bekaa's seven local water committees are still operating independently.

Supported by then-Energy Minister Gebran Bassil, the delegation lobbied the Director General of the Bekaa Water Authority Maroun Msallem to take control of Al-Qaa's committee but Msallem didn't support the idea.

"He is either afraid or something else. You figure it out," said the former employee.

Speaking to The Daily Star over the phone, Mattar denied the accusations against him and said his office was fully transparent.

"We are ready to receive anyone who wants to monitor our [financial records]," he said.

Mattar also blamed the town's lack of water on the distance it must travel from the source. He said the water runs through many other villages before arriving to Al-Qaa, a claim AUB's Farajallah said was "probably true."

It is likely that Al-Qaa will face water shortages regardless of whether the accusations against Mattar are true. For the town's people the important thing is finding a way to receive water in the dry summer months.

Standing outside his neighbor's garden, Al-Qaa resident Hana Rizk turned to head back toward his waterless home.


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"I don't know if someone has a problem with someone else. We don't care. I just care about this village and my little kids who need to drink," he said. "We are the sons of this village and we want to drink."

"Claims of corruption add to Al-Qaa water woes", 23/04/2014, online at: http://mideastenvironment.apps01.yorku.ca/2014/04/claims-of-corruption-add-to-al-qaa-water-woes-daily-star/

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* Paying for giant Nile dam itself, Ethiopia thwarts Egypt but takes risks

* 6000 MW Renaissance Dam will be Africa's biggest

* Ethiopia rebuffed downstream Egypt's offer of funds

* Political fallout emblematic of global water woes

By Aaron Maasho

ADDIS ABABA, April 23 (Reuters) - Ethiopia's bold decision to pay for a huge dam itself has overturned generations of Egyptian control over the Nile's waters, and may help transform one of the world's poorest countries into a regional hydropower hub.

By spurning an offer from Cairo for help financing the project, Addis Ababa has ensured it controls the <u>construction</u> of the Renaissance Dam on a Nile tributary. The electricity it will generate - enough to power a giant rich-world city like New York - can be exported across a power-hungry region.

But the decision to fund the huge project itself also carries the risk of stifling private sector investment and restricting economic growth, and may jeopardise Ethiopia's dream of becoming a middle income country by 2025.

The dam is now a quarter built and Ethiopia says it will start producing its first 750 megawatts of electricity by the end of this year. In the sandy floor of the Guba valley, near the Sudanese border, engineers are laying compacted concrete to the foundations of the barrage that will tower 145 metres high and whose turbines will throw out 6,000 megawatts - more than any other hydropower project in Africa.

So far, Ethiopia has paid 27 billion birr (\$1.5 billion) out of a total projected cost of 77 billion birr for the dam, which will create a lake 246 km (153 miles) long.

It is the biggest part of a massive programme of public spending on power, roads and railways in one of Africa's fastest growing economies. Ethiopia's output has risen at near double digit rates for a decade, luring investors from Sweden to <u>China</u>.



But economists warn that squeezing the private sector to pay for the public infrastructure could hurt future prospects. Growth is already showing signs of slowing.

Even so, Addis Ababa says the price is worth paying to guarantee <u>Egypt</u> has no veto over the dam, the centrepiece of a 25-year project to profit from East Africa's accelerating economic growth by exporting electricity across the region.

"We did not want this dam to suffer from external pressures, particularly with respect to financing," said Fekahmed Negash, a director within Ethiopia's Ministry of Water and Energy.

DIPLOMACY RECAST

Ethiopia's transformation from an economic disaster barely able to feed its people into an emerging regional leader capable of self-financing mega-projects has recast diplomacy over the Nile, northeast Africa's most important resource.

<u>Egypt</u>, which has claimed exclusive right to control the river's waters for generations, is fuming. Cairo worries the dam will reduce the flow on which it has depended for drinking water and irrigation for thousands of years.

It has demanded building be halted pending negotiations between the countries, and had offered to take on joint ownership of the project, an offer Addis Ababa dismissed.

Cairo no longer wields the same leverage it once did when upriver sub-Saharan countries were too poor to build such huge projects themselves.

Still, the dam's cost of more than \$4 billion is roughly 12 percent of the annual output of Ethiopia, a steep price to pay for a country spurning outside help.

Ethiopia has resorted to measures like forcing <u>banks</u> that lend to private borrowers to lend the equivalent of 27 percent of their loan books to the government at a low return, effectively a tax on private lending.



Along with other projects, the dam is draining so much financing from the <u>economy</u> that private investors' access to credit and foreign exchange is being jeopardised, hurting growth, the International Monetary Fund says.

The IMF forecast in November that output growth would slow to 7.5 percent this fiscal year from 8.5 percent in 2011/12, and said the <u>economy</u> needed restructuring to encourage private sector investment now crowded out by huge public projects.

Ethiopia needs high growth to fulfil plans to lift its population out of deep poverty. Per capita income was still just \$410 in 2012, the World Bank says.

The government disputes the view that lavish public spending is hurting overall economic performance, and forecasts a higher growth rate than the IMF.

Italy's biggest <u>construction</u> firm, Salini Impregilo, which is building the dam, says all payments have been made on time so far and it has no worries about Addis Ababa continuing to come up with the needed billions.

"We have full confidence in the government of Ethiopia," the firm said in an e-mail to Reuters.

And the dam is just the start for Ethiopia's ambition of becoming a regional power hub. A government plan seen by Reuters would see Africa's second most populous nation target installed capacity of 37,000 MW within 25 years - far more than the World Bank's estimate of just 28,000 MW for the entire current output of sub-Saharan Africa excluding South Africa.

More dams are being built and Prime Minister Hailemariam Desalegn is fast securing deals to sell power abroad.

In the Ministry of Energy, a building whose stark design is a throwback to when communists ran Ethiopia's economy into the ground, a poster maps Ethiopia's energy goals.



From a dot on the Nile, lines run north through Sudan and across the Sahara desert as far as Morocco while extending southwards to South Africa, linking Kenya, Rwanda, Tanzania and other power-hungry economies.

Djibouti, Kenya and Sudan already take 180 MW, which, though a small amount so far, is already changing the economics of electricity in the region, Ethiopian officials say.

"Before it started getting power from Ethiopia, Djibouti's tariff was 30 U.S. cents per kilowatt hour. We are selling to them at 6 cents," said Mekuria Lemma, corporate planning chief at Ethiopia's staterun power corporation, EEPCO.

Kenya has signed an agreement to buy about 400 MW. Rwanda too inked a deal in March to take 400 MW by 2018 and a similar arrangement with Tanzania is expected. Beyond Africa, talks are expected over supplying 900 MW to <u>Yemen</u> via an undersea cable.

NATIONAL SECURITY

As long as Ethiopia spurns outside funding, there seems to be little an angry Cairo can now do to stop the dam.

The sparkling streams at the foot of Ethiopia's Mount Gish spill into Lake Tana from where the <u>Blue</u> <u>Nile</u> meanders gently towards Sudan's capital, Khartoum, where it joins the White Nile and flows north through Egypt and drains into the Mediterranean.

Among Cairo's worries is concern that years of filling the new dam's 74 billion cubic metre reservoir will temporarily cut the river's flow, and that surface water evaporation from the huge new lake will then reduce it permanently.

"Water problems even without this dam are sky high," said water expert Klaus Lanz in reference to Egypt's shortage.

Egypt leans on a 1959 treaty with Sudan which hands Cairo the lion's share of water. Some Egyptian politicians even urged military action last year against Ethiopia, raising concerns of a "water war".



The public political bluster has died down, but Egyptian officials still refer to safeguarding their nation's quota of the Nile's flow as a matter of national security.

In a government white paper, Cairo calls the construction of the dam a "violation" of international legal principles, in particular the duty to prevent harm to other riparian nations.

"We have no other resources," Egyptian foreign ministry spokesman Badr Abdelatty told Reuters. "So it's not a joke. We will not allow our national interests, our national security ... to be endangered."

LIMITED OPTIONS

"We are still for cooperation, negotiation, but only serious negotiations, not to waste time," Abdellaty added.

But distracted by militant violence and political turmoil at home, Cairo appears to have few levers with which to force Addis Ababa to halt the project. Ethiopian officials say the dam could be completed as early as 2016.

Ethiopia denies Egypt will suffer and complains that its northern neighbour has flexed its political muscle to deter financiers from backing other Ethiopian power projects.

Fekahmed of the water ministry said Cairo had influenced a decision by China's Electric Power Equipment and Technology Co. to pull out of a \$1 billion deal to connect the dam to the grid.

"The authorities in Egypt made a noise," Fekahmed said, adding that another Chinese group was now lined up to fund the high voltage lines. Egypt's Abdelatty did not comment on the specific case but confirmed that Cairo was trying to use its influence to push foreigners away from backing the project.

"We have contacts with everybody," said Abdelatty. "(The minister) raised it with Russia, with China, you name it."



In a diplomatic coup for Ethiopia, and a political blow to Egypt, the other major down river country, Sudan, has slowly warmed to the dam project and lifted its own earlier objections. Sudan may benefit from cheap power and irrigation water.

Egyptian Foreign Minister Nabil Fahmy told Sky News Arabic this month he rejected a military solution and dismissed referring the dispute to the International Court of Justice, which would require the agreement of both sides.

Instead, Egypt continues to push hard for further studies on the dam's design and impact on downstream countries. All the while, Ethiopia shows no sign of ordering the downing of tools.

