



ORSAM WATER BULLETIN

Weekly Bulletin by ORSAM Water Research Programme

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



ORSAM WATER BULLETIN

12 November – 18 November 2012

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❖ **Cyprus water pipeline project promises benefits, but not for negotiations**

A water pipeline project connecting Turkey with northern Cyprus could solve the island's persistent water supply problem, but its impact on stalled negotiations between the Turkish and Greek parts of the island will be marginal, experts told SETimes.

Cyprus, which receives a modest annual rainfall of about 500 milimetres, is not considered exceptionally arid. But the island's vulnerability to drought and hot, dry summers make access to water a key concern, especially for industries like agriculture and tourism.

Last month, Turkish and Northern Cyprus authorities inaugurated a groundbreaking project to transport water 170 kilometres from Mersin to Kyrenia in northern Cyprus through a pipeline suspended 250 metres beneath the Mediterranean Sea. Upon completion, the pipeline is expected to transport 75 million cubic metres of water annually.

The project could potentially provide enough water for both parts of the island when it's finished in 2014, but analysts and political experts are skeptical it will have much significance for political negotiations.

"The project will considerably strengthen northern Cyprus' position in the water sector," Kamer Kasim, deputy chairman of the Ankara-based International Strategic Research Organisation, told SETimes. But, he added, it "doesn't carry vital importance for the negotiations."

UN-backed negotiations to unify the island, which has been divided since Turkey's 1974 invasion, have stalled recently, with Turkish Cypriot leaders refusing to engage in high-level talks during Cyprus's EU presidency. Greek Cypriots' 2011 decision to drill for hydrocarbon reserves in contested waters off the island's coast also drew sharp responses for Turkey.

Some analysts see the water pipeline as a way for the Turkish side to gain leverage in negotiations instead of a step toward reviving them.

"For the time being, Greek Cypriots are in a stronger position, given gas and oil exploration," Sylvia Tiryaki, deputy director of the Global Political Trends Centre at Istanbul Kultur University, told SETimes. "The water and electricity project will create some balance for the northern [part of the island]."

Turkish Cypriot leaders have fed this perception with statements that the project could give them bargaining power.

At a March 2011 groundbreaking ceremony for a dam related to the water pipeline project, northern Cyprus President Dervis Eroglu said, "In my view, the peace water project carries great importance for the Cyprus issue. It will substantially strengthen my hand at the [negotiating] table."

Attempts by SETimes to get comments from Greek officials were unsuccessful.

Vassilis Protopapas, director of the Service for Academic Affairs and Student Welfare at the Cyprus University of Technology in southern Cyprus, told SETimes that many Greek Cypriots agree with the analysis that the pipeline is a means of strengthening Turkey's influence.

"Water could be an important aspect regarding the political future of the island. However, Greek Cypriots are quite skeptical with everything that connects the island with Turkey," he said. "They don't trust Turkey, so they don't want to be dependent on Turkey, even if it is the only state that could help in solving the problem of water."

Protopapas added that popular suspicions have been fanned by the Greek Cypriot media. "Turkey is being considered by the media as an 'all times enemy.' I personally do not share this opinion, but this how the majority feels."

In the face of this skepticism, the Turkish government has portrayed the project as a positive step in Greek-Turkish relations.

"[The project] shows once again that Turkey is the Greek part's natural neighbour, no matter how far it sees itself from Turkey," Turkey's Deputy Prime Minister Beşir Atalay said in the groundbreaking ceremony of the project. "The Greek part should now see the profits of a peaceful solution [to the Cyprus issue], rather than designing a future clear of the people of Turkish Cyprus."

Despite the political dimensions of the project, some Turkish Cypriots are looking toward eventual positive results for the negotiations.

"We hope [the project] contributes to both the [island's] economy and the peace process in Cyprus," Ozdil Nami, a Nicosia deputy from the Republican Turkish Party-United Powers in the northern Cyprus assembly, told SETimes.

Nami said that Greek Cypriots, who voted against a UN-backed peace plan in 2004, might see the opportunity to alleviate the island's water crisis as an incentive to push harder for reunification.

"They are not much aware of the benefits of a solution," Nami said of Greek Cypriots.

The Turkish government will finance the project, which will cost about 527,000 euros (1.12 billion TL). Cyprus will then have to pay 0.40 euros (about .90 kuruş) per cubic metre of water that will be transported to the island.

"Cyprus water pipeline project promises benefits, but not for negotiations", 12/11/2012, online at:
http://www.setimes.com/cocoon/setimes/xhtml/en_GB/features/setimes/features/2012/11/12/feature-05

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❖ Turkey to Spend \$5.6b Liras on Dams in Next 5 Years

Turkey will spend about 10 billion liras (\$5.6 billion) over the next five years on the Southeast Anatolia Project, a chain of hydro-electric dams and irrigation systems in the mainly Kurdish southeast.

The plan would increase land under cultivation in the region more than sixfold, Sadrettin Karahocagil told reporters in the southeastern city of Sanliurfa on Nov. 10. The project, widely known by its Turkish acronym GAP, will increase farm areas to 2 million acres (809,000 hectares) when completed in 2017, Karahocagil's office said today by telephone.

Prime Minister [Recep Tayyip Erdogan](#)'s government will start allocating money for the project from the budget in 2013, ending the practice of transfers from the unemployment benefit fund. Three decades of war with autonomy-seeking Kurdish militants in the southeast has retarded economic development.

The project is also expected to create more than 3 million jobs in the southeast, where the government is offering incentives such as cheaper energy, free land and cuts in payroll taxes paid by employers, Karahocagil said. [Pinar Sut Mamulleri Sanayii AS \(PNSUT\)](#) is among companies planning to invest in Sanliurfa, he said.

"Turkey to Spend \$5.6b Liras on Dams in Next 5 Years", 12/11/2012, online at: <http://www.bloomberg.com/news/2012-11-12/turkey-to-spend-5-6b-liras-on-dams-in-next-5-years.html>

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❖ **UfM and Turkey discuss concrete ways to support the Gaza Desalination Facility project**

The Union for the Mediterranean (UfM) Secretariat, the Palestinian Water Authority and the Government of Turkey recently held talks on the technical and financial aspects of the Gaza Desalination Facility project which will require an investment of €310 Million. Turkey expressed its strong interest to support the project and a financial commitment will be discussed at the Prime Ministerial level in the coming weeks.

UfM Deputy Secretary General, Rafiq Hussein, and the Minister of Water of the Palestinian Authority, Dr. Shaddad Attili met with the Minister for Forestry and Water Affairs of Turkey, Prof. Dr. Veysel Eroglu and other Turkish high officials. Talks were also held with the Deputy Director of the Turkish International Cooperation and Development Agency (TIKA) and the Deputy Undersecretary for Economic Affairs of the Ministry for Foreign Affairs.

Discussions focused on the water crisis in the Gaza Strip and the recent UN report “Gaza, A liveable place by 2020” which highlights the disastrous implications of the current situation affecting the Gaza Strip. All of them agreed on the fact that water is a key issue in Gaza which needs urgent action to be taken and the Turkish authorities expressed their full support to the UfM project.

On 22 June 2011, the Union for the Mediterranean “labelled” its very first project which consists in the construction of a 100 million cubic meters desalination facility and distribution system in the Gaza Strip which will help to address the major water deficit for a population of 1.6 million. The urgency for the Desalination Facility for Gaza has increased with the rising level of Humanitarian crisis in Gaza related to inadequate water resources with related impacts on human health. This humanitarian project will contribute to job creation and future economic and sustainable development in that highly populated region of the Mediterranean. The Arab states and France have already committed financially, and the European Investment Bank is financing the technical assistance towards the implementation of the project.

“UfM and Turkey discuss concrete ways to support the Gaza Desalination Facility Project”, 12/11/2012, online at: <http://mideastenvironment.apps01.yorku.ca/?p=6307>

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❖ Iran Ready to Share Technological Expertise with Iraq

TEHRAN (FNA)- Iranian Vice-President for International Affairs Ali Saeedlou underlined the country's capabilities and achievements in economic and technological fields, and voiced Tehran's readiness to share its advancements with Iraq.

The Islamic Republic of Iran, "enjoying scientific and technical capabilities and up-to-date technologies", is ready to share these valuable experiences with Iraq for the development of its infrastructures, advanced industries and creating job opportunities, Saeedlou said, addressing the first conference on developing economic cooperation between Iran and the Iraqi Kurdistan Regional Government (KRG) held in Kurdistan region on Tuesday.

He laid emphasis on increasing cooperation between Iran and Iraq's private sectors, and said the Islamic Republic of Iran is ready to use its utmost facilities, capabilities and financial and spiritual potentials to pave the way for "effective and constructive" activity of the two sides' private sectors.

The Iranian vice-president started a tour of Iraq on Monday. Prior to his departure for Baghdad, Saeedlou met with KRG Prime Minister Nechirvan Barzani in Tehran on Sunday, where he made similar remarks and said the country is ready to share its technological know-how and expertise with the KRG in energy, oil and dam-construction fields.

Saeedlou arrived in Iraq's Kurdistan region at the head of a high-ranking economic delegation on Tuesday.

Iran and Iraq have enjoyed growing ties ever since the overthrow of the former Iraqi dictator, Saddam Hussein, in 2003.

Both sides are working on a series of plans to take wide strides in expanding their ties.

“Iran Ready to Share Technological Expertise with Iraq”, 13/11/2012, online at:

<http://english.farsnews.com/newstext.php?nn=9107118992>

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❖ **Azerbaijan, Iran reach agreement on joint construction of banks of Aras border rivers**

Friday night in Baku, the Islamic Republic of Iran and Azerbaijan reached an agreement to begin joint construction of banks of Aras border rivers, the spokesman of Iranian embassy in Azerbaijan Mohammad Ayatollahi told Trend.

The executive worksheet of border rivers between the two countries was finalized after several meetings of representatives from both sides.

Iran and Azerbaijan reached an agreement to begin cooperation for construction of the banks of the border rivers of Aras, Astara-Chai, and Balha-Roud in accordance with the agreement signed between the former Iranian regime and the former Soviet Union back in 1975.

The objective of the 3rd Session of the Border Rivers Commission was defined as presenting an appropriate work plan aimed at preserving the banks of the two countries' border rivers.

The first session of the said commission in this respect was held in Baku, the second one was held in November 2010 in Tehran, and the 3rd one, in which the abovementioned decision was made was held in Baku again.

The fourth session of the Iran-Azerbaijan Republics Border Rivers Commission is scheduled to be held in Tehran again within three or four months.

“Azerbaijan, Iran reach agreement on joint construction of banks of Aras border rivers”, 17/11/2012, online at: <http://en.trend.az/regions/scaucasus/azerbaijan/2089078.html>

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❖ Ballast Water Management in focus at Safemed seminar in Israel

Around thirty representatives from Israel's Administration of Shipping and Ports, Ministry of Environment, shipping companies and commercial ports attended a seminar organised by the Safemed II project held in Acre, Israel last month on the environmental importance of effective Ballast Water Management (BWM).

The BWM Convention is an international instrument aimed at preventing the transfer of harmful aquatic organisms through effective ballast water management.

The seminar discussed the actions required to further prepare Israel for the ratification and implementation of the International Convention for the Control and Management of Ships' Ballast Water and Sediments, 2004.

The Seminar offered a valuable opportunity for stakeholders to discuss various aspects of BWM. *"This SafeMed II Project activity follows the adoption of the Mediterranean Strategy on Ships' Ballast Water Management earlier this year and regional SafeMed activities aimed at enhancing regional competencies for effective management of ships' ballast water,"* said SafeMed II Project Coordinator Jonathan Pace. He added the Seminar was timely as the BWM Convention is expected to enter into force in the very near future.

The €5.5 million **SafeMed II** project seeks to mitigate the existing imbalance between the participating partners that are EU Mediterranean member states and the non EU members from the region in the application of maritime legislation. Among its activities, it funds scholarships to internationally recognized maritime universities.

Safemed II project – Maritime security and the prevention of pollution: Promoting cooperation in maritime safety and security and the prevention of pollution from ships by providing technical support. <http://www.safemedproject.org/>

Participating countries: Algeria, Egypt, Israel, Jordan, Lebanon, Morocco, Occupied Palestinian Territory, Syria, Tunisia, & Turkey.

"Ballast Water Management in focus at Safemed seminar in Israel", 12/11/2012, online at:
<http://mideastenvironment.apps01.yorku.ca/?p=6315>

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❖ **Israelis, Palestinians could unite over water**

Khaled Mukarker lifts a makeshift lid on his well, pulling up a dusty measuring tape. Only about 10 feet of water remains in the 135-foot hole.

In the past decade, his well level has dropped by 30 feet and the local Al Ouja spring has largely dried up, Mr. Mukarker says. His land once supported four relatives and their families, but now he's the only one left, eking out an existence with his rough hands and a posse of hungry cats to keep the vermin in check.

On a recent afternoon, he trudges down a dirt track to all that's left of the 17 acres of banana plants he once had.

"I used to give them water once a week to give them a life," he says, pointing to the yellowing 3/4-acre plot. "Now I haven't watered them in a month."

Mukarker has taken innovative steps to adapt to the drier conditions, but he finds himself at the confluence of larger forces. Water has become an increasingly political issue as the Israeli and Palestinian populations expand, straining not only water supplies but also the framework for governing them.

The Joint Water Committee (JWC), an Israeli-Palestinian group set up in 1995 under the Oslo Accords, was never meant to be a permanent body for managing water resources. Like many other Oslo-era arrangements, it was intended as more of a temporary tent until the Palestinian house could be built.

Some 17 years later, with no Palestinian state in sight, the troubled workings of the JWC illustrate the difficulties Israelis and Palestinians face in piecing together a tenuous coexistence under an interim tent tattered by lack of trust.

But despite the current challenges, better water management – perhaps more than any of the other five issues to be determined in final-status negotiations – holds the possibility for improved cooperation and trust-building, because the welfare of both peoples is linked by their dependence on this vital shared resource.

"On the positive side, the Joint Water Committee is the only committee of the five final-status committees that had some resemblance of working," says Gidon Bromberg, Israeli director of Friends of the Earth Middle East.

But, he adds, it's become dysfunctional. "It's failing both the Palestinians and the Israelis together because ... it's not preventing large-scale contamination of shared waters – shared waters of which the Israeli side takes the lion's share."

Parting the waters

According to Oslo, Israelis were to get 483 million cubic meters of an estimated 679 MCM of available West Bank water from three shared basins known collectively as the Mountain Aquifer – about 71 percent. Palestinians were to get 118 MCM (17 percent), and the right to develop an additional 78 MCM (12 percent).

Since the agreement was signed, however, key variables have changed. The Palestinian population has spiked and per capita water usage has increased, but Palestinians have not developed anywhere close to 78 MCM – partly because of Israel's bureaucratic permitting process and Palestinian mismanagement. In Gaza, more than 90 percent of water taken from the main aquifer is not fit for drinking because of contamination from raw sewage and an unsustainable rate of pumping, which turns the remaining water salty.

Israel's per capita usage of fresh water, meanwhile, has gone down steadily, thanks to desalination plants and an aggressive waste-water reuse policy. Some 80 percent of all waste water is recycled in Israel, more than double the rate of any other country.

The shortage of water is draining the lifeblood of a key sector of the Palestinian economy: agriculture. A 2009 World Bank report estimated that the sector – the third largest in the West Bank – misses out on 96,000 jobs and \$410 million in yearly revenues because of the lack of irrigated agriculture.

"I don't think development of the agricultural system could happen without an increase in the amount of water [from 1995 allocations]," says Minister of Agriculture Walid Assaf.

Water usage not tracked

The exact amount of water Palestinians use each year is difficult to pinpoint: While well levels are monitored, there is not a comprehensive system in place to measure water usage.

But how much Israel provides is carefully tracked, and it amounts to more water than Israel is required to provide under the Oslo Accords. In addition, Israelis argue that Palestinians would have plenty of water if they managed it better, fixed leaky pipes, halted theft of water and illegal wells, priced water more appropriately, and implemented the many projects that have already been approved.

"The municipality is the big problem for us," says Abu Elias, a farmer in Jericho who grows fewer eggplants, cucumbers, and tomatoes on his well-tended land than he used to. But he adds that the Israeli occupation aggravates water supply issues.

Palestinians contend that Israel – which can access the three shared basins from within its own borders, and thereby outside the agreement – has lowered the overall water table in the basins, similar to the effect of siphoning off water from one end of a bathtub, says Mr. Bromberg. That has dried up wells and springs and forced Palestinians to buy more water from Israel, they say.

