

# ORSAM

## ORSAM WATER BULLETIN

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







Issue 147

#### **ORSAM WATER BULLETIN**

#### 23 September 2013 – 29 September 2013

- \* Turkish Firms to Raise Arbil's Water Supply
- **\*** Drying up of Lake Urmia to force three million Azerbaijanis to leave this region
- \* Bushehr NPP could help Iran with drinking water
- Syria, WHO to Jointly Monitor Drinking Water
- \* How Climate Change Sparked the Crisis in Syria
- **\*** Jordan to pump water to Israel
- \* Friedman: Mother Nature and the middle class in Iran, Egypt
- ✤ Israelis pay more for agricultural produce
- ✤ Palestine: EU contributes to construction of wastewater treatment plant
- **\*** WATCH: Water shortages plague West Bank villages
- Ethiopian Nile dam 30% completed
- \* Water Wars: Egyptians Condemn Ethiopia's Nile Dam Project
- Unquiet flows the Nile
- \* Mideast water, power issues in focus
- **\*** Water scarcity could drive conflict or cooperation
- \* Andhra Pradesh CM Kiran Reddy fears water wars
- Sand dams: Simple way to save water in Africa takes hold
- Day 1 of 'Arabian Water and Power Forum 2013' discusses challenges faced in the Middle East water and power industries
- \* Arab scientists learn to fight desertification in China Environment and development
- North Africa: Four countries sign new deal on sharing of world's largest water aquifer system
- Solution Content of Co
- \* Conflicting reporting systems may hinder companies' water risk strategies



- Senegal Group to Sue Water Company After Weeks of Shortages
- \* Two Billion People Threatened By Worsening Water Scarcity Due To Climate Crisis
- ✤ IPCC climate report: the digested read
- ✤ Islands fight to stay above water amid climate change
- \* U.N. panel 95 percent certain climate change is man-made
- World Tourism Day: Where Would You ''Go''?
- \* Water Critical for Economic Growth
- ✤ Community Agriculture Alliance: Water is for fighting
- Water pollution deemed critical problem



#### \* Turkish Firms to Raise Arbil's Water Supply

The groundbreaking ceremony of the Arbil Water Supply Improvement System and Duhok Distribution Network, which will almost double the water supply of Arbil, was made last week with the attendance of Nacherwan Barzani, the prime minister of Iraq's Kurdistan Regional Government (AKP).

A Turkish consortium, composed of STFA, Kalyon and Fernas, will complete the \$163 million project in 18 months.

The population in the KRG capital Arbil has almost doubled to around 2 million in the last two years, as the city has attracted many investors and workers from the surrounding region with its growth potential and secure environment. The water supply system of Arbil was not adequate to meet the water needs of the increasing population, so the KRG government opened a tender.

#### \$30 million to develope infrastructure

The daily water capacity of the city is set to increase to 244,000 square meters from 144,000 when the project goes online. The water will be transferred to the city from a large river branching off the Tigris. The consortium will also renew the water distribution network of Dohuk, another large city in the KRG.

"The KRG's infrastructure is not adequate to meet the needs of its growing population and increasing prosperity. We need to make a minimum of \$30 billion of infrastructure investments," Barzani said during the groundbreaking ceremony.

"Turkish Firms To Raise Arbil's Water Supply", 23/09/2013, online at: <u>http://www.hurriyetdailynews.com/turkish-firms-to-raise-arbils-water-supply.aspx?pageID=238&nID=54931&NewsCatID=345</u>

BACK TO TOP



#### **\*** Drying up of Lake Urmia to force three million Azerbaijanis to leave this region

Debates were organized last night on the first channel of Iranian state television on the situation at Lake Urmia, Tabnak news website reported on Tuesday.

The head of Iran's West Azerbaijan province Vahid Jalalzade, Deputy Director of Environmental Protection Organization for Natural Environment and Biodiversity Ahmed Ali Keykha, representatives of the Iranian parliament Mansour Hagigatpur and Nadir Gazipur participated in the debates, the report said.

According to the report, the debates were also attended by the head of the Water and Water Resources Department of Iran's Ministry of Eergy, Alireza Daimi and member of the Center for Scientific Research Organizations on Protection of Forests of Iran, Mohammad Darwish, as well as students from various regions of Iran.

During the television debates, the head of the West Azerbaijan province, Vahid Jalalzade said that these days the state of the Lake Urmia is very critical.

"For 30 years, Lake Urmia has been deprived of attention. As a result of construction of dams and climate change, some 70 percent of the lake has dried up and all forces should be mobilized for rescuing the lake," the head of the province said.

The representative of the Iranian parliament Mansour Hagigatpur noted that Lake Urmia is missing 14 million cubic meters of water.

Hagigatpur showed the increase sowing areas from 110,000 hectares to 450,000 hectares, the construction of dams, the occurrence of more than 30,000 water wells around as the main reasons of this situation. He also added that overflowing water from the Araz River into Lake Urmia is an unprofessional deed.

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

Another representative of the Iranian parliament Nadir Gazipur stressed that those responsible for the situation are at the ministries of energy and environment, and noted that Lake Urmia is suffering as a result of licenses issued by these ministries for the construction of dams and the agricultural works.

He noted that as a result of drying up of Lake Urmia, large sown areas will dry up, and as a result plants and manufacturing enterprises will be shut down.

In this case three million Azerbaijanis will be forced to leave the region.

"Drying up of Lake Urmia to force three million Azerbaijanis to leave this region", 24/09/2013, online at: <u>http://en.trend.az/news/politics/2193842.html</u>

BACK TO TOP



#### \* Bushehr NPP could help Iran with drinking water

Bushehr nuclear power plant will play an important role in the country's electricity generation, Iran's Energy Minister Hamid Chitchian said at the sidelines of Bushehr NPP takeover ceremony, IRNA News Agency reported.

He said the power plant annually saves some \$2 billion worth of fossil fuels.

According to Chitchian, by boosting Bushehr NPP, more drinking water can be produced which is gift for a dry country like Iran.

He went on to note that in 2.5 years the country would save enough money by operating nuclear plant to cover the plant's construction costs.

Iran officially took over the temporary control of the first unit of its Bushehr nuclear power plant from Russia for two years on September 23.

Under a protocol, the number of Russian contractors is decreased after the takeover, but they will continue offering services during the two-year guarantee period.

Head of the Atomic Energy Organisation of Iran (AEOI), Ali Akbar Salehi said that the nuclear plant has been in operation for 14 days before being handed over to Iran.

"During the period, the plant worked at 90 percent of its nominal capacity, i.e. 900 megawatts," he added.

He further said that the second unit of the nuclear plant will be constructed in the near future.

According to Salehi, the nuclear power plant is the safest in the world. He reassured Iran's neighbors over the safety of the plant, saying Tehran is ready to answer any questions in this regard.

He also added that Iran attained this achievement despite the sanctions imposed on country.

Previously, Salehi said that Bushehr nuclear power plant built by Russia is the most exceptional one in the world.



He said that 30-40 percent of the reactor's equipment is European, while 60-70 percent is Russian - a combination that made the reactor the most exceptional in the world.

The initial construction of the Bushehr nuclear power plant began in 1975 by German companies, but the work was halted following the 1979 Islamic Revolution.

Iran and Russia signed an agreement in 1995 to repair and complete the 1,000 megawatt reactor.

Bushehr nuclear power plant officially became operational in September 2011, generating electricity at 40 percent of its capacity, but it has been shut down several times due to 'technical problems and the need for more tests'.

The plant, which is operating under the full supervision of the IAEA, reached its maximum power generation capacity in August 2012.

Iran and Russia have assured the international community that the plant is fully compliant with highlevel safety standards and the International Atomic Energy Agency (IAEA) safeguards.

The U.S. and some of its Western allies suspect Iran of developing a nuclear weapon -- something that Iran denies. However, Iran has on numerous occasions stated that it is not seeking to develop nuclear weapons, using nuclear energy for medical researches instead.

"Bushehr NPP could help Iran with drinking water", 26/09/2013, online at: http://www.azernews.az/region/59954.html

BACK TO TOP



#### Syria, WHO to Jointly Monitor Drinking Water

Damascus, Sep 24 (Prensa Latina) Syria and the World Health Organization (WHO) have signed a memorandum of understanding for the building of a system to monitor drinking water quality in Syria.

The agreement, signed by the Syrian Ministry of Water Resources and the WHO, also establishes the creation of a contingency plan to respond to any water pollution incident.

Both parties agreed, as part of the humanitarian response government plan, to coordinate actions aimed at increasing the capacity of water systems, with the WHO providing state-of-the-art lab equipment to control water quality.

They will also jointly collaborate on the assessment of the needs of water treatment plants.

As he signed the memorandum, Syrian Minister of Water Resources Bassam Hanna highlighted the importance of his country cooperation with international organizations, as part of the Ministry efforts to guarantee drinking water quality and access to all Syrian citizens.

For her part, the WHO representative in Damascus, Elizabeth Hoff, said that all current reports on health indicators in Syria show no pandemics or infectious diseases caused by polluted water.

"Syria, WHO to Jointly Monitor Drinking Water", 24/09/2013, online at: http://www.plenglish.com/index.php?option=com\_content&task=view&id=1889871&Itemid=1

BACK TO TOP



#### \* How Climate Change Sparked the Crisis in Syria

What few people in Washington are talking about when it comes to the Syria crisis is the connection to climate change. While it may seem remote and implausible to Washington realists, the connection is clear. What is most disconcerting, however–vis-à-vis Damascus–is that America could have helped prevent Syria's violent revolution from escalating if we, alongside the international community, had done a better job helping out with one simple, but increasingly unattainable, resource: water.

Here's what happened: Prior to Syria's civil war, the country experienced a devastating drought impacting more than 1.3 million people, killing up to 85 percent of livestock in some regions and forcing 160 villages to be abandoned due to crop failures. Estimates that Syria's water scarcity problem would cause major social and economic instability, furthermore, emerged very early, just as President Barack Obama was taking office.

The warning signs were clear. The International Federation of Red Cross and Red Crescent Societies published a report on the Syrian drought, noting that some 800,000 people were severely vulnerable, and "over the past three years, their income has decreased by 90 percent and their assets and sources of livelihood have been severely compromised."

Even America's own National Oceanic and Atmospheric Administration released a study linking more frequent droughts in the Mediterranean and the Middle East to climate change. The study noted that Syria was experiencing the worst drying in the region.

The international community, however, failed to effectively counter this crisis. A confidential cable sent from Syria explained the dire situation, with the Syrian minister of agriculture stating publicly that the economic and social fallout from the drought was beyond their capacity as a country to deal with.

The cable explained how Syria, the United Nations Food and Agriculture Organization, U.N. Development Program and the World Food Program requested roughly \$20 million from donor countries and donor organizations to provide emergency food aid, restore food production and



safeguard agricultural livelihoods. In a direct appeal to Washington, an FAO representative in Damascus even expressed his hope that "improving relations" between the U.S. and Syria might encourage the U.S. to become a donor to the 2009 Drought Appeal.

The U.S. government balked at the appeal, saying: "Given the generous funding the U.S. currently provides to the Iraqi refugee community in Syria and the persistent problems WFP is experiencing with its efforts to import food for the refugee population, we question whether limited USG resources should be directed toward this appeal at this time." In light of America's lackluster leadership, the world's response was insufficient: Donor countries only ponied up around \$5 million, a quarter of the total need.

Lest we make this mistake again, how can the international community, led by the U.S., do a better job of responding–preventively and pre-emptively–to resource scarcity issues that have the potential to instigate social unrest and mass violence?

Beyond better funding and emergency aid response, we must first ferret out what leads to these resource conflicts and, in Syria's case, what led to its water conflict. Remember that Israel occupied, for decades, one of Syria's greatest water resources–the Golan Heights–which Israel uses for its water supply, drawing from the rich Golan-fed Sea of Galilee. In fact, up to one-third of Israel's water supply comes from the Golan, water that Syria sorely needed.

Internal factors also contributed to the chaos, as there were serious issues with how the Syrian government managed national water resources. The combination of growing water-intensive wheat and cotton, using inefficient irrigation techniques like flooding and leaky water distribution networks, meant that vast quantities of water were wasted. Exacerbating the problem further, Syria sold the vast majority of its wheat reserves when global wheat prices were high, forcing the country to later import vast amounts of wheat during the drought years.