"We will finish it whether they like it or not," said a senior Ethiopian official who requested anonymity. "But of course, we will continue negotiating in the meantime." (Additional reporting by <u>Richard Lough</u> in Nairobi, Stephen Kalin in Cairo and Danilo Masoni in Milan; Writing by Richard Lough)

"Paying for giant Nile dam itself, Ethiopia thwarts Egypt but takes risks", 23/04/2014, online at: http://www.reuters.com/article/2014/04/23/ethiopia-energyidUSL6N0N91QM20140423?utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=3ce6384a9a-RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_c1265b6ed7-3ce6384a9a-250657169

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* Ethiopia Pope postpones Egypt visit: Source

ADDIS ABABA – Patriarch of the Ethiopian Orthodox Church Abune Mathias has postponed a planned visit to Egypt, a church source said Tuesday.

"The Ethiopian church has told the Egyptian Orthodox Church that the visit has been postponed," the source told Anadolu Agency.

The source attributed the move to postpone the April 25 visit to "political tension" between Egypt and Ethiopia over an Ethiopian dam project on the Nile River.

On Monday, an Egyptian church source told AA that the Ethiopian Patriarch had decided to postpone his visit to Cairo upon a request from the Egyptian Orthodox Church.

According to the source, Patriarch of the Egyptian Orthodox Church Pope Tawadros II had advised Pope Mathias to postpone the visit lest it would embarrass the Egyptian church over the row between the two countries on Ethiopia's controversial multibillion-dollar hydroelectric dam on the Nile River.

The source told Anadolu Agency that the Egyptian church came to the conclusion that any unofficial mediation between the two governments would fail, even if it was by the church, which has historic relations with its counterpart in Ethiopia.

Egypt is worried that the dam would sharply reduce its share of the Nile River, its only source of water, but Ethiopia says the project is indispensible for its economic development and asserted it would not harm Egypt's interests.

Pope Mathias postponed a similar visit to Cairo in June on the background of the row between Cairo and Addis Ababa.

Pope Tawadros II also cancelled a visit he should have paid to Ethiopia in mid-September for the same reason.

"Ethiopia Pope postpones Egypt visit: Source", 23/04/2014, online at: http://www.turkishpress.com/news/402916/

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* Egypt furious at Ethiopian plan to wrest control of the Nile

ETHIOPIA's bold decision to pay for a huge dam itself has overturned generations of Egyptian control over the Nile's waters, and may help transform one of the world's poorest countries into a regional hydropower hub.

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So far, Ethiopia has paid 27bn birr (\$1.5bn) out of a total projected cost of 77bn birr for the dam, which will create a lake 246km long.

It is the biggest part of a massive programme of public spending on power, roads and railways in one of Africa's fastest-growing economies. Ethiopia's output has risen at near double-digit rates for a decade, luring investors from Sweden to China.

But economists warn squeezing the private sector to pay for the public infrastructure could hurt future prospects.

Growth is already showing signs of slowing. Even so, Addis Ababa says the price is worth paying to guarantee Egypt has no veto over the dam, the centrepiece of a 25-year project to profit from East Africa's accelerating economic growth by exporting electricity across the region.

"We did not want this dam to suffer from external pressures, particularly with respect to financing," said Fekahmed Negash, a director within Ethiopia's Ministry of Water and Energy.

Ethiopia's transformation from an economic disaster barely able to feed its people into an emerging regional leader capable of self-financing mega-projects has recast diplomacy over the Nile, northeast Africa's most important resource.



Egypt, which has claimed exclusive right to control the river's waters for generations, is fuming. Cairo worries the dam will reduce the flow on which it has depended for drinking water and irrigation for thousands of years.

It has demanded building be halted pending negotiations between the countries, and had offered to take on joint ownership of the project, an offer Addis Ababa dismissed.

Cairo no longer wields the leverage it once did when upriver sub-Saharan countries were too poor to build such huge projects themselves. Still, the dam's cost of more than \$4bn is roughly 12% of the annual output of Ethiopia, a steep price to pay for a country spurning outside help.

Ethiopia has resorted to measures like forcing banks that lend to private borrowers to lend the equivalent of 27% of their loan books to the government at a low return, effectively a tax on lending.

With other projects, the dam is draining so much financing from the economy that private investors' access to credit and foreign exchange is in jeopardy, hurting growth, the International Monetary Fund (IMF) says.

The IMF forecast in November that output growth would slow to 7.5% this fiscal year from 8.5% in 2011/12, and said the economy needed restructuring to encourage private-sector investment crowded out by public projects.

Ethiopia needs high growth to fulfil plans to lift its population out of deep poverty. Per capita income was still just \$410 in 2012, the World Bank says.

The government disputes the view that lavish public spending is hurting overall economic performance, and forecasts a higher growth rate than the IMF.

Italy's biggest construction firm, Salini Impregilo, which is building the dam, says payments have been made on time so far and it has no worries about Addis Ababa continuing to come up with the needed billions. "We have full confidence in the government of Ethiopia," the firm says.

And the dam is just the start for Ethiopia's ambition of becoming a regional power hub. A government plan seen by Reuters would see Africa's second most populous nation target installed capacity of 37,000MW within 25 years — far more than the World Bank's estimate of just 28,000MW for the entire current output of sub-Saharan Africa excluding SA.

More dams are being built and Prime Minister Hailemariam Desalegn is fast securing deals to sell power abroad.



In the Ministry of Energy, a building whose stark design is a throwback to when communists ran Ethiopia's economy into the ground, a poster maps Ethiopia's energy goals.

From a dot on the Nile, lines run north through Sudan and across the Sahara desert as far as Morocco while extending southwards to SA, linking Kenya, Rwanda, Tanzania and other power-hungry economies.

Djibouti, Kenya and Sudan already take 180MW, which, though a small amount so far, is already changing the economics of electricity in the region, Ethiopian officials say.

"Before it started getting power from Ethiopia, Djibouti's tariff was 30 US cents per kilowatt hour. We are selling to them at 6c," said Mekuria Lemma, corporate planning chief at Ethiopia's state-run power corporation, EEPCO.

Kenya has signed an agreement to buy about 400MW. Rwanda too inked a deal in March to take 400MW by 2018 and a similar arrangement with Tanzania is expected. Beyond Africa, talks are expected over supplying 900MW to Yemen via an undersea cable.

As long as Ethiopia spurns outside funding, there seems to be little an angry Cairo can now do to stop the dam.

Sparkling streams at the foot of Ethiopia's Mount Gish spill into Lake Tana from where the Blue Nile meanders gently towards Sudan's capital, Khartoum, where it joins the White Nile and flows north through Egypt and drains into the Mediterranean.

Among Cairo's worries is concern that years of filling the new dam's 74-billion cubic metre reservoir will temporarily cut the river's flow, and surface water evaporation from the huge new lake will reduce it permanently.

Egypt leans on a 1959 treaty with Sudan which hands Cairo the lion's share of water. Some Egyptian politicians even urged military action last year against Ethiopia, raising concerns of a "water war".

The public political bluster has died down, but Egyptian officials still refer to safeguarding their nation's quota of the Nile's flow as a matter of national security.

In a government white paper, Cairo calls the construction of the dam a "violation" of international legal principles, in particular the duty to prevent harm to other riparian nations.

"We have no other resources," says Egyptian foreign ministry spokesman Badr Abdelatty. "So it's not a joke. We will not allow our national interests, our national security ... to be endangered. We are still for co-operation, negotiation, but only serious negotiations, not to waste time."



But distracted by militant violence and political turmoil at home, Cairo appears to have few levers with which to force Addis Ababa to halt the project. Ethiopian officials say the dam could be completed as early as 2016.

Ethiopia denies Egypt will suffer and complains that its northern neighbour has flexed its political muscle to deter financiers from backing other Ethiopian power projects.

Mr Fekahmed of the water ministry said Cairo had influenced a decision by China's Electric Power Equipment and Technology to pull out of a \$1bn deal to connect the dam to the grid.

"The authorities in Egypt made a noise," Mr Fekahmed said, adding that another Chinese group was now lined up to fund the high voltage lines.

Egypt's Mr Abdelatty did not comment on the specific Chinese case but he confirmed that Cairo was trying to use its influence to push foreigners away from backing the project.

Egypt continues to push hard for further studies on the dam's design and impact on downstream countries. All the while Ethiopia shows no sign of ordering the downing of tools.

"We will finish it whether they like it or not," said a senior Ethiopian official who requested anonymity. "But of course, we will continue negotiating in the meantime."

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[&]quot;Egypt furious at Ethiopian plan to wrest control of the Nile", 25/04/2014, online at: <u>http://www.bdlive.co.za/africa/africanbusiness/2014/04/25/news-analysis-egypt-furious-at-ethiopian-plan-to-wrest-control-of-the-nile</u>



* Egypt invited to Nile dam talks

Ethiopian Prime Minister, Hailemariam Desalegn has invited Egypt to restart talks to resolve their long-running dispute over the construction of a controversial dam on the River Nile. The PM said Egypt should join what his country intend as tripartite talks with Sudan in order to implement recommendations by an international committee over the construction of its dam on the Nile which Cairo vehemently opposes.

"We seek to persuade the authorities in Cairo to avoid unnecessary complaints about the dam and to resume tripartite talks with Ethiopia and Sudan the Egyptian media quoted the Ethiopian PM as saying on Friday.

