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❖ Handling the Democratic Deficit in Water Management in Turkey: The WFD and Current 'Public Participation' Practices

It is recognized that public participation is of key importance for a successful river basin management.(1) Public participation to implementation of water management policy reduces the problems of legitimacy and enforcement.

Achieving public participation is also essential from the point of view of the Water Framework Directive (WFD). WFD basically requires realization of a "river basin management" approach through implementation of River Basin Management Plans (RBMPs) which consist of programs of measures defined for each river basin district. Adopting participatory governance as the *modus operandi*, instead of a technocratic administration is regarded as one of the distinctive features of river basin management approach. It is recognized that public participation is of key importance for a successful river basin management.(2) Public participation to implementation of water management policy reduces the problems of legitimacy and enforcement.

In parallel to aforementioned arguments, WFD specifically attaches great significance to the concept of public participation. It is stated in Recital 14 of the Directive that "[T]he success of this Directive relies on close cooperation and coherent action at Community, Member State and local level as well as on information, consultation and involvement of the public, including users." Although the phrase "public participation" does not appear in the Directive, three forms of public participation with an increasing level of involvement are mentioned: information supply; consultation; and active involvement.(3) According to the Directive, the first two are to be ensured, the latter should be encouraged. According to Article 14, Member States are obliged to "encourage the active involvement of all interested parties in the implementation" of WFD. As stipulated by the Directive, public participation should be ensured before the final decisions on the measures in river basin management plans are taken.(4)

As the RBMPs would cover a number of issues pertaining to management of water resources on the river basin scale (e.g. pricing, monitoring, land use, transboundary aspects, treatment, etc.), public participation requirement of the WFD should be understood as implying a broad perspective for involvement of public in decision making processes.(5)

Due to a number of reasons, participation of public in political decision making processes tends to be low in Turkey.(6) This has implications for many policy areas including water management policy. Therefore, the level of public participation in water management policy in Turkey is similar to what has been experienced in other areas of political decision making procedures. Concerning the three forms of public participation, while "information supply" and "consultation" are partly put into practice, "active involvement" of stakeholders is not encouraged by tangible institutions or procedures. While legislation provides for public participation, public disclosure of information is weak.

Environmental Impact Assessment framework is argued to be the single institutionalized instrument in Turkey allows for direct participation of the public in decision-making with respect to water resources development. Apart from the EIA processes, "information supply" is not much developed. For instance, a study by Euro-Mediterranean Information System on Know-How in the Water Sector



(EMWIS) found that monitoring data dissemination in Turkey is one of the lowest among eleven Mediterranean partner countries (Algeria, Cyprus, Egypt, Israel, Jordan, Lebanon, Morocco, Palestine, Syria, Tunisia and Turkey).(7) Also, water quality data is not shared with public, with respect to transboundary waters.(8)

Mostly, "information supply", and, at best, "consultation" are two forms that public participation in Turkey practically takes place. Management of irrigation by users provides an example for "active involvement". An intensification of mechanisms enabling "active involvement" of public to decision-making processes appears to be necessary for a true public participation framework to be created in Turkey.

- (1) Aybike Ayfer Karadağ and Mehmet Emin Barış, "Isparta İli Kovada Alt Havzası Katılımcı Havza Yönetimi Sürecinde Paydaş Analizi Araştırması", in *Tarım Bilimleri Dergisi*, Vol. 15, No. 3, 2009, p. 259.
- (2) *Ibid*.
- (3) See European Communities, "Guidance Document No. 8".
- (4) Recital 46 of the WFD states: "To ensure the participation of the general public including users of water in the establishment and updating of river basin management plans, it is necessary to provide proper information of planned measures and to report on progress with their implementation with a view to the involvement of the general public before final decisions on the necessary measures are adopted."
- (5) For a detailed account of public participation in the WFD, see European Communities, "Guidance Document No. 8".
- (6) Mustafa Ökmen and Fatih Demir, "Türkiye'de Katılımcı Çevresel Etki Değerlendirmesi ve Uşak İli Örneği", in *Dumlupınar Üniversitesi Sosyal Bilimler Dergisi*, Vol. 27, August 2010, pp. 271-272. These reasons could be summarized as the Ottoman legacy, military interventions, frequent changes in election legislation, lack of implementation of the laws related to decentralized administration (e.g. municipal laws).
- (7) For details see EMWIS, *Characterisation of the Monitoring networks and programs in the Mediterranean Partner Countries: Synthesis of Survey Answers*, on file with the author, 08.10.2010.
- (8) Yavuz Çubukçu, International Law Expert in Ministry of Foreign Affairs, personal interview, Brussels, January 2008.

"Handling the Democratic Deficit in Water Management in Turkey: The WFD and Current 'Public Participation' Practices", Vakur Sümer, ORSAM, 18/05/2012, online at: http://www.orsam.org.tr/en/WaterResources/showAnalysisAgenda.aspx?ID=1726



Bulgaria on Highest Alert over Looming Floods

Codes red and orange have been issued over upcoming floods for the **river** of **Maritsa** in **southern Bulgaria**.

The **code red** is effective for **Maritsa** near the town of **Harmanli** and the **code orange** for areas near the towns of Parvomay and Svilengrad and the city of Plovdiv.

There is also a **code yellow** for the **rivers** of Sazliyka near the town of Galabovo and of **Tundzha** near the city of Yambol, also in **southern Bulgaria**.

The alerts were sent to the **Ministry of Environment and Waters** from the European System for Early **Weather Warnings** which is supported in Bulgaria by the **National Institute for Meteorology and Hydrology** at the **Bulgarian Academy of Sciences**, **BAS**.

There is also a **code yellow** for **torrential rains** for the regions of Lovech, Veliko Tarnovo, Gabrovo, Haskovo, Stara Zagora, Kardzhali, Plovdiv, Smolyan and Pazardzhik.

The Ministry, on its part, had sent an **alert** to the Main Fire Safety and Protection of Population Directorate at the Interior Ministry and the administrations in the affected regions and areas.

Authorities in neighboring Greece and Turkey have also been warned.

A **flood** disaster hit **southern Bulgaria** on February 6, 2012. On that day 10 people perished and 55 houses were destroyed in the village of **Biser** and the nearby village of **Leshnikovo** in **southern Bulgaria**, in the area of **Harmanli**, after the cracked wall of the **Ivanovo dam** broke and submerged adjacent areas.

"Bulgaria on Highest Alert over Looming Floods", 17/05/2012, online at: http://www.novinite.com/view_news.php?id=139445



Call to summon Turkish ambassador in protest for water policies, MP

BAGHDAD/ Aswat al-Iraq: White Iraqiya bloc charged Turkey today with blackmailing Iraq and called the Iraqi government to summon the Turkish ambassador to protest building Aleso dam on the Tigris River.

The dam will result in decreasing water flow in the Tigris River.

In a statement, its secretary general Jamal al-Bateekh called Turkey to give Iraq its water portion according to international law.

Aleso dam is the greatest among Turkish dams, with storage capacity of 11 billion cubic meters, which will result in decreasing the water flow into the Iraqi territories.