Desperate for water, farmers drilled illegal water wells, rapidly depleting an already-low water table and causing an increase in the salinity of the water. In eight years, the number of wells drilled had almost doubled to more than 213,000. In response, according to the New York Times, the Syrian government began "to acknowledge the scale of the problem and has developed a national drought plan." Additionally, Syria tried to obtain international funding for programs to address the



widespread failure of crops, but these programs were not ultimately effective given lack of funding.

The West must realize that Syria is not alone in its environmental risk assessment; much of the Arab Spring is understood to have a climate change correlation, if not causation. Yemen is at the top of that risk list, struggling with severe water shortages. And yet America continues to countenance these revolutions and this violence with, primarily, violence. This is not an effective path towards prevention.

America, furthermore, is missing opportunities to preventively and pre-emptively intervene in dealing with root causes of conflict before they metastasize into violence. As Francesco Femia, co-founder of the D.C.-based Center for Climate and Security, noted, "many international security analysts were essentially predicting that Syria was immune to the Arab Spring. They concluded it was generally a stable country. What they had missed was that a massive internal migration was happening, mainly on the periphery, from farmers and herders who had lost their livelihoods completely."

Any political solution in Syria, then, requires some assistance on this front, lest the civil war rage on.

We must not miss these moments in the future. From Syria to Somalia there are underlying reasons for revolution that a violent response will not mitigate, transform or resolve. Increasingly, for many of these conflicts, the answer lies in something as basic as water, food or shelter. The answer does not lie in million dollar Tomahawk missiles made by Raytheon. The answer lies in a million water wells for an increasingly parched planet. Try that for a change.

"How Climate Change Sparked The Crisis In Syria", 24/09/2013, online at: http://www.yementimes.com/en/1714/opinion/2927/How-climate-change-sparked-the-crisis-in-Syria.htm

BACK TO TOP



#### ✤ Jordan to pump water to Israel

Jordanian Member of Parliament Khamis Ateya recently revealed that secret talks are being held between Jordan and Israel on exchanging water.

According to the information that Ateya posted on his Facebook page, the mutual talks have reached a stage where it has been agreed that: "Israel gets the water of Al-Dissi Basin in Jordan in return for an unidentified amount of water from Tiberius."

Ateya expressed his shock over the talks, writing: "I do not know what kind of genius the Jordanian ministry of water has! Under the claim of exchanging water with the Israelis, he gives our water to them."

The Parliamentarian called upon the Jordanian government to cancel these plans, which would deny Jordanians water in favour of the Israelis. "It is not allowed for the Jordanian government to pump Jordanian water to Israel under any circumstances," he wrote.

He advised the government to pass the water of the Al-Dissi Basin to Jordanians in the north of the country rather than exchanging water with Israel. He also called for the government to devise plans to make use of rainwater during the winter.

"Jordan to pump water to Israel", 25/09/2013, online at: <u>http://www.middleeastmonitor.com/news/middle-east/7523-jordan-to-pump-water-to-israel</u>

BACK TO TOP



#### Friedman: Mother Nature and the middle class in Iran, Egypt

If you fell asleep 30 years ago, woke up last week and quickly scanned the headlines in Iran and Egypt, you could be excused for saying, "I didn't miss a thing." The military and the <u>Muslim</u> <u>Brotherhood</u> are still slugging it out along the Nile, and Iranian pragmatists and ideologues are still locked in a duel for control of their Islamic Revolution.

So go back to sleep? Not so fast. I can guarantee that the next 30 years will not be the same old, same old. Two huge new forces have muscled their way into the center of both Egyptian and Iranian politics, and they will bust open their old tired duopolies.

The first newcomer is Mother Nature. Do not mess with Mother Nature. Iran's population in 1979 when the Islamic Revolution occurred was 37 million; today it's 75 million. Egypt's was 40 million; today it's 85 million. The stresses from more people, climate change and decades of environmental abuse in both countries can no longer be ignored or bought off.

On July 9, Iran's former agriculture minister, Issa Kalantari, an adviser to Iran's new president, <u>Hasan</u> <u>Rouhani</u>, spoke to this reality in the Ghanoon newspaper: "Our main problem that threatens us, that is more dangerous than Israel, America or political fighting, is the issue of living in Iran," said Kalantari. "It is that the Iranian plateau is becoming uninhabitable. ... Groundwater has decreased and a negative water balance is widespread, and no one is thinking about this."

He continued: "I am deeply worried about the future generations. ... If this situation is not reformed, in 30 years Iran will be a ghost town. Even if there is precipitation in the desert, there will be no yield, because the area for groundwater will be dried and water will remain at ground level and evaporate." Kalantari concluded that the "deserts in Iran are spreading, and I am warning you that ... people will have to migrate. But where? Easily I can say that of the 75 million people in Iran, 45 million will have uncertain circumstances."

In Egypt, soil compaction and rising sea levels have already led to saltwater intrusion in the Nile Delta; overfishing and overdevelopment are threatening the Red Sea ecosystem, and unregulated and unsustainable agricultural practices in poorer districts, plus more extreme temperatures, are contributing to erosion and desertification.



But just as Mother Nature is demanding better governance from above in both countries, an emergent and empowered middle class, which first reared its head with the 2009 Green revolution in Iran and the 2011 Tahrir revolution in Egypt, is doing so from below. A government that just provides "order" alone in either country simply won't cut it anymore. Order, drift and decay were tolerable when populations were smaller, the environment not so degraded, the climate less volatile, and citizens less technologically empowered and connected.

Both countries today need "order-plus" - an order that enables dynamism and resilience, and that can be built only on the rule of law, innovation, political and religious pluralism, and greater freedoms. It requires political and economic institutions that are inclusive and "sustainable," in both senses of that word.

Iran's Islamic leadership seems to realize that it cannot keep asking its people to put up with crushing economic sanctions to preserve a nuclear weapons option. Mother Nature and Iran's emergent middle classes require much better governance, integrated with the world. That's why Iran is seeking a nuclear deal now with Washington.

And that's why two of the most interesting leaders to watch today are Rouhani of Iran and Egypt's new military strongman, Gen. <u>Abdel Fattah</u> el-Sissi. Both rose up in the old order, but both men were brought into the top leadership by the will of their emergent middle classes and newly empowered citizens, and neither will be able to maintain order without reforming the systems that produced them - making them more sustainable and inclusive. They have no choice: too many people, too little oil, too little soil.

And pay attention: What Mother Nature and these newly empowered citizens have in common is that they can both set off a wave - a tsunami - that can overwhelm their systems at any moment, and you'll never see it coming.

"Friedman: Mother Nature and the middle class in Iran, Egypt", 22/09/2013, online at: <u>http://www.chron.com/opinion/outlook/article/Friedman-Mother-Nature-and-the-middle-class-in-4834733.php</u>

BACK TO TOP



#### Straelis pay more for agricultural produce

OECD report shows State's support for farmers has led to increase in food prices. Agricultural products in Israel 11% more expensive than OECD average

<u>Israel</u>'s support for its farmers carries a heavy economic and social price, according to a report released by the Organization for Economic Co-operation and Development (OECD), which looked into the agricultural support policy in 47 countries, which are responsible for 80% of the global agricultural produce.

The report's findings reveal that agricultural products in Israel are 11% more expensive than the OECD average. The biggest differences were found in beef and milk prices.

The report's authors are pleading with Israel and other countries to adopt a more lenient regulatory policy, continue reducing support to agriculture – including through indirect taxes.

The report also includes a recommendation to look into raising water prices for farmers in Israel, in a bid to encourage them to be more efficient. The report notes that Israel has greatly succeeded in improving farmers' environmental settings, but further notes that agriculture today accounts for 58% of annual water consumption and that the government should consider raising prices to reduce water consumption.

The report reveals that the Israeli support for farmers is relatively low compared to the OECD average and European Union average, standing at some two-thirds of the average support in the OECD.

The Israeli support has been in a downward trend in the past two decades, similarly to the global trend, with the high produce prices helping the State reduce its support. The support for farmers in Israel stood at some 20% of the produce from 1995 to 1997, and fell to 12% from 2010 to 2012.



However, most of the Israeli support reflects continued high border protection for agricultural commodities maintaining domestic prices above international levels and a relatively high share of support to farm inputs that are known to be the most distortive forms of support.

When Israel imposes high taxes on imported goods, it raises the price of the goods imported to the consumer. Raising the consumer price allows farmers to charge higher prices, as the artificially high import prices pose no competition.

The price is paid by Israeli consumers, who have to pay for the government's support for farmers every time they visit the supermarket. According to the report's authors, consumers would be better off if the State gave the farmers direct support, allowing a significant drop in taxes followed by a drop in market prices, without affecting the farmers.

#### Intervene as little as possible

The report reveals that from 1995 to 1997 the most production and trade distorting policies (based on commodity output and variable input use) dominated and represented 84% of the producer support estimate. From 2010 to 2012, it went up to 89%.

The report notes that the reforms of reducing taxes following the social protest of the summer of 2011 and the appointment of committees to look into the cost of living were a step in the right direction, but that in the long run additional steps will have to be taken to reduce the prices of agricultural products for the Israeli consumer.

In general, the report's authors recommend that all countries adopt a more lenient regulatory policy and avoid intervening in the entire market, excluding places where the State identifies a market flaw.

The authors also recommend that the countries support agriculture by supporting research and development and innovation, and implement a transparent support policy with defined goals and a horizon of several years.



According to the report, one of the problems in Israel and in other countries is the focus on the domestic agriculture industry as one which must provide for all of the State's needs. The authors argue that relaying on self-supply of agricultural products leads to high food prices.

In addition, they recommend abandoning methods which give farmers a fixed and foreseen income and call on the countries to let farmers plan their economies themselves, and compensate them only in cases of natural disasters or other major incidents.

"Israelis pay more for agricultural produce", 25/09/2013, online at: <u>http://www.ynetnews.com/articles/0,7340,L-4433274,00.html</u>

BACK TO TOP



#### **Palestine: EU contributes to construction of wastewater treatment plant**

The EU, the Palestinian Authority and the German government have marked the award of more than  $\notin$ 40 million to construct a wastewater treatment plant in East Nablus. The large-scale project is funded through a  $\notin$ 20 million contribution by the EU, a  $\notin$ 21.8 million contribution by the German government as well as a  $\notin$ 3.4 million contribution by Municipality of Nablus, and will be implemented via the German KfW Development Bank. The project includes the cooperation of a number of Palestinian stakeholders.

Currently, wastewater from East of Nablus flows untreated into the environment reaching agricultural areas and surrounding villages. By helping to build the new plant, this project will significantly reduce health risks for the population of Nablus and contamination of the environment. It will also allow the re-use of treated wastewater in agriculture, hence conserving limited groundwater resources in Palestine.

The project includes the construction of a central wastewater treatment plant to serve the eastern part of Nablus city and six surrounding villages of Azmut, Salem, Deir Al-Hatab, Kafer Qalil, Rujeeb and Beit Furik. It also includes new collection systems and extension of existing collection systems. An initial two years operational assistance to Nablus Municipality in operating the new plant, wastewater pre-treatment facilitates for selected industries and a pilot reuse scheme of treated wastewater in agriculture, are also financed within the project.

"Severe water shortages and acute water quality problems continue to negatively affect the lives and livelihoods of many Palestinians in the West Bank and Gaza. In an effort to improve the situation, the EU has since 2011 included water and sanitation as priority sectors within its overall financial assistance to the Palestinian people," said EU Representative John Gatt-Rutter at the signing ceremony. "Today's ceremony marks the beginning of an ambitious project which can make a real difference to the quality of life of Palestinians in Nablus and the surrounding villages."

"This project will benefit up to 150,000 people in the region and, through an effective collection and treatment of wastewater will protect water resources and reduce health risks," said Wolfgang Reuss,



KfW Director of North Africa and Middle East. "Further, the re-use of treated wastewater in agriculture will benefit farmers in the region and will help to save scarce drinking water."

The EU is a major actor in health and environmental protection in Palestine. Since 2008 it has invested nearly  $\notin$ 90 million in the water and sanitation and solid waste management sectors. In the West Bank, apart from Nablus, the EU is supporting the development of wastewater treatment plants also in other areas where water supply is scarce, such as Tubas. In Gaza, the EU is investing both in large-scale solid waste management programmes and also in medium-scale projects with high impact, such as the construction of a desalination facility that will provide safe water to thousands of Gazans.