"Israel is stealing my water and selling it to the poorest people on earth.... That's the water story," says Saeb Erekat, chief Palestinian peace negotiator.

For Palestinians, it's not just about having enough to drink; it's about Israel recognizing their sovereignty over the water resources that lie beneath their homeland. "We look for the water ... from a national point of view," says Deeb Abdelghafour, an engineer with the Palestinian Water Authority (PWA). "The Israeli point of view is, 'You need water? We can give it to you from desalination plants.' Yes, we need water, but first of all give me my right to ground water."

Water projects plugged up

The PWA has proposed a number of projects designed to ease the water shortages.

One of the most important, according to a September report prepared by the PWA, is tapping into springs known as Ein Fashkha south of Jericho, which yield as much as 100 MCM per year. But the

proposal for six to eight wells and a desalination plant, put forward in 2007, was rejected by the JWC.

Palestinians involved in the Ein Fashkha proposal say that it – like other delayed or nixed projects – was rejected for purely political reasons, reflecting a systematic Israeli effort to deprive them of their rights in their homeland.

Israelis involved in the JWC then and now say the Ein Fashkha project is environmentally unsound and impractical both financially and technically. A key problem was the location, which is thousands of feet lower than some of the cities it is supposed to serve.

Mr. Abdelghafour, who originally proposed the project more than a decade ago, says it's not worth trying to submit a revised proposal because the JWC has become "a useless committee."

One reason for the current gridlock, say Palestinians, is that they are being asked to OK projects in Israeli settlements – considered illegal under international law – in exchange for getting their own projects approved.

"Palestinians will not approve water projects intended to consolidate the presence and facilitate the expansion of illegal Israeli settlements in the West Bank. This is no different than asking us to approve our own occupation and colonization," said PWA chief Shaddad Attili in September. "If Israel continues to treat the JWC as a mechanism through which to arm-twist and blackmail Palestinians, then the JWC faces a very uncertain future. In essence, Israel will have killed the JWC."

Even when Palestinian projects are approved by the JWC, they often face another round of approval from Israel's Civil Administration – the branch of Israel's military that governs 60 percent of the West Bank, known as Area C. While major Palestinian cities lie in Area A, where the Palestinian Authority has relative autonomy, most of the wide-open spaces necessary for major projects lie in Area C.

"There is a second layer of approval that is always required if any aspect of the infrastructure proposed crosses Area C," says Bromberg, noting that the Civil Administration often has more demanding criteria for any given project, particularly waste-water treatment plants. "It's politics from every side. In the end, it leads to these sanitation projects not going forward."

A sewage solution?

Under Oslo, Palestinians are responsible for "treating, reusing, or properly disposing" of all sewage. Doing so could enable Palestinians to use effluent water for agricultural purposes, freeing up more ground water for drinking.

But 17 years later there is only one functional waste-water treatment plant in the West Bank for a population of at least 2 million. The majority of Palestinian sewage goes untreated, contaminating ground water and flowing into Israeli areas downstream.

"Gravity works also in the Holy Land," says Giora Alon, chief engineer with Israel's National Sewerage Administration, with a wry smile.

Sewage from Hebron, for example, flows 25 miles to the Israeli city of Beersheba. The JWC approved a waste-water treatment plant for Hebron in 2004, but difficulties in acquiring land upped the cost and delayed the project. In the meantime, Hamas won municipal elections in 2006 and the primary donor – the US Agency for International Development – backed out. The plant is finally under construction, along with ones in Nablus, Salfit, and Jenin.

"We are actually praying for it to be erected – the whole thing flows to us," says Dr. Alon. "It's in our interest."

Of the 30 Palestinian waste-water treatment plants submitted to the JWC since 1995, only four have received full Israeli approval, according to the PWA. In 2009, a controversial World Bank report accused Israeli bureaucracy of delaying desperately needed Palestinian water projects. Israel strenuously objected to the report, and pointed out that many projects had been delayed due to Palestinian inaction. But since then, the JWC has approved a flurry of waste-water treatment plants, according to a detailed Israeli accounting of 35 proposed plants provided to the Monitor.

Both sides agree the JWC is worse for wear, having outlived its original mandate by a dozen years. Baruch Nagar, head of Israel's Water Administration for the West Bank and Gaza Strip, says he's not opposed to working out a new pact, but is doubtful it would improve things.

"We are seeing now that they don't respect the current agreement," he says. "Why are we going to sign another?"

But at least the JWC hasn't folded, like all the other 26 bilateral committees set up by Oslo.

Deciding whether to work within the JWC is kind of like "a choice between a camel and walking," quips Alon. Though there may be spitting involved, and it kind of stinks, "you take the camel, right?"

"Israelis, Palestinians could unite over water", 14/11/2012, online at: <http://www.alaskadispatch.com/article/israelis-palestinians-could-unite-over-water>

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❖ Government Approves Water Technology Bill

The government has approved a plan put forth by Minister of Industry, Trade and Labor to promote Israeli water technology.

As part of the initiative, scholarships will be available for students and doctorate students in the field, there will be professional training for workers who wish to join the field, and a prize will be given out once every two years for inventiveness in the field.

“Government Approves Water Technology Bill”, 11/11/2012, online at:
<http://www.israelnationalnews.com/News/Flash.aspx/254424#.UKUIQ-RdbbU>

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❖ **Israelis, Canadians discuss water Technologies**

Last month I began a series of columns dealing with Canada, Israel and water. One of the challenges I laid out was the development of joint opportunities for Canadians and Israelis in this area.

For most residential consumers, the key concerns about water fall into the following areas: is the water I am receiving clean and safe; is the water I have used being taken away without any problems; how much am I being charged for these water-related activities?

Someone else usually worries about how the water is extracted, purified and shipped to the consumer, and how the water, once used, is removed, cleaned and returned to nature.

The Israel Economic Mission to Canada, which aims to foster trade and investment between Canadian and Israeli companies, recently hosted a delegation of six Israeli water-technology companies in Toronto. The companies, recruited by the Israel Export & International Cooperation Institute, met with leading Canadian engineering firms that offer significant services in industrial water, water infrastructure and water treatment. The Israeli companies also participated in a business meeting with the Ontario Clean Water Agency (OCWA).

The Israeli companies presented water-technology solutions from communications systems and control valves to filtration, desalination and advanced dripline and piping systems. At the OCWA meeting, it seemed clear to me that attendees were well aware of Israel's leadership position in the area of water. They were there to gather more information about the specific offerings each company could bring.

Nick Reid, vice-president of strategic partnerships for the OCWA, articulated the business needs – could these solutions demonstrably extend the life of existing water infrastructure; could they reduce the amount of energy required in the extraction, purification and shipment of water and the removal, cleaning and return of the water to the environment; could this be accomplished through increased automation or improved technologies, with the end goal of driving out cost and/or improving quality?

Representatives of the Israeli companies had a mission to identify and influence decision-makers who were either industrial users of water or municipal providers of clean-water and waste-water services.

Some of the Israeli companies have already entered into discussions as a result of the meetings over the two days they were in Toronto, and the Export Institute has remarked on the success of the delegation. Ran Yehezkel, head of Israel's Economic Mission to Canada, said, "Because water technologies have broad applications across many sectors from industrial use to municipalities, targeting the right players to meet the delegation was a difficult choice given that southern Ontario is a leading hub of water innovation in Canada, if not North America.

"The meeting with OCWA was very beneficial to the delegation to understand the complexities of water management in Ontario as well as business making decisions. At the Israel Economic Mission, we will continue introducing Israeli water technologies to the right decision-makers to bring cost-effective and environmentally sustainable solutions to Canadians." Next month, some ideas on how we can help Israeli water companies communicate their value and to finalize business in Canada.

"Israelis, Canadians discuss water Technologies", 13/11/2012, online at:
<http://www.cjnews.com/index.php?q=node/97149>

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❖ 'Starve Gaza families of fuel, food and water,' says Israeli minister

FAMILIES IN GAZA should have their water, food, electricity and fuel cut off as a collective punishment for resisting an Israeli Army invasion at the weekend, an Israeli Government minister says.

Israeli Minister for Transport Yisrael Katz also called for the assassination of the leadership of the ruling Hamas party in Gaza.

The violence began on Friday when Israeli tanks, armoured bulldozers and helicopter gunships crossed the border near Khan Younis to destroy a tunnel used for smuggling much-needed supplies to the territory under a crippling Israeli blockade.

During the invasion, Israeli troops were confronted by members of the Popular Resistance Committees, injuring one soldier. At this point, Israeli gunships opened fire on what they described as “suspicious locations”, killing a 13-year-old boy. Another 17-year-old civilian was killed on Saturday.

In response, the Popular Front for the Liberation of Palestine (PFLP) attacked an Israeli mobile patrol on the border with a rocket, injuring four soldiers. Other groups are also reported to have fired rockets into Israel. And on Sunday an Israeli tank opened fire on mourners returning home from a funeral, killing four boys between the ages of 16 and 18 and wounding 25 other people, mostly children.

Israel operates a land, sea and air blockade against the Gaza Strip, severely restricting what can be imported into the territory. Many basic foodstuffs, medical supplies and building supplies have to be smuggled in via underground tunnels.

The United Nations and various human rights groups have described the ongoing blockade as a form of collective punishment.

A UN report earlier this year said that unless action is taken, the Gaza would not be fit for human habitation by 2020.

“Starve Gaza families of fuel, food and water,' says Israeli minister”, 12/11/2012, online at:
<http://www.anphoblacht.com/contents/22446>

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❖ Jerusalem's Holy Water Wars

It's a story that combines three of the region's most critical issues – it's a dispute in Jerusalem, a dispute between Arabs and Israelis... and a dispute over water. All rolled into one, the [Church of the Holy Sepulchre](#), one of the most venerated sites in Christianity, has had its bank accounts frozen over \$2.3 million of unpaid water bills, with monks threatening to close the church in protest.

The church receives about a million pilgrims a year and stands at the site where Jesus Christ is believed to have been crucified and buried.

The water bill is backdated fifteen years to the time when a new company took over the supply. For decades the church was exempt from paying water bills until the Israeli water company began pressing it to pay up a few years ago.

Issa Musleh, spokesman for the Greek Orthodox Patriarchate of Jerusalem told the UK newspaper [The Guardian](#): "They have frozen our account. This is a flagrant act against the church." "The church is completely paralysed. We can't pay for toilet paper. Nothing. [The water company] Hagihon has declared war on us," a Patriarchate official told the Hebrew-language daily [Maariv](#).

In a statement to Maariv, Hagihon said it had been in talks for several years with church representatives with the aim of reaching a settlement of the debt. It was prohibited by the Israeli Water Authority from exempting any party from water charges, and more than 1,000 religious institutions in Jerusalem paid their bills regularly, it added.

According to the English-language daily [Haaretz](#), Greek Orthodox priest Isidoros Fakitsas said that the move has impaired the Church of the Holy Sepulchre to pay bills and salaries including 500 priests and monks, 2,000 teachers and the running costs of over 30 Christian schools that the church runs in the Palestinian territories and Jordan.

As a result, the church is considering closing for a day in protest, shutting the doors to pilgrims for the first time in centuries. The church is seeking international backing.

As with all issues concerning the Holy City, the issue has become politicized within the wider Israeli-Palestinian conflict.

“If they want to cut water off then we will ask the pilgrims and visitors to bring their own water with them and we will explain to them what is happening so that they would know about the Israeli arbitrary policies being practiced against the holy places,” Musleh told the [Palestinian news agency Wafa](#).

“Jerusalem's Holy Water Wars”, 14/11/2012, online at:
<http://insidethemiddleeast.blogs.cnn.com/2012/11/14/jerusalem-holy-water-wars/>

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❖ **The Applied Research Institute-Jerusalem and the Palestinian Ministry of Agriculture Lunch Project to Preserve and Rehabilitate Forests in the oPt.**

The Applied Research Institute-Jerusalem (ARIJ), in partnership with the Palestinian Ministry of Agriculture (MoA), is pleased to announce the inception of the project entitled: "Palestinian Forests Sustainability and Rehabilitation".

Al Qarin Protected Areas in the Southern West Bank and Umm at Tut Protected Area in the Northern West Bank within the Mediterranean Eco-system" those are the targeted area as stated by the project outline announcement set on web . The project is sponsored by the Global Environment Facility (GEF) –Small Grant Project (SGP) under the UNDP/PAPP program.

The project aims to set up a guide for sustainable Palestinian forest resources in the northern and southern West Bank and to analyze the status of natural forest resources and landscapes in order to better plan forest resource management, utilization, and protection. This aim will be accomplished by assessing and rehabilitating two protected areas of highly diverse biological components in the West Bank: Al Qarin protected area, known for its mixed woodlands and strawberry trees, and Um Tut protected area which is natural forest dominated by oak trees.

The team will conduct an economic feasibility study to determine the monetary value of benefits and services provided by forests to the surrounding communities, in addition to a qualitative assessment (cultural and heritage) of the use of natural resources in the two forests. The rapid appraisal feedback will be used as a supporting material for the economic feasibility study.

Results will be presented in a workshop conducted for decision-makers and relevant bodies to develop a plan for sound management of Palestinian forests and a mechanism for their rehabilitation and protection (particularly within degraded areas).

A series of awareness campaigns will also be organized, targeting the forests' surrounding communities in order to introduce them to the most important components of each forest and their cultural and economic importance.

During the awareness campaign a booklet prepared by the project team on the protection and management of forest resources in Palestine will be distributed to beneficiaries. The booklet constitutes an important outcome of the project, since it will be a scientific practical guide to Palestinian forest protection.

Moreover, through the awareness campaign, coordination with schools near forest communities will take place. A trip will be organized for students to visit the targeted forests, and the project team will coordinate with universities (a university in the North and a university in the South) and the College of Agriculture to arrange awareness lectures for university students on the status, challenges and possible actions regarding the targeted forests. Through this campaign, the project will introduce youth in Palestine to methods of developing better management and sustainability of Palestinian forest resources.

The project will also work on the rehabilitation of areas degraded by human activities and natural factors, in cooperation with the Ministry of Agriculture and with the participation of local communities surrounding the forests, including students from targeted schools. This will begin the process of realigning and cleaning the protected areas and finding methods to encourage natural vegetation recovery in the degraded areas. A final workshop will be organized to display the complete results of the project and to come up with recommendations for a sustainable management of forests throughout the West Bank.

ARIJ is an local organization experienced in the Palestinian Territory in the fields of economic, social, management of natural resources, water management, sustainable agriculture and political dynamics of development in the area. ARIJ plays an active role in the local community as an advocate for greater cooperation among local institutions as well as international and non-governmental organizations www.arij.org

“The Applied Research Institute-Jerusalem and the Palestinian Ministry of Agriculture Lunch Project to Preserve and Rehabilitate Forests in the oPt.”, 15/11/2012, online at: <http://english.pnn.ps/index.php/national/3080-the-applied-research-institute-jerusalem-and-the-palestinian-ministry-of-agriculture-lunch-project-to-preserve-and-rehabilitate-forests-in-the-opt>

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❖ World's most revered church seeks international backing in \$2.3mln water bill standoff

Jerusalem's Church of Holy Sepulchre called on world leaders to help end what it calls an existentially "aggressive move" – Jerusalem's water supply company has demanded it pay an overdue \$2.3 million water bill.

The Christian denominations that jointly manage the church, including the Greek Orthodox, Franciscan and Armenian, have begun a campaign to win support in their battle with Hagihon, Jerusalem's water supply company.

They recently sent a letter to Israeli Prime Minister Binyamin Netanyahu and President Shimon Perez calling for "*an end to this aggressive move*".

Similar letters have been sent to Russian President Vladimir Putin, the prime ministers of Greece and Cyprus, King Abdullah of Jordan and US President Barack Obama.

The dispute has also angered the Muslim Brotherhood. A statement released on the group's official English-language website on Saturday condemned the "*Zionist occupation authorities' intransigence towards the Church of the Holy Sepulchre in Jerusalem.*"

The water bill in question is to the tune of 9 million sheqels – roughly \$2.3 million – for the church's water supply over the last 7 years.

The church's owners, the Greek Orthodox Patriarchate, claim they have always been exempt from water utility costs.

Hagihon is adamant that the church pay its bill, and the water company has successfully managed to have Church's bank account frozen.

"*The church is completely paralyzed. We can't pay for toilet paper. Nothing. Hagihon has declared war on us,*" a Patriarchate official told Israeli newspaper Maariv.

Hagihon is prohibited by the Israeli Water Authority from exempting any party from water charges, and more than 1,000 religious institutions in Jerusalem pay their bills regularly.