"Call to summon Turkish ambassador in protest for water policies, MP ", 12/05/2012, online at: http://en.aswataliraq.info/(S(q0lxs5zyz2psua55tvbjco55))/Default1.aspx?page=article_page&id=148525&l=1



❖ Iraq seeks firms to manage oilfield water injection

BASRA, Iraq, May 14 (Reuters) - Iraq has invited international consultancy firms to tender for a contract to help manage its multi billion-dollar oilfield water injection projects, a senior oil official said on Monday.

The water injection scheme aims to help raise extraction rates and maintain reservoir pressure to overcome declines in production at fields such as West Qurna, Majnoon, Zubair and Rumaila.

"We have already sent letters to specific consultancy services companies and we expect to receive their offers soon," Dhiya Jafaar, head of the state-run South Oil Co., told Reuters.

"The winning company will help us to manage implementing the water injection project."

Iraq's oil minister Abdul-Kareem Luaibi said last week that several firms had been shortlisted.

The country is pushing to upgrade outdated infrastructure and become one of the world's biggest oil sources after years of ruinous war and sanctions.

U.S. oil major ExxonMobil had been chosen from among oil companies that won development contracts for southern oilfields to take the lead in coordinating initial studies for the project.

But the company was removed in February after it signed exploration deals with the government of Iraq's autonomous Kurdish region, angering the central government in Baghdad, which has labelled the deals illegal.

Jafaar said the removal of Exxon from leadership of the project was not connected with the Kurdish deals and he blamed poor coordination and the project economics submitted by Exxon.

BASRA MAINTENANCE

Jafaar also said that Iraq plans to shut down its major offshore oil port in the Gulf for maintenance.

The first stage will be to check four sub-sea pipelines operating since 1975 at the southern oil export terminal of Basra and replace any rust-damaged parts, Jafaar said.

He did not say when the maintenance would start or how long it was expected to take.

Until March, Iraq depended largely on Basra to ship the bulk of its crude as exports from its northern pipeline are frequently disrupted by sabotage.

While exports from Basra are stopped, Iraq will now be able to keep pumping crude through its two new floating terminals, each with a shipping capacity of 900,000 barrels per day, and through its second small port of Khor al-Amaya.

Khor al-Amaya is unable to fully load Very Large Crude Carriers because it has a draft depth of only 17 metres. This means that while VLCCs can berth at the port, they cannot load to capacity.

Iraq aims to double its output over the next three years as it recovers after years of sanctions and war. Last month, the country's oil exports rose to 2.508 million barrels per day, the highest level in decades thanks to the new offshore export terminals. (Additional reporting and writing by Ahmed Rasheed in Baghdad; Editing by Barry Malone and Anthony Barker)

"Iraq seeks firms to manage oilfield water injection", 14/05/2012, online at: http://uk.reuters.com/article/2012/05/14/iraq-oil-idUKL5E8GD1SA20120514

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❖ Ministry of Municipalities is to be more decentralized as new minister takes Office

Water to be ministry's first priority in the new cabinet

In an interview with The Kurdish Globe, the newly appointed Minister of Municipalities and Tourism Dilshad Shahab explains the ministry's plans for the coming years.

Globe: What will be your plan for this year, in relation to citizens, daily lives?

Shahab: I would like to start from the point that the majority of the people in Kurdistan, including the media, and sometimes even some official institutions, believe the Ministry of Municipalities is the place to receive land or get better plots of land in return for one's own land. I regret to tell them this is a wrong and unrealistic way of thinking. If we have done that as a ministry, we have done the wrong thing, and if people have understood it this way, we need to make this clear.

Addressing your question: The top priority of the Ministry of Municipalities is drinking water. One of our major tasks is providing drinking water for all citizens. I hope that during my period in office, instead of being called the minister of municipalities, I am called the minister of water, the minister of cleaning Kurdistan's cities and towns, rather than being called minister of allocating free plots of land for projects.

I don't mean that allocating land for projects is bad and not our duty, but it is not our first or even 10th priority. Our first priority is providing clean water. And we have a large number of projects to supply clean water. Some of those projects are in the final stages and some have reached advanced stages. Among the most important of those projects is the Fourth Ifraz project, which will minimize the water issue in Erbil.

Globe: Some say the cities are not clean. What are your plans to clean the cities, and especially Erbil, as it is the capital?

Shahab: After water, cleaning is our second priority. Private cleaning companies have been contracted in Erbil and Duhok. Besides, Erbil is now much cleaner than the past. In Suleimaniya, companies are now being contracted to provide cleaning services for the city.

Globe: Kurdistan Region has sewage problem. What is the Ministry of Municipalities, plan for this?

Shahab: Sewage is a big issue in Kurdistan, because it needs a huge budget and the Kurdistan Regional Government has not been able to afford it. An initial study indicates that Erbil's sewage system needs \$1 billion. Now we are trying to allocate a budget for 2012 to start this project.

Globe: Erbil is a candidate to become the Arab Capital of Tourism. What will be your steps towards this?



Shahab: Tourism is an important sector and the tourism ministry should not have been closed down. We had a tourism ministry at a stage when the needs and situations were not suitable for giving much importance to this sector. We need to attach more importance to this sector because it has another important aspect, which is archeology. Now tourism and archeology are managed by a board, whose chairman is a member in the Council of Ministers. We are trying to work with the council to change this board to an independent one.

Globe: Are the current ministry regulations sufficient for you to implement your plans, or do they need amending?

Shahab: In the ministry's code, we give importance to the regulations for distributing the powers to lower administrative levels without breaching the laws. We have established a committee to review the powers and the minister's power should be transferred to the directors general and they should also be obliged to transfer authorities to lower levels, and this is our policy. The regulations are not very comprehensive, so they need to be changed. The Ministry of Municipality is not the government's ministry, but rather the ministry of the people, and we want the people to know that.

Globe: Are the regulations applied equally around the Region?

Shahab: We have a special committee to unify all the regulations all over Kurdistan. What applies to Zakho, equally applies to Sharazoor, and anywhere else in the Region. Whatever regulation is in the public interest will remain and will be enforced everywhere. Besides, promotions for the ministry's employees will be only based on qualifications and performance. No one will be promoted except in accordance with the regulations and procedures

Globe: What will be the new regulations and procedures for leasing land to projects?

Shahab: There should be a plan for every city and district for its needs, and if there are plots of land available, they should be allocated to projects according to priorities. Besides, the planning ministry has to inform us in which cities and districts the priorities are higher so that we can allocate land according to those priorities. Otherwise, we will not allocate even one square meter to anyone outside the limits of the current procedures and regulations that have been approved by the presidency office and Council of Ministers. We will deal in this way with whatever is in our control.

Globe: How many unregistered houses are there in the Region?

Shahab: There are approximately 40,000 houses all over Kurdistan that have not been registered. We are currently working with the Ministry of Justice on a draft law to seek a solution for this issue and find a way to register them.