"Palestine: EU contributes to construction of wastewater treatment plant", 23/09/2013, online at: http://mideastenvironment.apps01.yorku.ca/?p=7570

BACK TO TOP



#### **\*** WATCH: Water shortages plague West Bank villages

Disruptions in Israeli water supplies often earns bold headlines in the Israeli media. But when Palestinian communities are cut off from the water supply for days or weeks on end, it doesn't make the news. And while the Israeli government often supplies Israeli settlements with an infrastructure that guarantees water access, Palestinians must store their water in large containers, due to frequent shortages.

This is the story of Al-Ma'asara, a village near Bethlehem that sees its water supply cut off sporadically for extended periods of time, and the inability of the Palestinian Authority to do anything about it.

"WATCH: Water shortages plague West Bank villages", 26/09/2013, online at: <u>http://972mag.com/unequal-distribution-water-shortages-plague-west-bank-villages/79373/</u>

BACK TO TOP



#### Ethiopian Nile dam 30% completed

Ethiopia's government has completed around 30 per cent of the Renaissance Dam on the River Nile. Sources in the government say that the administrative and technical work at the site of the dam is almost ready for the second phase to begin with the construction of the main body of the structure.

It is estimated that the hydro-electric project will produce approximately 6,000 megawatts of electricity when it is commissioned in 2016. Ethiopia is expected to earn around €2 million a day by exporting electricity to neighbouring countries.

On the political front, the Ministry of Foreign Affairs in Addis Ababa has called on both Egypt and Sudan to activate the tripartite committee to implement the recommendations made by international experts to ensure that the construction of the dam will not damage the countries downstream. "We accepted the experts' report as it stands," said Dina Mufti, a spokesman for the Ethiopian government. "Egypt should accept it as well and move forward."

"Ethiopian Nile dam 30% completed", 26/09/2013, online at: <u>http://www.middleeastmonitor.com/news/africa/7529-ethiopian-nile-dam-30-completed</u>

BACK TO TOP



#### **\*** Water Wars: Egyptians Condemn Ethiopia's Nile Dam Project

As the Grand Ethiopian Renaissance Dam takes shape, tempers rise.

"Ethiopia is killing us," taxi driver Ahmed Hossam said, as he picked his way through Cairo's notoriously traffic-clogged streets. "If they build this dam, there will be no Nile. If there's no Nile, then there's no Egypt."

Projects on the scale of the \$4.7 billion, 1.1-mile-long (1.7-kilometer-long)<u>Grand Ethiopian</u> <u>Renaissance Dam</u> often encounter impassioned resistance, but few inspire the kind of dread and fury with which most Egyptians regard plans to dam the Blue Nile River.

Egypt insists Ethiopia's hydroelectric scheme amounts to a violation of its historic rights, a breach of the 1959 colonial-era agreement that allocated almost three-fourths of the Nile waters to Egypt, and an existential threat to a country largely devoid of alternative freshwater sources.

But what Egyptians regard as a nefarious plot by its historic adversary to control its water supply, Ethiopians see as an intense source of national pride and a symbol of their country's renewal after the <u>debilitating famines</u> of the 1980s and '90s.

"People are enthusiastic. They're excited, because no leader has tried such a project in Ethiopia's history," said Bitania Tadesse, a recent university graduate from the capital, Addis Ababa. "It's a big deal that is going to be beneficial to future generations."

#### **Intense Water Politics**

Ethiopia maintains that Egypt and Sudan downstream have no reason to be fearful. The government says it's merely redressing the inequalities of previous water-sharing arrangements, which had left the nine upstream countries largely bereft of access to the Nile.

But the changing regional dynamic is a tough pill for Egypt to swallow.

For decades it has used its regional clout to stymie the dam-building plans of its impoverished upstream neighbors. International organizations, such as the World Bank, which has financed hydroelectric ventures in the past, shied away from involvement in such a controversial proposal, handing Egypt a de facto veto.



But weakened by several years of economic and political unrest in the aftermath of the Arab Spring, Egypt now finds itself ill-placed to counter a resurgent Ethiopia. (See "Saudi Arabia Stakes a Claim on the Nile.")

A total of "98 percent of Egypt's freshwater comes from outside its borders, and it has exceptionally little leverage," said Angus Blair, an economic and political analyst at Cairo's <u>Signet Institute</u>. "The answer lies with working with its neighbors."

Thus far, however, Egypt has taken a largely belligerent stance.

State and private media have whipped up a current of fierce anti-Ethiopian sentiment, with the several-thousand-strong <u>Oromo community</u> in Egypt bearing the brunt of public suspicion and rage. Many Oromo Ethiopian refugees have been the victims of physical assaults, according to the UN, while a number of online bulletins solicited apartments for Ethiopians after many were evicted from their homes and deprived of medical care in hospitals.

Egypt's politicians were no less inflammatory in their rhetoric.

"Building a dam is tantamount to a declaration of war," a senior Nour Party official said back in June, as he proposed Egyptian support for various separatist movements within Ethiopia if the dam's construction continued.

President <u>Mohamed Morsi</u> also weighed in with a veiled threat shortly before his ouster in a popularly supported military coup in early July, saying that "all options are available to us."

Some Egyptians blame Morsi and his Islamist Muslim Brotherhood group for the dam's fast progress. "They wanted an Islamic caliphate. They didn't care about Egypt as a country, so they did nothing to stop this dam," said shopkeeper Karim Abdallah. But Egypt's position has, if anything, weakened since Morsi's overthrow.

Egypt's southern neighbor, Sudan, has switched sides and chosen to support the dam, not least because Sudan had agreed to an Egyptian request to build an airbase near the Ethiopian border, according to Wikileaks.

"Sudan understands that the dam is in its interests," said <u>Harry Verhoeven</u>, who teaches African politics at the University of Oxford. "It will be able to import the cheap energy it desperately needs.



"Egypt [also] needs to bite the bullet," he added. "Instead of fearing the dam, Egypt should see it as an opportunity to move closer to a region it has traditionally spurned."

Former Egyptian president <u>Hosni Mubarak</u> is often accused of having neglected his African neighbors, and some feel Egypt is now paying the penalty for its preoccupation with its place in the Arab world. "Egypt cannot continue to hurt black Africa and the countries of the tropics of Africa," said Ugandan president<u>Yoweri Museveni</u> this past summer.

#### **Need for Water**

Still, Egypt's concerns are far from groundless. Its population is forecast to almost double to 150 million by 2050, so as demand for water surges, its supply will be restricted by the dam. Ethiopia says it's an "unrealistic conception" that the dam will damage Egypt, but for a few years at least (the time it will take for the dam's reservoir to fill), Egypt and Sudan will have to contend with reduced water flow.

(Learn about the environmental impacts of another proposed dam in Ethiopia.)

Egypt fears that storing water behind the Ethiopian dam will reduce the capacity of its own Lake Nasser (thereby reducing the power-generating capacity of Egypt's giant hydroelectric plant at Aswan). Ethiopian officials have sought to allay fears by pointing out that storing water in the cooler climes of the Ethiopian lowlands will ensure much less water is lost to evaporation, but Egyptians are unconvinced.

"The production of electricity at the Aswan High Dam is likely to drop by almost 40 percent should the Ethiopian dam be built," concluded <u>Nader Noureddin</u>, a professor of agriculture at Cairo University.

Such unease has spawned a bevy of wild theories as to how Ethiopia, poorer and more populous than Egypt, can afford its extensive dam-building program (20 dams in total). "Israel and the U.S. are behind it," insist a number of Egyptian Islamist politicians. "The Chinese are funding this to get back at us for supporting the Americans," a friend in Cairo recently suggested.

The Chinese are certainly involved, but there's nothing conspiratorial about it. Chinese state-owned Sinohydro is the world's largest dam builder and accounts for over 50 percent of recently constructed dams. "China simply sees this as terrific business," Verhoeven said.



The Ethiopian government insists it's capable of raising the necessary funds itself, and the country's sizeable diaspora is helping out. Tadle Haile, a retired school counselor from Northern Virginia, has given money, and said that "everybody I've talked to [in the Ethiopian community] says they have as well." The Ethiopian Embassy in Washington even offers advice on how to buy bonds to finance the dam.

But how much longer the country will be able to self-finance its ambitious projects is a contentious issue. State employees have already been "invited" to surrender a month's salary, and "there is a collectivist pressure to accept," lawyer Daniel Berhane said. "Few Ethiopians would dare complain about anything to do with the Nile, as it's a symbol of patriotism."

The dam is now 20 percent built, and on schedule to be completed by 2017, according to Ethiopian officials. The Grand Renaissance Dam, it seems, is going to get built. But what happens next depends on how Egypt adjusts to its changed circumstances.

"Egypt needs to wake up to the new world," Verhoeven said. "This doesn't need to be a problem."

"Water Wars: Egyptians Condemn Ethiopia's Nile Dam Project", 27/09/2013, online at: http://news.nationalgeographic.com/news/2013/09/130927-grand-ethiopian-renaissance-dam-egypt-water-wars/

#### BACK TO TOP



#### **\*** Unquiet flows the Nile

Egypt is carefully weighing all options to avoid losing its control over the Nile river. Herodotus' prophetic words will soon be proven wrong! The Greek philosopher had long described Egypt as the 'gift of the Nile'. But with the course of the river being diverted to fill the 145 metre tall Renaissance dam being built in upstream Ethiopia, the gift will soon be snatched from a country that has yet to emerge from its unresolved uprising three years ago. Egypt for once will be losing what it has always dreamed of having control over – the Nile.

Relations between the two countries have grown tense over the inevitable diversion of the river. While the Egyptian politicians have suggested sabotaging the dam, the Ethiopian government has vowed that nothing can stop the dam's construction. The growing tensions are cause for global concern, beyond the six other riparian countries. Can the region which is simmerring with political discontent afford a cross-border confrontation of unimaginable proportions?

While some commentators express doubt if the region could afford a war, there are others who consider that the brewing distrust may trigger confrontation of some kind. For Egypt, allowing Ethiopia to construct this dam is somewhat like Israel allowing Iran to build a nuclear weapon. Egypt had sown the seeds decades ago, the bitter fruits of which it has been forced to harvest now!

It is a known fact that Egypt played a major role during 1960s in helping Eriteria break away from Ethipia. Cairo was then the ground zero for the formation of the Eriterean Liberation Movement, the primary forces behind Eriteria's long war of independence. During the 70s and the 80s, Egypt had actively supported several groups that worked to overthrow the government in Ethiopia. When Eriteria finally gained independence in 1993, it had Egypt to thank. This is one of the roots of contention between Egypt and Ethiopia.

#### **Current crises**

Setting aside such troubled history and brushing past the current crises, Seifulaziz Milas argues that armed conflict over the Nile waters has always been extremely limited. Having worked with the



African Union, Milas has examined the historical, political and economic aspects related to sharing of the Nile waters in the region in his recently published book 'Sharing the Nile' (Pluto). Says he: 'as in many marriages, the participants may no longer love each other, but have little choice to live together and keep the marriage working.'

Over the years, nations such as Kenya, Uganda, Kenya, Tanzania and Ethiopia have held the proverbial marriage together by abiding to pre-independence treaty – often to the detriment of their own people. Signed in 1929, the treaty between the UK and Egypt had prohibited riparian countries from building water infrastructure without Egypt's consent. Since the upstream countries were never consulted. they were the first to reject the treaty upon gaining independence.

After nearly a decade of fruitless attempts to negotiate with Egypt on equitable sharing of the Nile waters, the basin countries launched the Cooperative Framework Agreement (CFA) in 2010 which makes it clear that no state will exercise hegemony over the Nile waters. "Of all the riparian states', argues Milas, 'Egypt stands to gain most from the establishment of a basin-wide framework for water resources development'.

An estimated 74 billion cubic metres of water stored in the cooler climate of the Blue Nile gorge, in the Rennaissance Dam, will save a huge volume of evaporation loss from Lake Nasser in southern Egypt, located in one of the hottest and driest deserts of the world. Since the Aswan Dam is increasingly incapable of meeting Egypt's power needs, partly due to reduced storage on account of evaportation, Ethiopia can fill the growing demand for hydropower in the region.