Jerusalem authorities have never demanded payments from the Church in the past. After the city privatized its water supply in the 1990s, however, Hagihon had the option of pressing the issue.

In 2004, Hagihon sent a water-consumption bill to the church for 3.7 million shekels (\$946,500). According to the Guardian, Church officials mistook it for a clerical mistake and ignored the bill, and Hagihon never pressed for payment until now.

The Greek Orthodox Patriarchate has refused to negotiate with Hagihon, and could even close the Church for the first time in centuries in protest over the dispute.

“World’s most revered church seeks international backing in \$2.3mln water bill standoff”, 12/11/2012, online at:
<http://rt.com/news/jerusalem-church-water-bill-conflict-488/>

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❖ How water could bring Israelis, Palestinians together

A sole joint committee between Israelis and Palestinians survives 17 years after the Oslo Accords: the one on water.

Khaled Mukarker lifts a makeshift lid on his well, pulling up a dusty measuring tape. Only about 10 feet of water remains in the 135-foot hole.

In the past decade, his well level has dropped by 30 feet and the local [Al Ouja](#) spring has largely dried up, Mr. Mukarker says. His land once supported four relatives and their families, but now he's the only one left, eking out an existence with his rough hands and a posse of hungry cats to keep the vermin in check.

On a recent afternoon, he trudges down a dirt track to all that's left of the 17 acres of banana plants he once had.

"I used to give them water once a week to give them a life," he says, pointing to the yellowing 3/4-acre plot. "Now I haven't watered them in a month."

Think you know the Middle East? Take our geography quiz.

Mukarker has taken innovative steps to adapt to the drier conditions, but he finds himself at the confluence of larger forces. Water has become an increasingly political issue as the Israeli and Palestinian populations expand, straining not only water supplies but also the framework for governing them.

The Joint Water Committee (JWC), an Israeli-Palestinian group set up in 1995 under the [Oslo](#) Accords, was never meant to be a permanent body for managing water resources. Like many other Oslo-era arrangements, it was intended as more of a temporary tent until the Palestinian house could be built.

Some 17 years later, with no Palestinian state in sight, the troubled workings of the JWC illustrate the difficulties Israelis and Palestinians face in piecing together a tenuous coexistence under an interim tent tattered by lack of trust.

But despite the current challenges, better water management – perhaps more than any of the other five issues to be determined in final-status negotiations – holds the possibility for improved

cooperation and trust-building, because the welfare of both peoples is linked by their dependence on this vital shared resource.

"On the positive side, the Joint Water Committee is the only committee of the five final-status committees that had some resemblance of working," says Gidon Bromberg, Israeli director of [Friends of the Earth](#) Middle East.

But, he adds, it's become dysfunctional. "It's failing both the Palestinians and the Israelis together because ... it's not preventing large-scale contamination of shared waters – shared waters of which the Israeli side takes the lion's share."

RELATED: Israel pushes back on Palestinian bid for new UN status

Parting the waters

According to Oslo, Israelis were to get 483 million cubic meters of an estimated 679 MCM of available [West Bank](#) water from three shared basins known collectively as the Mountain Aquifer – about 71 percent. Palestinians were to get 118 MCM (17 percent), and the right to develop an additional 78 MCM (12 percent).

Since the agreement was signed, however, key variables have changed. The Palestinian population has spiked and per capita water usage has increased, but Palestinians have not developed anywhere close to 78 MCM – partly because of [Israel](#)'s bureaucratic permitting process and Palestinian mismanagement. In [Gaza](#), more than 90 percent of water taken from the main aquifer is not fit for drinking because of contamination from raw sewage and an unsustainable rate of pumping, which turns the remaining water salty.

Israel's per capita usage of fresh water, meanwhile, has gone down steadily, thanks to desalination plants and an aggressive waste-water reuse policy. Some 80 percent of all waste water is recycled in Israel, more than double the rate of any other country.

The shortage of water is draining the lifeblood of a key sector of the Palestinian economy: agriculture. A 2009 [World Bank](#) report estimated that the sector – the third largest in the West Bank – misses out on 96,000 jobs and \$410 million in yearly revenues because of the lack of irrigated agriculture.

"I don't think development of the agricultural system could happen without an increase in the amount of water [from 1995 allocations]," says Minister of Agriculture Walid Assaf.

Water usage not tracked

The exact amount of water Palestinians use each year is difficult to pinpoint: While well levels are monitored, there is not a comprehensive system in place to measure water usage.

But how much Israel provides is carefully tracked, and it amounts to more water than Israel is required to provide under the Oslo Accords. In addition, Israelis argue that Palestinians would have plenty of water if they managed it better, fixed leaky pipes, halted theft of water and illegal wells, priced water more appropriately, and implemented the many projects that have already been approved.

"The municipality is the big problem for us," says Abu Elias, a farmer in Jericho who grows fewer eggplants, cucumbers, and tomatoes on his well-tended land than he used to. But he adds that the Israeli occupation aggravates water supply issues.

Palestinians contend that Israel – which can access the three shared basins from within its own borders, and thereby outside the agreement – has lowered the overall water table in the basins, similar to the effect of siphoning off water from one end of a bathtub, says Mr. Bromberg. That has dried up wells and springs and forced Palestinians to buy more water from Israel, they say.

"Israel is stealing my water and selling it to the poorest people on earth.... That's the water story," says [Saeb Erekat](#), chief Palestinian peace negotiator.

For Palestinians, it's not just about having enough to drink; it's about Israel recognizing their sovereignty over the water resources that lie beneath their homeland. "We look for the water ... from a national point of view," says Deeb Abdelghafour, an engineer with the Palestinian Water Authority

(PWA). "The Israeli point of view is, 'You need water? We can give it to you from desalination plants.' Yes, we need water, but first of all give me my right to ground water."

Water projects plugged up

The PWA has proposed a number of projects designed to ease the water shortages.

One of the most important, according to a September report prepared by the PWA, is tapping into springs known as Ein Fashkha south of Jericho, which yield as much as 100 MCM per year. But the proposal for six to eight wells and a desalination plant, put forward in 2007, was rejected by the JWC.

Palestinians involved in the Ein Fashkha proposal say that it – like other delayed or nixed projects – was rejected for purely political reasons, reflecting a systematic Israeli effort to deprive them of their rights in their homeland.

Israelis involved in the JWC then and now say the Ein Fashkha project is environmentally unsound and impractical both financially and technically. A key problem was the location, which is thousands of feet lower than some of the cities it is supposed to serve.

Mr. Abdelghafour, who originally proposed the project more than a decade ago, says it's not worth trying to submit a revised proposal because the JWC has become "a useless committee."

One reason for the current gridlock, say Palestinians, is that they are being asked to OK projects in Israeli settlements – considered illegal under international law – in exchange for getting their own projects approved.

"Palestinians will not approve water projects intended to consolidate the presence and facilitate the expansion of illegal Israeli settlements in the West Bank. This is no different than asking us to approve our own occupation and colonization," said PWA chief Shaddad Attili in September. "If Israel continues to treat the JWC as a mechanism through which to arm-twist and blackmail Palestinians, then the JWC faces a very uncertain future. In essence, Israel will have killed the JWC."

Even when Palestinian projects are approved by the JWC, they often face another round of approval from Israel's Civil Administration – the branch of Israel's military that governs 60 percent of the West Bank, known as Area C. While major Palestinian cities lie in Area A, where the [Palestinian Authority](#) has relative autonomy, most of the wide-open spaces necessary for major projects lie in Area C.

"There is a second layer of approval that is always required if any aspect of the infrastructure proposed crosses Area C," says Bromberg, noting that the Civil Administration often has more demanding criteria for any given project, particularly waste-water treatment plants. "It's politics from every side. In the end, it leads to these sanitation projects not going forward."

RELATED: Israel pushes back on Palestinian bid for new UN status

A sewage solution?

Under Oslo, Palestinians are responsible for "treating, reusing, or properly disposing" of all sewage. Doing so could enable Palestinians to use effluent water for agricultural purposes, freeing up more ground water for drinking.

But 17 years later there is only one functional waste-water treatment plant in the West Bank for a population of at least 2 million. The majority of Palestinian sewage goes untreated, contaminating ground water and flowing into Israeli areas downstream.

"Gravity works also in the Holy Land," says Giora Alon, chief engineer with Israel's National Sewerage Administration, with a wry smile.

Sewage from [Hebron](#), for example, flows 25 miles to the Israeli city of [Beersheba](#). The JWC approved a waste-water treatment plant for Hebron in 2004, but difficulties in acquiring land upped the cost and delayed the project. In the meantime, [Hamas](#) won municipal elections in 2006 and the primary donor – the [US Agency for International Development](#) – backed out. The plant is finally under construction, along with ones in [Nablus](#), Salfit, and [Jenin](#).

"We are actually praying for it to be erected – the whole thing flows to us," says Dr. Alon. "It's in our interest."

Of the 30 Palestinian waste-water treatment plants submitted to the JWC since 1995, only four have received full Israeli approval, according to the PWA. In 2009, a controversial World Bank report accused Israeli bureaucracy of delaying desperately needed Palestinian water projects. Israel strenuously objected to the report, and pointed out that many projects had been delayed due to Palestinian inaction. But since then, the JWC has approved a flurry of waste-water treatment plants, according to a detailed Israeli accounting of 35 proposed plants provided to the Monitor.

Both sides agree the JWC is worse for wear, having outlived its original mandate by a dozen years. Baruch Nagar, head of Israel's Water Administration for the West Bank and Gaza Strip, says he's not opposed to working out a new pact, but is doubtful it would improve things.

"We are seeing now that they don't respect the current agreement," he says. "Why are we going to sign another?"

But at least the JWC hasn't folded, like all the other 26 bilateral committees set up by Oslo.

Deciding whether to work within the JWC is kind of like "a choice between a camel and walking," quips Alon. Though there may be spitting involved, and it kind of stinks, "you take the camel, right?"

"How water could bring Israelis, Palestinians together", 14/11/2012, online at: <http://www.csmonitor.com/World/Middle-East/2012/1114/How-water-could-bring-Israelis-Palestinians-together>

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❖ Jordan's Nuclear Ambitions are Doomed, Claims Industry Expert

There has been a lot of fuss about Jordan's nuclear ambitions and activists in the kingdom have been vocal about their opposition, but all this hullabaloo might be for nought according to an industry expert.

Speaking with *The Jordan Times*, Dave Thomas from Greenwich University said that high construction costs, complicated regulatory requirements and the expensive water infrastructure required to maintain nuclear reactors within the context of an already burdened economy are more than likely to doom the plans before they lift off.

"If you look globally, reactor projects are coming in past deadline and over budget across the board," Thomas, an energy policy researcher, told *The Jordan Times*.

He added that Jordan simply can't afford the technology, which costs in the region of \$7,000 per kilowatt hour to construct.

Jordan had been working with AREVA from France and Russia's AtomStory Export to explore the possibility of building four nuclear reactors in remote areas of the kingdom. The AREVA reactor hasn't been licensed yet, a process that could take as long as six years, while Russia's reactor model hasn't been commissioned, according to Thomas.

AREVA is no longer in the picture, however, as Jordan terminated its uranium licensing agreement with the firm over a contractual dispute.

Plus, 25 million cubic feet of water is required to keep each reactor cool. Not only is the infrastructure necessary to transport this water to the desert costly, but water is already a dangerously scarce commodity in Jordan.

"Jordan has one of the lowest levels of water resource availability, per capita, in the world," according to the World Health Organization (WHO).

“Water scarcity will become an even greater problem over the next two decades as the population doubles and climate change potentially makes precipitation more uncertain and variable, particularly in this region.”

The kingdom is already extracting water from non-renewable fossilized deep-water aquifers just to meet its present need, which is growing alongside population. Adding water-costly nuclear to the mix would stress an already broken water supply.

All these factors, according to Thomas, are unlikely to attract investors. Nuclear energy in Jordan is simply too risky, and stands “little chance of success.”

“Jordan’s Nuclear Ambitions are Doomed, Claims Industry Expert”, 13/11/2012, ONLINE AT:
<http://www.greenprophet.com/2012/11/jordan-nuclear-is-doomed/>

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❖ **East Africa: Cross-Border Resource Management - How Do the Nile Countries Fare?**

Countries are struggling to agree over the use of the Nile's water, raising questions about cross-border resource management.

Resources rarely respect national boundaries. One of Africa's greatest infrastructure challenges, then, may be the management of natural assets that cross borders, requiring compromise and cooperation on a continent where state-to-state economic relations are rarely cordial. Water may prove the most problematic resource of all. Africa has 15 landlocked countries and 63 trans-boundary river basins. Regional cooperation is not, so far, the norm.

On the back of hydrocarbon discoveries in East Africa's great lakes, Tanzania is seeking international mediation regarding its long-standing border dispute with Malawi over rights to Lake Malawi. Lake Chad's waters, used for farming purposes by Niger, Chad, Cameroon and Nigeria, are depleting at worrying speed but with no framework to govern the activities of each state. "The lake has shrunk very significantly over the last three or four decades, to a small fraction of its original size, and this is having an impact on fisheries dependent on Lake Chad," says Zafar Adeel, director at the International Network on Water, Environment and Health, at the United Nations University.

The Nile, however, is one of the most complex cross-border water resources to manage. The basin now covers 11 countries with a combined population of around 300 million people (Egypt, Sudan, Ethiopia, Eritrea, Kenya, Uganda, Rwanda, Burundi, the Democratic Republic of Congo, Tanzania and since July 2011, South Sudan). To date there has been no commonly agreed view on how its waters should be shared.

Colonial-era agreements governing the use of the Nile recognised only Egypt and Sudan as users. The latest agreement dated to 1959, allowing Egypt to hold on to its lion's share of the Nile, as well as the power to veto any projects threatening its access to water. No other states in the region - some then under colonial rule - were party to the treaty, and all lacked the muscle to contest it.

Forty years later, the Nile basin countries came together to work out a new legal method for sharing the water. In cooperative spirit, the Nile Basin Initiative (NBI) was born, pushed by the likes of Ethiopia to ensure that no one single country would continue to take more than its share of the river. Relations deteriorated in 2010 when a new legal instrument was drafted. The Cooperative Framework Agreement (CFA) defined principles of cooperation, but not all countries signed. The absence of Egypt and Sudan was most significant.

"Negotiators from Egypt and Sudan could not reach an agreement with the other Nile basin countries on how to implement the notion of 'water security'," says Dr Gabriel Eckstein, professor of law at Texas Wesleyan University School of Law and director of the International Water Law Project.

"While Egypt and Sudan wanted the CFA to define water security in view of the current uses and rights already in place, the other nations preferred a broader interpretation that would take into account changing circumstances and needs."

Six upstream countries have so far signed the CFA. Burundi's signing in 2011 achieves the number the CFA needs for ratification and paves the way for the creation of a permanent river basin institution to succeed all rights, obligations and assets of the NBI. But without the input of downstream countries, Egypt and Sudan, this new legal framework merely cements divides.

Although Egypt and Sudan are playing hardball, Ethiopia is still marching ahead with its own plans for the river. The country's energy potential is enormous. Ethiopia's unrealised hydropower capacity stands at 45,000MW; sufficient for the country to become a regional exporter. Neighbouring governments are interested customers. Ethiopia has already signed Memorandum of Understandings with Kenya, Djibouti, South Sudan, Sudan and even Yemen for exporting electricity, and is busily conducting studies for 17 dams on the Nile.

Its most controversial move was to announce the go-ahead for the Grand Renaissance Dam in 2011, its first project on the Blue Nile, and the part of the river from which Egypt receives the majority of its Nile stream flow. The Grand Renaissance Dam, if completed, could produce 5,250MW, making it Africa's largest hydroelectric project.

"Two factors have changed," says Ana Cascão of the Stockholm International Water Policy Institute. "First, the upstream Nile countries [such as Ethiopia] are more willing to develop their water resources to meet development needs; a result of greater economic and political stability compared to a decade ago.

Second, upstream countries now have access to alternative financial support for water development. Most comes from China, although funding does not have to be direct for projects to influence the power balance. Ethiopia's confidence is strengthened by the knowledge that it has the general backing of a wider range of partners who are inputting into other, related parts of the economy such as agriculture. This includes China but also India and countries in the Gulf. Ultimately, this tips the balance of power which historically has favoured Egypt."

Uganda is also building dams, but while Ethiopia's dam programme is more aggressive, Addis is not entirely disengaging with its neighbours. After Ethiopia announced plans for the Grand Renaissance Dam, it was also spearheading the formation of a tripartite committee with Egypt and Sudan, which is producing an independent assessment of positive and negative impacts of the dam on downstream countries. Climate change uncertainties aside, the effect on the Nile's flow will depend upon how quickly Ethiopia fills up the dam, after which the Nile flow should be constant.