"Ministry of Municipalities is to be more decentralized as new minister takes Office", 14/05/2012, online at: http://www.kurdishglobe.net/display-article.html?id=C8A4E192560EE4AA8D46F76102D9575E

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❖ Iraq: Distribution of water tanks and hygiene kits to IDPs in Baghdad

BAGHDAD [ACTED News] - 776 displaced families living in squatter settlements in Baghdad received water tanks and hygiene kits distributed by ACTED. These distributions are part of a larger program to improve the living conditions of poverty-stricken families still displaced due to the violence of 2003. ACTED is also distributing shelter materials to the most vulnerable of these families and employing over 150 people though cash for work to improve the structural integrity of their homes. This project is funded by United Nations Development Programme (UNDP).

"Iraq: Distribution of water tanks and hygiene kits to IDPs in Baghdad", online at: http://www.acted.org/en/iraq-distribution-water-tanks-and-hygiene-kits-idps-baghdad



❖ Iraq will resort to UN to get water share, minister

KARBALA/ Aswat al-Iraq: Water Resources Minister announced today that Iraq will resort to the United Nations to get its water share from its neighboring countries, disclosing the formation of a higher Water Council to be run by Premier Nouri al-Maliki.

Muhanad Si'aidi announced today in Karbala at the opening ceremony of one of the main canals in the province, attended by Aswat al-Iraq, that there are international agreements that control the distribution of waters from the origin countries to passing by ones.

He added that "Iran, Turkey and Syria do not give Iraq sufficient shares of water, which made the country pass in a water crisis in both the Tigris and Euphrates Rivers".

Si'aidi confirmed that Iraq will resort to the United Nations for help to solve such crisis and halting water atrocities.

Karbala, center of the province, lies 108 km south west of the capital, Baghdad.

"Iraq will resort to UN to get water share, minister", 13/05/2012, online at: http://en.aswataliraq.info/%28S%2824tc5u45zuyyzzicwvilu1rn%29%29/Default1.aspx?page=article_page&id=148551&l=1



❖ Audit Court wants Iran Caspian water project documents

Iran's Supreme Audit Court and another ministry have asked the Energy Ministry for documents on the project to transfer water from the Caspian Sea to the country's central region.

The Supreme Audit Court's request comes days after another supervisory body, the General Inspection Office of Iran (GIO) asked for information on the same project, Fars news agency reports.

Inaugurated in the Mazandaran Province's town of Sari, the pipeline is to deliver water southeast to the Semnan Province in its first phase.

Once completed, the project will send 500 million cubic meters of desalinated water from the Caspian to central Iran annually.

Requesting documents and information on projects isn't unusual and the administration had planned to send details of its project to the GIO anyway, said an unnamed energy ministry official

"Audit Court wants Iran Caspian water project documents",15/05/2012, online at: http://en.trend.az/regions/iran/2025930.html



❖ Iran Company To Renovate Syrian Hydropower Plants, Press TV Says

<u>Safa Nicu Sepahan Co.</u>, a privately owned Iranian company, reached an agreement with <u>Syria</u>'s government to renovate two hydroelectric power stations in northern Syria, the state-run <u>Press</u> <u>TV</u> reported.

The company will refurbish the al-Furat dam at an estimated cost of 14.8 million euros (\$19 million) and the al-Baath plant for 767,000 euros, according to a report published on the news channel's website. The al-Furat power station on the Euphrates River has the potential to generate 800 megawatts of electricity and the al-Baath 75 megawatts.

Iran will begin exporting 50 megawatts of electricity to Lebanon and Syria next week as part of an agreement reached in February, Abdolhamid Farzam, an official with the Iranian Energy Ministry, said yesterday, Press TV said. <u>Iran</u> will initially transfer 50 megawatts of electricity to the two countries and will reach 200 megawatts at a further stage, Farzam said, without giving a more detailed timeline.

"Iran Company To Renovate Syrian Hydropower Plants, Press TV Says", 14/05/2012, online at: http://www.bloomberg.com/news/2012-05-14/iran-company-to-renovate-syrian-hydropower-plants-press-tv-says.html



Bitter Frenemies

The Not-Quite-Alliance Between Saudi Arabia and Turkey

Last month, Saudi Arabia rolled out the red carpet for Turkish Prime Minister Recep Tayyip Erdogan. The visit was yet another example of the degree to which relations between the two countries have improved in recent years.

Historically, the two nations have not been friendly, with economic relations only developing in the 1970s. Turkey needed Saudi Arabia's oil. For its part, Saudi Arabia needed Turkey's huge construction sector to build its modern cities. In the 1990s, the arms-length relationship grew more distant. After the Persian Gulf War, Saudi Arabia, along with Egypt and Syria, banded together in hopes of creating a new Arab order. Damascus, no ally of Ankara at the time, was able to frame many of its narrow fights with Turkey as pan-Arab concerns. Down the Euphrates from Turkey, for example, Syria was locked in constant argument with the Turkish government over how much water it would allow to flow downstream. Iraq, Saudi Arabia, and Syria even launched a successful campaign to end World Bank funding for Turkey's dam projects until Ankara signed a water agreement with the states below it.

Even as Ankara pursued better relations with Saudi Arabia, it continued to engage Iran. As early as 2009, many in Saudi Arabia were growing suspicious of what they saw as Turkey's double dealing.

The United States' invasion of Iraq in 2003 changed all that. The toppling of Saddam Hussein and the subsequent empowerment of Iraqi Shias instilled a fear in the kingdom that Saudi's own Shia population would agitate for change. Beyond that, Riyadh believed that Iran -- through its activities in Iraq, its alliance with Syria, its support for Hamas and Hezbollah, and its nascent nuclear program -- was attempting to become a regional hegemon. In response, Riyadh began building alliances with states that shared its outlook, a "Sunni axis," so to speak, to combat the "Shia arc."

Jordan and Egypt were natural fits. These predominantly Sunni countries were equally concerned with rising Iranian influence in the Levant and were determined to counter what they perceived as Tehran's outsized influence in the region. Yet Riyadh went a step further and aimed to also enlist Turkey. As an important regional power, a member of NATO, and predominantly Sunni, Saudi Arabia saw Ankara as a valuable bulwark against Iran. Riyadh would normally be worried about a non-Arab power's presence in the region undermining its own position, but it considered Turkey a lesser evil compared to Iran.

Thus, in 2006, Abdullah bin Abdul-Aziz Al-Saud became the first Saudi monarch to visit Turkey in decades. That was followed by another visit in 2007. The next year, Turkey and the Gulf Cooperation Council, which includes Saudi Arabia, started a strategic dialogue about Iran. In the years after, Saudi-Turkish economic relations flourished. In 2011, trade between the two reached approximately



\$5 billion per year. Turkish construction companies continued to break ground in Saudi Arabia, and the number of Saudi tourists to Turkey reached 84,000 in 2010.