For the region in general, cooperative harnessing of the Nile waters is crucial for meeting the energy and livelihoods needs of a growing basin population - estimated to exceed 500 million by 2025, some 50 per cent higher than at present. But Egypt has thusfar tried to scuttle new projects. It had successfully blocked an expected loan from the African Development Bank to Ethiopia for the Tana-**Beles** Project the Beles River. tributary of the Blue Nile. in 1988. on a

Of the two channels that form the river, the Blue Nile is significant as it carries 86 per cent of the Nile's eventual flow with the White Nile contributing the remainder. The Blue Nile, on which the



6,000 megawatt Rennaisance Dam is being built, escapes Lake Tana in the Ethiopian highlands before joining the White Nile at Khartoum, in Sudan. The river nourishes 60 per cent of Egypt's estimated 85 million people before draining into the Mediterranean Sea.

For Egypt, control over the Nile continues to be an emotive issue. 'Who controls the Nile, controls Egypt', so goes the old saying. Egypt is carefully weighing all options to avoid losing its control over the Nile. While it has discouraged global investors from financing the \$5 billion project thufar, it holds the option of using its allies for bringing about instability in Ethiopia. Whether it triggers political reorientation in Ethiopia remains a billion dollar question?

"Unquiet flows the Nile", 26/09/2013, online at: http://www.deccanherald.com/content/359396/unquiet-flows-nile.html

BACK TO TOP



#### **\*** Mideast water, power issues in focus

Major challenges faced in the Middle East water and power industries, and the opportunities for investment created in overcoming them came under the spotlight on the opening day of a forum in Dubai.

The CWC Group's second Arabian Water and Power Forum will conclude tomorrow (September 24) at the Address Hotel.

The Arabian Water & Power Forum addresses two crucial issues shaping Middle East economic development – power and water. The forum is attended by central policy makers, government figures and investors to discuss ways to optimise demand and supply management for sustainable growth.

"It is an honour to be graced with the presence of dignitaries of the weight, calibre and decisionmaking power that we saw today on the first day of the second Arabian & Water Forum," said Frederic Ponton, director Government Relations Middle East, CWC Group.

"Water and power are crucial elements in sustainable development for the region, and present major strategic concerns. We are delighted that the UAE government, in its foresight and wisdom, not only recognises this but is taking concrete steps to address issues and share ideas at high quality events such as the Arabian and Water Forum."

Aside from detailed solution-based discussions and ways to overcome challenges of effective water and electricity, the first day of the Forum also had an afternoon devoted to the subject of Renewable Energy within the Middle East, supported by the Middle East Solar Industry Association (MESIA).

Renewable energy is being considered as an alternative method of generating power across the Middle East as advancements in new technological are continually being made.

"We have had a very strong opening, and in the first day have already created momentum towards



the regional goal of agreeing upon a sustainable power and water consumption and generation matrix that takes into account regional variables," Ponton added.

"Tomorrow will see continuing target-based discussions that look at water and power generation through new projects, thereby creating opportunities for our delegates to stay ahead of market movement while also looking at ways to shape demand in sustainable fashion."

"Mideast water, power issues in focus", 23/09/2013, online at: http://www.tradearabia.com/news/OGN\_243276.html

#### BACK TO TOP



#### **\*** Water scarcity could drive conflict or cooperation

UNITED NATIONS—When the General Assembly declared 2013 the International Year of Water Cooperation (IYWC) three years ago, the UN's highest policy-making body was conscious of the perennial conflicts triggered by competition over one of the world's most critical finite resources.

Current and past water conflicts and marine disputes have included confrontations between Israel and Jordan, India and Pakistan, Egypt and Ethiopia, Palestine and Israel, and Bolivia, Peru and Chile.

Picking up the cue from the United Nations, the Stockholm International Water Institute (Siwi) focused its weeklong meeting this year on the theme "Water Cooperation: Building Partnerships."

The 23rd annual meeting in the Swedish capital, attended by over 2,500 delegates, was held early this month.

Striking a more optimistic note, Siwi Executive Director Torgny Holmgren told Inter Press Service (IPS) that historically, water has been a source of cooperation more often than not. Over the past 50 years, he noted, there has been almost 2,000 interactions on transboundary basins of which only seven have involved violence and 70 percent have been cooperative.

"I think the future situation depends very much on our ability to deal with the water-demand challenge," said Holmgren, a former ambassador and head of the Department for Development Policy at the Swedish Ministry for Foreign Affairs.

"If we are able to increase water productivity so that we can free up water resources for protecting our environment, thereby ensuring the sustainability of the supply, and allowing for new users and uses, it will be easy to cooperate," he said. "If we aren't able to manage demand, and water management becomes more of a zero-sum exercise, avoiding conflict will be a challenge."

Irina Bokova, director general of the Paris-based UN Educational, Scientific and Cultural Organization (Unesco), the lead UN agency which will oversee IYWC, points out that there are numerous examples in which transboundary waters have proved to be a source of cooperation rather than conflict.



Nearly 450 agreements on international waters were signed between 1820 and 2007. And over 90 international water agreements were drawn up to help manage shared water basins on the African continent, she said in an interview with IPS in March.

According to the London-based WaterAid, nearly 768 million people in the world live without safe water, roughly one in eight people. Some 2.5 billion others live without access to sanitation, about 39 percent of the world's population.

The US intelligence community has already portrayed a grim scenario for the foreseeable future: ethnic conflicts, regional tensions, political instability and even mass killings.

During the next 10 years, "many countries important to the United States will almost certainly experience water problems—shortages, poor water quality, or floods—that will contribute to the risk of instability and state failure, and increased regional tensions," stated a National Intelligence Estimate released last year.

In a report released on September 2, Siwi said that in a world where the population is growing fast and the demand for freshwater is growing along with it, "the fact that we all depend on the same finite water resources is becoming impossible to ignore.

"Cooperation between sectors is fundamental if we are to successfully share and manage our most precious resource," the group said.

The water problem is not something that can be solved only by experts, said the report titled Cooperation for a Water Wise World: Partnerships for Sustainable Development.

"We need to cooperate with actors outside the water sector, to foster collaboration between the various decision-making institutions, between the private, public and civic sectors, as well as between actors who work in research, policy and practice," it said.

"Only through sound and forward-looking partnerships can we achieve a water wise world," Holmgren noted.



Addressing the meeting, UN Deputy Secretary-General Jan Eliasson said in a world of population growth and pressures on water resources within and among nations, sound and fair water management "is a huge task and a clear imperative for all of us. And we have no time to waste."

The 2015 deadline for the UN Millennium Development Goals (MDGs) is rapidly approaching. And there is good news in some areas, he said. Since the adoption of the MDGs in the year 2000, global poverty rates have been reduced by half. Two hundred million slum dwellers live better lives. School enrollment rates have increased dramatically.

"And last year we were able to announce that the world had reached the target for access to improved sources of water," Eliasson said.

But water quality to a large degree still fails to meet basic World Health Organization standards, he cautioned.

One of the main factors that negatively affects water quality is the lack of sanitation. The sanitation target is among the most lagging of the MDGs, with more than 2.5 billion people around the world without adequate sanitation—more than one-third of humanity, Eliasson said.

Asked if water and sanitation should stand alone as one of the proposed Sustainable Development Goals (SDGs) currently under discussion as part of the UN's post-2015 development agenda, Holmgren told IPS, "I think we need a dedicated water SDG that stresses both the productive and protective roles of water resources management and the sustainable of water and sanitation."

In addition, he said, the intimate connections between water, food, energy, security, biodiversity, and other issues must be spelled out, either in the water goal or in other goals.

"Water scarcity could drive conflict or cooperation", September 2013, online at: http://www.middleeastmonitor.com/news/africa/7529-ethiopian-nile-dam-30-completed

BACK TO TOP



#### \* Andhra Pradesh CM Kiran Reddy fears water wars

**Hyderabad:** Andhra Pradesh Chief Minister N. Kiran Kumar Reddy on Friday warned of water wars among farmers of three regions if the Centre proceeded with the state's division. Maintaining that water management for existing as well as future irrigation systems would become extremely difficult post division, the CM said a situation wherein one state had to depend on the government of another state for release of water from the reservoirs would spell doom for crores of farmers.

#### Water management will get worse: CM

Addressing a press conference in Hyderabad, the Chief Minister said water management would be smooth during a good monsoon, but problems would arise if it failed. "We see farmers fighting on the borders of Kurnool and Mahbubnagar for Krishna waters and the situation would be worse in other parts of the state too," he said.

The Chief Minister's latest salvo gained significance in view of farmers in coastal districts who have been busy with the Kharif crop and have not been actively participating in the ongoing agitation, completing their activity within a few days and finding time to think about what the Chief Minister described as highly volatile situation.

Reddy sought to dispel the allegations that he was pursuing his own political interests by raising the demand for a united state. "I am already Chief Minister. What more can I become by floating a new party. At best, I will again become Chief Minister," he said.

Turning emotional, the Chief Minister said that his father (former minister Amarnath Reddy) had stood for a united state when the "Jai Andhra" agitation was at its peak, and like a true son, he had been merely following in his father's footsteps. "The media and political parties were concerned about my political career while I am concerned about the future of the people," he added.

The Chief Minister drove home the point that while the Telugu Desam or the YSR Congress were indulging in petty politics to capture power, he had been raising his voice against the party's decision to divide the state even if it cost him the Chief Minister's post.

Kiran Kumar Reddy also took potshots at AICC general secretary Digvijay Singh who tried to rein in the former with the statement that he was Chief Minister of all the three regions. "I should be grateful



to him for reminding me every time of my position as Chief Minister of united Andhra Pradesh. This helps me work with more resolve to keep the state united," he said.

Though the Chief Minister at one stage said he would remain in the Congress forever, he made a contrary statement in another context. He said he was only worried about facing a situation wherein he had to choose between the Congress and a united Andhra Pradesh. "The situation is similar to that of a child who has been asked to spell out whom he likes most between father and mother," he said.

The Chief Minister also took his archrival N. Chandrababu Naidu to task, saying that he never craved for power like the TD chief. "I did not understand what he has been saying for the past 60 days. I am sure the people of the state are also facing a similar dilemma," he said.

"Andhra Pradesh CM Kiran Reddy fears water wars", 28/09/2013, online at: http://www.deccanchronicle.com/130928/news-politics/article/andhra-pradesh-cm-kiran-reddy-fears-water-wars

BACK TO TOP



#### Sand dams: Simple way to save water in Africa takes hold

The technology is in use from Brazil to Thailand. But in recent years, more than 1,000 rivers in East Africa have stored water even in the dry season.

The discovery of a lake the size of <u>Delaware</u> beneath a <u>Kenyan</u> desert this month may prove to be a game-changer for precious water needs in arid <u>East Africa</u>.

The new supply of billions of gallons, if managed properly, may make the desert bloom indefinitely, some scientists and <u>UN</u> experts say.

Yet in the mid-term, as Kenyan communities grapple with water shortages, many are starting to turn to something called "sand dams" to trap and save nature's precious liquid for use in times with no rain.

More than a thousand sand dams have been built in East Africa in the past decade in what is a simple, low-cost, effective way to store millions of gallons of water – by trapping it in piles of sand and later accessing it when rivers go dry.

Kenyans in the counties of Kitui, <u>Machakos</u>, and Makueni need water for crop irrigation, not to mention drinking. But their main rivers flow only seasonally. Now, in a number of villages, local farmers are planting and harvesting all year long.

#### **RECOMMENDED:** Think you know Africa? Take our geography quiz.

Sand dam technology may date to Roman times. But it has been perfected in the 21st century by a combination of talent including a British NGO called Excellent Development, the late Joshua Mukusya who made his start as a Kenyan farmer, and members of the Mennonite community of North America.

#### The dams are built by securing one or sometimes two long, reinforced concrete barriers across river

beds, and by placing slotted PVC pipe deeper under the barriers. When it rains, the water carries sand downstream, depositing it up and around the level of the barrier. At the end of the rainy season, water remains trapped in the piled-up sand, sometimes far downstream. Over time it drains into the PVC (a process that also helps with filtering and cleaning) and is then horded using a hand pump or a small run off pool – or in some cases a simple hole is dug at the base of the dam down to what has become a pool of stored water that can slake the thirst of 1,200 people for a year.

An average sand dam can store millions of gallons of water for years, and provide water for irrigation even when the rains fail, as noted at the first international conference on sand dams in Machakos, a town near <u>Nairobi</u>.



#### WATER RESEARCH PROGRAMME -Weekly Bulletin-

"We have literally turned arid and semi-arid lands into some of the most productive farmland. We continue to provide water to our community through the construction of sand dams," said Kevin Kimuya, the chief executive officer of Utooni Development Organization, a sand dam NGO founded by Mr. Mukusya. "This forms the basis of local and International water and food security solution now and well into the future."