The Egyptian government has not reacted to the latest invitation for talks which if reopened will be the third round of negotiations since Ethiopia began the construction of the Grand Ethiopian Renaissance Dam (Gerd) two years ago.

The hydroelectric dam which is meant to boost electricity supply in Ethiopia and satisfy the demands of neighbouring countries is said to be 30 percent complete.

Talks between Cairo and Addis Ababa broke down in January amid differences of opinion over the effect that the dam will have on Egypt's share of the Nile, on which its citizens depend for their water supply.

Egypt's opposition to the construction of a dam is informed by fears that the project will leave a significantly damaging effect on the flow of the Nile River and deprive millions of its people of such a vital resource in their lives.

Ethiopia's Water Minister Alemayehu Tegenu meanwhile said his government would always sue for dialogue to rebuild trust among all riparian countries of the Nile despite what he called Egypt's campaign of misinformation against the dam project.

"Egypt invited to Nile dam talks", 25/04/2014, online at: <u>http://en.starafrica.com/news/egypt-invited-to-nile-dam-talks.html</u>

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* International interest in Nile Basin investment

Nile Basin countries — especially those at the sources of the river — are the focus of international interest for developmental and investment purposes, especially in agriculture and electricity generation projects. Foreign powers' eagerness to invest in such projects, in spite of the many environmental and other challenges that loom in every Nile Basin country, throws into relief the conflicts that are currently unfolding between the upper riparian nations and the estuary nations with regard to the reassessment and redistribution of Nile water quotas among these countries. The following presents some of the challenges confronting hydraulic projects and the extent of foreign interest or presence related to such projects, in the tributary Nile Basin countries in particular. The challenges range from natural (environmental/ topographical) and demographic to economic and political. Among them are the following:

TOPOGRAPHICAL AND GEOMORPHOLOGICAL CONSIDERATIONS: In a previous article, I shed light on the geomorphological and topographical properties of the Nile Basin and their effects on water resources and development projects. I have addressed the mountainous terrain, steep geographic inclines, the nature of the bedrock and other such factors that affect the surface flow, the formation of lakes and rivers, and the ability to control them. On the basis of those factors, I stressed that natural circumstances were the chief obstacle to Nile Basin countries' ambitions for harnessing water resources. This applies in particular to the upper riparian nations and their aspirations for harnessing the precipitation in their countries. The following outlines some of the chief topographical, geomorphological and climatic circumstances of some Nile Basin countries and the extent to which these factors affect their development prospects.

In Egypt, the demographic distribution is extremely uneven. Around 92 per cent of its territory is uninhabited due to nature and distribution of available water resources. The heavy population concentrations in the Nile Valley are a source of economic and social strains. Egypt also suffers a shortage of supplementary water resources. These are primarily restricted to the groundwater found in relatively few aquifers in the Western Desert (the Western oases) and other areas.

Elsewhere in Egypt's desert areas, such as the Eastern Desert the Sinai, groundwater is scarce. Such climatic and geomorphological properties are the chief factor that governs the utilisation of desert land.



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Ethiopia's climatic and geographic properties could not contrast more starkly, but they also vary considerably internally. There are heavy seasonal rains in the south, but precipitation is considerably lower in the north. The Ethiopian plateau, which covers nearly the whole country, is characterised by rugged terrain that features towering cliffs, precipitous ravines and deep fissures and that sits atop an igneous bedrock made up for the most part of hard and sometimes fractured basalt. About 30 per cent of Ethiopian territory falls in the Nile Basin. This is only one of the 11 river basins in the country through which flow some 90 billion cubic metres of water derived from an average annual rainfall of 1,250 millimetres.

Ethiopia has long been dependent on rainfall for agricultural purposes. Only three percent of its land is under permanent irrigated cultivation. However, in view of periodic draughts, especially in the east and north and after felling extensive tracts of forest to clear land for agriculture, Addis Ababa has begun to demand a larger share of Nile waters for irrigation purposes and to produce hydroelectric power. Ethiopia was encouraged in this direction by some foreign governments that expressed their interest through investment. Foreign direct investment in Ethiopia rose from \$135 million in 2004 to \$265 million in 2007, of which 32 per cent was invested in agriculture. By 2009, FDI had climbed to \$3,500 million. The soaring rates of investment reflected mounting international interest in development in Ethiopia, in spite of the many challenges.

China is the largest investor in Ethiopia and has undertaken numerous development projects there. Ethiopia is planning to become a part of the comprehensive aid system in Africa. Following China as the largest partner in the Ethiopian investment system is the EU, the US, Japan and Italy. Chinese development investment focusses on agriculture, clean energy, health, and debt relief. China also established a petroleum exploration company that has begun drilling for oil.

Kenya is the largest economic power in the African Great Lakes region. With the aid of China, India, the UAE and Saudi Arabia, it is concentrating on developing its agricultural sector in spite of the natural impediments, most notably draught and floods. Kenya's river system helps feed Lake Victoria, but it contains few aquifers beneath its largely granite bedrock and in spite of rainfall it suffers draught in part due to its inability to utilise its water resources. As with Ethiopia, China is the largest investor in Kenya with projects in road works, sports, media, petroleum excavation and clean energy production.



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Tanzania, to the south of Lake Victoria, has the same complex geomorphological conditions. In general, the topography tilts towards the lake to which it contributes through several river basins. The Tanzanian economy is heavily dependent on agriculture, which contributes 27 per cent of the GDP. Its chief exports are coffee and cotton. The country also produces around four billion kilowatts of electricity a year according to 2007 estimates. It has already made progress in reducing poverty rates in line with a long-term development strategy for 2025. China is one of the top 10 investors in Tanzania, with which it has signed a six-year agreement, ending in 2015, for the development of the country's livestock and fish wealth. China also has around 40 companies in Tanzania pumping in the neighbourhood of \$114 billion into the economy.

Uganda, to the north of Lake Victoria, is just as if not more topographically and geomorphologically complex with an intricate lithological distribution that affects the nature of its bedrock and soil. In spite of its vast water resources, agriculture contributes only two per cent of Uganda's GDP. It produces around four billion kilowatts of hydroelectric power per year according to 2007 estimates. Kampala has been working to enhance its relations with South Sudan, Kenya and Tanzania.

DOMESTIC PRESSURES, FOREIGN INTERVENTIONS AND NILE BASIN DEVELOPMENT:

Countries of the Nile Basin are vulnerable to a range of internal and external pressures that affect their relations with each other. It is well known that most of these countries have varying degrees of instability and that their political and economic regimes are fragile and easily penetrable from abroad due to high poverty rates, tribal conflicts, high population growth rates, and hunger and disease.

The conflict in the Nile Basin is quintessentially political in spite of the surface appearance that the dispute is about water. Water has become a trump card to be used in political tugs-of-war.

Theoretically, foreign interventions can work to encourage cooperation or, conversely, to stimulate conflict. Most dangerous are those that proceed from the Israeli concept of the importance of water. The question that arises in this context is whether Israel seeks to obtain a quota of Nile waters or whether it is following a form of a policy of containment, using upper riparian nations in order to pressure downriver countries, Sudan and Egypt.

In like manner, does US interest in the water conflict among Nile Basin countries stem from its desire to support Israel, or is it more related to halting any attempt to obstruct US interests in the face of the



Chinese, Japanese and Russian presence among the Upper Nile Basin countries and also the likelihood of an Al-Qaeda presence in Ethiopia or Somalia?

As for international interventions that stimulate cooperation, these are largely limited to the efforts of international cooperation institutions and UN agencies. Unfortunately, such bodies are sometimes unable to perform an effective or constructive role, as was the case with the Tekeze Dam, which was constructed without prior notification of other Nile Basin nations. Neither Egypt nor the World Bank, or the countries that supported the Nile Basin Initiative, objected to the construction of that dam. Also, in general, the World Bank only commits to what it is interested in committing to.

ISRAEL AND THE DEVELOPMENT OF NILE BASIN COUNTRIES:

Any discussion of development and foreign investment in the upper riparian countries of the Nile Basin must take into account the Israeli role. Israel has numerous investment projects, especially in agriculture and energy, in these countries, but Ethiopia is of the greatest interest to Tel Aviv. There, Israel focusses primarily on agricultural projects through cooperation between the International Cooperation Centre in Israel, the Ministry of Agriculture and Rural Development in Ethiopia and the US Agency for International Development, which have co-developed, for example, a seedlings project, an irrigation development project and the agricultural excellence project. With investments in the neighbourhood of \$236 million, Israel is the third largest investor in Ethiopia.

Israeli Foreign Minister Avigdor Lieberman's tour of three African nations in September 2009 resulted in pledges that an Israeli company responsible for water resource development in Israel would undertake 40 hydraulic projects on the Blue Nile in order to reclaim land in South Sudan. The envisioned projects, to be carried out in collaboration with USAID, included 26 dams to permit for the irrigation of 400,000 hectares of land and the production of 38 billion kilowatts of electricity. An estimated 80 billion cubic metres of water would be required for these projects and some doubt whether that quantity is technically feasible. Israel also provided both the Congo and Rwanda with detailed studies for the construction of three dams.

In Uganda, Israel is carrying out irrigation projects in 10 provinces, most in the north of the country near the borders of Sudan and Kenya. Israel has cooperated with Kenya in the production of flowers and their export to Europe and has invested \$105 million in clean energy projects in that country.