"Some dismiss the committee as Ethiopia merely placating its downstream counterparts," says Ms Cascão. "But its inclusion of some of the same high-level representatives from Sudan, Egypt and Ethiopia as feature in the NBI is significant."

Egypt, too, is interested in hydropower. Whether technical committees can iron out deeply political issues like water security, however, is another question. "Without a solid legal basis, those technical committees could end as gentlemen's agreements," says Salman Salman, a former water law adviser to the World Bank.

So what happens when the gentlemen change? Without internationally ratified agreements, individual personalities play a major role in determining how regional issues play out, and Ethiopia just lost an important figurehead. "[The late president] Meles Zenawi was a charismatic figure who was a highly skilled negotiator," says Mr Salman. "He was working on his regional engagement strategy for Ethiopia's dam programme for years. It is too early to tell what impact his death may have, but the dam programme is an intrinsic part of his legacy and who knows if the new leader has the political clout and audacity to take it forward."

A trip by new Egyptian president Mohamed Morsi to Addis Ababa for the AU summit in July, however, was significant, and reversed former president Mubarak's reluctance to travel to Africa. But the effect of recent changes in leadership cannot be assumed at this early stage.

A more technical approach has also been floated by a multi-donor trust managed by the World Bank. The Cooperation in International Waters in Africa project, launched in 2011, aims to provide "targeted technical assistance to Nile Basin countries, such as working on pre-feasibility studies for potential regional or trans-boundary investments, designed to improve integrated water resources planning", says programme manager Gustavo Saltiel. Significantly, this initiative does not focus on the development of the CFA.

Ignoring legal questions over mutually agreed water rights poses risks. A 2010 Wikileaks report suggested that Sudan and Egypt were building an airbase in Sudan to launch attacks on Ethiopian dam facilities if negotiations did not go well. Although water is rarely a sole source of conflict, the risk of tension at the local level persists if the Nile's flow is altered. Lori Pottinger from International Rivers' Africa programme and editor of World Rivers Review says: "Ethiopia is playing with fire by turning a blind eye to the conflict its dams could cause... Large dams are a way of controlling water flow, and in a time of climate change, are apt to create conflict among water-stressed downstream communities."

Egypt and Sudan are both politically and economically vulnerable at the present time. Neither government is likely to entertain a conciliatory stance on the legal rights of such a political issue as water security. Increased demand in the region makes some collaboration more necessary than before.

The fact that over 1m hectares of East Africa's agricultural land has been leased to mainly Gulf state corporations since 2000 also indicates that demand for water is not only limited to Nile Basin countries. Technical collaboration might not bind all parties together, but by demonstrating the practical benefits of water as a source for cooperation rather than conflict, they could build trust in the longer-term.

“East Africa: Cross-Border Resource Management - How Do the Nile Countries Fare?”, 15/11/2012, online at:

<http://allafrica.com/stories/201211161009.html>

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❖ **WATER: Enough in the Nile to share, little to waste**

ADDIS ABABA, 16 November 2012 (IRIN) - As Ethiopia's massive dam-building plans continue to cause disquiet in downstream Egypt, new research suggests there is sufficient water in the Nile for all 10 countries it flows through, and that poverty there could be significantly eased as long as access by small-scale farmers is boosted.

"We would argue that physically there is enough water in the Nile for all the riparian countries," said Simon Langan, head of the East Africa and Nile Basin office of the International Water Management Institute (IWMI), at the Addis Ababa launch of The Nile River Basin: Water, Agriculture, Governance and Livelihoods published by the CGIAR Challenge Program on Water and Food.

"What we really need to do is make sure that there is access to this water... Poverty rates are about 17 percent in Egypt but for five of the upstream riparian countries it is more like 50 percent. So, this access to water is very important," he added.

According to a media advisory promoting the book, the Nile "has enough water to supply dams and irrigate parched agriculture in all 10 countries - but policymakers risk turning the poor into water 'have-nots' if they don't enact inclusive water management policies."

While better seeds and tools play a key role in boosting agricultural productivity, access to water is even more important, said one of the book's editors, Seleshi Bekele, senior water resources and climate specialist at the UN Economic Commission for Africa.

"The higher water access you have the less the poverty profile... This is not only in comparison between Egypt and upstream countries: within Ethiopia itself, 22 percent less poor were observed in those communities who have access to water," he said.

Access "means that girls can go to school, instead of fetching water from distance that could take hours," he added.

Smallholder farmers, who rely on rainwater to irrigate their crops, could similarly benefit from policies that give them greater access to water in the Nile basin.

The book calls for investment to adopt agricultural water management (AWM) policies, which include irrigation and rainwater collection, so that water-scarce parts of the region are able to grow enough food.

Bekele says improved AWM, seen as key to economic growth, food security and poverty reduction,

must be better integrated into the region's agricultural policies.

"It is tempting for these governments to focus on large-scale irrigation schemes, such as existing schemes in Sudan and Egypt, but more attention must also be paid to smaller, on-farm water management approaches that make use of rainwater and stored water resources such as aquifers," he added.

According to IWMI's Langan, "There is enough for the current need, 5.6 million hectares irrigated. The plan to expand to 10 or 11 million hectares... there are questions if there is enough water to do that if we use the water in the same method we do now under the same management."

Call for greater cooperation

The experts also called for greater cooperation among governments of the basin countries.

Egypt and Sudan are still not on board the Nile River Cooperative Framework Agreement (CFA) signed, after years of fruitless negotiations with Cairo, by six other riparian countries in 2010 in a move to revise the terms of colonial treaties that awarded Egypt and Sudan control over the bulk of the river's waters. The six states particularly object to the veto one treaty gives Egypt over upstream Nile projects.

"The CFA makes it clear that no state will exercise hegemony over the Nile waters and their allocation, or claim exclusive rights," Nile expert and author Seifulaziz Milas wrote in a recent article published on the African Arguments website.

"The launching of the CFA in May 2010 was a shock to Cairo, which had previously thought it could be blocked. The shock was all the greater as in the same week that the CFA was launched, Ethiopia's [now late] prime minister inaugurated the Tana-Beles Project on the Beles river, a tributary of the Blue Nile," he added.

Concern over new Ethiopian dam

More recently, Cairo has expressed concern that Ethiopia's Grand Ethiopian Renaissance Dam - due for completion in 2015 - would reduce flow into Egypt, 95 percent of whose water comes from the Nile. Addis Ababa says Egypt's 55.5 billion annual cubic metres of Nile water would not be affected. A panel of international experts is due to deliver its findings on the dam's impact in May 2013.

"Today, as in years past, utilization of the Nile remains strikingly inequitable," Ethiopia's Foreign Affairs Ministry said in a recent statement.

“Ethiopia, which contributes over 85 percent of the river's flow, makes no use of it; Egypt, which contributes nothing, continues to argue in favour of its continued status as primary beneficiary. Egypt still justifies this lopsided allocation of use on the basis of obsolete colonial treaties that Ethiopia neither signed nor supported. With all notions of fairness and law in its favour, it is no surprise that Ethiopian governments, past and present, have refused to accept the Egyptian position,” the statement added.

Despite the heated rhetoric, major conflict over the Nile is avoidable, according to Bekele.

“I don’t think there is any reason to go to war... there is a way to manage the water, in fact to enhance cooperation and to bring more regional integration, for example through power trade and agriculture productivity, ” he said.

“WATER: Enough in the Nile to share, little to waste”, 16/11/2012, online at:

<http://www.irinnews.org/Report/96798/WATER-Enough-in-the-Nile-to-share-little-to-waste>

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❖ Ethiopia on track to complete first mega-dams by 2015-minister

Mega dam along Nile River to generate 6,000 MW

* Plans to spend over \$12 bln and produce 40,000 MW by 2035\

* Hopes to become Africa's biggest power exporter

By Aaron Maasho

ADDIS ABABA, Nov 12 (Reuters) - Ethiopia's energy minister played down concerns on Monday about how it would [finance](#) the first of an array of mega-dams due to revolutionise east African power markets, saying it was on track to have three plants on line by 2015.

The Horn of Africa country has laid out plans to invest more than \$12 billion in harnessing the rivers that run through its rugged highlands to generate more than 40,000 MW of hydropower by 2035, making it Africa's leading power exporter.

Energy chief Alemayehu Tegen said the plan's centerpiece - the \$4.1 billion-Grand Renaissance Dam along the Nile River in the western Benishangul-Gumuz region - was on course to be completed on time in 2015.

Two other smaller dams should also come on line by that point, he said, generating a total of more than 8,000 megawatts of power at full capacity.

"Everything is going according to plan. It (the Grand Renaissance) is on good status," Tegen told Reuters in an interview on the sidelines of an energy conference in Addis Ababa.

"So far we have achieved 13 percent of the total [construction](#)."

The dam - Africa's largest - will generate 6,000 MW at full capacity.

It is just the latest of a series of ambitious infrastructure projects launched by Ethiopia following years of solid economic growth. The government says funding will come from both domestic and foreign sources.

Worried about the state's ability to raise the billions needed, however, some experts have called on Addis Ababa to sell off state firms and assets they say could rake in a potential \$9.6 billion.

Alemayehu said the country has raised more than 5 billion birr (\$277.1 million) for the construction of its Grand Renaissance Dam to date, the vast majority of it from sales of government bonds.

"This dam may not be constructed only by selling bonds, but the (power) utility can finance some part of the financing," he said.

"The option we have designed is financing by the people of Ethiopia, the utility and the government."

The other major near-term project the government hopes to complete is the Gilgel Gibe III dam along its southern Omo river, set to generate 1,870 MW from the end of 2013 at a cost of \$1.8 billion.

Alemayehu said over 65 percent of construction on that dam had been completed.

Another 254 MW project is being built in the Oromiya region and is due to be ready in two years. Together the three projects will churn out 8,124 MW, compared to Ethiopia's existing capacity of around 2,167 MW of hydro and wind power.

EXPORT TO NEIGHBOURS

Egypt fears that the Nile dams will reduce the flow of the river's waters further downstream and Addis Ababa has long complained that Cairo was pressuring donor countries and international lenders to withhold funding.

An international panel of experts is set to announce its findings on the impact of Ethiopia's Grand Renaissance Dam on the Nile's flow in May 2013.

Analysts suspect that any shortfall in funding of such projects could draw further Chinese capital to Africa, where Beijing has begun to accumulate natural resources and volumes of trade.

Critics have already slammed China's willingness to lend money for Gilgel Gibe III's turbines over concerns the dam would create serious environmental damage.

Addis Ababa is already providing more than 50 MW to Djibouti, while Kenya's border town of Moyale is importing a small amount.

"We have started exports to Sudan, as well as the border town of Moyale. We will gradually expand to Sololo (in eastern Kenya) and plans for Somaliland are also going well," Alemayehu said.

Newly-independent South Sudan has also signed a memorandum of understanding to construct a transmission interconnector to import power, he added.

Another project - a 3,000 km 500 kV line linking Ethiopia with Sudan and Egypt, is also in the pipeline, while the construction of a 1,300 km 500 kV transmission interconnector with Kenya will start soon.

"We have secured the finances (for the project linking with Kenya) and the design has been complete. For construction the tender has also been floated," Alemayehu told Reuters.

"The project is expected to start in less than two months." (Editing by Yara Bayoumy and Patrick Graham)

"Ethiopia on track to complete first mega-dams by 2015-minister", 12/11/2012, online at:
<http://www.reuters.com/article/2012/11/12/ethiopia-dams-idUSL5E8MCC1T20121112>

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❖ Drinking water privatization contract secured by SUEZ in New Delhi

New Delhi's water management authority Delhi Jal Board (DJB) has awarded a 12-year, 75 million euro contract to a consortium led by SUEZ ENVIRONNEMENT (74%) and Indian infrastructure company SPML (26%) to improve water distribution services in the Malviya Nagar district.

The new project is scheduled to begin in late December 2012 and will include renovation of 100 km of the current 200 km of pipeline, as well as construction of 26 km of extensions.

As part of the contract SUEZ ENVIRONNEMENT will:

- Enable the district residents to have a continuous water supply, 24 hours a day, seven days a week. Currently they only have water for three to eight hours a day
- Improve customer service by establishing a call center, perfecting the billing process, setting up customer agencies to ensure improved proximity and to manage requests and complaints more efficiently
- Increase network performance and increase water losses from current 77% down to 15%
- Replace all water meters and connect 50,000 people to the network during the first two years of the contract to enable them to finally have access to water.

Jean Louis Chaussade, CEO of SUEZ ENVIRONNEMENT, said: "This contract is a very encouraging first step with the prospects for development of public-private partnerships in India, and it reflects the current energy in the market."

"Drinking water privatization contract secured by SUEZ in New Delhi", 13/11/2012, online at:
[http://www.waterworld.com/articles/2012/11/drinking-water-privatization-contract-secured-by-suez-in-new-delhi.html?cmpid=\\$trackid](http://www.waterworld.com/articles/2012/11/drinking-water-privatization-contract-secured-by-suez-in-new-delhi.html?cmpid=$trackid)

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❖ **India: JICA agrees loan for Delhi water supply improvements**

The Japan International Cooperation Agency (JICA) has signed a Japanese ODA loan agreement with the government of India to provide a loan of up to Y29 billion (\$0.36 billion) for the Delhi water supply improvement project.

The project aims to develop a GIS system and improve and replace water supply facilities, including the service network, for customers in the National Capital Territory of Delhi, India, which has a population of 17 million.

Currently, due to the high leakage rate, Delhi only has water for three hours a day on average. Water supplies are not evenly distributed either because the areas covered by each water treatment plant are not designated according to their capacity.

JICA has been helping to draw up a master plan for improving the water supply since 2009, with a target deadline of 2021. JICA will also undertake technical cooperation to improve the institutional capacity for operation and maintenance, leveraging the know-how of local governments in Japan to optimise the GIS system.

“INDIA: JICA agrees loan for Delhi water supply improvements”, 12/11/2012, online at:
http://www.iwapublishing.com/template.cfm?name=news1377&utm_source=Water21+Mailing+Signup+form&utm_campaign=2e9f69afa5-GND_13_November_2012&utm_medium=email

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❖ **Kabini water on tap trial a success**

MYSORE: Kabini water will be supplied to 2.88 lakh residents of Mysore from December 1. In all, residents of 18 wards in the city will get Kabini water.

With a majority of these residents switching over to supply from the Kabini, 187 borewells will go defunct by the month-end and save the MCC an enormous amount of power.

District minister SA Ramdas on Friday reviewed the ambitious Kabini drinking water project and announced full-fledged operations from December 1. Some 90 per cent of the work is complete, save a booster pumping station and tank at Vijayanagar III and IV stages, and laying a pipeline at RT Nagar.

The good news is, Mysore Urban Development Authority has agreed to allot land to set up a booster pumping station and tank, and to deposit Rs 1.8 crore to lay the pipeline. Days after Vani Vilas Water Works, the water supply arm of the MCC, started supplying Kabini water on a trial basis, the system was found to be on track. The trial run will be extended to 11 other wards over the next three weeks.

"We will supply Kabini water to 42,320 households from December 1," Ramdas told reporters after the review meeting. In the first stage, 60 million litres per day (MLD) will be pumped for supply. The capacity of the pipeline is 184 MLD. Three 450 HP pumps have been installed at the pumping station at Bidaragudu, of which two are being operated.

According to Ramdas, the implementing agency has saved Rs 3.81 crore and revised the project cost to Rs 105 crore. Earlier, it was estimated to cost Rs 108.82 crore. He was sore with the MCC, which has to pay Rs 10.88 crore but has not met its financial commitment, even as corporators toured the facility and announced its soft launch on Wednesday.

Without taking names, he said: "MCC has not paid its share and we're taking it up with them," he said.

Ramdas said to meet Mysoreans' demand, 24X7 water supply would be implemented in 10 wards from January 1. Pending works at the under-construction mini-Vidhana Soudha would be completed by December 15 and the public facility opened in the third week of December.

"Kabini water on tap trial a success", 10/11/2012, online at: http://articles.timesofindia.indiatimes.com/2012-11-10/mysore/35033746_1_kabini-water-mysoreans-vani-vilas-water-works

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❖ **Public Private Partnership (PPP) projects in water in Delhi a burden on public, says Citizens Front for Water Democrac**

The Citizens Front for Water Democracy says that Public Private Partnership (PPP) projects in water in Delhi are a tool for corruption and personal gains. Politicians/DJB members, board officials work in connivance with consultants and companies causing losses to the public exchequer. Delhiites get water at high rates and increased water bills as 50 per cent of DJB work is under private operators. Claim of 24X7 water supply in Delhi is false and through increased water tariff citizens will pay for huge expenses and scams.