The technology is in use across the world, from <u>Brazil</u> to <u>Thailand</u>. But under the Utooni group in Kenya, the idea has in recent year become a hot ticket in <u>Ethiopia</u>, <u>Ghana</u>, <u>Mozambique</u>, <u>Burkina</u> <u>Faso</u>, Somaliland, and <u>Zimbabwe</u>. Excellent Developers estimates that some 120 of the dams have been built in Kenya in recent years.

For several years, the <u>Mennonite Central Committee</u> (MCC) has supported its sister NGOs in organizing communities to complete the dams.

The Mennonites, according to Ron Ratzlaff, a representative of the Mennonite council, are helping with sand dams as part of a peace theology that seeks "to remove threats that advance war and conflict, water being one of them."

The Mennonites work with Canadian Foodgrains Bank which fights global hunger as well as the <u>US</u>Food Resource Bank, which funds local farmers' efforts against hunger.

"This is not just about sand dams. It is much more than sand dams. It is about trees and terraces...drought resistant crops...conservation agriculture. It is about a whole bunch of things that get added in at the value chain associated with water," says Mr. Ratzlaff.

Jesse Mugambi, an ecologist at the <u>University of Nairobi</u>, argues that sand dam construction is the most economical method of rehabilitating semi-arid lands wherever rain runoff includes both sand and water.

The dams' construction combined with terracing and reforestation restores degraded land within less than a generation, he told the international conference. "Sand can carry water, store it, filter it, cool it, preserve it, and prevent it from evaporation," Prof. Mugambi adds.

"Sand dams: Simple way to save water in Africa takes hold", 22/09/2013, online at: http://www.csmonitor.com/World/Africa/2013/0922/Sand-dams-Simple-way-to-save-water-in-Africa-takes-hold

#### BACK TO TOP



#### Day 1 of 'Arabian Water and Power Forum 2013' discusses challenges faced in the Middle East water and power industries

The CWC Group's second Arabian Water and Power Forum concluded its first day at the Address Hotel in Dubai Marina on 23 September 2013, under the patronage of H.H. Sheikh Mohammed Bin Maktoum Bin Juma Al Maktoum.

Managing Director and CEO of DEWA, H.E. Saeed Mohammed Al Tayer; UAE Minister of Environment and Water and Dubai Supreme Council of Energy Secretary General, H.E. Ahmed Al Muhairbi, each addressed the Forum on the challenges faced in the Middle East water and power industries, and the opportunities for investment created in overcoming them.

The Arabian Water & Power Forum addresses two crucial issues shaping Middle East economic development - power and water. The two-day Forum is attended by central policy makers, government figures and investors to discuss ways to optimise demand and supply management for sustainable growth.

"It is an honour to be graced with the presence of dignitaries of the weight, calibre and decisionmaking power that we saw today on the first day of the 2nd Arabian & Water Forum. Water and power are crucial elements in sustainable development for the region, and present major strategic concerns. We are delighted that the UAEgovernment, in its foresight and wisdom, not only recognises this but is taking concrete steps to address issues and share ideas at high quality events such as the Arabian and Water Forum," said Frederic Ponton, Director Government Relations Middle East, CWC Group.

Aside from detailed solution-based discussions and ways to overcome challenges of effective water and electricity, the first day of the Forum also had an afternoon devoted to the subject of Renewable Energy within the Middle East, supported by the Middle East Solar Industry Association (MESIA).

Renewable energy is being considered as an alternative method of generating power across the Middle East as advancements in new technological are continually being made.



#### WATER RESEARCH PROGRAMME -Weekly Bulletin-

"We have had a very strong opening, and in the first day have already created momentum towards the regional goal of agreeing upon a sustainable power and water consumption and generation matrix that takes into account regional variables. Tomorrow will see continuing target-based discussions that look at water and power generation through new projects, thereby creating opportunities for our delegates to stay ahead of market movement while also looking at ways to shape demand in sustainable fashion," concluded Ponton.

"Day 1 of 'Arabian Water and Power Forum 2013' discusses challenges faced in the Middle East water and power industries", 23/09/2013, online at: <u>http://www.ameinfo.com/day-1-arabian-water-power-forum-355203</u>

#### BACK TO TOP



#### Arab scientists learn to fight desertification in China – Environment and development

Arab scientists learn to fight desertification in China 24/9/2013 Sixteen scientists from Yemen, Sudan, Libya, Palestine and Morocco participated in a month-long desert control training program, which concluded on Monday in northwest China's Ningxia Hui Autonomous Region.

The Anti-Desertification Technology Training Program for Arab Countries, co-organized by the Ministry of Commerce and the Ningxia Academy of Agriculture and Forestry Sciences (NAAFS), includes courses on a wide range of topics, such as tree selection and the development of industries related to desert control.

The training program has been held five times since it was initiated in 2006, with more than 100 desert control specialists from Arab countries participating.

The scientists learned about techniques used to prevent desertification in Ningxia and exchanged experiences with their Chinese counterparts.

Located in the arid northwestern part of China, Ningxia has been fighting drought and desert expansion ever since the autonomous region was established in 1958.

Scientists have come up with many creative methods to prevent the situation from worsening.

Statistics from the regional government show that the total area of desertified land in Ningxia has decreased from 1.65 million hectares in the 1970s to 1.18 million hectares in 2010, with more than 400,000 hectares of desert transformed into arable land.

According to Wang Feng, head of NAAFS, the Arab scientists are particularly interested in the selection and cultivation of drought-resistant plants in Ningxia.

"Some of these plants can be used to produce animal feed, which could develop into a profitable industry," he explained.



Deserts account for a quarter of the world's total land area. More than 110 countries and about 1 billion people have been affected by desertification. China and many Arab countries are among the worst-affected areas.

"Arab scientists learn to fight desertification in China – Environment and development", AL-BIA WAL-TANMIA, 24/09/2013, online at: <u>http://mideastenvironment.apps01.yorku.ca/?p=7587</u>

BACK TO TOP

WWW.ORSAM.ORG.TR

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



### North Africa: Four countries sign new deal on sharing of world's largest water aquifer system

Four North Africa nations have signed an agreement on equitable sharing of an underground water system that traverses Libya, Egypt, Chad and Sudan.

The deal, 'Strategic Action Programme' (SAP) signed in Vienna during the recent International Atomic Energy Agency (IAEA) conference, will optimise the equitable use of the Nubian Sandstone Aquifer System, according to a statement by IAEA.

'The SAP also commits the countries to strengthen and build upon a previously existing regional coordination mechanism, in part by establishing a new Joint Authority for the Nubian Aquifer System,' said IAEA.

The four water-stressed nations will, through the new partnership, strengthen their capacity to monitor and manage the aquifer effectively says IAEA.

'With growing populations and decreasing water availability from other sources in the region, the aquifer is under mounting pressure,' it said. 'Removing water without a clear understanding of transboundary and other implications threatens water quality and has the potential to harm biodiversity and accelerate land degradation.'

The IAEA said the agreement was the climax of a joint Technical Cooperation project of the United Nations Development Programme (UNDP) and the Global Environment Facility (GEF), the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the IAEA.

The agency said the joint project was launched in 2006 and has successfully completed a sophisticated model of the aquifer that will ensure the four countries optimise the use of the aquifer to meet demand for domestic water, avoid transboundary conflict, and protect ecosystems dependent upon the resource.

'Water is a key resource, and effective management and use of such water resources is essential for the future,' said IAEA Director General Yukiya Amano. 'The agreement of the Strategic Action



Programme is the result of real cooperation between the four States, the Agency and UNDP-GEF. This positive project experience benefits strengthened and expanded cooperation between the IAEA and the UNDP-GEF.'

UNDP's Administrator Helen Clark said: 'UNDP would like to congratulate the governments of Egypt, Libya, Chad and Sudan for achieving this important milestone towards the cooperative management of their shared sub-surface waters which will help to ensure maintenance of livelihoods and ecosystems dependent upon the aquifer.'

The Nubian aquifer is the world's largest known 'fossil' water aquifer system, meaning that the water is ancient and non-renewable.

IAEA employed isotopic hydrology techniques to confirm the quantity and quality of the underground water resource and its flow.

"North Africa: Four countries sign new deal on sharing of world's largest water aquifer system", 20/09/13, online at: <u>http://www.iwapublishing.com/template.cfm?name=news1740&utm\_source=IWA+Publishing+Mailing+List&utm\_camp\_aign=fa61a12d25-GND\_24\_September\_2013&utm\_medium=email&utm\_term=0\_49a7734030-fa61a12d25-89952245</u>

BACK TO TOP



#### \* Mekong River Flooding Threatens Parts Of Phnom Penh

Phnom Penh will face flooding in certain areas in the coming days as the level of the Mekong River surpasses emergency level, while heavy rainfall from tropical storm Wutip, which made landfall in Laos from the South China Sea on Friday, prompted the government to release new flood warnings for 11 provinces.

Forty-eight families were evacuated from their homes in Phnom Penh's Meanchey district on Friday after floodwaters inundated their homes in Chbar Ampov II commune, municipal spokesman Long Dimanche said.

"Water from the river has started flowing into parts of Phnom Penh," he said.

"Of course, we are concerned over flooding in Phnom Penh," Mr. Dimanche said, adding that city officials have prepared sandbags to staunch floodwaters in low-lying areas of the city.

On Friday, the Mekong River reached 10.06 meters at the Tonle Bassac-Chaktomuk water station on the city's riverfront, just below the emergency 10.50-meter level, stirring concerns of further flooding in three districts: Meanchey, Dangkao and Pur Senchey.

"We are ready to help evacuate and rescue Phnom Penh residents in three possible flooded districts," Mr. Dimanche said.

The Ministry of Water Resources and Meteorology said in a statement on Thursday that tropical storm Wutip would bring heavy rains between Saturday and Tuesday to most of the country, and coastal fisherman were advised to stay on land until Wednesday.

"The rainfall mentioned will cause Mekong River flooding again," the ministry said in the statement, which also called on authorities in affected areas to respond to people's needs in order to avoid loss of life.

The death of a mother and her two young children on Thursday brought to 39 the number of people killed so far by flooding, which has forced almost 6,000 families from their homes and flooded a further 30,000 residences in eight affected provinces: Stung Treng, Kratie, Kompong Thom, Kompong Cham, Kandal, Banteay Meanchey, Oddar Meanchey and Preah Vihear.



In Ratanakkiri province, 24-year-old Srey Noy died along with her two sons, 2 and 4 years old, when the motorcycle on which they were traveling drove into a deep ditch that was submerged by flash floods in Kon Mon district's Ta Ong commune. Three more people drowned Friday, two in Kratie and one in Kompong Cham, said Keo Vy, deputy director of the information department at the National Committee for Disaster Management.

In Kratie province, flooding from the Mekong River cut off access to some 30 km of National Route 73 between Chhlong district and Kratie City on Wednesday, and on Thursday, flooding closed off Road 371 between Chhlong and Kompong Cham province, said Sreng Sros, deputy director of the Kratie provincial department of public works and transportation. Both routes are under 30 cm of water. A 500-meter stretch of Road 377 in Kratie's Sambor district has also been impassable since last weekend but motorists heading to the northeast can still travel between Kompong Cham and Kratie via National Route 7, Mr. Sros said.

Khoy Khunnhor, chief of cabinet of Preah Vihear province, said that the province declared an emergency on Friday when the Stung Sen River reached 11.76 meters, far above the emergency level of 10.50 meters.

"Three districts and the provincial capital in Preah Vihear province have been affected by flooding," said Mr. Khunnhor, adding that hundreds of families have been evacuated to higher ground.

"We told the people near the river to be highly careful of flooding."

"Mekong River Flooding Threatens Parts Of Phnom Penh", 28/09/2013, online at: <u>http://www.cambodiadaily.com/news/mekong-river-flooding-threatens-parts-of-phnom-penh-43841/?utm\_source=rss&utm\_medium=rss&utm\_campaign=mekong-river-flooding-threatens-parts-of-phnom-penh</u>

BACK TO TOP



#### Conflicting reporting systems may hinder companies' water risk strategies

Without consistent definitions of stress and scarcity, companies cannot properly measure water risks

<u>Water</u> risks such as floods, scarcity and pollution are increasingly chipping into corporate bottom lines. The financial sector is taking notice – and taking action.