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In general, Israeli thinking is to give the impression that its development projects in Ethiopia involve only the construction of dams and amending Nile waters distribution conventions. Ethiopia cooperates with Israel in numerous projects, including drinking water production projects and various hydraulic engineering projects, such as the construction of dams. These include the construction of four dams on the Blue Nile in order to build water reserves, control the flow of water towards Sudan and Egypt and generate electricity. In addition, the question of a dam at Mek'ele, the capital of the Tigray state in northern Ethiopia, has resurfaced recently now that it appears that Israeli funding for the project will be forthcoming through an Ethiopian company that is co-owned by an Israeli.

In short, Israeli-Ethiopian collaboration in dam construction is in full swing. It should be borne in mind that when speaking of collaboration we are also speaking of Israeli intervention, not to secure water for Israel but rather to promote demands for the redistribution of Nile water quotas between the upper riparian countries in the Nile Basin, on the one hand, and Sudan and Egypt on the other. That the Israelis have entered the fields of agriculture, and mechanised agriculture in particular, in Ethiopia is a subject that cannot be viewed in isolation from Israel's investment in water and hydrological projects. After all, there is no such thing as agriculture without water.

"International interest in Nile Basin investment", 24/04/2014, online at: http://weekly.ahram.org.eg/News/6000/21/International-interest-in-Nile-Basin-investment.aspx

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Is India losing the water war against China?

A resource struggle with China is afoot as the giant neighbour plans many dams on the Brahmaputra. India's response to the strategic warfare has been lukewarm, defence expert Brahma Chellaney tells RN Bhaskar & S Balakrishnan

What's the biggest threat India is facing? It's China's growing need for water. Ask Professor Brahma Chellaney and he puts things in perspective.

When China's demand for water swells, it will ruthlessly pursue its national interest and tap into resources that provide water to India, Kazakhstan, Laos and Cambodia, he says.

China's policy on river waters itself is alarming. It believes in the Doctrine of Absolute Territorial Integrity over river waters. This doctrine calls for absolute control over river waters that originate from its territory, irrespective of what happens downstream, he says.

For example, China has already started building a dam on the Brahmaputra, and is planning many more. "This will affect India, Bangladesh and other neighbouring territories," he says.

Chellaney, who has been a major critic of India's water policy, or more precisely, the lack of it, says the government does not attach water the strategic seriousness it deserves.

The professor of strategic studies at the Center for Policy Research in New Delhi was recently in Mumbai for a meeting organised by the Asia Society Foundation.

The Doctrine of Absolute Territorial Integrity over river waters was a theory propounded by the US first, as the Harmon Doctrine. "This was then picked up by the Russians, and now China... Though the US has abandoned this doctrine, China continues to embrace it," says Chellaney. "India, on the other hand, does not understand the value of leverage- based strategy. It gives data without reciprocal benefits. It has almost forgotten the principle of reciprocity," Chellaney says.

China, for instance, has agreements for selling hydrological data. India, he says, provides this data free of cost to Pakistan and Bangladesh, he says.



"India has to force China to negotiate this and other outstanding issues in exchange for commercial rights. If India does not protect its own interests, why should any other country? Chellaney says. Though India has more fertile land, China has higher productivity. China manages its water resources far more efficiently than India. Its internally renewable water resources are at least 50% higher. But China has a problem. Almost 81% of its water is in South China, with only 19% in North.

The first visible signs of a water crisis are already visible in the Mekong basin, which used to be the breadbasket for Asia (The Mekong basin involves six countries – Cambodia, Yunnan in China, Laos, Vietnam, Thailand and Myanmar). China has six major dams on the Mekong river and three more are proposed. Work on five mega dams on the Salvin (Tibetan plateau) commenced year.

So, what does the future hold? Use of technology for harnessing new sources of power is one interesting possibility, he says. "Already desalination prices have begun tumbling with newer, energy-efficient technologies. I expect more technologies to emerge in this field. And as groundwater resources and rivers dry up because of overexploitation, the advantage will shift from mountains and headwater places to shorelines."

"Is India losing the water war against China?", 27/04/2014, online at: <u>http://www.dnaindia.com/india/report-is-india-losing-the-water-war-against-china-1982524</u>

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* How key political parties plan to tackle India's water crisis

Numerous studies say that if ever there's a third world war, it would be over access to water. With climate change making weather unpredictable, India faces a grave challenge, as its share of the world population is 16 per cent with only 4 per cent of water resources.

With elections underway, here are some key promises made by political parties to tackle the water challenge, culled out from their manifestos by the India Water Portal.

Broadly, the Congress and the BJP have a somewhat similar view on the matter, while the Left parties and debutante AAP have stressed on the need for State or community control over natural resources such as water.

Congress

The party proposes to launch 'Green National Accounts' to keep a tab on the costs of environmental degradation. It promises to clean rivers on a large scale by setting up a special purpose vehicle.

Also, if it wins, it plans to price water in a way that encourages consumers to conserve water.

For drinking and irrigation water for the rural population, the party proposes to set up a legal and institutional framework. It plans to add one crore hectares to the total irrigated area by completing the Water Reforms Agenda of the 12th Plan and establish a new Ministry of Fisheries.

In urban areas, the party promises to monitor the process of natural resource allocation.

Bharatiya Janata Party

The party proposes to launch the Pradhan Mantri Gram Sinchayee Yojana, with the aim to reduce farmer's dependence on rains. It will increase irrigated land.

It promises to address the issue of flood control in Assam and river water management.

For urban centres, the BJP proposes to shift the focus from basic infrastructure to public utility services, such as waste and water management. It calls for installing sewage treatment plants to prevent river pollution and setting up of desalination plants for supplying drinking water in coastal areas.



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The party also proposes to interlink rivers depending on the feasibility.

Aam Aadmi Party

This new party on the national scene says ownership of all the major natural resources such as rivers, forests and major minerals will be left with the State, while ownership of rainwater, minor forest produce and minor minerals, will be vested with local communities

It promises to develop local and decentralised water resources through extensive rainwater harvesting, watershed development, small water projects and alternative cropping patterns.

The party promises to help farmers reduce their dependence on large-scale projects and favours ecologically sustainable agriculture.

CPI, CPI(M)

The CPI is against leasing out water resources for commercial purpose. Like the Congress, it proposes to create a new Ministry of Fisheries to safeguard the rights of the fishing community. The CPI(M) plans to stop privatisation of water resources and formulate a fresh National Water Policy that emphasises on conserving water.

It also proposes to launch a National Soil Amelioration and Replenishment Programme, along with sustainable management of water resources.

By strengthening the Central and State regulatory authorities, the party proposes to check river pollution, and also favours amendments to the Coastal Regulation Zone Act to protect the habitat and livelihood of coastal people.

"How key political parties plan to tackle India's water crisis", 24/04/2014, online at: <u>http://www.thehindubusinessline.com/news/politics/how-key-political-parties-plan-to-tackle-indias-water-crisis/article5944349.ece</u>

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* India Said to Forecast Normal Monsoon Rainfall

The monsoon in **India**, which provides more than 70 percent of annual rainfall, will be normal this year amid forecasts for the emergence of an El Nino that previously caused droughts, government officials said.

Rain may be 96 percent of a 50-year average of 89 centimeters (35 inches) in the June-September period, said two officials with direct knowledge of the matter, requesting not to be identified before an announcement by the state weather forecaster on April 24. Actual rainfall may be 5 percent more or less than the prediction, the officials said.

The monsoon is the main source of irrigation for India's 235 million farmers and planting of crops from corn to soybeans are dependent on timely arrival of the seasonal rains as more than half of farm land is rain-fed. Agriculture represents about 14 percent of <u>Asia</u>'s third-largest economy, which is also the world's second-largest producer of rice, sugar, cotton and wheat. Consumer price <u>inflation</u>averaged 10.07 percent in 2013 even as the nation harvested record crops.

"In case of a bad monsoon food inflation number will further go out of hand," <u>Madan Sabnavis</u>, an economist at Credit Analysis & Research Ltd. in Mumbai, said by phone. "In which case, the <u>Reserve Bank</u> of India's ability to lower the <u>interest rates</u> will become very much limited."

Inflation Worries

Elevated inflation has prompted RBI Governor Raghuram Rajan to raise the benchmark rate 75 basis points since taking over at the central bank in September. Risks to inflation arise from guaranteed prices for farm products, higher energy costs and **government spending** on subsidies, according to Rajan. There is also a threat from less-than-normal monsoon rains due to possible El Nino effects, he has said.

The consumer-price index accelerated 8.31 percent in March from a year earlier, quickening for the first time in four months, according to the <u>Central Statistics Office</u>. The economy grew 4.9 percent



in the year ended March 31, after decade-low growth of 4.5 percent the prior year, the Statistics Ministry estimates.

Cotton futures in <u>New York</u> dropped for a second session yesterday on concern normal rainfall will boost supplies from India, the world's second-biggest exporter. The July delivery contract, which fell as much as 0.9 percent yesterday, traded at 93.18 cents on ICE Futures U.S. by 4:37 p.m. in Mumbai.

The India Meteorological Department will issue a detailed monsoon forecast in June after this month's first long-range prediction, the officials said. Showers between 96 percent and 104 percent of the average are considered normal by the department. B.P. Yadav, a spokesman of <u>India</u> <u>Meteorological Department</u>, declined to comment.