Recently, Delhi Jal Board (DJB) awarded contract for distribution and revenue collection to private operators in Malviya Nagar, Vasant Vihar, Mehrauli and Nangloi areas. All these projects are overpriced for more than Rs 1000 crore.

PPP in water is nothing but a tool for corruption and scams. DJB officers, politicians, consultants and private companies would pocket the amount, as they are working in connivance with each other. The public will pay back the overpriced charges in terms of enhanced infrastructure charges, development charges and tariffs.

Since last one decade when DJB started handing over its facilities to private operators, the water tariff has increased manifold. Today DJB has already privatized its more than 50 per cent work, including handing over the “Water Treatment Plants” and “Sewage Treatment Plants” to private companies.

Till 2004 the water bills on an average were in the range of Rs 125-150 per month and at that time the water charges were only Rs 0.35 to Rs 3.00 per 1,000 liters. But today monthly water bill of a consumer is on an average Rs 1,000 per month and he is paying Rs 4 to Rs 50 per 1,000 liters of water (including sewerage charge) and on 1st January, the consumers water bills will be again raised by more than 15-16 per cent. This is the cost what a consumer is paying for these overpriced projects and corruption of DJB.

What is the benefit that people get except high rise in water tariffs? Did any service improve? No!

Today around 300 MGD of water production is with private operators. Around 90 per cent of sewage treatment is with private operators. “Given the reasons such as “efficiency of private operators etc”, why do areas under private operators do not get water? Why Yamuna is still dirty if private partners carry out 90 per cent sewage treatment?” asked S.A. Naqvi of Citizen Front for Water Democracy (CFWD). We wish to know what services benefit consumers after spending thousands of crores of rupees till date.

In the Malviya Nagar study, the consultant of DJB found that maximum complaints (92 per cent) were relating to no water in the area. This area gets supply from Sonia Vihar Water Treatment Plant, which is operated and maintained by a private company Degremont. The private operators found involved in fabrication on records of water production and people are not getting their rightful water.

“But surprisingly, DJB ignored this aspect and awarded the work of distribution and revenue collection to the same company Degremont, which has failed to produce water as per the WTP’s capacity depriving people of their rightful water share,” Naqvi said.

All these PPP projects are corrupt projects and designed to benefit private operators. The projects are not only non-transparent but DJB’s claims too are false. One major promise for going in for the PPP model is 24X7 water supply. There is no mention in contract agreements that Company will supply 24X7 water in Vasant Vihar, Mehrauli and in Nangloi. There is no guarantee that consumers in the PPP project areas will get 24X7 water,” claimed Citizen Front for Water Democracy.

The Front has written letters to the Chief Minister, Members of the Board, CVC, Vigilance on the involvement of corruption, irregularities, violation of law and rules in the PPP cases with adequate proofs, but no action has been taken as yet. The letter dated 25th of October drew attention to the overpriced Nangloi project with cost comparison but surprisingly the Board ignored the serious allegation and proofs showing Rs 1,000 crore overpricing and went ahead to approve award of work to Veolia on October 26,” Sanjay Sharma, a member of Water Workers Alliance, alleged.

Who will benefit from this 1000 Cr? Why were serious allegations ignored and no enquiry held?

Mr. Naqvi said the Front will soon bring all the proofs of corruption in public domain and launch a public awareness program on corrupt activities.

Mr. Ram Parkash, President of Water Sewer and Sewerage Employees Union, also said employees would take to streets to oppose these corrupt projects.

“Public Private Partnership (PPP) projects in water in Delhi a burden on public, says Citizens Front for Water Democrac”, 14/11/2012, online at: <http://www.indiawaterportal.org/post/33266>

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❖ EU grants Pakistan flood deal

KARACHI - Pakistan has won duty-free access for its products to the European market, as the European Union on Thursday gave notice of a trade concessions package to provide duty-free access to 75 Pakistani products in a bid to compensate the country in the aftermath of 2010 floods.

Senior Commerce Minister Makhdoom Amin Fahim told a press conference in Islamabad on Thursday that the financial benefit from the package is expected to be as much as 500 million euros (US\$638 million) by the end of next year. He said the country also signed a memorandum of understanding in Geneva on November 12 with the European Free Trade Association (comprising Switzerland, Norway, Iceland and Liechtenstein) to explore the

possibility of entering into a free-trade agreement with the four-nation grouping.

The limited access to EU could become a bridge for Pakistan to secure Generalized System of Preferences (GSP) Plus status, effective from 2014. Access to GSP Plus status means duty-free access for all Pakistani products but it will be subject to implementation of human rights conventions, signed by the country at various international forums.

Under the approved deal, only the European Commission will manage the quota while Pakistani authorities will only confirm that the exported products are of Pakistani origin so that they can qualify for trade concessions. Only 25% of the annual quota will be made available for duty-free access for the remaining two months of this year (November-December), while a 100% quota will be available from January 1, 2013.

Though textile exporters have welcomed the duty-free access, which is expected to increase textile exports to the EU by 30%, but they may have limited opportunity to take advantage of the concessions, given suspensions of gas supply and power outages that halt production. The long-running energy crisis has already taken a heavy toll on the country's industrial production and exports. Textile exports constitute more than 55% of the country's total exports and the sector is the largest foreign exchange earner while directly providing jobs to 3.5 million people.

"We are unlikely to capitalize on the EU's preferential trade offer due to the severe energy crisis in the country," the Express Tribune reported Pakistan Textile Exporters Association chairman Rana

Arif Touseef as saying. "Textile exporters will not be able to benefit from the concession unless the government takes serious measures to tackle the energy shortage."

The energy shortages cause production losses and delays along the entire textile chain, from spinning to finished goods, particularly in Punjab province, and prevent exporters meeting delivery deadlines. Pakistan is the second-largest exporter of yarn, third-largest exporter of fabric and fourth-largest producer of cotton. Textile exports compose 8.5% of gross domestic product (GDP) and provide about 40% of jobs in the manufacturing sector.

The present value of country's exports of the selected 75 products to the EU stands at US\$1.4 billion, about 27% of the country's total exports of \$5.1 billion to the 27-nation bloc.

The EU concessions offer fewer benefits to Pakistan than an original package announced in 2010 when floods devastated the length of the South Asian country. The original package allowed the duty free access to 75 products, while the redesigned package links the 75 items to quotas, instead of duty-free access. The waiver period has been reduced to less than 14 months, compared with 36 months under the original package.

The deal also carries some safeguard clauses empowering the EU Commission to reintroduce duties if EU imports of the products concerned grow by 25%. The safeguards have been inserted to protect local industry and jobs in the textiles, garments, ethanol and leather sectors, which are sensitive for some EU member states, against surges in cheap imports.

Under the agreement, the EU may withdraw the trade concessions in case Pakistan imposes restrictions on exports of raw materials such as animal hide from EU, used to produce the 75 listed goods. The EU may also suspend the package if the country adopts measures restricting human rights and workers' rights, gender equality or religious rights or if it provides any kind of support to terrorist groups.

The package was redrafted because of the objections raised by Spain, Portugal and Germany due to recession fears in Europe, according to the Pakistan Readymade Garments Manufacturers and Exporters Association. Of the total 75 items included in the package, the number of products with a quota ceiling of 120% would increase from 20 to 26 with a quota ceiling of 120% of past trade based

on 2007-09, while a ceiling has been proposed on the remaining 49 items, based on 130% of past trade of 2007-09.

In technical terms, the ceiling of 120% means that the country can export 1.2 times the average volumes exported between 2007 and 2009 in each of the 26 product categories without paying any duty. Any exported volume exceeding the quota ceiling will be subject to regular import duties.

The original EU deal, which was expected to fetch Pakistan an additional \$1 billion, faced stiff opposition from textile lobbies within the EU bloc, particularly Southern European states including Portugal, France and Italy. Opponents of the package argued that the textile products would have huge impact on some European states where textile industry was already enduring a serious crisis.

Pakistan's competitors in textile exports to the EU, including Bangladesh, Brazil and India, also raised objections. These countries dropped their objections after the EU amended the scheme to use tariff rate quotas on 20 products rather than full liberalization. Under the revised package, the EU restricted that duty-free exports of fabric towel, women's jeans and socks from Pakistan should not rise more than 20% per year and also slashed ethanol export from 100,000 tonnes to 80,000 tonnes.

“EU grants Pakistan flood deal”, 17/11/2012, online at: http://www.atimes.com/atimes/South_Asia/NK17Df03.html

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❖ **Clean-up for One of PRC's Most Polluted Lakes Intensified with ADB Loan**

BEIJING, PEOPLE'S REPUBLIC OF CHINA – A \$250 million loan by the Asian Development Bank (ADB) to rehabilitate the fifth largest freshwater lake in the People's Republic of China (PRC) will also test an eco-compensation program and a water emissions trading system aimed at controlling ubiquitous sources of rural water pollution.

“Chao Lake bore the brunt of rapid local economic growth and urban development over the past 20 years. This project will help finance vital components of the government's 12-year master plan to bring it back to life,” said Qingfeng Zhang, Lead Water Resources Specialist at ADB.

Chao Lake is an important source for industrial and agricultural water supply, water transport, tourism, and recreation in Anhui province. The national government identified it in 1996 as one of the three priority lakes in the PRC for environmental rehabilitation due to its poor water quality.

While industrial pollution has come under more regulation in recent years, pollution has yet to be controlled from urban areas and non-point sources, particularly from livestock operations, runoff of fertilizer and pesticide use, and rural settlements.

To help control sources of rural and agricultural water pollution, the project will develop an eco-compensation program to provide incentives for farmers to replace chemical fertilizers with organic fertilizers, and it will also test water emissions trading among farmers and companies for the control of water pollution in Chao lake.

The loan will also finance eight new wastewater treatment plants and a wastewater collection network to intercept sewage that currently flows untreated into the tributaries of Chao Lake. The loan will finance a solid waste collection and management system. The construction of artificial wetlands and habitats will further reduce excessive amounts of nutrients in Chao Lake.

The loan will promote integrated management of the lake by building the capacity of the newly-established Chao Lake Management Authority (CLMA), one of the first agencies in the PRC with authority to manage and enforce all aspects of lake quality and uses.

“Clean-up for One of PRC's Most Polluted Lakes Intensified with ADB Loan”, 16/11/2012, online at:

http://www.adb.org/news/clean-one-prcs-most-polluted-lakes-intensified-adb-loan?utm_source=feedburner&utm_medium=feed&utm_campaign=Feed%3A+adb_water+%28ADB.org+Water+for+All%29

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❖ Analysis: China turns to machines as farmers seek fresh fields

(Reuters) - [China](#) needs to replace millions of workers who have quit farms for cities, but even its vast state power might not be able to transform the countryside into a network of big industrial farms capable of feeding its growing [economy](#).

Pulling together small plots of land to make larger operations and introducing modern mechanical techniques would help boost productivity, vital if China's agricultural sector is to meet soaring domestic food demand.

But efforts to modernize the sector are struggling to gain traction because many farmers are suspicious about giving up their land, and even for some mechanized farms, there are too few workers.

Guaranteeing food security is a major tenet of the ruling Communist Party. The country is self-sufficient in rice and wheat, but is struggling to meet corn demand and has long given up trying to satisfy soy demand. It is the world's biggest importer of soybeans, and a major buyer of corn.

It has increased [grains](#) output for nine straight years and aims to add 50 million tonnes per year by 2020 to the record 571.21 million tonnes of grain harvested in 2011.

"It now needs the government to come out and manage the land of those who give consent, and improve economies of scale," said Fu Xuejun, a manager at the Baoquanling farm, owned by the Beidahuang Group, a huge state-owned [farming](#) conglomerate in Heilongjiang in northeast China.

Some say China should give up its fixation with self-sufficiency and take advantage of growing [grains](#) trade internationally.

"China used to emphasize self-sufficiency because the international environment was not favorable," said Li Guoxiang, researcher with the Rural Development Institute of the China Academy of Social Sciences (CASS). "Food security should have two aims - one is domestic production and the other is the ability to buy overseas."

LURE OF THE CITIES

The challenge of reviving the [farming](#) sector is daunting at a time when both the rural population and available agricultural land are shrinking.

The number of rural workers has been falling for years because of a low birth rate, an ageing population and most importantly the lure of China's fast-growing cities.

Between 1982 and 2010, when China's overall population rose by a third, the number of registered rural residents fell to around 710 million from 790 million, Reuters calculations based on census data show.

The real rural population is likely to be lower though, because many of 260 million migrants working in cities are registered in their home villages.

Millions of hectares per year of farming land are being lost to urban and industrial development. China's 2011-2015 plan for the farm sector allocates at least 104 million hectares for crops, an area the size of Egypt, compared with 120 million hectares in the previous plan. The main problem is persuading farmers not to abandon their plots.

Some land is simply lying fallow, as farmers find better pay elsewhere but still prefer not to give up their land.

"There is a lot of talk about urbanization and urban expansion encroaching on agricultural land but I often argue that non-farm wages are more relevant to whether land gets kept in production," said Bryan Lohmar, an agricultural economist and China director of the U.S. Grains Council. "A lot of land is left fallow because nobody wants to farm it."

Reflecting those wage gaps, 69-year old corn grower Li Huamin said he could earn as much from leasing out his land as from planting.

His 36-year-old son plans to abandon the plot near the state-owned farm of Suibin, a few miles from the Russian border, and open a restaurant.

"Young people aren't willing to be farmers anymore and leave to work or study in the cities - more than half have gone already," he said.

AGGREGATION

More than half of China's ploughing, planting and harvesting is carried out by machines, compared with a third a decade ago, but the biggest challenge lies in aggregating farms to develop economies of scale.

Li of CASS said studies have shown only 13-15 percent of small farmers have agreed to aggregate their land or transfer it to commercial farmers.

"The government simply can't go too fast and transfer land too quickly because of the impact on rural social stability," Li said.

Often, if a group of farmers sell, local governments use the land for more profitable industrial uses, and some farmers are reluctant to give up their land.

"Many think that if they transfer their land they won't be allowed to go back, so there are plots that are just empty because the farmers have gone to the cities but don't dare to lease out their land," said Li.

Heilongjiang became the country's largest grain producer in 2011 when yields rose 11 percent from 2010 as farmers deployed bigger and better machinery for threshing and ploughing.

Beijing wants to lift that to 65-70 percent by 2020, but the increased use of machines in most farms was a reaction to rising labor costs, not a drive to meet government targets.

"The core issue is, who will plant for us and ensure food security in future following urbanization and industrialization?" said Zong Jinyao, an official in charge of mechanization of the Ministry of Agriculture.

"Analysis: China turns to machines as farmers seek fresh fields", 14/11/2012, online at:

http://www.reuters.com/article/2012/11/14/us-china-agriculture-mechanisation-idUSBRE8AC15P20121114?feedType=RSS&feedName=worldNews&utm_source=feedburner&utm_medium=feed&utm_campaign=Feed%3A+Reuters%2FworldNews+%28Reuters+World+News%29

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❖ Water Woes - A New Report about Endangered Species and Water

The new report [Water Woes](#), by the Endangered Species Coalition, reveals how water management has affected a wide range of species listed under the Endangered Species Act. It's appropriate for this ESC report to focus on water issues, after all, in North America, fish are moving more rapidly toward extinction than birds or mammals.

An [analysis by the U.S. Geological Service](#) reveals that, between 1989 and 2006, 57 fish species went extinct in North America – a pace that is 877 times the previous, background rate of extinction. It also found that, if the current rate continues, an additional 53 to 86 species will be lost by 2050.

It's also appropriate that salmon were among the species highlighted in this new report, including salmon in the Bay-Delta ecosystem. In the San Francisco Bay-Delta, there are six species listed or proposed for listing under state and federal law – winter-run Chinook salmon, spring-run Chinook salmon, Central Valley steelhead, green sturgeon, delta smelt and longfin smelt. Of those, the salmon species are perhaps most imperiled.

The Salmon Doubling Index that NRDC [released yesterday](#) presents a snapshot of how all runs of salmon in the Central Valley are faring. Not surprisingly, the listed runs are at a particularly precarious point. For example, the federal [doubling goal for Central Valley Spring-run Chinook salmon](#) is 68,000 wild fish. Yet in 2011, only [3,060](#) wild fish returned to Central Valley streams. The Winter-run is in even more trouble, despite a [doubling goal of 110,000 naturally reproducing fish](#), only 739 wild fish returned in 2011, including a single lonely salmon in Battle Creek. The additional life-support efforts of hatcheries don't add many more fish to these runs. In 2011, just 88 Winter-run returned to hatcheries, and just 1,969 Spring-run.