Calvert Investments <u>asked HanesBrands</u> to evaluate its losses from cotton-supply shortages due to the 2011 US drought, determining that the company lost \$5.2bn. Trillium Asset Management is now asking companies in its portfolio to factor water risk into their financial projections. And Moody's Investor Service <u>released warnings</u> about risk to credit ratings in the mining industry, as companies spend more on infrastructure in response to growing water risks.

More and more investors are clamouring for <u>sustainability</u> reports and disclosure initiatives to identify corporate water risks, but the process of actually evaluating water supply risks is challenging. Definitions and interpretations of several key concepts have proven to be difficult to define and track in a consistent way. This hurdle was discussed earlier this month at Stockholm Water Week's UN Global Compact CEO Water Mandate meeting – and soon, there may be a solution.

#### Inconsistent terminology, inconsistent results

A growing number of corporate assessment tools – such as the World Resources Institute's Aqueduct <u>Water Risk Atlas</u>, WWF <u>Water Risk Filter</u>, and WBCSD <u>Global Water Tool</u> – are available to help companies evaluate their water risks. The issue is that all of these tools were created using varying parameters, and their underlying methodologies continue to evolve. These differences have created a wide range of definitions and sometimes competing interpretations of terms such as water stress, scarcity and risk.

This is problematic because consistency in reporting methods and terminology are critical if investors are to adequately compare water risks among their portfolio companies. Companies also need to identify their water risks as accurately as possible. Reporting more or less risk than they actually face could be misleading to investors and other stakeholders. It could also lead companies to make poor decisions around where and how to respond to risks.



#### Water risk reporting to avoid power cuts

The experiences of Exelon Corp offer a prime example. As the US power generator analysed water risks for its 2012 <u>sustainability report</u>, it saw definition-related challenges firsthand.

Evaluating and mitigating water-related risks is a top priority for Exelon. Most of the company's 35,000 MW of electric generating capacity nationwide relies on adequate, affordable and reliable sources of water. The majority of Exelon's fossil fuel and nuclear power plants, which supply electricity to millions of customers annually, need water. And thermal power plants rely on water to dissipate excess heat created during power production. Changes in supply and usage can also affect surrounding communities, businesses and the environment, because each depends on the same watersheds that the power plants do.

Exelon recently used the water risk atlas, finding that it faced low to medium water stress in the Mississippi and surrounding watersheds, where approximately 40% of its operations are located. This finding was significantly different than results of a prior assessment. Previously, the company used the UN definition of water stress – an average of 1,700 cubic metres of available water per person. Under this definition, none of the company's facilities faced water stress.

Evaluating water risk is the first step in mitigating it. Conflicting definitions, then, can ultimately hinder a company's ability to create a comprehensive strategy for overcoming water risks. Exelon's more detailed understanding of water stress will help the company communicate its risks and mitigation strategies, and better equip it to work with communities, businesses, and other decision-makers to ensure ongoing water availability.

#### Settling the differences

Exelon's experience is just one example of the challenges companies face due to inconsistent terminology and risk reporting methodologies. But the good news is that there's an initiative to streamline corporate water risk reporting.

The UN Global Compact CEO Water Mandate asked a team of experts – including the WRI – to reconcile the differences between various terms and reporting methodologies. While the results of this initiative won't be published until the revised UN Global Compact CEO Water Mandate



Corporate Water Disclosure Guidelines come out in 2014, the discussions are already yielding practical results.

The working group is uncovering some of the important differences among scarcity, stress, and risk as captured in these working definitions:

• <u>Water scarcity</u> assesses the health of a river system by evaluating the amount of water available within a given area. Scarcity describes the total supply in an area minus a specific type of demand, called consumptive use (eg water consumed by crops as they grow).

• Water stress illustrates where there's competition and potential conflict among all water users, including human and ecological uses. It takes into account total water supply as well as consumptive demand, but also includes all other water demand, or non-consumptive demand (eg power plant water used for cooling that is returned to river where it can be used downstream).

• Water risk is a comprehensive term, describing all water-related concerns, such as pollution, social and regulatory issues, that may affect governments, communities, businesses and other water users.

The 2014 CEO Water Mandate guidelines will be an important first step in reconciling these differences and advancing corporate water risk reporting for investors and businesses alike.

As more and more companies use the same definitions, investors will be able to accurately compare companies in their portfolios, and therefore make better investment decisions. The companies themselves will benefit, too. Environmental managers will be able to make more informed decisions about which stress, scarcity, and risk reporting processes to use. This will allow them to more accurately identify their water-related risks, and put in place strategies to protect their bottom lines.

Of course, companies must decide whether they will report with common metrics at all. Several major international corporations <u>faced scrutiny this month</u> for reporting carbon emissions with their own internal metrics, rather than through the standardised CDP carbon emissions report. Companies will face similar questions about water stewardship within five years, and those who join the standardised definition and reporting processes now – through initiatives like the <u>CDP Water programme</u> – will have a valuable headstart.



#### WATER RESEARCH PROGRAMME -Weekly Bulletin-

"Conflicting reporting systems may hinder companies' water risk strategies", 26/09/2013, online at: http://www.theguardian.com/sustainable-business/conflicting-reporting-hinder-risk-waterstrategies?utm\_source=Circle+of+Blue+WaterNews+%26+Alerts&utm\_campaign=0a3d1534c9-RSS\_EMAIL\_CAMPAIGN&utm\_medium=email&utm\_term=0\_c1265b6ed7-0a3d1534c9-250657169

BACK TO TOP

WWW.ORSAM.ORG.TR

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



#### Senegal Group to Sue Water Company After Weeks of Shortages

Senegal's main consumer advocacy group will sue the nation's water provider to speed up distribution of the liquid as the capital, Dakar, enters a second week of shortages.

"We will make a complaint against SDE which must be forced to provide water," Momar Ndao, president of the Senegalese Consumer Association, said by phone yesterday.

President <u>Macky Sall</u> returned early from <u>New York</u>, where he was attending the UN General Assembly, this week after protests in Dakar against his government because of the shortfall. He will meet with the council of ministers today to discuss the issue.

The shortage began on Sept. 12 after the main pipeline in Keur Momar Sarr, about 200 kilometers (124 miles) from Dakar, broke, Senegalaise des Eaux, a unit of Paris-based Finagestion SA has said. The line feeds Dakar and other nearby areas.

Shortages", 26/09/2013, "Senegal Group to Sue Water Company After Weeks of online at: http://www.bloomberg.com/news/2013-09-26/senegal-group-to-sue-water-company-after-weeks-ofshortages.html?utm\_source=Circle+of+Blue+WaterNews+%26+Alerts&utm\_campaign=0a3d1534c9-RSS EMAIL CAMPAIGN&utm medium=email&utm term=0 c1265b6ed7-0a3d1534c9-250657169

#### BACK TO TOP



#### \* Two Billion People Threatened By Worsening Water Scarcity Due To Climate Crisis

Less rain and more evaporation in many parts of the world due to climate crisis could worsen water scarcity situation, finds a new study led by scientists at the Potsdam Institute for Climate Impact and Research. The study findings have been published in the journal Environmental Research Letters.

According to the researchers' calculations, global warming will expose 668 million people worldwide to new or aggravated water scarcity, which is in addition to the 1.3 billion people already living in water-scarce regions. Regions which will see the most significant deterioration in water supplies are the Middle East, North Africa, southern Europe and the south-west of the US.

The study looks at present commitments by countries to reduce GHGs.

It says that even if these commitments or pledges are met, the global mean temperature will still rise by around 3.5°C above pre-industrial levels by the end of the century.

The study used data from 19 climate change models. This was run alongside eight global warming trajectories. In total, more than 150 climate change scenarios were examined in the study.

Researchers also examined the impact future changes in climate would have on the world's ecosystems, seeking to identify which areas would be subject to greatest change and whether these regions were rich in biodiversity.

The study finds that if the global mean temperature rises by only  $2^{\circ}$ C, at present the internationally agreed target maximum, an additional 486 million people – a figure equivalent to more than 7 percent of the world's present population – will be threatened with severe water scarcity.

According to Dr. Dieter Gerten, the study's lead author, the main factor leading to more water shortages will be declining precipitation: increasing temperatures will also lead to greater evapotranspiration – the sum of evaporation and plant transpiration from the Earth's land surface to the atmosphere.



"Even if the increase is restricted to 2°C above pre-industrial levels, many regions will have to adapt their water management and demand to a lower supply, especially since the population is expected to grow significantly in many of these regions", says Gerten.

The study says: It's vital that governments and policymakers, when setting targets on temperature rises, are fully informed of the overall consequences of their decisions.

"The unequal spatial pattern of exposure to climate change impacts sheds interesting light on the responsibility of high-emission countries and could have a bearing on both mitigation and adaption burden-sharing", says Gerten.

"At a global warming of 2°C, notable ecosystem restructuring is likely for regions such as the tundra and some semi-arid regions," says Gerten.

"At global warming levels beyond 3°C, the area affected by significant ecosystem transformation would significantly increase and encroach into biodiversity-rich regions.

"Beyond a mean global warming of 4°C, we show with high confidence that biodiversity hotspots such as parts of the Amazon will be affected."

\* This report is based on an article by **Kieran Cooke**, co-editor for Climate News Network, a news service led by four veteran British environmental reporters and broadcasters. It delivers news and commentary about climate change for free to media outlets worldwide.

"Two Billion People Threatened By Worsening Water Scarcity Due To Climate Crisis", 26/09/2013, online at: <u>http://www.countercurrents.org/cc260913B.htm</u>

BACK TO TOP



#### ✤ IPCC climate report: the digested read

The fifth assessment report from the IPCC looks at everything from oceans and sea ice to carbon budgets and geoengineering

#### **Global change**

The global climate has already changed in many ways that are unprecedented in the past hundreds or thousands of years, the world's scientists and governments concluded in the new report from the Intergovernmental Panel on Climate Change. These changes have affected every region of the globe, on land and at sea. Continued <u>carbon emissions</u> will drive further heatwaves, <u>sea level</u> rise, melting ice and extreme weather. The changes will last for centuries and limiting the effects would require "substantial and sustained" cuts in carbon dioxide, the scientists report.

#### Temperatures

Scientists are now at least 66% certain that the last three decades are the warmest in 1400 years, with global temperature having risen by 0.9C in the last century. However, more than 90% of the heat trapped by greenhouse gases is being stored in the <u>oceans</u>.

By mid-century, scientists predict a further rise of 1.4-2.6C if carbon emissions continue to rise as they are today. If emissions were halted almost immediately and significant carbon was extracted from the atmosphere, the rise by mid-century would be 0.4-1.6C.

The scientists predict the average temperature between 2080 and 2100 will be 2.6-4.8C higher than today if emissions are unchecked. They are 90% certain that heatwaves will be more frequent and longer.

In the oceans, the strongest surface warming is expected in tropical and sub-tropical regions, up to 2C by 2100 and posing a grave threat to coral reefs which sustain much sealife. Scientists conclude that a collapse of the Gulf Stream that warms western Europe, as dramatised in the film The Day After Tomorrow, is very unlikely this century but cannot be ruled out afterwards.



#### WATER RESEARCH PROGRAMME -Weekly Bulletin-

#### Oceans

Global sea level has already risen by 20cm in the last century and scientists are now 90% certain that the rate of the rise will increase. The tide line is rising as warming glaciers and ice sheets pour hundreds of billions of tonnes of water into the oceans each year, but an equally big factor is the warming – and therefore expansion – of the seawater itself.

The new projections for the average sea level in the period 2080-2100 are greater than in the 2007 report, ranging from 45-82cm higher than now if nothing is done to curb emissions to 26-55cm if carbon emissions are halted and reversed. In the former case, sea level could have risen by a 98cm by the end of the century, seriously threatening cities from Shanghai to New York and meaning hurricanes and cyclones inflict far worse damage when they hit shorelines.

Sea level projections have been controversial because <u>exactly how fast glaciers and ice sheets will</u> <u>slip into the sea is not well known</u>. A collapse in ice sheets is therefore not included in the estimates and could add tens of centimetres more to the rise. Because the big Greenland and Antarctic ice sheets are slow to melt, scientists predict melting and sea level rise will continue for centuries. If a temperature rise of between 1C and 4C is sustained, the vast Greenland ice sheet will completely melt adding 7m to sea level, scientists predict, but over the course of a millennium.

The acidity of the ocean is also increasing, due the large amounts of carbon dioxide it is absorbing, and this will continue. This will harm shell-forming sealife but scientists are still determining to what extent.