Like Saudi Arabia, Turkey was also interested in the status of Sunnis in Iraq, although less out of sectarian concern than a desire to keep Iraq unified. Turkey believed that the rise of the Shias and spiraling violence in Iraq would eventually result in the country's division along ethnic lines. And if northern Iraq became a separate Kurdish state, Ankara feared, Turkish Kurds might want to join it. Turkey, too, wanted to tamp down Iran's regional ambitions. Yet, while Ankara was keen to Riyadh's overtures, it had no interest in becoming a central pillar of a new Sunni axis in the Middle East. On the contrary, as part of its "zero problems with neighbors" foreign policy, Turkey wanted to counter Iranian power in the region through soft balancing. Specifically, Ankara would undermine Tehran's influence in Palestinian politics and its dominance in Iraq, Lebanon, and Syria by getting closer to those states itself.

So, even as Ankara pursued better relations with Saudi Arabia, it continued to engage Iran, especially on the development of Tehran's nuclear program. Whereas Saudi Arabia saw a potential Iranian bomb as a major threat and wanted to prevent it by any means possible, Turkey believed the matter could be resolved through negotiations. As early as 2009, many in Saudi Arabia were growing suspicious of what they saw as Turkey's double dealing. Although Riyadh continued its policy of cooperating with Turkey, especially on Iraq, it also realized that Turkey would not be a close part of the alliance it had constructed with Egypt and Jordan.

Then came the Arab Spring. Saudi Arabia was uneasy with 2011's outpouring of people power from the start, lest it flow into the kingdom as well. First, when Zine el-Abidine Ben Ali fled Tunisia, he and his family were welcomed in Saudi Arabia. Then, Riyadh worked to prevent the toppling of the Hosni Mubarak regime, its ally in Egypt, but to no avail. It did, however, manage to help put down the Shia uprising against the Sunni government in neighboring Bahrain. It was only Libyan leader Muammar al-Qaddafi's downfall that Saudi Arabia welcomed. Saudi-Syrian relations had been quite problematic under Qaddafi, who was once even accused of trying to assassinate Saudi King Abdullah. Turkey, of course, took the opposite tack, supporting all the uprisings, with some initial hesitation in Libya. Ankara consistently called on the region's beleaguered regimes to respond to the demands of the people, or else step down. The two countries' diverging positions seemed to undermine hope that their strategic relationship could ever be solidified.

Then the Arab Spring reached Syria. The uprising there seemed like it might put Turkish-Saudi rapprochement back on track. Riyadh believes that the toppling of the Bashar al-Assad regime would limit Iran's influence in the Arab world, since Syria is the Islamic Republic's only Arab ally. Thus, last summer, Abdullah became the first Arab leader to criticize the Syrian regime openly; since then, Saudi Arabia has been actively supporting the Syrian opposition, including by advocating that the world arm the Free Syrian Army (FSA), the main opposition military force.



At first, Turkey attempted to convince Assad to reform. Last summer, believing those efforts were at a dead end, Turkey adopted a more critical position. Ankara called for regime change in Syria, actively backed the opposition, criticized the UN Security Council for inaction, and supported creating buffer zones and humanitarian corridors between Turkey and Syria. Turkey also houses one of the biggest opposition groups, Syrian National Council, as well as the FSA.

Although Saudi Arabia and Turkey share a common goal in Syria, there are some tensions between their positions. First, for Turkey, managing the Syrian crisis is not a way to limit Iranian influence; instead, it is a means of protecting Turkey from chaos on its southern border. Refugees have already started flooding into Turkey -- and the longer the conflict drags on, the larger the burden Ankara will have to shoulder. Further, the influence of the Turkish Kurdish party on some Syrian Kurds is worrisome for Ankara.

Moreover, the Saudi and Turkish visions for post-Assad Syria differ. Saudi Arabia advocates a Sunni Islamist regime and is establishing ties with the more radical elements in the country. Turkey, on the other hand, favors the participation of all actors. Ankara is engaging and supporting the Muslim Brotherhood, while also pressuring the group to accept a more participatory and representative Syria to prevent civil war in the post-revolution era.

In the meantime, Saudi Arabia's involvement in Syria threatens to undermine Turkey's "zero problems" foreign policy. Saudi Arabia is already casting the conflict in Syria as a sectarian one. Thus, Ankara's close cooperation with Riyadh -- and the Syrian Muslim Brotherhood -- places Turkey squarely within the so-called Sunni camp. Such a development would limit Turkey's soft power in the region. In other words, although opportunities for rapprochement between Saudi Arabia and Turkey arise from time to time, there are hard limitations to their relationship. They want different things in the region, and have different policies for getting them. On the other hand, as long as there are clear economic benefits in this bilateral relationship, both sides will gloss over their differences as long as they can.

"Bitter Frenemies", Meliha Benli Altunışık, 15/05/2012, online at: http://www.foreignaffairs.com/articles/137639/meliha-benli-altunisik/bitter-frenemies

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❖ Food Security Means Water Too

This piece is part of a series of blogs by leading NGOs to call attention to a range of issues that should be raised at the G8 summit at Camp David in rural Maryland from May 18-19.

As G-8 leaders hold their lengthy discussions about the challenges facing the world, they can reach out to the glass in front of them for a refreshing sip of water. What a luxury! In most places in the world, a sip of water could cause diarrhea or other water-born illness. A bottle of clean water could cost the equivalent of a day's wage.

Reading the latest research about water scarcity in the Middle East, where ANERA works, I was dismayed by statistics that reveal a harsh reality facing one of the world's most arid regions. Experts predict the available water supply in 2050 will be half what it is today for a population that is growing by an average 3 percent a year. And yet, more than 70 percent of scarce water resources are used for agriculture.

The challenge of providing clean water is exacerbated by natural and man-made conditions on and under the ground: desertification, encroaching sea water, natural evaporation, wasteful management, pollution from agriculture run-off -- to name a few. Nonprofit development and humanitarian organizations can do a lot but it takes political will on the part of governments around the globe to find and implement solutions.

The UN children's agency UNICEF estimates that 95 percent of Gaza's groundwater, for example, is unfit to drink. The unclean water poses enormous health risks and increases the financial burden for poor families who have to purchase their water trucked into their communities.

When talking about their commitment to food security, G-8 leaders must not ignore the importance of water to sustaining agricultural development and nourishing the world's ever-growing population with clean water. Water shortages, security experts warn, could destabilize governments no longer able to produce enough food, provide clean drinking water or generate energy.

Water knows no boundaries but competition between neighbors over access and distribution of the precious resource raises tensions and the threat of conflict. Relations often have been strained between Turkey, Iraq and Syria over sharing waters of the Euphrates River. Jordan, Israel and the Palestinians compete over what flows from dwindling Jordan and Yarmuk rivers.

Instead of competing for water, states need to cooperate on ways to develop more efficient agricultural methods that reduce dependence on the scarce resource. With leadership and support of the G-8 governments, public and private sectors can work together to find new ways to provide clean drinking water and reduce water-born diseases that claim millions of lives every day.

We need better water conservation and education programs to promote more efficient farming techniques and water management that can help communities cope. Farmers need encouragement and



incentives to replace water-thirsty crops like bananas, oranges and strawberries and to implement water-conservation programs. That is for today. We also need to intensify research and expand development programs to secure longer-term solutions that can help less developed nations face the challenge of water scarcity.