The new ESC report highlights the need to protect rivers and streams across the nation. And the report's focus on salmon highlights how important protecting these aquatic ecosystems is to Californians.

Fortunately, there is some good news in the effort to restore California's salmon. My colleague Monty Schmitt will write about that tomorrow.

"Water Woes - A New Report about Endangered Species and Water", 14/11/2012, online at:

http://switchboard.nrdc.org/blogs/bnelson/water_woes_-_a_new_report_about.html?utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=e639007824-RSS_EMAIL_CAMPAIGN&utm_medium=email

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❖ Kenya: Rice Farmers Lose Harvest to Floods

Kisumu — Flash floods have washed away the rice harvest of some 2,000 farmers in western Kenya, flooding some of their homes and sending latrine effluent into water courses, according to officials and residents.

"We are estimating that some 2,000 farmers have lost their crops due to the raging floods. Much of this crop had been harvested and was still in the farms being dried," said James Samo, agricultural specialist at the Ministry of Agriculture.

The affected farmers live in the 870-hectare Kano Plains rice irrigation scheme in Kisumu District.

"Heavy rains are wreaking havoc here and our only source of livelihood, rice, is threatened. The floods have washed [it all away] and are threatening to displace us. I only managed to salvage a few bags of rice when the water subsided," Leonard Onyango, a rice farmer, told IRIN.

Onyango said he had lost over 10 50kg bags of rice, but fears he might lose the few he managed to salvage if the rains continue.

In October, the Metrological Department issued an alert over possible flash floods in parts of the country following the start of the country's October-to-December short rains, which it said, may be exacerbated by possible mild-to-moderate El Niño conditions.

Rice millers in the region told IRIN they are already facing shortages as a result of the heavy rains which have also hampered access to farms.

"Our mill has run out of rice due to rains. We can no longer meet our market demand," Geoffrey Wekesa, an agricultural expert from Lake Basin Development Authority (LBDA), said.

Heavy rains are wreaking havoc here and our only source of livelihood, rice, is threatened. The floods have washed [it all away] and are threatening to displace us. I only managed to salvage a few bags of rice when the water subsided.

Rice is Kenya's third staple, after maize and wheat. According to the Ministry of Agriculture, domestic production of rice stands at 50,000 tons per year, while annual consumption is 350,000 tons. Pakistan alone exports 200,000 tons of rice to Kenya annually.

Health threat

Residents said the floods had not only swept away their crops and farms, but also pit latrines which could lead to an outbreak of waterborne diseases.

“Kenya: Rice Farmers Lose Harvest to Floods”, 15/11/2012, online at: <http://allafrica.com/stories/201211151273.html>

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❖ **Tanzania: How Producers Get Rich Through Unchecked Bottled Water Brands**

THE mushrooming of water brands floated in the market has been characterized by flaws which compromise the Tanzania Bureau of Standards (TBS) regulations that require all water suppliers to be registered and certified in the country.

An extensive survey by the 'Sunday News' in Dar es Salaam recently discovered that some brands including 'Umoja' brand, one of the largest suppliers of bottled water in the market and produced from the so-called Kisarawe hills, in Coast Region, is not registered by TBS though it bears TBS accreditation and logo.

The investigation further reveals that other brands which are not registered with TBS include 'Trina' Water produced at Mtoni Kijichi, Mbagala area in Dar es Salaam, 'Lulu' from Kibaha Town and 'Safina' which is produced in Dar es Salaam and sold in the market in the city. Our investigations also reveal that all these brands bear TBS accreditation.

TBS, on the other hand, provided a current list of 48 bottled water brands (we have the copy) which are registered and certified by the standards authority. But the mentioned brands (Umoja, Lulu, Trina Water and Safina) are not in the TBS list of certified bottled water brands.

Contacted for comment on the presence of the 'suspicious brands' in the market, TBS Corporate and Public Affairs Officer, Ms Rhoida Andusamile could not respond immediately. Instead, she requested this paper to provide them with the names of the brands which are in the market and do not appear in their list of certified bottled water brands "for further investigations."

She further wanted this paper to mention the names of the producers of the unregistered brands, and the places the bottled water brands are sold. Speaking to the 'Sunday News' over the phone, one of producers of the unregistered brands (Trina Water) said her brand had all the blessings from TBS before taking it to the market.

The producer, however, resisted to allow the 'Sunday News' team to visit the industry sited and take pictures. Trina Water Producer, supplies her drinking waters to various offices in Dar es Salaam including the Tanzania Standard Newspapers (TSN), the producers of 'Daily News', 'Sunday News', 'HabariLeo' and 'HabariLeo Jumapili'.

Earlier, a section of TSN staff had complained over the supplied bottled waters as not being hygienic. A simple test by the investigation team also identified that the waters had some impurities. The supplier provides to TSN the bottled water amounting to 424,800/- to 453,120/- per month. The rest of the producers of the unregistered brands could not be reached for comment.

Earlier, Ms Andusamile told the 'Sunday News' that it was illegal for anyone to sell bottled water without certificate of accreditation issued by TBS. She said all bottled water brands, according to TBS, fall under compulsory standard certificate of accreditation tested by TBS laboratory staff. "Legal actions will be taken against any manufacturer who is discovered to sell uncertified bottled water brands.

"All bottled water brands that are certified by TBS is tested using a TBS number such as TZS 574:2008," she said. However, our investigation revealed that the Umoja bottled water, one of the bottled water brand which is not registered by TBS (a sample of which we have) has a different number TZS: 574 contrary to TBS regulation.

In a survey carried out in the three municipalities of Dar es Salaam (Temeke, Kinondoni and Ilala) which involved 30 bottled water consumers, the respondents claimed that there are many bottled water brands that are circulating in the market ambiguously. Some bottles seem to be dirty and contaminated though they bear the famous brands recognized by TBS.

Several customers interviewed during the survey expressed their reservations regarding price of such water products and their quality, saying they were not sure whether the Maisha, Pangani and Lulu brands were endorsed by TBS. Mr Kishweni Mustapha, a customer in Dar es Salaam, noted that some products with famous brand labels taste nasty once you buy them out of town in some suburbs of Manzese, Kinondoni, Tegeta, Mbagala and others.

He also said that he believed the price for water was too high for an ordinary citizen. "I believe that the products sold by unscrupulous petty traders are impure and there is no system in place to track them down," he said. Kibonge Jacob of Mbagala said that some bottles containing water look dirty and even the water tastes weird and the smell awful.

Juma Athumani of Kariakoo complained that sometimes the three brands did not have any labels that showed where they were manufactured from. Some residents have asked the government to set up a policy that would ensure bottled water industries produced bottled water that is fit for human consumption.

In line with that, the residents asked TBS to stop offering unrealistic approvals to water producers before being satisfied of the safety and quality of the products. "It is very hard to indentify fake bottled waters unless you drink it...and this is because almost all the bottled water brands bear TBS approval sign," says Mohammed Issa, a businessman at Kariakoo main business area.

"Such water (low priced) is sold to low income people who can not afford the high priced bottled water brands," he says. According to one John Ngilu, fake bottled water brands are delivered in the market due to lack of proper policy to ensure that producers meet the required standards. Some of the bottled water brands that are certified by TBS and sold in the market include Kilimanjaro, Uhai, Pangani, Maisha, Penguin, Masafi.

Speaking to 'Sunday News' in an exclusive interview in Dar es Salaam recently, the Fair Competition Commission (FCC) Senior Communications and Public Relations Officer, Mr Frank Mdimi, said so far there was no company that supplies water in the market that had lodged complaint on unfair competition with the commission.

Nobody representing the consumers has reported complaints on the bottled water brands sold in the market, he said. "Investigations may originate from information provided to the Commission by the government, companies, or consumers," Mdimi said, adding that FCC was there to enforce the law. If there is any imitation of the product or infiltration of counterfeit bottled water products, such companies would have lodged a complaint to the commission immediately.

He added that the Competition Advocacy department will maintain the flow of information from the Commission to government, businesses, consumers, and will keep the Commission informed of initiatives and proposals coming out of the government.

"Tanzania: How Producers Get Rich Through Unchecked Bottled Water Brands", 11/11/2012, online at:
<http://allafrica.com/stories/201211110137.html>

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❖ Over 60 Projects Posted on New "Water Action Hub"

(New York, 15 November 2012) -- The UN Global Compact Office today announced that 63 projects have been posted on the CEO Water Mandate's "[Water Action Hub](#)" since it was launched in August 2012 -- surpassing internal expectations and reinforcing the need for an international platform to showcase water stewardship initiatives and "match-make" organizations on collective-action projects within specific river basins.

The projects span virtually all continents and are being led by or involve a range of stakeholders -- including corporations, civil society organizations, and public authorities. The projects focus on issues as diverse as improving water governance within a specific watershed; restoring ecosystems; improving access to water and sanitation within a community; and raising awareness on the importance of water conservation. The projects encompass numerous river basins around the world, including the Colorado; Amazon; Orange-Senqu; and Yangtze.

"We are extremely encouraged that the Water Action Hub is generating so much interest in just its initial launch phase", said Gavin Power, Deputy Director of the UN Global Compact and Head of the CEO Water Mandate. "Our hope is that more and more stakeholders around the world will utilize the Hub and invite other organizations to engage with them on meaningful, high-impact projects and initiatives in river basins where needs are the greatest".

The Water Action Hub was developed by the CEO Water Mandate in partnership with the Pacific Institute; GIZ; the International Business Leaders Forum; and Deloitte.

"The primary purpose of the Hub is to provide an enabling platform that assists stakeholders in efficiently identifying potential collaborators and engaging with them in water-related collective action projects", said Jason Morrison, Program Director of the Pacific Institute and Technical Director of the CEO Water Mandate. "The concept of 'water stewardship' encompasses the idea that global water challenges demand collective action -- the Hub was created to help respond to this imperative".

The Water Action Hub employs map-based analytics in order to site specific projects and to provide detail on individual river basins. The Hub is organized around 12 major water-related action areas, including climate change adaptation; efficient water use; improved water governance; and sustainable agriculture. The Hub is designed as a public good and is therefore open to any organization interested in action-oriented projects designed to advance water sustainability objectives.

“Over 60 Projects Posted on New "Water Action Hub"”, 15/11/2012, online at:
<http://www.unglobalcompact.org/news/279-11-15-2012>

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❖ Ghana's Mama Loo wants sanitation push in country where poo is political

People are taking Accra's sanitation into their own hands as, despite showy clean-up campaigns, the authorities cannot cope

Ghana's capital city, Accra, is in the midst of a major sanitation overhaul. High-profile "clean-up days", involving loud music, trucks plastered with slogans, sanitation workers, volunteers, journalists, police and ministers posing for the cameras as they shovel sludge from the streets, have been lauded as a way to engage the public with the need to clean up the city.

The need to clean up Accra is beyond question. The city has suffered major flooding in recent years due to large quantities of rubbish choking waterways. Outbreaks of cholera are frequent, and potential earnings from tourism are hampered by the use of the city's main beaches as a public toilet. Accra residents say one of the major problems is the lack of private toilets, with 86% of the population estimated to be living without access to a toilet in their home.

"You cannot say the sanitation situation in Accra is good. The major issue is that many people here are coming from poor backgrounds and homes where there are no toilets," says Kingsley Obinkyeri, who runs a weekly radio show in the capital called Curious Minds, in which young people talk on air about their experiences of sanitation and other issues affecting their wellbeing.

"Sanitation issues are very, very important for young people," he said. "It is much harder for them to have to go out at night, for example, to heed the call of nature. And when girls are menstruating and there are no toilets in their school, they stay at home. So it begins to affect their education, too. If waste was handled properly, there would be opportunities for wealth creation – through organic fertiliser, biogas and recycling."

The problem of how to increase access to toilets has become a significant issue in Ghana's upcoming elections. "[The lack of toilets in people's homes is] one of the main contributors to the bad sanitary conditions, especially in the cities ... because people are going to the beaches and defecating and messing up the atmosphere," said the Ghanaian vice-president, Paa Kwesi Amissah-Arthur, during an election debate last week. "The first thing we have done is to reorient people away from this by creating a housing code that imposes a responsibility on landlords to have toilets in their houses."

But critics say the role of politicians in sanitation has only made Accra's problems worse. "The problem is that poop is politicised," said Sherri Thompson, popularly known as Mama Loo for her work building sustainable toilets for schoolchildren in Accra. "Public toilets are revenue-generating – hundreds, in some cases thousands, of people might visit a public toilet in any one day, and each pays a fee, so there is money to be made."

"Every time a different government wins, they get rid of whoever was previously operating public toilets, and give them to their 'veranda boys' [who control access] to operate instead," she said. "In some cases these groups take care of the facilities. But others are appalling. It's disgusting."

Thomas is one of many people taking Accra's sanitation into her own hands. Despite the clean-up campaigns, the authorities admit they are not equipped to cope. The Accra metropolitan assembly public health director, Dr Simpson Anim Boateng, recently told journalists that the whole of Accra is served by about 130 environmental health officers, some of whom deal with more than 100,000 residents.

In the Ledzokuku Krowor area of Accra, the local authority is open about the challenges it faces.

"Waste management remains a challenge confronting the municipality, despite efforts so far made, and certain areas are characterised by choked drains, indiscriminate waste disposal and uncollected refuse in central waste containers," says the local government website. "[Waste can be found in] bodies of water, drainage systems and other open spaces."

"Notable factors include poor conceptualisation of sanitation; lack of adequate sanitary facilities; ignorance and irresponsibility; lack of community action; springing up of unauthorised temporary structures; a continuously increasing number of squatters; the lack of regular budgetary allocation for sanitation; and a virtual absence of fee-based service provision in low-income areas."

The government says it is tackling some of these problems with its public hygiene overhaul, including a national sanitation taskforce under the ministry of local government and rural development, and the creation of Zoom Alliance – a private waste-collection entity that is conducting an anti-littering ad campaign, and distributing bins and rubbish bags.

But critics insist that these measures do not address the critical lack of resources for municipal authorities whose job it is to deal with waste, and the need for wide-ranging re-education. "I personally doubt that these activities will have the desired long-term effect," said Adam Reese, a

local journalist who follows sanitation in Accra. "I believe that sanitation habits are cultivated and reinforced over the course of a lifetime, and I doubt a single government-funded event can fundamentally transform long-held attitudes."

"Ghana's Mama Loo wants sanitation push in country where poo is political", 13/11/2012, online at:
http://www.guardian.co.uk/global-development/2012/nov/13/ghana-loo-sanitation-poo-political?CMP=twf&utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=cca9971492-RSS_EMAIL_CAMPAIGN&utm_medium=email

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❖ Water Supply in a Warming World, Part 2

The latest issue of the journal Nature Climate Change included what might be viewed as a scholarly good-news/bad-news riff on future supplies of fresh water around the world. The good news, as [described here](#) by my colleague Justin Gillis, is that climate change is likely to lead to a greater number of fierce rainstorms, which could do more to recharge groundwater aquifers in some parts of the world.

The bad news is that climate change is likely to lead to smaller snowpacks in mountain ranges and even on lower ground throughout the Northern Hemisphere, from the Cascades, Rocky Mountains and Sierra Nevada in the western United States to the Himalayas and the Urals on the other side of the globe.

The [study](#) by Noah Diffenbaugh, a Stanford University climate scientist, suggests that within two generations' time, these areas will be experiencing years of low snowfall far more often than they have in the past three decades.

Not all of the billion or more people in the drainage basins fed by snowfall will suffer severe consequences if this comes to pass. In India, for example, monsoon rains provide a large portion of the water. But in places like Pakistan, Central Asia and parts of China that are more dependent on what Dr. Diffenbaugh, an assistant professor of earth system sciences, calls “hard water” — glaciers and snow — water supplies are likely to become more irregular.

The study, which presented a variety of situations reflecting the range of predictions on the extent of warming, showed that if global temperatures rise 2 degrees Celsius (3.6 degrees Fahrenheit) beyond what they were in pre-industrial times, about 30 percent of the planet's winters are increasingly likely to produce seasonal snowfall below the current record low levels. What now happens once a decade or even more rarely would happen every three years or so within a couple of generations.

The worries about California's water resources, given the state's dependence on snow melt, have already been well chronicled, and western states that [agreed](#) in 1922 to divvy up the waters of the Colorado River have also been studying the problem as average flows have decreased. Dr.