#### Ice

The impact of warming is crystal clear in the faster rates of melting in virtually all the world's glaciers and the huge ice sheets in Greenland and Antarctica. The ice sheets have been shedding at least five times more water in the 2000s than in the 1990s, the scientists report. Northern hemisphere snow cover has fallen by 11% a decade since 1967 and the temperature of the seasonally frozen ground, or permafrost, has increased by 2-3C in Russia and Alaska.

Arctic <u>sea ice</u> has been melting by 9-14% a decade since 1979, while sea ice around Antarctica has been increasing by 1-2%, probably due to current changes.



Scientists are 90% sure that Arctic sea ice, snow cover and glaciers will continue to shrink. The scientists say a "nearly ice-free" Arctic ocean in September is at least 66% likely before 2050. By 2100 between 35% and 85% of the remaining world glacier volume will have vanished if emissions are not cut. Permafrost is also 99% likely to shrink further.

#### **Extremes**

It is 90% certain that the number of warm days and nights has increased globally and heatwaves have become more frequent, lasting longer in Europe, Asia and Australia. Droughts have also become more frequent and intense in the Mediterranean and west African regions.

The number of heavy rainfall events over land has increased in more regions than it has decreased. It is virtually certain that the frequency and intensity of the strongest tropical cyclones in the North Atlantic has increased since the 1970s.

The scientists concluded it is 99% certain that the frequency of warm days and warm nights increases in the next decades, while that of cold days and cold nights to decrease. The frequency and intensity of extreme downpours is very likely to increase in many populous regions.

#### Pause

The last decade has been the warmest on record but although CO2 concentrations in the atmosphere have continued to accelerate, surface air temperatures have only marginally increased in the past 15 years, leading some to suggest global warming has stopped. The <u>IPCC scientists reject this</u>, reporting that while the warming trend is robust over decades, there is "substantial" variability within decades. They conclude: "Trends based on short records ... do not in general reflect long-term climate trends." They add that the heat being trapped by global warming in 2011 was 43% more than the estimate for 2005 in their last report and that over 90% of all the heat added enters the oceans.

#### **Carbon budget**

Scientists calculate that nearly half of all the carbon dioxide that can be safely emitted without raising temperatures above a dangerous 2C has already been emitted. This, says the IPCC, means governments must act quickly to have a reasonable change of avoiding 2C. It is also very likely that



more than 20% of emitted CO2 will remain in the atmosphere longer than 1,000 years after manmade missions have stopped. According to the IPCC, a large fraction of <u>climate change</u> is thus "irreversible on a human time-scale", except if man-made CO2 emissions are sucked out of the atmosphere over a long period.

#### Geoengineering

The scientists report that "geoengineering" the climate by reducing the amount of sunlight being absorbed by earth or by extracting and storing carbon dioxide and other climate-changing emissions is theoretically possible. But, the IPCC warns, there is insufficient knowledge to assess how effective such methods, such as pumping sunscreen chemical into the stratosphere, would be and warns of "side effects and long-term consequences on a global scale."

#### Abrupt change

It is "very likely" that the so-called Gulf Stream, which ferries warm water to western Europe, will weaken over the 21st century. But it is "very unlikely" to collapse or undergo a major transition this century. Further warming will lead to significant methane emissions from permafrost over the next century, equivalent to 50 to 250 billion tonnes of CO2. But the IPCC scientists do not assess the possibility of catastrophic releases this century.

#### Uncertainties

In terms of data, information is still limited in some locations and especially from before 1950s. There is also limited data from oceans below 700m.

Theoretical uncertainties are how pollution affects cloud formation and the planet's overall climate "sensitivity", ie how much it responds to extra CO2 in the atmosphere. The new report slightly reduces the minimum climate sensitivity but at the report's launch event, co-chair Thomas Stocker said that change, if realised would slow the impacts of climate change by just a few years.

There is uncertainty about the contribution of human activity to changes in tropical cyclones and droughts.



#### WATER RESEARCH PROGRAMME -Weekly Bulletin-

#### Other explanations of warming

The scientists state: "It is extremely likely that human influence has been the dominant cause of the observed warming since the mid-20th century." The report rules out any significant contribution from changing solar cycles, volcanoes and cosmic rays.

"IPCC climate report: the digested read", 27/09/2013, online at: http://www.theguardian.com/environment/2013/sep/27/ipcc-climate-report-digestedread?CMP=twt\_fd&utm\_source=Circle+of+Blue+WaterNews+%26+Alerts&utm\_campaign=8e1665cfb6-RSS\_EMAIL\_CAMPAIGN&utm\_medium=email&utm\_term=0\_c1265b6ed7-8e1665cfb6-250657169

BACK TO TOP



#### ✤ Islands fight to stay above water amid climate change

Rising seas, disappearing glaciers, melting ice, storm surges: The threat of climate change still feels distant to many people.

Not for residents of small, low-lying islands in the Pacific. Global warming has arrived, and it's turned their nations — Micronesia, the Marshall Islands, Palau, Kiribati and others — into slowly sinking ships. In some regions, the freshwater has turned salty, farmlands are barren and officials say rising waters will submerge entire nations by century's end unless concerted action is taken.

Concerted action has most definitely not been taken.

As a result, many of these countries have resorted to extreme measures. They've engaged global legal experts to figure out whether a drowned nation still exists, have threatened legal action against coal plants a hemisphere away and have tried to drum up support for a case at the International Court of Justice. Quixotic as these tactics may sound, they risk alienating wealthy countries — the very ones they'll rely on for humanitarian aid to help refugees from droughts and floods.

"There's a real existential question for these islands," says Earthjustice attorney Erika Rosenthal, who works with small island states to stem the volatile tides of global warming. For these tiny nations, climate change raises the "most urgent questions of national sovereignty."

Sound like Sturm und Drang? More like Apocalypse Slowly. Well before the water submerges them, the islands will become uninhabitable. Salt water contaminates drinking-water supplies and ruins arable land. Subsidence and increased flooding wipe away coastline dwellings. Then there's the evil twin of global warming, ocean acidification, which harms sea creatures and those who eat and sell them.

STORY: U.N. global warming report puts humans on the hot seat

WEATHERING THE CHANGE: USA TODAY's climate change series



In the capital atoll of the Marshall Islands, "The principal source of drinking water is capturing rainwater runoff from the airport runway," because the groundwater has become undrinkable, says Michael Gerrard, a Columbia law professor who advises the tiny nation on legal remedies. Insult to injury: The north of the country is in the midst of a serious drought. It's water, water, everywhere, nor any drop to drink.

Climate-change talks and treaties have offered the islands little recourse. The United States, responsible for 18 percent of global emissions, hasn't ratified the Kyoto Protocol. Canada dropped out last year. Kyoto's successor treaty, to take effect in 2020, is being negotiated now, but carbon-emitting infrastructure moves at a much faster pace than international bureaucracy. "Every time a coal-fire plant is built, they're locking in infrastructure" that contributes to future warming, says Rosenthal — and delaying an inevitable move to renewable energy. Climate-change negotiators generally agree on a goal to limit warming to 2 degrees Celsius, but analysts say that goal is unrealistic and has likely already been scuttled.

When the survival of your island nation rests with powers much larger than you, what do you do?

In 2009, the Marshall Islands' ambassador to the U.S. asked Gerrard to look into that very question, as well as other queries that sound surreal: Is a country underwater still a nation-state? Does it retain its seat at the United Nations? What happens to national assets like fishing rights? And where should its citizens go? (No easy answers, but the questions are explored in a recent book Gerrard edited.)

Meanwhile, island leaders are pushing the boundaries of international law in seeking attention and, ultimately, emissions reductions.

• Former Maldivian president Mohammed Naheed and his cabinet donned scuba gear for an underwater press conference on global emissions.

• The Federated States of Micronesia demanded that the Czech Republic decommission a coal-fired power station by 2016 instead of expanding it, citing the effect of carbon emissions on its national fate.



• The government of Palau led the charge for an advisory opinion from the International Court of Justice on whether big, carbon-emitting countries might be liable for climate change. For the ICJ to consider the case, a majority of the U.N.'s General Assembly needs to endorse the referral. They have not.

• The Association of Small Island States is making a concerted effort to get big carbon emitters, including emerging economies like those of India, China and Brazil, to begin reducing emissions before 2020.

It's not just small islands, of course. Later this month, the Intergovernmental Panel on Climate Change, the largest worldwide monitor, is expected to announce that coastal cities will drown by 2100, absent serious reductions in carbon emissions. The United States will likely see its first climate refugees well before that — perhaps as soon as 2017, when the sea may wash away native communities in Alaska.

It's some of the trickiest diplomacy in the world. After all, these tiny and typically poor countries generally don't want to risk alienating their biggest foreign aid donors — not least because they'll need help mitigating the damage caused by flooding, salination and subsidence.

But at some point in the near future, there won't be much choice.

"Islands fight to stay above water amid climate change", 27/09/2013, online at: <u>http://www.usatoday.com/story/news/world/2013/09/27/ozy-climate-change-small-</u> <u>countries/2882835/?utm\_source=Circle+of+Blue+WaterNews+%26+Alerts&utm\_campaign=8e1665cfb6-</u> <u>RSS\_EMAIL\_CAMPAIGN&utm\_medium=email&utm\_term=0\_c1265b6ed7-8e1665cfb6-250657169</u>

BACK TO TOP



#### U.N. panel 95 percent certain climate change is man-made

Top scientists from a variety of fields say they're about as certain that global warming is a real, manmade threat as they are that cigarettes kill.

They're as sure about <u>climate change</u> as they are about the age of the universe. They say they're more certain about climate change than they are that vitamins make you healthy or that dioxin in Superfund sites is dangerous.

They'll even put a number on how certain they are about climate change: it's 95 percent.

One climate scientist involved says the panel may even boost it in some places to "virtually certain" and 99 percent.

In science, 95 percent is the gold standard for certainty. But to the general public, and to climatechange deniers especially, 95 percent is just not good enough, specialists say.

That is an issue because this week, scientists from around the world have gathered in Stockholm for a meeting of a U.N. panel on climate change, and they will probably release a report saying it is "extremely likely" - which they define in footnotes as 95 percent certain - that humans are mostly to blame for temperatures that have climbed since 1951.

"Uncertainty is inherent in every scientific judgment," explained Johns Hopkins University epidemiologist Thomas Burke. "Will the sun come up in the morning?" Scientists know the answer is yes, but they can't really say so with 100 percent certainty because there are so many factors out there that are not quite understood or under control.

George Gray, director of the Center for Risk Science and Public Health at George Washington University, said that demanding absolute proof on things such as climate doesn't make sense.

"There's a group of people who seem to think that when scientists say they are uncertain, we shouldn't do anything," said Gray, who was chief scientist for the U.S. Environmental Protection Agency during the George W. Bush administration. "That's crazy. We're uncertain and we buy insurance."



With the U.N. panel about to weigh in on the<u>effects of greenhouse gas emissions</u> from the burning of oil, coal and gas, The Associated Press asked scientists who specialize in climate, physics, epidemiology, public health, statistics and risk just what in science is more certain than human-caused climate change, what is about the same, and what is less.

They said gravity is a good example of something more certain than climate change. Climate change "is not as sure as if you drop a stone it will hit the Earth," Princeton University climate scientist Michael Oppenheimer said. "It's not certain, but it's close."

Arizona State University physicist Lawrence Krauss said the 95 percent quoted for climate change is equivalent to the current certainty among physicists that the universe is 13.8 billion years old.

The president of the prestigious National Academy of Sciences, Ralph Cicerone, and more than a dozen other scientists contacted by the AP said the 95 percent certainty regarding climate change is most similar to the confidence scientists have in the decades' worth of evidence that cigarettes are deadly.

"What is understood does not violate any mechanism that we understand about cancer," while "statistics confirm what we know about cancer," said Cicerone, an atmospheric scientist. Add to that a "very high consensus" among scientists about the harm of tobacco, and it sounds similar to the case for climate change, he said.

But even the best study can be nitpicked because nothing is perfect, and that's the strategy of both tobacco defenders and climate deniers, said Stanton Glantz, a medicine professor at the University of California, San Francisco and director of its tobacco control research center.

George Washington's Gray said the 95 percent number the Intergovernmental Panel on Climate Change will probably adopt may not be realistic. In general, regardless of the field of research, experts tend to overestimate their confidence in their certainty, he said. Other experts said the 95 percent figure is too low.