The G-8 pledged three years ago to lead the global effort in agriculture and food security. Only seven of some 40-plus nations who signed the L'Aquila Initiative have followed through on their pledges to create sustainable development programs.

Now is not the time to give up. The water-glass is half empty.

"Food Security Means Water Too", 17/05/2012, online at: http://www.huffingtonpost.com/bill/water-crisis b 1514922.html



How to Feed the Middle East

Population growth, loss of agricultural areas and the high cost of raw food materials, transportation and storage are the principal causes of the escalating nutritional insecurity problem.

The problem of nutritional insecurity, defined as the absence of direct daily access to food, is globally spreading, growing ever more acute in recent years. In Arab countries, the phenomenon gives rise to deep concerns. The Arab Spring events, sparked by the tragic incident where a poor Tunisian street vendor by the name of Mohamed Bouazizi set himself on fire [on December 17, 2010], in protest of the confiscation of his merchandise by municipal officials, have led to the appointment of professional panels and the establishment of special agencies in Arab countries in recent years, to meet the evolving threat.

Investing a Fortune in Search for Solution

The wealthy Gulf Oil States are investing huge sums of money in search of solutions. Their barren desert land is, for the most part, unfit for agriculture. The temperature in the region are extremely high, there are barely any water resources and water desalination is too costly. It has already been realized in the Gulf States that, as the global food crisis is deepening, the gates to the countries producing food are gradually closing before them.

The Gulf States are importing food not only from relatively near-by countries like Turkey and Russia, but also from far-off United States and Australia.

In the search for solutions, better ways are sought for the transportation and storage of food. To that end, large storage and refrigeration facilities are being built. However, at the same time, attempts should be made to develop domestic agriculture. According to Israeli agronomist Eldad Ben Gal, who serves as senior consultant on trade with the Arab world, wherever envoys from Arab countries interested in stepping up their food production are asking for advice on the development of domestic agriculture, they are invariably referred to the Israelis, the experts in this field. Ben Gal, who has contacts in neighboring countries, notes that Arabs are well aware that Israel is an agricultural power, as far as technology development, research, know-how and rich multi-year experience are concerned. All the countries in the region, from North Africa to Turkey and the Gulf, have their eyes set on the Israeli expertise. Alas, the political obstacle, the ban on relations and normalization with Israel, driven by deep rooted hostility that cuts across Arab society, stands in their way.

Palestinians as Mediators Between Israel and Arab Countries

This is where the Palestinians enter the picture. By virtue of their [geographic] proximity and familiarity with Israeli agriculture, they are natural partners likely to promote relations between Israel and the neighboring countries. There are already some modest beginnings of cooperation between Israelis, Palestinians and Jordanians in the spheres of consultation, know-how sharing and marketing of seeds, pesticides, agricultural equipment, computerized irrigation systems, greenhouses and



storage materials and facilities to neighboring countries. Given the political atmosphere and circumstances, these collaborative activities are carried out under cover. Nevertheless, the future picture in this context is already clearly emerging. If and when an arrangement is reached between Israel and the Palestinians, all three economies – Jordanian, Palestinian and Israeli – are assured of a promising future, where all nutritional security problems of the region will be resolved once and for all.

"How to Feed the Middle East", Danny Rubinstein, 17/05/2012, online at: http://www.al-monitor.com/pulse/politics/2012/05/the-partnership-capable-of-feedi.html



Greens call on Israeli authorities to halt unauthorized spring renovations

Environmental group says hikers have taken to renovating natural springs themselves, without permits, particularly beyond the Green Line.

The Society for the Protection of Nature in Israel (SPNI) is calling on authorities to put a stop to what it describes as a growing trend: private citizens renovating natural springs at their own initiative, without bothering to attain the proper permits and with no oversight by the relevant authorities. According to the SPNI, the phenomenon is liable to damage protected nature sites.

Last week, SPNI activists documented a group of young people conducting unauthorized construction works at the Sapir spring, outside of Jerusalem. "They saw people removing bags full of sand and bringing in stones in order to set up some kind of wall," said SPNI's coordinator for biological diversity Alon Rothschild.

Rothschild sent letters to the Interior Ministry department responsible for oversight of construction in the Jerusalem district, to the Israel Water Authority and to the Israel Parks and Nature Authority, asking that they halt the works at the Sapir spring.

In the letters, he noted that construction was altering the character of the site, interfering with the flow of water and introducing pollutants into the water. "These activities could potentially damage a protected nature site," Rothschild wrote.

The phenomenon is particularly widespread beyond the Green Line, mainly in the northern West Bank, where dozens of springs have been renovated, sometimes with the support of local authorities. In some, new pools have been constructed, canals built and other elements such as benches added.

A group calling itself "the Abarbanels" has systematically renovated natural springs in the West Bank, without proper permits.

However, according to Rothschild, the phenomenon is also common inside the Green Line. "The practice is common in the Jerusalem hills, as well as in the Golan Heights, Galilee and Carmel," he said.

While Rothschild said he understands that the unauthorized work is being conducted out of good intentions, he worries that, in the absence of professional oversight, the work is liable to cause serious damage.

The Israel Nature and Parks Authority did not respond to the SPNI's letter or to the claim that the phenomenon of spring renovations is widespread.

The Water Authority said it was checking out the issue of construction work at the Sapir spring.

The Interior Ministry said its officials visited the spring on Monday and found no evidence of any illegal activity at the site. "It appears that someone has cleaned up the trash and sediment at the site







❖ Pig farmers in the muck for polluting water

Court fines hog growers NIS 80,000 each for pumping raw sewage into fields.

Two pig farmers from the Western Galilee found themselves in the muck on Monday, when the Acre Magistrate's Court fined them NIS 80,000 each for polluting local water supplies.

Brothers Jaris and Wadia Haddid from the Western Galilee Christian Arab village of Mi'ilya pleaded guilty to operating a business without a license, causing water pollution and dumping waste in the public domain.

The Haddid brothers were charged under two environmental laws: the Water Law and the Maintenance of Cleanliness Law.

In addition to fining the brothers, the court also ordered them to each sign a three-year pledge not to pollute the water, or face either a fine of NIS 160,000 or 500 days in prison.

According to the indictment, the Haddids kept around 500 pigs in an enclosure on the outskirts of Mi'ilya, near five potable water wells and a river.

Prosecutors for the Environmental Protection Ministry told the court that the pig farm had created serious environmental hazards.

At various times between 2002 and 2007, the indictment said, untreated waste from the pig farm flowed into uncovered dirt pools, giving rise to concerns that surface and underground water sources could be contaminated.

Once a month, until at least 2006, the Haddid brothers pumped sewage from the dirt pools, which spread into agricultural lands adjacent to the pig enclosures.

The brothers ignored a legal warning they received in 2002, which informed them they were violating the Water Law.

Instead they continued pumping sewage from the dirt pools, the indictment said.