Diffenbaugh said that Pakistan, too, is making the issue a centerpiece of its reports on the potential impacts of climate change.

But all predictions based on computer projections have inherent uncertainties. What is more, a time horizon of two generations — 40 to 60 years — is short for engineers anywhere in the world, who build water-delivery systems designed to last 75 years or more. “Anywhere where the management system has been built” based on historic experience, Dr. Diffenbaugh said, “there is a potential for impact.”

“There’s a clear shift in these regions towards not only more precipitation falling as rain, but earlier melt of what does fall,” he said.

“Water Supply in a Warming World, Part 2”, 13/11/2012, online at: <http://green.blogs.nytimes.com/2012/11/13/water-supply-in-a-warming-world-part-2/>

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❖ More than half of EU surface waters below ‘good’ ecological status

Water pollution and physical modifications are still affecting the ecology of many of Europe’s lakes, rivers, transitional water bodies and coastal waters. These problems are likely to prevent the water bodies reaching ‘good’ status by 2015, a target set by the EU’s Water Framework Directive (WFD). The report, ‘European waters - assessment of status and pressures’, published this week by the European Environment Agency (EEA), considers the status of 104 000 rivers, 19 000 lakes, and 4000 transitional and coastal water bodies reported by EU Member States according to the WFD and the river basin management plans (RBMPs). The authors conclude that water bodies are generally improving, but not quickly enough to meet the targets set by the WFD – in fact only 52 % of water bodies are predicted to achieve good ecological status by 2015, according to Member States own plans.

Jacqueline McGlade, EEA Executive Director, said: “European waters have improved a great deal over the last two decades, as legislation has successfully reduced many types of pollution and improved wastewater treatment. But EU Member States look set to miss upcoming targets by a wide margin, so they need to urgently step up efforts to protect both human health and the ecosystems we rely on.”

For surface waters, there are two separate classifications: ecological and chemical status. Groundwater bodies are classified according to their chemical status and quantitative status. For a water body to be in overall good status, both types must be at least good.

More than half of the surface water bodies in Europe were reported to be below good ecological status or potential status, according to the latest data showing status up to 2009.

Many European water bodies remain polluted by excess nutrients, mainly from fertiliser, the report notes. When fertilisers run off from croplands into a water body, it can create eutrophication, a process characterised by increased plant growth and harmful algal blooms, depletion of oxygen and subsequent loss of life in bottom water. Diffuse pollution from agriculture is a significant pressure for more than 40 % of Europe’s water bodies in rivers and coastal waters, and in one third of lakes and transitional waters.

Ecological status also includes considerations of ‘hydromorphology’ – the extent to which the shape of water bodies and natural flow of the river has been altered. Dams, straightening and dredging alter habitats and damage ecosystems. Hydromorphological pressures resulting in altered habitats is the most common pressure on water bodies, affecting around 40 % of rivers and transitional water bodies and 30 % of the lakes. The report calls for the ‘re-naturation’ of many water bodies to restore their natural features, such as restoring the natural continuity of rivers.

Chemical status refers to levels of heavy metals and other harmful substances. While 10 % of Europe's surface water bodies are in poor chemical status, there are no chemical status data available for 40 % of Europe's surface waters. Ground water bodies are in a worse condition – approximately 25 % of groundwater, by area, has poor chemical status across Europe. Sixteen Member States have more than 10 % of groundwater bodies in poor chemical status. This figure exceeds 50 % in Luxembourg, the Czech Republic, Belgium (Flanders) and Malta.

Overall, concentrations of several water pollutants are falling in many river basins. For example, if ammonium and phosphorous levels continue to decline at their current rate, they will be at levels that meet good status by 2015 and 2027 respectively. Nitrates are also falling, although this pollutant will still be too high for several decades at the current rate of decrease, according to the report.

The challenges for river basin management are numerous and diverse, the report says. The RBMPs submitted by Member States distinguish between different types of pressures faced by river basins, however they include less detail on how these pressures will be addressed and to what extent selected measures will contribute to achieving environmental objectives in 2015.

To maintain and improve the essential functions of our water ecosystems, they need to be managed better, the report says. This can only succeed if an integrated approach is adopted, as introduced in the WFD and related water legislation. All sectors in a river basin need to fully implement the WFD to reduce pressures on water bodies, ensuring all users are committed to healthy water bodies achieving good status.

The report is launched to coincide with the launch of the European Commission's Blueprint to safeguard Europe's water resources, intended to improve implementation of existing water legislation and show opportunities for further policy improvements

"More than half of EU surface waters below 'good' ecological status", 14/11/2012, online at:
<http://www.eea.europa.eu/highlights/more-than-half-of-eu>

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❖ **UfM supports the development of a Mediterranean water data system**

Barcelona, 6th November, 2012. Union for the Mediterranean

This potential project, which responds to the need for reliable shared data and free flow of information, is a necessary basic tool for the integrated management and planning of Mediterranean water resources at a national or international level.

Bringing together promoters and water experts from the initial pilot countries, the UfM Secretariat held this week at its premises a two-day seminar to discuss next steps towards the planning and development of this proposed project, which aims at strengthening the management, sharing and monitoring of reliable data on water resources in the Mediterranean.

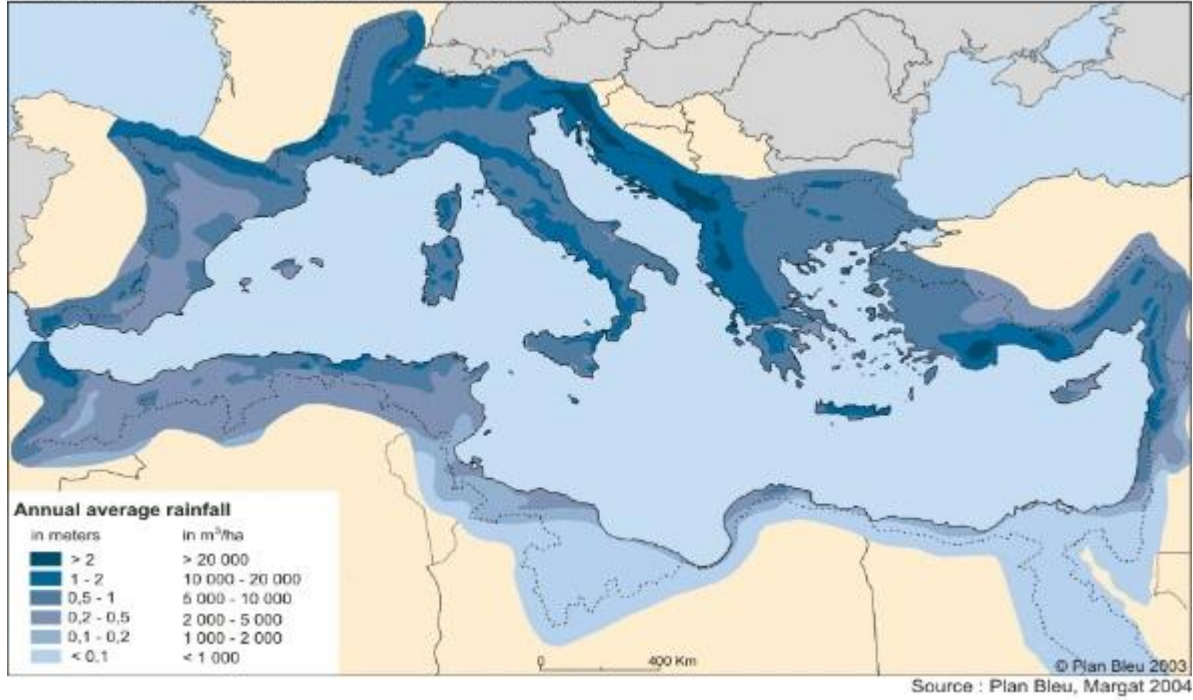
The project was proposed by a consortium composed by the Ministry of Energy & Water of Lebanon (MEW), the Centre of Water Studies and Arab Water Security (COWFS) of the League of Arab States and the Euro Mediterranean Water Information System network (EMWIS). The countries who agreed to participate in a first pilot phase of this overall project are Morocco, Jordan, Lebanon and Tunisia.

Discussions during the seminar focused on setting the final objectives of the project, communication and management issues and the fundraising strategy. Both, promoters and pilot countries, analysed the synergies and coordination among the national components strengthening the water information system of each pilot country, and the regional components including methodology, capacity building and data reporting. Pilot countries' representatives presented their specific objectives and foreseen developments including the state of play, difficulties and the institutions and actors involved. All parties agreed that professional training was necessary in order to improve the production and exploitation of environmental data in the Arab countries. *"We need to train our engineers to provide accurate information for the water information system"*, declared Chahra Ksia from the Arab Water Security Center.

As next steps to be taken, the UfM foresees the organization of Ministerial meetings, and meetings with potential donors and the pilot countries, together with the re-examination of the project's

governance structure. As Walter Mazzitti, from EMWIS, stated: “*This project may become the hat for others projects*”.

Average rainfall distribution in the Mediterranean basin



“UfM supports the development of a Mediterranean water data system”, 12/11/2012, online at:
<http://mideastenvironment.apps01.yorku.ca/?p=6311>

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❖ **Gambia: The Rural Water Projects**

The water projects launched in the various regions over the past days each worth US\$8M is remarkable. The project funded by the Africa Development Bank (ADB) seeks to enhance the already expanding rural water and sanitation programme initiated by the government of The Gambia.

The project if judiciously operationalised, would consolidate the gains made by the country in the accomplishment of the Millennium Development Goals 6 target of universal access to clean water and sanitation.

The worth of the projects cannot be over-emphasised. It is common knowledge that water is necessary for the survival of living things. In fact, dehydration - the lack of water - will kill an organism faster than starvation - the lack of food. Since the plants and animals that many humans and other animals eat also depend on water, lack of it could lead to starvation as well as dehydration.

In addition to sustaining life, clean freshwater is needed by humans for personal hygiene, irrigation, industry, and recreation. Humans bath with it, brush their teeth with it, use it to make crops grow and to cool industrial reactors, as well as swim, boat, and fish in. This is why the improvement of water and sanitation for all is among the top priorities of the Gambian government.

The consolidation of this rural water project which seeks to develop capacity to provide safe drinking water and to address the unhygienic handling of drinking water as well as poor personal hygiene and sanitation practices in rural areas, with a view to reduce water and sanitation related-deaths, which account for 20 percent of mortality of children under five, especially in rural areas, illuminates this reality.

Suffice to say, clean water supply and sanitation is crucial in the realisation of any country's development goals and poverty reduction strategies, of which The Gambia is no exception. Clean drinking water supply helps in reducing health care cost as a result of the minimisation of water-borne diseases. This in turn will help in reducing the stress on the country's national budget, thus redirecting some of the health care budgetary allocations into other development agendas.

We therefore applaud the donors and hope that the projects would be implemented as planned so that the water and sanitation needs of the rural people would be met.

“Gambia: The Rural Water Projects”, 16/11/2012, online at: <http://allafrica.com/stories/201211160951.html>

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❖ Climate change report: Can US adapt to severe weather Alaskans call normal?

The National Academy of Sciences (NAS) and National Research Council (NRC) have released a [report](#) commissioned by the CIA and various other American intelligence agencies on the security threats posed by climate change. The report's goal is to inform intelligence agencies as to how to best carry out monitoring to anticipate climate-related disasters, help prevent them from occurring, and, when they do, respond to emergencies.

The report investigates how climate change could potentially induce social and political stresses that will affect U.S. security over the next decade. The report committee's chair, John Steinbruner, writes, "There is compelling reason to presume that specific failures of adaptation will occur with consequences more severe than any yet experienced, severe enough to compel more extensive international engagement than has yet been anticipated or organized."

Climate change and the Arctic

The Arctic actually happens to be excluded from the report, since it focuses more on countries and regions which might not be able to respond adequately to the consequences of climate change, rather than international areas where climate change could induce militaristic and commercial competition. Instead, a [separate report](#) from the National Research Council in 2011 outlines how changes in the Arctic will affect U.S. naval forces.

The NAS/NRC quotes a 2007 report from the Center for Naval Analysis, which stated, "Climate change acts as a threat multiplier for instability in some of the most volatile regions of the world." The Arctic is not especially volatile, as there is already a good system of governance there through the Arctic Council, and the eight member states are quite stable compared to other parts of the world. They do not suffer from the "poor governance, societal inequalities, and 'bad neighbors' (countries characterized by ongoing violence" that a 2010 study by the World Bank mentioned in the report posits as pre-existing conditions that set the stage for climate-change induced conflict. In contrast to the Arctic, Egypt is a place where climate change could cause already-high social and political tensions to erupt.

Demand on the Nile River will increase as populations in Egypt, Ethiopia, and Sudan grow. Countries like South Korea and Saudi Arabia have purchased land along the river to provide food for their own populations. Foreign land ownership could fall under pressure if a local famine were to occur, for instance. One connection that can be drawn here is that similar to the Arctic, countries are quite protective of their resources, whether oil or land, and wary of foreign interference. South Korea is a country with ample financial resources of its own, but few natural resources. Hence, it is extending its reach into multiple contentious areas, including both the Arctic and the Middle East, in

search of oil, gas, and food. This is all fine in times of relative peace and prosperity, but when push comes to shove, conflict could erupt.

Long-term consequences for the North?

The 2010 NRC report on the Arctic notes that people fleeing climate-related disasters in North Africa could migrate en masse to countries in southern Europe, stressing social infrastructure there. This is in the near term, though; in the long term, it is plausible that people could move even farther north, perhaps to countries in the circumpolar north, as Dr. Laurence Smith's book, "The New North: The World in 2050," hypothesizes. I am currently reading J.G. Ballard's novel, "The Drowned World," published in 1962. Though heavy on the sci-fi, it conceives of a world where the ice caps have melted and the only inhabitable places are at the world's high latitudes. Fantastical when written half a century ago, the scenario depicted could now be plausible in the next century.

Climate change is occurring rapidly in the Arctic, more so than many other parts of the world. The melting sea ice cap and Greenland Ice Sheet, increase in albedo effect, and potential release of methane into the air by melting permafrost could have far-reaching effects. What happens in the Arctic ecosystem is not contained. As temperatures rise, there could be wetter winters in Europe and North America with more extreme weather events.

Similar linkages are occurring elsewhere around the globe. The report speaks of "clusters of extreme events," such as between the heat wave in Russia in 2010 and the dramatic monsoons in Pakistan that same year.

Yet even though the number of weather-related natural disasters, such as Hurricane Sandy, seems to be on the increase, that does not mean that the public will begin to take heed of climate change.

A [blog post by George Marshall](#), the founder of the Climate Outreach and Information Network (COIN), describes how the sort of "pull-together" response that emerges from communities which have been hit by a natural disaster can actually be counter-productive to increasing acceptance of the reality of climate change. A sense of hopelessness and despair can also cause people to hunker down rather than change their ways and become more resilient. Contrariwise, extended events that unfold over longer periods of time, such as droughts and heat waves, can cause people to better realize that change is in the air, quite literally.

Mitigation and adaptation

In the Arctic, many of the changes that are taking place fall more into the extended, rather than extreme, event category. Perhaps this is one reason why many people in the circumpolar north accept climate change and have moved on to mitigation and adaptation strategies rather than holing up and shielding themselves from the harsh realities of the future. I think that what all of this reports and blog posts suggest, though, is that everything is interlinked, whether it's atmospheric and oceanic currents, weather patterns, or climate change and security.

We need to have an extremely interdisciplinary, bird's eye view of both the processes involved in climate change and its consequences on society in order to wrap our heads around developing adaptation strategies customized to fit local needs and beliefs. As Marshall writes, "It would be hard to imagine anything more counterproductive than an environmental activist organisation dropping a banner in the midst of a conservative community after a major disaster." The same is true in many indigenous communities in the Arctic, where people are often resistant to outside interference from governmental agencies, which tell them how to hunt, for example. Certain communities in Northern Canada and West Greenland believe that the number of animals in the cosmos is fixed and that populations do not decline due to over-hunting or pollution. Instead, they merely move elsewhere. While such a viewpoint might be hard for Westerners to accept, this is one example demonstrating that we need to work within local contexts when trying to forge adaptation strategies. It's important to recognize that especially with controversial issues like climate change, adaptation must originate organically, rather than being imposed from above. This is a much more difficult and complex task than simply saying that one strategy will work for the entire planet, but in the end, it will result in more resilient communities.