Jeff Severinghaus, a geoscientist at the Scripps Institution of Oceanography, said that through the use of radioactive isotopes, scientists are more than 99 percent sure that much of the carbon in the air has



#### WATER RESEARCH PROGRAMME -Weekly Bulletin-

human fingerprints on it. And because of basic physics, scientists are 99 percent certain that carbon traps heat in what is called the greenhouse effect.

But the role of nature and all sorts of other factors bring the number down to 95 percent when you want to say that the majority of the warming is human-caused, he said.

"U.N. panel 95 percent certain climate change is man-made", 26/09/2013, online at: <u>http://www.cbsnews.com/8301-205\_162-57604784/u.n-panel-95-percent-certain-climate-change-is-man-made/?utm\_medium=referral&utm\_source=t.co</u>

#### BACK TO TOP



#### World Tourism Day: Where Would You "Go"?

The theme of this year's <u>World Tourism Day</u>(September 27, 2013) is Tourism & Water: Protecting our Common Future. The impact of the tourism industry and tourism establishments to help steward and manage water resources sustainably can't be underestimated.

Included in the discussion on World Tourism Day is the role of sanitation, particularly given the urgent need of the 2.5 billion people who lack access to improved sanitation, and the 1 billion people defecating in the open.

Human waste management and water treatment is probably not part of the curriculum at hotel management school. Maybe it should be.

And the issue of open defecation on beaches and in other public areas can be a taboo subject for the hospitality industry, departments of tourism and other entities seeking to promote their countries to potential visitors. Perhaps it shouldn't be.





Both in terms of dollars and "sense," sanitation is something the tourism industry can ill-afford to ignore. Beyond the <u>significant environmental and health consequences to countries</u>, consider the economic losses to tourism due to inadequate sanitation: In India alone, poor sanitation results in a loss of US\$260 million in tourism dollars annually (<u>see full infographic</u>).

Part of the challenge in addressing global issues of sanitation is encouraging action on multiple fronts from multiple actors to help remove the stigma around a subject matter that can be unpleasant and that can make us a little uncomfortable. So who better than the hospitality industry – experts in making people comfortable – to champion not just the need for proper access to sanitation but the need for all of us to change our attitudes about this issue and openly and unashamedly talk about approaches to end open defecation.

On World Tourism Day, it seems especially important to remember that where we "go" really does matter.

"World Tourism Day: Where Would You "Go"?", 27/09/2013, online at: <u>http://blogs.worldbank.org/water/world-tourism-day-where-would-you-go</u>

#### BACK TO TOP



#### **\*** Water Critical for Economic Growth

San Antonio may be a poster child for water conservation, but State Rep. Lyle Larson, a Republican representing San Antonio, says Texas as a whole needs to adequately address its water issues, before the state not only suffers a water shortage, but also starts losing jobs.

In a discussion today about state water policy hosted by *The Texas Tribune* at St. Mary's University, Larson recalled a 1990s lawsuit regarding the Edwards Aquifer that left many companies with the perception that San Antonio would suffer from a water shortage. Several, therefore, opted to set up shop in Dallas and Houston instead of San Antonio. Area leaders responded by forming San Antonio Water System (SAWS) and working to diversify water sources while also conserving. Now, the city uses as much water as it did 25 years ago despite an about 67 percent population growth, said Robert Puente, CEO of SAWS and a former state representative. (Read more about how SAWS accomplished that in *San Antonio Magazine's* August 2013 <u>issue</u>.)

If the state doesn't follow that same lead, Larson said, it too will see jobs land elsewhere. "Our biggest challenge going forward is to make sure we have adequate water," he said. "Otherwise we're going to start losing thousands of jobs."

To begin addressing the state's water issues, lawmakers have proposed moving \$2 billion from the state's Rainy Day Fund, or surplus, to the Texas Water Development Board for loans toward water infrastructure projects. Voters will decide on the proposal, known as Proposition 6, during the Nov. 5 election.

The question now is, will Texans support the proposal? *The Texas Tribune* CEO and Editor in Chief Evan Smith, who moderated Tuesday's forum, pointed out that Texas has some of the worst voter turnouts in the country even during presidential and gubernatorial election years. With neither of those positions on the 2013 ballot, some wonder if there are enough people aware of the state's water issues to even weigh in on the issue.

Puente said some voters may not be aware of the issues, but he believes the votes are there to pass Proposition 6. "It's very important for the state," he said. With 23 communities in Texas having only 180 days or less of groundwater supplies remaining, Larson said he too believes much of the state



knows water infrastructure needs to be addressed. "We do have a significant problem," he said, adding that polls show East Texans don't overwhelmingly believe the state has water issues but that the remainder of the state does.

The last big push to handle water infrastructure needs took place after the drought of the 1950s, Larson said. It's now time for Texans to take that step again.

Puente said he hopes other regions will take San Antonio's lead. San Antonio boasts the nation's largest recycled water system as well as the third largest underground water storage system. SAWS also charges the lowest water rate of any major Texas city, Puente added. "I would hope the rest of the state starts looking to San Antonio," he said.

Following San Antonio's lead—and ultimately supplying water and, in turn, a job-friendly environment—will take collaboration statewide, Larson said, including between regions who have water that can be shared. "We fight each other for water and we're all within the same borders of Texas," Larson said. "You don't see other states doing that."

He and Puente agreed passing the proposition won't solve the state's water situation, but it will be a positive step. "Let's do what they did in the 1950s and respond to the drought," Larson said.

"Water Critical for Economic Growth", 24/09/2013, online at: <u>http://www.sanantoniomag.com/SAM-Says/Summer-2013/Water-Critical-for-Economic-Growth/</u>

#### BACK TO TOP



#### **\*** Community Agriculture Alliance: Water is for fighting

Steamboat Springs — "Whiskey is for drinking. Water is for fighting."

<u>#</u>You've heard the proverbial quote before, and you will hear it louder and more often in the Yampa River basin. Western water law, state water compacts, water policy and the implications of this public resource will continue to be extremely complex and highly charged into the future. Western water "grabbing" wars began in the mid-1800s. Periods of truce can last for decades, but every so often, the combatants take up arms and battle ensues. In the past, the Yampa River was not a direct target because of its geographic isolation.

<u>#</u>Past generations of Colorado's policymakers and engineers — at times rough, ruthless and known as "water buffaloes" — have had their way with every other river on the Western Slope. Today, there are more than 20 major trans-basin diversions taking water from Western Slope rivers to the highly populated Front Range. The Yampa River, aside from a few small dams, has been free to flow, but as populations grow on the Front Range and downstream Western states, the Yampa River water and its water rights likely will come under fire.

<u>#By 2040</u>, Colorado's expanding population is projected to be more than 8 million, and 80 percent of the population, including its voting power, will live in 12 of the Front Range counties. Based on current and projected water supplies and conditions, a significant gap will occur between supply and demand.

<u>#</u>The historical status quo for meeting the water gap has been the purchase and transfer of ranchers' and farmers' water rights for municipal and industrial demands. Were it not for the 1922 Colorado River Compact, which divides the Colorado River's water between the upper basin states (Colorado, Wyoming, New Mexico and Utah) and lower basin states (California, Arizona, Nevada and Mexico), Colorado would be in command and able to impound all available water. The 1922 compact requires the upper basin states to deliver to the lower basin states 75 million acre-feet of water for consumptive use averaged throughout a running 10-year period. The Yampa River's portion, per the 1948 Upper Basin Compact, is 500,000 acre-feet annually to be delivered to the Green River.

 $\underline{\#}$ In May, Gov. John Hickenlooper issued an executive order and charged the Colorado Water Conservation Board to develop a statewide Colorado Water Plan by 2015. In turn, through the board's basin roundtable process, each basin is required to develop its Basin Implementation Plan to be integrated in the state plan.

<u>#</u>The governor's order already is creating a call to arms in the Grand Valley. Managers of 10 Grand Valley agencies and municipalities are considering a Not One More Drop club as a response to the governor's demand for a statewide plan. A clear stance of no further diversions of water from the



Western Slope to the east slope and the reallocation of state's water is not the solution to the growing problem.

<u>#</u>In August, the Yampa-White Roundtable initiated its Basin Implementation Plan. Like the water stewards of the Grand Valley, opinions and apprehensions about possible short- and long-term implications of the governor's order to the waters of the Yampa River basin are growing louder. All indications are that the fighting about Western water will intensify, but our Yampa River basin "water buffaloes" are a formidable foe, and we remain hopeful the whiskey doesn't dry up.

"Community Agriculture Alliance: Water is for fighting", 26/09/2013, online at: <u>http://www.steamboattoday.com/news/2013/sep/26/community-agriculture-alliance-water-fighting/</u>

BACK TO TOP



#### Water pollution deemed critical problem

The message was loud and clear from three members of the Florida Coastal and Oceans Coalition at an open public forum at Pink Shell Resort on Wednesday -one that was attended by only roughly 30 people.

High flow regulatory freshwater releases discharged from Lake Okeechobee into the Caloosahatchee and St. Lucie rivers are damaging our coastal habitats and water quality to the point where the action will negatively affect not only our ecology but our economy, tourism industry and eventually our health in a devastating way. The problem is water management.

Sanibel-Captiva Conservation Foundation Natural Resource Policy Director Rae Ann Wessel, Conservancy of Southwest Florida Natural Resources Policy Director Jennifer Hecker and FCOC coordinator Ray Judah made power point presentations about the scientific angles of the impact during the Coastal Estuaries in Peril forum. Afterwards, they heard public comments and answered questions and made pleas for everyone to act now.

- All three environmentalists are urging state and federal government agencies to implement both short- and long-term solutions to prevent devastation of ecological, economical and overall quality of life. But their voices have been heard, and they plead that all Southwest Floridians take action by contacting state representatives to ask for support of the following federal priorities: fund the 2013 Water Resources Development Act; support a contingency authorization and funding for Central Everglades Planning Project; and fund the bridging of Tamiami Trail through the Everglades.

"We are not trying to say that the sky is falling, but when you can see dolphins and manatees dying, the water is becoming extremely unsafe. That's when we, as a community, are needed to act before we start seeing people become ill," said Hecker. "The problem is becoming so self-evident that you can't hide it anymore. When the visitors can see it and see dead sea life, you can no longer ignore that there is a problem. The situation we are experiencing is intolerable."

"The more voices and the more diverse those voices, the more powerful the message," said Wessel. "Even if it's a quick email to list the priorities, as a taxpayer who lives in this state, you can just say I want you to take these actions."

(Email Gov. Rick Scott at <u>Rick.Scott@myflorida.com</u> and urge him to support the above four priorities.)

It was stated the situation has reached "crisis proportion," yet so many have fallen on "denial" and are "pretending" our waters will eventually clean itself of the present pollution or that the flows will stop soon.

The fact is, while water flows our way were slowed in the recent past, lately they have increased due to all of the rain the lake has received. Town of Fort Myers Beach Environmental Sciences Coordinator Keith Laakkonen has been monitoring the situation and stated the water flows have



increased in the past couple of weeks . Scientific research shows that anything higher than 4,500 cubic feet per second is harmful to the estuaries, and high flows were up to 10,000 cu ft/s in July. Fast forward to more than three months later.

"Things are not getting fixed the way they should. There are some modest improvements here and there, but they are not going to solve our problem," said Hecker. "Killing the lake is only going to create poor water quality that comes down our river and estuaries in the future. We need to let the public know and understand that (state officials) are going in the wrong direction. The ultimate solution is they have to buy U.S. Sugar lands to put the water back flowing south and where it belongs."

Judah discussed the importance of Plan 6 -the restoration of the historic flow-way in the Everglades Agricultural Area- involving the purchasing of 153,000 acres of U.S. Sugar land and a state purchase option that expires this month for an agreed-upon lower price of \$7,400 an acre, before the price dramatically rises. He stated the state should obtain the 20,000 acres from U.S. Sugars through the purchase option, then the remaining land of U.S. Sugar could be used in a land swap with Florida Crystals to be able to finalize the piece of the puzzle for land necessary to convey water to the south.

"The governor has the authority to declare a state of emergency, hold a special session with the Florida legislature, come up with the funding to purchase U.S. Sugar land and have the land necessary for the storage treatment conveyance to the south," said Judah. "The governor needs and should take steps."

"Water pollution deemed critical problem", 26/09/2013, online at: <u>http://www.fort-myers-beach-observer.com/page/content.detail/id/523871/Water-pollution-deemed-critical-problem.html?nav=5051</u>

BACK TO TOP