When the authorities visited the Haddid's pig pen in 2007, they found the brothers had still not installed a wastewater treatment facility.

Instead, the indictment said, the brothers had no license for the pig pen and had not engaged the regional sewage authorities to treat the waste.

Sludge from the dirt pools flowed into the surrounding fields and the area stank of sewage.

Even after the visit, the Haddids continued to ignore legal warnings and carried on running the pig sty without a license.



An expert witness from the Environmental Protection Ministry who testified in the trial estimated that pollution from the Haddids' pig farm was the equivalent of that generated by 3,000 people.

The expert witness said the brothers had caused severe pollution to the Western Galilee water resources, and that sewage produced by the pig farm amounted to more than that produced by all Mi'ilya's residents put together.

In passing sentence, Judge Ronit Bash said the brothers had committed severe offenses.

However, the judge noted that the pig farm had been established many years ago by the Haddids' father and that the local authority permitted pigs to be farmed. The brothers had continued the family business, the court said.

The brothers had also committed to selling the pigs and removing the farm to solve the problem, the judge said.

"Pig farmers in the muck for polluting water", Jerusalem Post, 17/05/2012, online at: http://mideastenvironment.apps01.yorku.ca/?p=5007



'Spicing' up Israeli irrigation

Indian agricultural powerhouse Jain Irrigation Systems signs agreement with Kibbutz Na'an to buy 50% of jointly owned firm.

Indian agricultural powerhouse Jain Irrigation Systems signed an agreement on Monday morning with Kibbutz Na'an to purchase the remaining 50 percent of their jointly owned firm NaanDan Jain, a move that both view as a symbol of ever-expanding Indian-Israeli relations.

Jain Irrigation became a joint owner of the original NaanDan irrigation firm in 2007, with a call option to acquire the second half of the company when both sides saw fit. During the past five years of Jain Irrigation's participation in the company, NaanDan Jain has increased more than 25% of its sales turnover, and more than NIS 125 million has been invested in the Israeli firm's drip irrigation and sprinkler technology – marketed worldwide, according to the companies. The successful cooperation is a testament to the growing rapport between India and Israel, which are now marking 20 years of diplomatic relations.

"Sharing the love of the land is good," Anil Jain, managing director of Jain Irrigation, told *The Jerusalem Post* during an interview in Tel Aviv on Monday.

"People have that hands-on feel about agriculture in both Israel and India, a willingness to work hard because you are surrounded with a lot of difficulties and a willingness to use technology."

"Both countries consider agriculture very important part of their economies," he added.

While Jain Irrigation predominantly serves small farmers in India, NaanDan Jain has a much farther-reaching market internationally, and serves the sprinkler irrigation market in addition to drip irrigation needs, according to Jain.

"Israel has been a birthplace for water irrigation technologies. Not only a birthplace – it has been ahead of the curve," Jain said.

While much of northwest India shares Israel's semi-arid climate, irrigation solutions for the two places are not exactly the same, particularly the size of farms themselves. India has the largest number of small farmers in the world – around 120 million – with about 1 hectare (2.47 acres) of land each, according to Jain. Thus far, Jain Irrigation has served about 3 million of them.

Jain will be bringing hundreds of those farmers to the AgriTech Exhibition taking place in Tel Aviv from Tuesday through Thursday, where NaanDan Jain will be exhibiting many of its products – in sprinkler irrigation, micro-irrigation, agricultural climate control, drip irrigation and bio-energy.

"We are trying to create the best practices in agriculture that will save resources on the input side and create best product for the farmer," Jain said.



The company has been cultivating a culture of sustainable farming, with activities such as bringing in solar water pumps to irrigate many of these farms. Slowly, the farmers themselves are adapting to a culture of more environmental awareness, according to Jain.

Although NaanDan Jain already has an international presence, Jain said he hopes to expand it much further, particularly in Latin American, China, Africa and the Commonwealth of Independent States.

While he is contractually bound to maintain the company's Israel operations at Kibbutz Na'an through the year 2020, Jain said he intends to continue the Israel base far after that deadline.

"Israel has the best research and development in this field. The Israeli brand is a great brand around the world in terms of agricultural technologies," he said, noting that the farmers are both knowledgeable and willing to be on the ground, in the field at all hours. "We will invest in Israel and grow in Israel," he added.

Jain described his relationship with the kibbutz members as "extraordinarily good," and said that kibbutz executives contacted his company six months ago requesting that they exercise the call option. With a business model quite similar to that of a kibbutz, his company also intends to keep the NaanDan Jain Israeli work force completely intact.

Jain's religion, Jainism, represents only 0.5% of India's population, but it influences every move of his company, which represents 60% of India's irrigation.

Rooted in ideals of non-violence, Jainism emphasizes the importance of leaving the world a better place and allowing "every other organism live – it does not stop with human beings," according to Jain.

"Spicing' up Israeli irrigation", 15/05/2012, online at: http://www.jpost.com/Business/BusinessNews/Article.aspx?id=269980



Defending Israel's borders from 'climate refugees'

Experts recommend complete enclosure of Israel to prevent migration, in report on adaptation to climate change.

To combat increased waves of illegal migration that will likely accompany climate change, Israel must secure its borders with impassable barriers, including "sea fences" along the Mediterranean and Red seas, experts have concluded.

"The lack of water, warming and sea-level rise, even if it will occur on a different schedule, will bring migration movements from all impoverished regions to every place where it is possible to escape this," wrote a team of academics, led by Prof. Arnon Soffer and Dr. Related:

*

Danny Danon: Send African migrants to Australia

*

Mayor to PM: Deal with migrants before it's too late

Anton Berkovsky of the University of Haifa's Geography Department.

The team's conclusions appeared in just one "geo-strategy" chapter in a nearly 200- page report of recommendations toward adapting to climate change, submitted collectively by about 100 experts at the Israel Climate Change Knowledge Center to Environmental Protection Minister Gilad Erdan on Monday.

Established in 2011 by the ministry, the center aims to gather scientific knowledge in seven areas: regional climatic forecasting, affects of climate change on the water sector, urban planning and building, public health, biodiversity, the economy, and regional geo-strategic issues, according to the ministry.

After receiving analyses by expert teams, who had already submitted a preliminary report in December, the ministry would then intend to incorporate the information into its policy documents in order to formulate a national plan toward adapting to climate change.

Among its suggestions for how to handle the geo-strategic implications of climate change, the team led by Soffer called for a complete enclosure of Israel from all directions, including establishing sea fences along the Mediterranean and Red seas.

Moreover, the experts said that additional law enforcement resources will be required to deal with the ramifications of securing the Egyptian and Jordanian borders, as an economic crisis might ensue for Negev Beduin who trade across those lines. While securing Israel from all sides, however, the authorities must ensure the safe passage of animals and plants.



"The migration wave is not a problem for the future. It is today; it is going on now," Soffer told The Jerusalem Post on Monday evening. "It will just increase from day to day."