El Nino Odds

Signs have been detected that El Nino is imminent, presaging changes to global weather patterns in the months ahead, the <u>World Meteorological Organization</u> said last week. The chances that an El Nino will develop are growing, the U.S. Climate Prediction Center said this month, boosting the odds to 65 percent from 52 percent. The weather pattern may develop by July, <u>Australia</u>'s Bureau of Meteorology said today.

El Ninos occur irregularly every two to seven years and are associated with warmer than average years. They tend to lead to abnormally dry conditions over parts of Australia, the Philippines and **Brazil**, and to more intense storms in the **Gulf of Mexico**. Their counterpart, La Ninas, are associated with cooler years.

Drought Years

India <u>received</u> normal or more-than-normal rains during only three El Nino years out of the past 10 occurrences while the remaining were drought years, according to data from the meteorological



department. Monsoon rainfall was the least in almost four decades in 2009, when El Nino occurred last, data show. Rice and oilseed harvests fell 10 percent, according to Agriculture Ministry data.

An El Nino has not always resulted in weak monsoons in India and mitigating factors this year may include comfortable reservoir water levels and excess food grain stockpiles, Rohini Malkani and Anurag Jha, Mumbai-based analysts at Citigroup, said in a report last month.

Production of food grains from rice to wheat, lentils and corn is seen at a record 263.2 million metric tons in the year ending June after more than normal monsoon and cooler winter boosted yields, according to the ministry.

*India Saidto Forecast Normal Monscon Rainfall", 2204/2014, online at <a href="http://www.bloomberg.com/news/2014/04-21/india-said-to-forecast-normal-monscon-rainfall-as-el-nino-loomshtml?utm-source=Circle+of+Blue+WaterNews+%26+Alerts&utm-campaign=7071753388-RSS EMAIL CAMPAIGN&utm-medium=email&utm-tem=0 c1265b6ed7-7071753388-250657169

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China's underground water quality worsens: report

BEIJING, April 22 (Xinhua) -- Nearly 60 percent of monitored areas of China had "very poor" or "relatively poor" underground water quality last year, a new report showed on Tuesday.

Among 4,778 spots in 203 cities monitored by the Ministry of Land and Resources, underground water quality was ranked "relatively poor" in 43.9 percent of them and "very poor" in another 15.7 percent last year, said the annual report unveiled by the ministry.

According to China's underground water standards, water of relatively poor quality can only be used for drinking after proper treatment. Water of very poor quality cannot be used as source of drinking water.

The result means 59.6 percent of underground water could not be directly drunk last year, up from 57.4 percent for 2012.

On a year-on-year basis, water quality became worse in 754 monitored spots, but improved in only 647 areas.

"China's underground water quality worsens: report", 22/04/2014, online at: http://news.xinhuanet.com/english/china/2014-04/22/c_126421022.htm?utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=7071753388-RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_c1265b6ed7-7071753388-250657169

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China Province to Spend \$3.35 Billion on Water Projects

A northeastern Chinese province is planning to invest 20.9 billion <u>yuan</u> (\$3.35 billion) this year on water-conservation projects as the world's most-populous nation tries to ensure residential and industrial supplies.

The works in Heilongjiang province, which borders **<u>Russia</u>**, will highlight agricultural irrigation and drainage, improved flood protection and preserving water resources, the official Xinhua News Agency reported today, citing a provincial government work meeting.

The central government in China, beset by water and air pollution issues, plans to raise prices of water supplied to some conservancy projects and introduce tier pricing, according to a work report issued by the National Development and Reform Commission in March.

Water-conservation investments totaled 439.7 billion yuan in 2013, with 140.8 billion yuan from the central government and the rest from local governments, Water Resources Minister Chen Lei said in January.

Population and urbanization growth are pressuring water resources in <u>China</u>. The nation will accelerate planning for medium and large reservoirs, especially in the southwest, and is undertaking a plan to move 44.8 billion cubic meters of water a year from the south to the north, according to Chen.

"China Province to Spend \$3.35 Billion on Water Projects", 22/04/2014, online at: <u>http://www.bloomberg.com/news/2014-04-22/china-province-to-spend-3-35-billion-on-water-</u> projects.html?utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=7071753388-<u>RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_c1265b6ed7-7071753388-250657169</u>

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* Construction of Diamer-Bhasha, Dasu dams to help overcome energy crisis

ISLAMABAD- Analyst Dr. Nasir Jamal has said that Neelum Jhelum Hydroelectric Project, Diamer-Bhasha Dam, Dasu dam and other energy power projects will help to overcome the energy crisis. Talking to journalists, he said that Pakistan exports increased in spite of the energy crisis and other challenges faced by the country. He said that current indicators showed that Pakistan's economy was improving and rupee appreciates against dollar first time in country's history. He maintained that government was empowering youth through the Prime Minister Youth Loan Scheme. Chief Coordinator Prime Minister's Youth Skills Development Program (PMYSDP) Maiza Hameed has said the State Bank is facilitating scrutiny process of Youth Business Loan Scheme. She said loan is being disbursed in a transparent manner and National Bank has made a committee to deal with these applications. Maiza Hameed said we are going to launch another programme with the help of NAVTCC skill training programme in which 25000 youth will be given training and later employment will be given to them. Skill-wise training will be given to them and those people who left in the previous balloting will be included in the next balloting, she added.

"Construction of Diamer-Bhasha, Dasu dams to help overcome energy crisis", 24/04/2014, online at: <u>http://www.nation.com.pk/national/24-Apr-2014/construction-of-diamer-bhasha-dasu-dams-to-help-overcome-energy-crisis</u>

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* Central Asian Hydroelectric Water Wars Heat Up

Kyrgyzstan's Toktogul hydroelectric power plant low water levels may <u>cause water shortages</u> this spring and summer for downstream Uzbek cotton farmers. Uzbekistan annually uses 53 billion cubic meters of water for irrigation and during the growing season the country needs an additional three billion cubic meters, which are provided by the Toktogul HPP. Kyrgyz authorities earlier said that this year the Toktogul reservoir had accumulated only eight billion cubic meters of water, instead of 11 billion required for normal operation. To provide downstream Kazakhstan, Turkmenistan and Uzbekistan with irrigation water, the Toktogul reservoir needs to accumulate 19 billion cubic meters each year.

The problem is not new -- in 2013, Kyrgyzstan halted water releases to Uzbekistan because of low water in several of its reservoirs, which resulted in water shortages in Uzbekistan's Namangan, Andizhan, Fergana, Syrdarya, Jizzakh, Tashkent, Samarkand, Bukhara, Kashkadaria, Khorezm and Surkhandaria regions.

Central Asian water disputes between the five "Stans" -- Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan -- have been slowly worsening since the implosion of the USSR in 1991.

Water inextricably links downstream Kazakh, Turkmen and Uzbek agrarian production with upstream Kyrgyzstan's and Tajikistan's hydroelectric power production. While during the last 23 years most foreign investors have focused on Central Asia's extractive industries (energy and minerals), water is an issue of rising concern throughout the "Stans," and concerns ranging from energy companies with expertise to renovate decrepit Soviet-era hydroelectric facilities to business concerns specializing in advanced water purification and conservation techniques or high-yield, drought and pest resistant crops have increasingly come to the forefront of Central Asian investment agendas.

Glacier melt is carried by Central Asia's 1,500-mile Amu Darya and 1,380-mile Syr Darya rivers, which originate in the Pamir and Tien Shan mountain ranges in Tajikistan and Kyrgyzstan before meandering westwards through Uzbekistan, Kazakhstan and Turkmenistan to empty into the Aral Sea. The Amu Darya's headwaters in the form of the Panj River arise in Tajikistan, while the Syr



Darya originates in Kyrgyzstan. Besides river water, Tajikistan also contains many glaciers, of which the 270-square-mile Fedenko glacier is the largest in the world outside the Polar Regions.

The Amu Darya and Syr Darya water flows, whose combined flow before massive Soviet agricultural projects were implemented equalled the Nile, are unique in that, until 1991, they were part of a single country, the Soviet Union, with water management policy directed by Moscow. The amount of water taken from the Amu Darya and Syr Darya doubled between 1960 and 2000, allowing cotton production to nearly double in the same period. By the 1980s, nearly 90 percent of water use in Central Asia was directed toward agriculture, primarily cotton production, with the Amu Darya and the Syr Darya supplying nearly 75 percent of the water flow.

It is sustaining this Soviet cotton agricultural legacy that so concerns Uzbekistan with the water policies of its upstream neighbors Kyrgyzstan and Tajikistan.

But hydrocarbon poor Kyrgyzstan and Tajikistan, facing rising natural gas prices from Uzbekistan, see increasing their hydroelectric potential as a growth sector in the form of electricity exports to South Asia, meaning that water discharges for power generation increasingly take precedence over the agricultural concerns of their downstream neighbors.

Tajikistan has few immediate options but to attempt to develop its hydropower assets. Only 7 percent of Tajikistan's land is arable, and the U.S. government estimated that the country's 2007 oil production was a paltry 280 barrels per day, and in 2006 Tajikistan produced only one billion cubic feet (bcf) of natural gas, forcing it to import 44 bcf to meet demand. The energy situation is equally dire in neighboring Kyrgyzstan, whose 15 hydroelectric stations generate 92.5 percent of domestically consumed electricity.

Uzbekistan overall <u>consumes</u> more than 50 percent of the two rivers' flow for its cotton production, which currently produces a significant percentage of the country's foreign currency earnings. In Turkmenistan, the Amu Darya's waters are used exclusively for agriculture as it flows onward through Uzbekistan to the Aral Sea. Kazakhstan's water relations with neighboring states are determined by its significant dependence on their river flows, which account for 44 percent of Kazakhstan's surface water resources.