“Climate change report: Can US adapt to severe weather Alaskans call normal?”, 14/11/2012, online at:
<http://www.alaskadispatch.com/article/climate-change-report-can-us-adapt-severe-weather-alaskans-call-normal>

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❖ Study Offers New Tool for Incorporating Water Impacts Into Policy Decisions

ScienceDaily (Nov. 12, 2012) — If you've eaten fish, gone for a boat ride or even taken a drink from the tap, you know clean water is a valuable commodity. But just how valuable? That's always been a tough question for policy makers to answer as they weigh the worth of clean water against societal needs that compromise it, such as the need to grow food or produce fossil fuels. Now, however, their ability to do so has been greatly enhanced by a new policy-making framework developed by a team of scientists led by Bonnie Keeler, research associate at the University of Minnesota's Institute on the Environment.

The framework, published in the Nov. 6 issue of the *Proceedings of the National Academy of Sciences*, provides a tool for assessing and valuing the many services clean water provides -- from recreation and beauty to navigation and hydropower -- and incorporating them into policy decisions. "After repeated requests for information on the value of water quality, we realized that there was a huge gap between the demand for economic values of water quality and our ability to provide tools to estimate those values. This gap limits our ability to make informed decisions," Keeler said. "We provide a framework that describes the numerous pathways in which changes in water quality affect our health, recreation and livelihoods and the economic value of those changes. This yields a far more accurate picture of the costs and benefits of decisions." Using funding from an IonE mini grant, Keeler and colleagues from the University of Minnesota, The Nature Conservancy and the University of Arkansas began by developing a decision-making template that links actions, changes in water quality, changes in a spectrum of ecosystem goods and services, and changes in the economic value that accrues from the changes in ecosystem goods and services. They then outlined a five-step plan policy makers can use to apply the template to on-the-ground decisions around water issues.

"There will never be a single number that describes the value of clean water in all places and contexts," Keeler said. "What our paper proposes is a way for users to link tools from ecology and economics to get value estimates that are specific to their location and sets of alternative actions. Ideally these values can then factor into incentive programs, cost-benefit studies and payment programs for ecosystem services."

"Study Offers New Tool for Incorporating Water Impacts Into Policy Decisions", 12/11/2012, online at:
http://www.sciencedaily.com/releases/2012/11/121112135656.htm?utm_source=feedburner&utm_medium=feed&utm_campaign=Feed%3A+sciencedaily%2Fearth_climate%2Fwater+%28ScienceDaily%3A+Earth+%26+Climate+News+-+Water+Conservation%29

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❖ **For what it's worth, can we have economic development without undermining nature?**

Defined simply as “*the benefits people obtain from ecosystems*”, ecosystem services have become a hot topic in recent years. The **Millennium Ecosystem Assessment** demonstrated the many ways that ecosystem services contribute to human well-being. Their important role in sustaining livelihoods and improving the wellbeing of people is now widely recognized. For example, ecosystem services range from provision of food and water to flood mitigation and improvement of water quality to less tangible benefits such as contributions to local cultures. Though it is often difficult to put a monetary value on ecosystem services (some are literally irreplaceable), economists are increasingly demonstrating the value of a wide range of different services.

Ecosystem services are especially important for millions of poor people, particularly those living in rural communities of developing countries. Many rural communities depend directly on a range of ecosystems services for their livelihoods and well-being and, due to isolation and a paucity of resources, may have few substitutes or alternatives to the services provided by ecosystems if they are lost, degraded or access is obstructed. Furthermore, many of the world's poorest people live “close to nature”, meaning they are extremely connected to the ecosystems that surround them and, thus, they gain the most immediate benefits from the services that they provide.

As economies become more industrial, the direct links between well being and ecosystem services change and become more disconnected. In rich, developed countries, people rely on plumbing and filters to deliver water rather than “unmodified” ecosystem services derived directly from rivers and lakes. They rely upon packaged foods rather than wild harvested plants and animals, so there is a greater “distance” between the ecosystems that provide services and the people that benefit. It is debatable, but possible that, their rich lifestyles are reliant on as many or more, ecosystem services than the poor.

People in wealthier areas are often able to physically buffer themselves from some of the vagaries of nature, through housing and other infrastructure. Such built infrastructure is not always reliable, as was seen when the levies failed to prevent flooding during Hurricane Katrina, but it does generally enhance peoples' safety and well-being. In contrast, many of the world's poorest people are directly exposed to nature's extremes, such as cyclones or other hazards, and at the same time are heavily

dependent on nature's ability to regulate those extremes. For example, through the coastline protection functions provided by mangroves and wetlands.

Economic development is to a large extent dependent on modifications of the natural environment. Human ingenuity is used to alter the natural environment in ways that improve peoples' wellbeing. Thus, human capital/technology is used to complement or substitute natural ecosystem services, to effectively distribute ecosystem services from one place to another. For example, food stocks are enhanced through agricultural practices and flows are enhanced by transporting food around the planet. Only in this way is it possible to feed nearly 7 billion people. However, there are often negative impacts from industrial agriculture that undermine many natural ecosystem services.

While man-made infrastructure replaces and often improves on some ecosystem services, it inevitably alters the environment. These modifications to the environment can cause considerable changes to ecosystems and the services they provide. For example, a dam affords artificial water storage and often improves flow regulation for people: decreasing flood flows and increasing dry season flows. For those in societies who utilize the water and/or energy that the dam provides, the dam enhances natural ecosystem services. However, dams modify the environment, not just upstream where the river and surrounding valley is flooded, but also downstream where natural river flows are altered. These changes can affect other ecosystem services, often resulting in unintended, negative consequences for those dependent on the services. For instance, because they block migration routes and modify the flow regimes to which fish have adapted, dams often have an adverse impact on fisheries, thereby undermining the livelihoods of poor fisher-folk.

The challenge in understanding exactly how ecosystem services contribute to poverty reduction is that social and economic development – particularly, lifting people out of poverty – have traditionally been achieved by significantly altering ecosystems to provide services that meet the needs of people in ways that are faster, more predictable, and/or more abundant than nature provides. However, in amplifying one or a few target services to meet people's daily needs (such as those that support food production or energy production), other services that are important for human well-being over longer-time scales (such as climate regulation, disaster regulation, pollination, and/or disease regulation) may be degraded or compromised. The value of these latter services is often appreciated

only when they are lost or compromised and when lives and economies have been severely impacted by extreme events, for example.

One critical, related question is how different degrees and types of dependence on ecosystems and the services they provide influence societies' resilience to stressors and unexpected events. In general, the more diverse a system (i.e. the greater the range of functions and ecosystem services provided by it), the more resilient it is to either natural or human-induced change. One risk of human modification of ecosystems is that increasingly modified, often less diverse, systems, are less able to cope with unforeseen or rarely occurring events. For example, converting mangroves to aquaculture may in the short-term benefit coastal communities by increasing food production and providing employment, but the longer term risk is that because natural defenses have been lost the coastal communities will be devastated by floods associated with coastal storm surges. This is a particular worry as climate change increases the frequency of extreme events.

Clearly, the relationship between ecosystem services and development is multi-faceted and complex. Economic development is a prerequisite for lifting people out of poverty. However, ultimately all of us are dependent on ecosystem services – they keep the planet fit for life – and so safeguarding them is vital. Sustainable development requires that we achieve a better balance between economic development and sustenance of essential ecosystem services to support resilient social-ecological systems. We don't yet know how to achieve it, but it is imperative that we get this balance right!

"For what it's worth, can we have economic development without undermining nature?", 15/11/2012, online at: <http://wle.cgiar.org/blogs/2012/11/15/for-what-its-worth-can-we-have-economic-development-without-undermining-nature/>

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❖ Trouble at Brazil mega-dam stops construction for now

Aerial of an area in Altamira, Para state, Brazil, in May 2012, that will be flooded by the Belo Monte hydroelectric plant on the Xingu River. Work on Brazil's controversial \$13 billion Belo Monte mega-dam ground to a halt Monday after protesters torched buildings at three dam construction sites over the weekend, the developer said. Work on Brazil's controversial \$13 billion Belo Monte mega-dam ground to a halt Monday after protesters torched buildings at three dam construction sites over the weekend, the developer said.

Saturday, "a group of 30 people set fire to prefab structures at the Pimental site. They went into the cafeteria, destroyed everything and robbed the till" before setting it ablaze, said Fernando Santana, spokesman for builders Consorcio Constructor Belo Monte (CCBM). And late Sunday, groups of 20 people set structures ablaze at Canais and Diques, two other dam construction sites, said Santana. "On Monday, as a precautionary security measure, all activities were suspended at the construction site," said Santana, suggesting that "vandals" might be trying to derail salary renegotiation under way. The state-owned Norte Energia hired CCBM to build the dam, which is set to be the world's third largest when it has been completed. Between 12,000 and 13,000 workers at the site on two shifts, Santana said. The incidents broke out after CCBM proposed a seven percent wage hike to the workers in an area where the inflation rate is at 30 percent, said Xingu Vivo, a non-governmental group opposing the dam. On October 9 protesters—150 natives and local fishermen—interrupted dam construction, accusing Norte Energia of backtracking on accords signed in June when people occupied the Pimental area for three weeks. Indigenous groups fear the dam across the Xingu River, a tributary of the Amazon, will harm their way of life. Environmentalists have warned of deforestation, greenhouse gas emissions and irreparable damage to the ecosystem. The dam is expected to flood some 500 square kilometers (200 square miles) along the Xingu and displace 16,000 people, according to the government, although some NGOs put the number at 40,000 displaced. The natives want their lands demarcated and non-indigenous people removed from them, as well as a better healthcare system and access to drinking water. Expected to produce 11,000 megawatts of electricity, the dam would be the third biggest in the world, after China's Three Gorges facility and Brazil's Itaipu Dam in the south. It is one of several hydroelectric projects billed by Brazil as providing clean energy for a fast-growing economy. "Avatar" director James Cameron and actress Sigourney Weaver support dam opponents, drawing parallels with the natives-versus-exploiters storyline of their blockbuster Hollywood movie.

"Trouble at Brazil mega-dam stops construction for now", 12/11/2012, online at: http://phys.org/news/2012-11-brazil-mega-dam.html?utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=cca9971492-RSS_EMAIL_CAMPAIGN&utm_medium=email

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❖ World Bank injects \$200m to help clean up Vietnam's Red River Delta

The Vietnam government's National Target Program (NTP) for Rural Water Supply and Sanitation has received backing of \$200 million from the World Bank to help provide safe sanitation and improved sanitation for 650,000 people.

Access to sustainable water supply and sanitation services in rural areas of Vietnam is low, and water quality is a problem in the Red River Delta region. Improved sanitation and better access to safe water brings important health benefits as well.

Victoria Kwakwa, World Bank country director for Vietnam, said: "Better access to safe water and sanitation, delivered by the government using our new financing instrument, will help ensure that the quality of life for people in rural communities improves, which is important for sustainability and equity of growth in Vietnam."

"World Bank injects \$200m to help clean up Vietnam's Red River Delta", 12/11/2012, online at:
[http://www.waterworld.com/articles/2012/11/world-bank-injects-200m-to-help-clean-up-vietnams-red-river-delta.html?cmpid=\\$trackid](http://www.waterworld.com/articles/2012/11/world-bank-injects-200m-to-help-clean-up-vietnams-red-river-delta.html?cmpid=$trackid)

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❖ Desalination plant in Kuwait conquers red tide challenge

The Shuwaikh Seawater Reverse Osmosis (SWRO) Desalination Plant in Kuwait has avoided reduced production and plant shutdown - problems caused by red tide - through its pre-treatment steps, according to Pentair X-Flow.

Located near Shuwaikh port, the plant was built by Doosan Heavy Industries and Construction in 2010 for the Kuwaiti Ministry of Electricity and Water.

With an ultrafiltration (UF) permeate capacity of 350,000 m³ and Reverse Osmosis (RO) output of 94,700 m³, the plant supplies drinking water for more than 450,000 residents in [Kuwait City](#).

[Pentair X-Flow](#) said the plant design gave special attention to pre-treatment as the seawater in the area is highly saline, rich in organic components and known for occasional red tides, which can last for 10 days. This resulted in a combination of dissolved air filtration (DAF) and Pentair X-Flow's Seaguard 40 UF [membrane modules](#) and skids.

Together, DAF and UF efficiently remove high concentrations of suspended solids and small-sized colloidal particulates. The produced RO feed water has a consistent silt density index value of less than 3.0 at all times, according to the company.

Even during a red tide event, the combined DAF and UF pre-treatment proved successful in removing the increased number of particles caused by the abnormal algae growth with turbidity levels of up to 31 NTU.

"Desalination plant in Kuwait conquers red tide challenge", 13/11/2012, online at:

<http://www.waterworld.com/articles/2012/11/desalination-plant-in-kuwait-conquers-red-tide-challenge.html>

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❖ Al Ghubrah RO desalination plant awarded in Oman

The 190,000 m³/day Al Ghubrah Independent Water Project (IWP) in Muscat, Oman has been awarded to a consortium of Japan's Sumitomo Corporation, in conjunction with Malaysia's Malakoff Corporation Berhad and Spanish firm Cadagua SA.

Under a build-own-operate (BOO) project, the constructed facilities will be operated and maintained over a 20-year period, with operation slated to commence in September 2014.

The project is expected to cost up to approximately US\$377.8 million in total. Sumitomo Corporation and Malakoff will respectively invest in 45% of the shares of the project company as major shareholders. The two companies will also establish an operation and maintenance (O&M) company for active involvement in the contract.

Oman's daily water demand currently amounts to about 700,000 m³ and is expected to continue growing by 2-3% per year. Demand is notably increasing in the metropolitan area centered on Muscat, and the Government of Oman is planning to launch multiple IWPs to address the situation.

"Al Ghubrah RO desalination plant awarded in Oman", 12/11/2012, online at:

[http://www.waterworld.com/articles/2012/11/al-ghubrah-ro-desalination-plant-awarded-in-oman.html?cmpid=\\$trackid](http://www.waterworld.com/articles/2012/11/al-ghubrah-ro-desalination-plant-awarded-in-oman.html?cmpid=$trackid)

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❖ **UN top official calls on countries to help break cycle of hunger in dryland countries**

14 November 2012 – With more than two billion people in so-called dryland countries at risk of hunger due to recurrent drought, conflict and volatile food prices, a United Nations senior official today called on the international community to work closely with these nations to break the cycle of hunger affecting them.

“We are losing the battle against hunger in Africa and the Near East,” the Director-General of the Food and Agriculture Organization (FAO), Jose Graziano da Silva, told participants at the International Conference on Food Security in Drylands, which is being held in Doha, Qatar.

“Natural resources degradation in dryland countries threatens more than two billion people,” Mr. Graziano da Silva said, adding that the number of hungry people in dryland regions has increased from 83 million to 275 million since the early 1990s.

Drylands, or ecosystems characterized by a lack of water, cover some 40 per cent of the world’s terrain, ranging from cultivated lands and grasslands to savannas and deserts. They are home to 38 per cent of the world’s population, or 2.7 billion people, and account for half of global livestock production.

The two-day conference brings together members of governments, academia, civil society and the private sector from 60 countries to discuss food security, water and investment in dryland countries. The gathering seeks to come up with recommendations to boost agricultural production, enhance food security, and increase resilience to future prices shocks.

In his remarks, Mr. Graziano da Silva highlighted the need to improve information on how to support the sustainable management of land and water on drylands, and increase responsible investments in agriculture and rural development.

“Perhaps the most pressing issue being debated today is investments in agriculture,” he said, adding that investments needed to “respect the rights, livelihoods and resources of all those involved, especially the most vulnerable.”

The views on investment expressed during the conference will feed into a two-year global consultation process that will be carried out in the framework of the Committee on World Food

Security (CFS), Mr. Graziano da Silva added, to develop principles for responsible investment in agriculture.

Set up in 1974, the CFS is an inter-governmental body that serves as a global platform for discussion on short-term food crises as well as long-term food security issues. The Committee reports annually to the UN Economic and Social Council (ECOSOC).

Mr. Graziano da Silva also emphasized that development in these drylands regions must be inclusive and sustainable, following the commitments made by countries at the UN Conference on Sustainable Development (Rio+20) in Rio de Janeiro, Brazil, earlier this year.

“At the Rio+20 Sustainable Development Conference held last June, the world leaders sent out a clear message that development will not be sustainable while hundreds of millions continue to be excluded, suffering from hunger and extreme poverty,” he said. “If we can find sustainable ways to ensure food security in dryland areas, then we will be well on our way to achieving a ‘zero hunger’ world.”

“UN top official calls on countries to help break cycle of hunger in dryland countries”, 14/11/2012, online at:

<http://www.un.org/apps/news/story.asp?NewsID=43487&Cr=food+security&Cr1=#.UKYqb-Rdbop>

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