He explained that the most troublesome spot in terms of migration to Israel is the Nile basin area, where a mixture of drastic climate changes and demographic explosions are pushing people northward. They recognize that "Europe is completely under siege by the navies," so they cannot move in that direction, he said.

"In India, they shoot; in Nepal, they shoot; in Japan, they shoot," Soffer said, adding that in Israel, the refugees know they can find welcome.

Due to climate change, during the 1970s and the 1980s alone, the water in the Nile basin fell from 84 billion cubic meters to 51 billion cubic meters, and while its waters returned to normal for the decade that followed, since 2000, catastrophe has ensued, according to Soffer.

Likewise, in the past decade, about 800 lakes have dried up completely in Africa, including Chad's largest one – a phenomenon that has led to "terrible tragedies," he explained.

"Millions perished along the Sahel," he said, referring to a semiarid zone that stretches from Senegal to Eritrea, bordered by the Sahara on the north and a savannah on the south.

"It's the deterioration of Africa," the professor said.

Also trying to penetrate Israel's borders due to intense climate change will be Jordanians, Palestinians and perhaps some Syrians, according to Soffer.

"I can see how the desert will penetrate slowly to Kiryat Gat, Gaza and Hebron – everywhere," he said. "If you accept what the scientists are saying, then there will be no question that people will be forced to leave the Negev."

Within Israel proper, many Beduin communities have moved en masse out of the Negev and to the country's center, a shift that many people along Israel's borders might replicate as their climates become unbearable, Soffer explained.

"Why are they coming to the North? Either because of population explosion or because of water loss," he said. "This is a microcosm of what is going on between the border of the Mediterranean climate and the semiarid zone."

In Syria, there is a direct correlation between the areas where the rebellions began and places where there is shortage of water, Soffer added.

"I am one that fights for building fences all around Israeli borders," he said.

"We are an island – we don't belong to this region, and we have to defend Israel from waves of migration from Egypt from Jordan and maybe from Syria. If we want to keep Israel a Jewish state,



we will have to defend ourselves from what I call 'climate refugees,' exactly as Europe is doing now," he said.

As Israel continues to increase its desalination of water, however, Soffer stressed the importance of providing the Palestinians and the Jordanians with sources of water, saying that "maybe this will bring peace."

While the fences around Israel are necessary, according to Soffer, so too are corridors to allow the free passage of animals.

Such passages could be monitored by soldiers for days at a time to allow the animals, such as snakes, to cross both ways.

Soffer said he was not worried about the global response to physically securing Israel's borders, and stressed that Europe has been making entrance to immigrants extremely difficult for quite some time.

"I have to satisfy the Israeli citizens, to be human as much as I can," he said. "Whatever I do, we will not be as cruel as Europe. They have huge navies; they sink boats; they send them back."

Other expert teams call for requiring that buildings meet green standards when their owners purchase insurance policies, as well as putting in place an energy-rating system for buildings during their sale.

Other teams called for increased use of recycled gray water, while still others recommended preparing treatment regimens for victims of future cold and heat waves. Experts wrote of increased temperatures, decreased precipitation, southern desertification and extreme flooding.

"Climate change is already here and requires comprehensive preparations," Erdan said, upon receiving the report.

"These changes have social, economic, security and ecological implications that require changes in behavioral patterns of individuals, industry and the state in order to minimize the potential damage."

"Defending Israel's borders from 'climate refugees", Jerusalem Post, 14/05/2012, online at: http://mideastenvironment.apps01.yorku.ca/?p=5014



Innovations of all types pave AgriTech halls

Agriculture exhibition showcases hundreds of new technologies ranging from water-converting drones to predatory mites.

Mayer Fitoussi, CEO of AQUA Israel, envisions equipping unmanned aerial drones with systems that can both harvest water from the air and allow the vehicle to remain for six months in the sky without touching down.

This technology, which Fitoussi boasted about with excitement, was one of hundreds on display at the enormous AgriTech Israel 2012 – The 18th International Agriculture Exhibition and Conference spanning the Tel Aviv exhibition grounds from Tuesday through Thursday.

Innovations ranged from water conservation technologies to eco-friendly pest repellants, from coconut-based soils to dairy farming techniques from countries across the world. Too numerous to fit in only one pavilion, the booths filled about four huge inside spaces, in addition to an outside exhibition area that featured tractors, gardens and chicken cages. The Agriculture Ministry's space included a transparent plastic footbridge, underneath which swam large, brightly hued fish in a makeshift pond.

Back at AQUA Israel, Fitoussi described the water-harvesting technology that his company had developed, telling The Jerusalem Post that the IDF has already expressed interest in the future use of such technology.

Able to operate on the wings of a drone or in a stationary setting, the system is made up of photovoltaic solar panel cells of one square meter each, which provide the energy to transform air into water.

"It takes moisture from the air and gives you rain," he said.

Combined with a hydrogen fuel-cell engine, the solar panels would also give a drone enough power to potentially fly for six months without landing, according to Fitoussi, who noted, however, that the technology will not be available for another three years.

In addition to the water-harvesting technology, AQUA Israel was also marketing its "Green Ball," a plastic green ball filled with natural minerals that can work in place of detergent for 1,500 loads of laundry. Next to the Green Ball, Fitoussi and his team were displaying their "Smart Shower Head," which builds pressure from the outside air and thereby uses 50-percent less water during showers, according to the company.

On a countertop at the booth of the BioBee company, pin-sized red and brown insects swarmed and crawled around in plastic containers.

"We're using them as a biological solution for pests," Amit Sadeh, of BioBee, told the Post.



The red insects were predatory mites, who feed on spider mites that attack many crops, Sadeh explained.

Next to the predatory mites was a container of larger insects, brown beetles that feed on millie bugs. Some of the pesticide insects are sold live, in tube dispensers, while others are stored as parasites in dead aphids, ready to be spread on plants and hatch.

"We call them mummies – inside this aphid, there is a developing parasitoid," Sadeh explained.

The company, true to its name, also was marketing boxes of bumblebees on slathers of honeycomb to be used for plant pollination.

Another company focusing on water, Amiad, launched five new filtration products at AgriTech, with technology based on polymers only, the company said. The company expects that the five new products – developed by Amiad and its subsidiary Arkal – will save money and reduce water consumption in irrigation.

Many of the large, black filtration systems help increase flow rate, protect irrigation systems and their membranes and have self-cleaning mechanisms.

Nearby the Amiad setup, the Water Authority had arranged a large walk-through venue, where visitors could identify their home region on colorful maps of Israel and examine how much water on average is lost in evaporation per year, and how much precipitation the region receives. Among the placards were various LCD touchscreens, where residents could calculate how much water they should be showering on their home gardens each, based on garden size and average region climate for the past decade.

This way, people will not need to waste water and money by providing their gardens with more irrigation than necessary, Water Authority spokesman Uri Schor told the Post.

Outside the pavilion, in the outdoor exhibition area, the Water Authority had also set up a 120-square-meter garden, laden with about 30 types of plants, most of which do not consume a lot of water but many of which bear colorful flowers and leaves. Rather than planting only roses and flowers, which consume large amounts of water, people can revamp their gardens with water-saving plants, like succulents, and reduce their water usage by about 30-40%, Schor said.