WATER RESEARCH PROGRAMME -Weekly Bulletin-

According to Kyrgyz <u>expert</u> Valentina Kasymova, Tajikistan's hydropower potential is over 300 billion kilowatt-hours and Kyrgyzstan over 142 billion kWh.

Given the discrepancies between downstream Uzbekistan, Kazakhstan and Turkmenistan's agrarian needs and upstream Kyrgyzstan and Tajikistan's dreams of hydroelectric prosperity and export sales, such tensions can only increase.

"Central Asian Hydroelectric Water Wars Heat Up", 24/04/2014, online at: <u>http://www.huffingtonpost.com/john-ck-daly/central-asian-hydroelectric-water_b_5199616.html</u>

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Water fight

IF you are in Bangkok during the annual festival of Songkran, celebrated sometime in the month of March or early April, be prepared to get wet, really wet. Suddenly out of nowhere someone throws buckets of water at you, not in anger but in jest.

I had this soaking experience years ago when I joined a tour of the Thai capital during the festivities. The tour guide did not warn his wards of an impending disaster; I wasn't prepared for the fight, friendly though it might have been. I thought this was a wasteful custom indeed – similar to the Spanish tradition of fighting with ripe tomatoes.

The water may be dirty or the tomatoes rotten but that's beside the point; the tourists love to join in the fun.

To the Thais this is not wasting a valuable resource at all: the water brings money to the coffers of their country. So do the tomatoes to the Spaniards.

Fight over water

If you were in Selangor for the whole of last month and early this week, you would have been in the midst of a fight over water too, but this battle has assumed a political dimension. For whosoever controls water controls political power in one of the richest states of Malaysia, even though water supply and its management is the responsibility of that state. Water is big business in the Klang Valley where most of the industries are located.

The federal government and the state government have been at loggerheads over water since 2008 when PKR won the election. The new Selangor government would like to control the four concessionaires but these have been run for donkey's years by the cronies of the federal politicians in power. They are not easy to dislodge. The state government has been held to ransom to approve water projects such as Langat 2 – the tunnel carrying water from Pahang.

Talks of taking over the present concessionaires by the state government have been going on for some time. However, not as recent as early February this year was there a light in the tunnel, when the state government gave the green light for Langat 2 to proceed in return for help from the central government to enable the former to take over the concessionaires at an affordable price. That would not affect their pet policy of giving free water to the households. Free water means solid votes to the incumbent government when elections come around.



At this stage, the final outcome of the MoU signed recently between the two governments is a matter of 'touch and go'. The Selangor government has said it would not pay for the takeovers for more than RM9.65 billion, obviously thinking about the possible implications: watering down of the policy of free water and of the possible political backlash.

Hopefully, there will be some cool heads among the negotiators. So many vested interests are involved in the supply and sale of water that the interests of the ordinary users of water – the households, the industries, etc – are largely ignored while the battle for water control rages on. So the rationing of water goes on forever ... and the consumers are of secondary importance for Politics First, People Be Patient.

The crux of the problem is simply that the state government is being run by another group of politicians, with different ideas on how to handle the state's assets while the federal government expects every state government to do its bidding or toe its line or else ... Such is the extent to which those with vested interests are prepared to go - raking political mud out of the river just to up the ante and score political points.

The water authorities have resorted to water rationing until the Selangor River is filled up again. That depends on the kindness of the rain clouds. There was heavy rain last week but it was not enough to fill up the dams.

Apparently, the bomohs did not manage to push the clouds over to the Selangor River. Cloud seeding, perhaps, if the weather men think it's politically correct.

Lesson from Selangor

Why are we in Sarawak concerned about what happens in another state which is some 8,000km away? What has Selangor water politics got to do with the price of fish in Kuching?

Here's some lessons to draw from the Selangor fiasco.

People living along the coastal areas of Sarawak have been suffering from a shortage of clean water for years. No doubt water projects have been implemented for the past 50 years on an ad hoc basis – supply water tanks when people ask for them; build water plants when people are fed up with requests not being granted because there is no allocation in this and that Malaysia Plan. Bersabarlah dahulu (be patient, mate). Some projects have been completed; others are still being or half implemented, or the contractors have run away. Delay, delay and delay. Water, water, water – everywhere but ...

National Policy on water?



The fact is that there is no national water policy as forward looking or innovative as in some other countries – the use of recycled water from rivers and streams, harvesting of rain as part of new housing schemes, digging for underground water, desalination projects.

People in the interior of Sarawak are used to depending on water from the rivers and streams for cooking and bathing, but now these sources are mainly polluted from the run-offs from the many oil palm plantations and logging. Has there been any attempt to dig wells for them? I haven't heard of any such big scale projects for the people in the interior of Sarawak, though there has been talk, talk and more talk.

These ideas are far-fetched for the moment, perhaps, but time will come when we have to be adaptive and innovative in order to get enough good clean water for survival. We prefer to fight over water for political purposes, not fight with water like the Thais do during Songkran for fun.

We are not being innovative, we are wasting a lot of time on politics.

"Water fight", 27/04/2014, online at: http://www.theborneopost.com/2014/04/27/water-fight/

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✤ Gulf experts confront national, regional security challenges

High-profile diplomats and experts from Gulf Co-operation Council (GCC) states met April 23rd-24th in Bahrain for a conference that aimed to help the countries tackle current national and regional security challenges.

Organised by the Bahrain Centre for Strategic, International and Energy Studies (DERASAT), the conference held discussion sessions under the headings "Current Challenges and Future Strategies", "Changes in the Regional Environment: Transient Developments or Strategic Shifts", "Global Strategic Shifts and their Impact on the Security of GCC Countries", "Youth and Women as Partners in the Formulation of National Security for GCC Countries" and "Water Security as a National Strategic Requirement".

Gulf unity, Iran's place in regional affairs and the involvement of Gulf citizens in the Syrian war all featured among the discussion topics, participants told Al-Shorfa.

Former UAE foreign minister Mohammed al-Shaali said no one ever foresaw a worst-case scenario in which the six GCC countries could reach their current prevailing state of disunion, at a time when hopes had been high for the achievement of full integration among GCC countries and the establishment of a strong Gulf union, along the lines of the European Union experiment.

The conference, in its purely Gulf mould, was a suitable platform for frank discussions of all issues of concern to GCC citizens, he said, and gave absolute freedom to explore the depths of all common concerns and how to find solutions for them.

The conference emphasised that there is no point in establishing a Gulf union if it is not based on sound political and economic reforms, said Dhafer al-Ajmi, CEO of independent Kuwait-based research centre the Gulf Monitoring Group.

"GCC countries adopted two matrices to protect their common security, the GCC joint security agreement and the joint defence agreement," he told Al-Shorfa, describing these agreements as sufficient in the face all of internal and external threats and crises.

He spoke to steps taken by Gulf countries to deal with citizens who have travelled to Syria to fight alongside extremist opposition fighters.

"The steps <u>taken by Saudi Arabia and Bahrain</u> -- punishing jihadists, providing Munasaha to returnees from hotbeds of unrest and banning further travel to Syria for the purpose of fighting -- were two natural and correct moves to establish a sound legal framework [to deal] with whomever



tampers with the security of homelands and exposes them to the dangers of terrorism and extremism," he said.

The national and regional security conference comes at a sensitive time in the history of the GCC since its inception three decades ago, in view of the repercussions of the Syrian crisis and the continuing threats Iran poses to security, said Mohammed al-Salmi, a Saudi expert on Iranian affairs and assistant professor of Persian literature and history at Umm al-Qura University in the kingdom.

"Gulf countries want Iran to turn from issuing resounding statements to taking concrete and practical steps to reassure its neighbours about its political, security and nuclear intentions," he told Al-Shorfa.

"We are weary of the Iranian statements [that are] blown into the air, to no avail," al-Salmi added. "We see the faces of the Iranian leaders change, but its hostile policies towards its neighbours are still the same and have not budged."

He said he hopes that Iran would work to establish closer relations and regional security through practical steps, stop its interference in Bahrain, eastern Saudi Arabia, <u>Yemen</u>, Iraq and Syria, and allow the Syrians to resolve their issues among themselves.

Saudi Prince Turki al-Faisal, chairman of the King Faisal Centre for Research and Islamic Studies, in a speech described the Iranian regime's policies as "menacing to Gulf security", adding, "Four years after the outbreak of the events of the so-called Arab spring, the region is now going through a phase of severe labour pains."

"Gulf experts confront national, regional security challenges", 25/04/2014, online at: <u>http://al-shorfa.com/en_GB/articles/meii/features/2014/04/25/feature-01</u>

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***** Water crisis: Blame the political game

On April 22, the 8pm news reported that in 29 days time the Sungai Selangor dam in Kuala Kubu Baru which supplies water to 60% of the population in KL and Selangor will reach the critical level of 30%. Currently its level is standing at 37%.

Therefore going by the above news report, the folks of KL and Selangor may have a golden opportunity to experience a 'Water Emergency' on or before May 22. This scary scenario had surprised many among the 50 people interviewed by this columnist as it was only about three weeks ago when we were informed that it would take about 71 days to reach the critical level which will then only be in June.

Why now May? Why is it that despite having rainfall this month, the situation at the Sungai Selangor dam has not seen any improvement? Is something amiss? Are there thieves stealing water from the dam?

It is thus a great miracle that despite having the presence of rainfall this month, this rain has somehow manage to avoid the Sungai Selangor dam.

It is also illogical that the number of days to reach critical has plunged suddenly from 71 to 29 as this shows that there has been a sudden spike in water consumption.

Selangor Menteri Besar Khalid Ibrahim has announced that water ration will only stop when the dam reaches 55%. In earlier days he had given the figure as between 65% to 70%. Sometimes he also gives the figure of 50%.

This columnist's friend, Ahmad Lutfi Othman who writes in the PAS newsletter, Harakah has this to say: "Fakta berserabut, Kerajaan Selangor lembab dan tidak proaktif". (Facts are confusing, the Selangor Government is slow to act and not proactive.)

Selangor and KL folks must now get ready for what can be labelled as 'The Big Ration'. Even those who are not affected by the water ration now will be affected when 'The Big Ration' takes place.

This columnist who chanced upon an ex-colleague when paying bills at the post office recently heard him lamenting that "the water ration has caused much hardship because he has five children



schooling and as he is holding two jobs and both he and his wife are working, they hardly have much time to store enough water for everyone and all their needs".

Political game

Everyone who was interviewed said that the water problem boils down to politics. There seems to be no way out of this impasse as the water ration is a created one.

Said a noodle-seller in Kepong, "As long as they want to ration us, we have no choice but to keep quiet and work hard to store water."

He is of the view that this so-called water shortage problem will go on because it is nothing but a political problem and not a water problem at all.

So far, this columnist's uncle's factory located in the Sungai Buloh industrial area has been spared. There are many factories in this area and if they are affected, then the consequences will be dire.

These days people have to take less baths and use water sparingly.

Eating out is a problem but cooking at home is also difficult. One needs to wash vegetables under a running tap, and chicken and fish need to be cleaned thoroughly. One solution is to eat tinned food, chicken nuggets, pre-prepared fish and chips, hash browns and the like.

Everyone has opined that in the worst case scenario, the water ration must stop before the Muslim fasting month of Ramadan which will begin at the end of June. There should not be any water ration during the months of Ramadan and Syawal (when Hari Raya Aidil Fitri is celebrated for one month).

Thus the rationing must stop at the end of June and discontinued henceforth.

Rakyat's interest

By the end of June, many would have tolerated this terrible situation for four months. The BN federal government, the Pakatan Rakyat Selangor state government and all the relevant water authorities should think of 'People First Performance Now'.



By the way, this columnist who in previous articles have predicted that there will be rain in April has been proven right.

The Sungai Selangor dam, according to Chinese metaphycis is located in the north which is a water direction so why does the rain fail to fall into the dam? This is highly illogical when KL and Selangor are having rain regularly.

Those interviewed are getting very angry with the water ration that arises because of the political tussle for power.

This means that Malaysian politics has gone down the drain wherein the political maneuverings of those who are tussling for power has put the rakyat's interests on the backburner.

The politicians are fighting for power and we the people are suffering – this is the plight of the ordinary rakyat in our nation today.

"Water crisis: Blame the political game", 22/04/2014, online at: http://www.freemalaysiatoday.com/category/opinion/2014/04/26/water-crisis-blame-the-political-game/

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* NASA/NOAA Climatologist Says Global Water Resources Disaster Can Be Averted

If management of Earth's water resources continues on its present path, the results could be disastrous reports retired NOAA and NASA Climatologist L. DeWayne Cecil, PhD, The terrible effects of diminishing water resources and global drought, according to Dr, Cecil, are already seen in Yemen and Somalia. California, Nevada and Arizona may not be far behind, creating a grim world of chronic, widespread water scarcity. Fortunately, Dr. Cecil also believes that there may be reasons for optimism.

Dr. Cecil made his remarks on the Sharon Kleyne Hour Power of Water® radio show, where he is a frequent guest. Dr. Cecil is currently employed by Global Science and Technology of Ashville, North Carolina

Sharon Kleyne, host of the globally syndicated Sharon Kleyne Hour Power of Water® show, is Founder of Bio Logic Aqua Research, a fresh water, atmospheric and health research and product development center. Natures Tears® EyeMist® is the Research Center's global signature product for dry eyes. The show is broadcast on the VoiceAmerica Variety Channel, Health and Wellness Channel, and Apple iTunes.

The main causes of water shortages, Dr. Cecil believes, tend to be more political and economic than environmental. Political causes can include greedy or impoverished governments unwilling or unable to spend money on water infrastructure; unscrupulous leaders who use water as a weapon of control; and water shortages as justification to attack other countries. Poor water infrastructure is the most frequent economic cause. In the United States, water shortages may result from governments not willing to work together and from shortsightedness in planning for the future of water resources.

Dr. Cecil and Sharon Kleyne both emphasize that without water, life on Earth could not survive. Dr. Cecil noted that the resolution of human conflict regarding water is made more difficult because chronic physical dehydration from drinking too little water can cause an increase in stress, aggression and anger. Abundant water and good nutrition has the opposite effect.

Dr. Cecil cited that Salt Lake Valley in Utah as an area struggling with water resource allocation. Projections are that by 2035, the snow pack in the adjacent Wasatch Mountains will decrease by onethird while the valley population will double. Meanwhile, according to Cecil, annual drought in the United States, which used to be confined to the arid West (California, Nevada, Arizona, Utah, New Mexico and Texas), now includes Colorado, Georgia and Alabama.



Under the George W. Bush administration, Dr. Cecil noted, an attempt was made to discover ways to counteract the global water crisis through engineering – building more dams and pipelines. Barak Obama places a greater emphasis on conservation. Under his approach, if using a beneficial resource, such as a river, is discovered to be harmful to the environment, rather than seek ways to mitigate the harm, they would simply make it illegal to use the resource.

Such an approach is of little benefit to people in Somalia, for example, which lacks basic water, food, shelter, clothing, medical care and sanitation.

The places to start in solving the global water resources problem, according to Dr. Cecil and Sharon Kleyne, are: (1) Population control. (2) The use of technology to increase the amount of available fresh water on the globe. (3) Making fresh water a basic human right available to everyone at no cost. The reason for Dr Cecil's is that a few places in the world with chronic water shortages have solved their problem. The densely populated island nation of Singapore is the best example. Despite recent extend drought, Singapore has not cut back on its water allotments.

Dr. Cecil and Sharon Kleyne believe that if properly and innovatively managed, with people working together, there should be enough water for everyone. Despite the current drought in many parts of the globe, according to Cecil and Kleyne, humans on Earth n Earth have the ability and knowledge right now to avoid a global water disaster.

The question is, will the people in charge act in time or will they bicker and drag their heels until it's too late?

"NASA/NOAA Climatologist Says Global Water Resources Disaster Can Be Averted", 24/04/2014, online at: http://www.prweb.com/releases/2014/04/prweb11791640.htm

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✤ Ukraine Cuts Water Supply to Russia's Crimea

Supplying water to Crimea can be carried out through a backup plan, the Prime Minister of Crimea, Sergey Aksyonov, said Saturday, RT reported.

"Crimea will not be left without water! There is a backup plan. There are no problems with drinking water. Agricultural producers will be compensated for the losses," Aksyonov said on his Twitter page.

Crimea had received 85 percent of its fresh water through the canal, which stretches from the Khakhovka Reservoir towards the city of Kerch on the East coast of Crimea terminating just short of the city. Earlier there were reports that Ukraine had suspended the water supply to Crimea, but the state department of water services denied these reports. Crimea voted to break away from Ukraine and become part of Russia following the coup in Kiev in February.

"Ukraine Cuts Water Supply to Russia's Crimea", 27/04/2014, online at: http://english.farsnews.com/newstext.aspx?nn=13930207000291

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* At Mekong meet, all eyes on Laos dams

At Saturday's Mekong summit in Ho Chi Minh City, leaders from Cambodia and Vietnam put Laos in the hot seat with strongly worded statements requesting regional cooperation and responsible use of the shared waterways.

"Even though they weren't mentioned in the statements by name, everybody knew that implicitly [Laos's] Don Sahong and Xayaburi [dams] were at the centre of the discussions," Marc Goichot, a WWF hydropowerspecialist, said.

In a declaration following the summit, prime ministers from Thailand, Cambodia, Vietnam and Laos agreed toprioritise studies assessing potential effects and consequences of major hydropower projects.

The Vietnamese and Cambodian delegations also requested suspension of major dam developments until after the studies' completion and subsequent development of management guidelines protecting food security and livelihoods.

"We have to protect our own interests. We will not allow [for construction] if there will be a serious impact," Lim Kean Hor, minister of water resources and meteorology, said.

Development partners at the summit also called for the Lower Mekong countries to recommit to transboundarycollaboration through the Mekong River Commission – the intergovernmental body charged with coordinating sustainable use of the shared river resources.

The development partners on Friday also called on Cambodia to submit its Lower Sesan II dam for regional consultation, a request Ministry of Environment officials declined to comment on yesterday.

By the close of the summit, regional leaders reaffirmed their commitment to cooperation in the face of an increasing number of challenges that threaten the Mekong ecosystem, an approach conservationists say is crucial to protecting the river.

"If the Mekong leaders back their words with actions, [the summit] will hopefully mark the end of irresponsible dam development and the beginning of a more sustainable Mekong River," Ame Trandem, International Rivers' Southeast Asia coordinator, said.

"At Mekong meet, all eyes on Laos dams", 24/04/2014, online at: http://mekong.waterandfood.org/archives/4957

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Mekong River nations urged to drop 11 hydropower projects

VietNamNet Bridge – The Save the Mekong Coalition has written to the government leaders of the nations in the Mekong River basin to cancel 11 hydropower projects in the Lower Mekong mainstream, saying the dams could impact on the environment, natural recourses, aquatic life and ecological balance of the basin.

"On the occasion of the 2nd Mekong River Commission (MRC) Summit, the Save the Mekong Coalition writes to express our concern over the current state of the Mekong River due to the impact of existing and planned hydropower projects and the failure of regional cooperation in decision-making around hydropower on the Mekong mainstream," says the letter.

"We believe that the current trajectory of dam building in the Mekong River Basin undermines the commitments and spirit of the 1995 Mekong Agreement, most critically the Principles of Cooperation, under which parties agree 'to protect the environment, natural recourses, aquatic life...and ecological balance of the Mekong River Basin'."

In the letter sent last Thursday to the prime ministers of Vietnam, Thailand, Laos and Cambodia, the coalition said the 11 dams planned on the Lower Mekong mainstream are threatening to destroy the river's rich environmental and economic productivity.

The letter quotes the MRC's 2010 State of the Basin report as saying the mainstream dams "represent the single largest threat to wetlands, fisheries and local livelihoods of the Lower Mekong."

The dams could undermine the abundance, productivity and diversity of fish resources in the Mekong as critical fish migration routes would be blocked, leading to a substantial loss to fish resources, said the Save the Mekong Coalition.

"If all 11 dams are built, the result would be an estimated 550,000-880,000 tons - equivalent to 26-42% - loss of fish resources. Fisheries experts have stated that there is currently no technology that exists to mitigate the impacts these dams would have to fisheries. Such losses would undermine food security and livelihoods throughout the basin."

The coalition, which comprises around 55 environment and water source protection organizations worldwide, warned, "The hydrological and ecological changes caused by dams on the Mekong mainstream will irreversibly alter the river's complex ecosystem, causing permanent loss of biodiversity and blocking the flow of nutrient-rich sediment to the delta."



The dams would also affect riparian communities, disrupt their way of life, cultures, sense of community and food security, while around 40 million people in the Lower Mekong basin could take a hit from the projects. The impacts would be directly felt by more than 106,000 people, who face relocation and are likely to be forced into a life of greater poverty.

Over the past 20 years, over 3,200 MW of electricity output has been developed along the tributaries of the Mekong River. Meanwhile, experts have estimated hydropower potential of the river at around 30,000 MW.

Speaking at the opening ceremony of the second MRC Summit in HCMC on Saturday, Vietnamese Prime Minister Nguyen Tan Dung said the Mekong River basin has never faced as many challenges as now. Accelerating demands for energy and food have piled greater pressure on the water resources and the biological environment of the area, he noted.

The Mekong River plays a pivotal role in socioeconomic development in Vietnam and food security in the region. In Vietnam, the Mekong Delta covers a total area of over 40,000 square kilometers, sheltering 20 million people and contributing 27% of the nation's gross domestic product (GDP), 90% of rice exports and 60% of seafood exports a year, Dung said.

Dung requested the nations in the Mekong River basin to observe the Mekong Agreement 1995 and regulations of the Mekong River Commission on use of water and natural resources. All the stakeholders should speed up studies on impacts of hydropower damming projects in the river mainstream.

The Vietnamese Government will announce results of a study on impacts of hydropower damming at the end of 2015, Dung added.

Cambodian Prime Minister Hun Sen said the four nations should focus on common water use regulations as earlier committed. Cambodia is also ready for organizing the third MRC Summit in April 2018.

The basin of the Mekong River covers a total land area of 795,000 square kilometers from the east of the Tibetan Plateau to the Mekong Delta, sheltering 20,000 plants and 850 fish species.

"Mekong River nations urged to drop 11 hydropower projects", 23/04/2014, online at: http://english.vietnamnet.vn/fms/environment/100482/mekong-river-nations-urged-to-drop-11-hydropower-projects.html

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Sy participating in QP Environment Fair 2014, QAPCO reaffirms its commitment to the environment, water preservation and sustainability

Qatar Petrochemical Company (QAPCO) Q.S.C., a leading petrochemical powerhouse in the Middle East, is pleased to participate once again in the <u>*QP*</u> *Environment Fair (QPEF), to raise environmental awareness and encourage water conservation practices, by reaching out to the community, to highlight the importance of preserving the environment, for a sustainable future.* Held under the patronage of His Excellency Dr. Mohammed bin Saleh Al-Sada, Minister of Energy and<u>Industry</u> and Chairman & Managing Director of <u>Qatar Petroleum (QP), QP</u> 's Environment Fair is an annual platform that brings together oil and gas corporations and the public.

The 8th edition of QPEF is held under the theme "Use of Water in the Oil and Gas <u>Industry</u>". Qatar has well understood that water is a scarce resource; hence corporations in particular have the responsibility to preserve this precious resource.

On the occasion of the 2014 edition of QPEF, Dr. Mohammed Yousef Al Mulla, Vice Chairman and CEO of QAPCO mentioned, "Corporations like QAPCO have the responsibility to optimize the impact of their operations on the environment, the economy and society. At QAPCO, the concepts of sustainable development are embedded within our strategy, from our daily operations to our products. Environmental management is more than a compliance exercise; it is part of our commitment to grow stronger by managing our impact from every angle, including the environment and in particular water management."

Water plays a critical role in QAPCO's operations. It is used for cooling, steam production, general operations, and potable water consumption. QAPCO operates two water desalination units, which produce the majority of freshwater consumed. Additionally, QAPCO recycles 39.28% of freshwater input for re-use in production and within its grey water landscaping system.

Reflecting QAPCO's continuous efforts to further improve its environmental performance, water intensity for instance was reduced by 17% between 2011 and 2013, standing testament to QAPCO's commitment to water preservation.

QAPCO's eye-catching stand captured the water cycle within the QAPCO plants, highlighting the company's commitment to optimize water utilization and preservation of the environment through specific environmental programs.



In addition, QAPCO engaged with the public and the many children that visited the fair via an array of entertaining and educating activities and fun workshops, aimed at raising awareness amongst the community about the importance of preserving water at home. QAPCO launched an activity book that was distributed to the children where they could test their knowledge about water and reduce water usage at home through easy practical steps.

Dr. Al Mulla continued by saying, "The QPEF is a fantastic opportunity to engage with the youth. Through positive interactions, we can further strengthen the role and active participation of the youth in environmental protection. We are all part of the change. We can all make a difference in shaping a sustainable future."

Furthermore, QAPCO shed light on its newly launched internal Water Conservation campaign "Save Water, Save the Planet". Led by its Environment Section, QAPCO employees embarked on an innovative "Reduce your water usage at home" contest. The employees that will reduce the most their water usage over the course of 3 months will win the competition. The aim of the contest is to track water usage, in order to use water effectively and reduce our water consumption, by adopting environmentally friendly practices.

QAPCO continues to play an active role in the growth and development of Qatar's downstream energy sector economy, generating economic returns as well as supporting social development and environmental sustainability through investment in education, our employees, and environmental sustainability initiatives.

Since its establishment forty years ago, QAPCO has continuously invested to modernize and upgrade its facilities, adopting the latest and most sophisticated technologies and monitoring systems and following comprehensive environmental programs in a drive to further contribute to the preservation of the environment, limit its emissions, protect the flora and fauna, and focus on sustainable development.

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[&]quot;By participating in QP Environment Fair 2014, QAPCO reaffirms its commitment to the environment, water preservation and sustainability", 23/04/2014, online at:

http://www.zawya.com/story/By participating in QP Environment Fair 2014 QAPCO reaffirms its commitment to the environment water preservation and sustainability-ZAWYA20140423144955/



Brushing Teeth With Sewer Water Next Step as Texas Faces Drought

Pastor Bob McCartney of First Baptist Church tries to love his neighbor as himself. He's just not thrilled that Wichita Falls will soon have him drinking water that once swirled down his neighbor's toilet.

The Texas city of more than 104,000, suffering the worst drought on record, is about to become the first place in the U.S. to treat sewage and pump it directly back to residents. People who live in Wichita Falls, northwest of Dallas on the Oklahoma border, say they'll buy more bottled water and try not to think about what's flowing through their pipes when they bathe, brush their teeth and make soup.

"The idea is a bit grotesque," said McCartney, 48, who has led prayer vigils for rain. "I'm not crazy about it.

Other U.S. localities are considering similar approaches as water becomes scarcer -- the result of drought, growing populations and greater consumption. The crisis is worldwide. In California, food prices are being driven higher and from Brazil to southeast Asia a historic lack of rainfall is hobbling power and crop production.

Wichita Falls, a sun-baked ranch town that hosts the Hotter'N Hell Hundred endurance bike ride each August, is awaiting final state approval to begin recycling 5 million gallons a day starting next month, said Teresa Rose, deputy public works director. That's about a third of its usage.

Rose says the water will be safe and that all traces of sewage will be removed. Residents say they're not convinced.

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WATER RESEARCH PROGRAMME -Weekly Bulletin-

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"Brushing Teeth With Sewer Water Next Step as Texas Faces Drought", 21/04/2014, online at: http://www.businessweek.com/news/2014-04-21/wichita-falls-braces-for-water-from-sewers-with-texas-in-drought

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