Among the plants and carefully manicured stone and wooden paths within the tiny garden, people took turns relaxing in round, straw lawn pods, taking a break from the business of the exhibition inside.

"Innovations of all types pave AgriTech halls", Jerusalem Post, 17/05/2012, online at: http://mideastenvironment.apps01.yorku.ca/?p=4997

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❖ EU denounces Israel's destruction of aid projects in West Bank

BRUSSELS (IPS) - All 27 foreign ministers of the European Union this week criticized Israeli demolitions in the occupied West Bank. Since the beginning of 2011, no fewer than 60 EU-funded projects have been demolished while 110 others are currently at risk. Several analysts claim the Israeli authorities are specifically targeting EU-funded projects.

The demolitions have taken place in <u>Area C</u>, which comprises about 60 percent of the West Bank and is under full Israeli military and civilian control. The EU's focus on this area is a consequence of reports that show an increase in Israeli <u>demolitions of Palestinian homes</u> and infrastructure, including projects paid for with European taxpayer money.

The EU's foreign ministers called on Israel this week to remove restrictions on Palestinian construction and economic development projects in Area C. They also denounced Israeli <u>settler violence</u> against Palestinians and asked the Israeli government to prosecute such actions.

Against the background of the foreign ministers' meeting in Brussels, anti-poverty groups in the West Bank compiled new data on demolitions of EU projects. According to data gathered by the Displacement Working Group, a coordinating body of international humanitarian and development organizations in Palestine, at least 62 structures funded by France, Netherlands, the UK, Poland, Ireland, Spain, Sweden and the <u>European Commission</u> have been demolished by Israel since the beginning of 2011. Water cisterns, animal shelters and people's homes, among others, are on the list of demolished structures.

Demolition orders

The Displacement Working Group also reports at least 110 structures funded by Belgium, France, Germany, the Netherlands, Poland, Spain, Britain, Ireland, Sweden and the Commission are currently under risk as they have received demolition or stop-work orders from Israeli authorities. The projects at risk include renewable energy projects, water cisterns, animal shelters and water and sanitation structures.

According to another recent report compiled by the <u>UN Office for the Coordination of Humanitarian</u> <u>Affairs</u>, more than a quarter of all Palestinian structures demolished in 2011 were funded by international donors including European governments and the European Union.

In response to a recent query by a British member of European Parliament, Chris Davies, the European Commission estimated that the cost of EU-funded projects damaged or demolished by the Israeli army from the beginning of 2001 until October 2011 adds up to €49.2 million (\$65.6 million), of which more than €29 million (\$37 million) came from the EU collectively (the remainder came from its individual governments). Although most of this damage took place during the second intifada and Israel's three-week attack on Gaza in late 2008 and early 2009, the Commission's list is far from complete and leaves out the most recent data.

www.ORSAM.org.TR



On 13 February this year, the Israeli army demolished an ancient water cistern which had been restored by the Polish organization Humanitarian Action with funding from the Polish foreign ministry. As is mostly the case, the Israeli army argued there was no permit to build the structure. The Israeli Civil Administration, which oversees the occupation of the West Bank, and the army maintain the "right" to demolish any structure that was built without such a permit.

Shacks used for schools

But human rights organizations on the ground say it is almost impossible to obtain a permit. According to recent UN data, less than one percent of Area C has been planned for Palestinian development by the Israeli Civil Administration, and 94 percent of Palestinian permit applications to construct infrastructure have been rejected in recent years.

As a consequence of this policy, 10,000 Palestinian children in Area C including <u>East Jerusalem</u> were obliged to attend classes in tents, caravans or tin shacks at the start of the 2011 school year because of a lack of permits to build or renovate classrooms.

"The lack of permits is only one of the different pretexts to demolish," Ayman Rabi from the Palestinian Hydrology Group, a Palestinian organization working on water and sanitation, said. "The Israeli authorities also tell us regularly the area we are building in is a security area. In the end the demolitions do not have any legal basis."

Several analysts presume the Israeli authorities are specifically targeting European projects. After the incident with the German-funded solar and wind energy projects, the German press described Israel's behavior as a riposte to the EU for criticizing Israel's discriminatory policy toward the Palestinians in Area C.

"Projects in the exact same area funded by the Americans a

"EU denounces Israel's destruction of aid projects in West Bank", 17/05/2012, online at: http://electronicintifada.net/content/eu-denounces-israels-destruction-aid-projects-west-bank/11301



'Israel could be flooded with refugees due to droughts'

Israel must prepare for a situation in which it will become a passage to Europe for refugees escaping drought and rising ocean levels in <u>Egypt</u>, Jordan, and North Africa, a report prepared by the Climate Change Information Center and presented this week to Environmental Protection Minister Gilad Erdan warns.

The report was compiled in response to the center's grim environmental forecast published in January of this year, which predicted that <u>climate change</u> would cause rising temperatures, decreased rainfall, desertification of southern <u>Israel</u>, increased heat waves, and flooding.

The report recommends a number of courses of action regarding water, health, <u>biodiversity</u>, climate, <u>green construction</u>, geostrategy, and economics. The experts see the problems presented by climate change as an opportunity to "turn climate change concerns and threats into a springboard to move ahead with projects that Israel should push anyway" – such as increasing the water supply and securing the country's supply of food and energy.

Recommendations in the report include increased research and an expansion of Israel's meteorological infrastructure, as well as a number of specific proposals for water management, such as economic incentives for private companies that will participate in cleaning wells and groundwater sources.

Israel's water supply was cited as one of the three most important factors to take into account when discussing the effects of climate change, along with "a change in the geopolitical balance of power in the Middle East... and population migration (into, around, and through Israel)."

To that effect, the report's authors called upon Israel to complete the construction of border fencing, including marine borders in the Mediterranean and Red seas.

The Environmental Protection Ministry is due to review the report. While Erdan agrees wholeheartedly that "climate change is already here and demands widespread preparation," he does not necessarily agree with the proposal to fence the country off.

"Hiding behind fences is not a solution. Instead, it's important to develop cooperative (initiatives) with neighboring countries and international agencies," the minister declared.

"Israel could be flooded with refugees due to droughts", 18/05/2012, online at: http://www.ynetnews.com/articles/0,7340,L-4229451,00.html

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❖ Gov't okays adding magnesium to drinking water

Netanyahu, Litzman launch pilot project to restore magnesium to drinking water that is lost in desalination.

Prime Minister and former health minister Binyamin Netanyahu and Deputy Health Minister Ya'acov Litzman decided on Wednesday to launch a pilot project in Ashkelon to restore the magnesium to drinking water that is lost in the process of desalination.

The project, whose extent and time frame will be determined by an inter-ministry team, is regarded as urgent due to the increasing share of purified sea water that is being used for drinking.

Israel has desalinated more of its water supply than any other country in the world.

Magnesium is a mineral that is vital to health because, as research has shown, it maintains the heartbeat and thus prevents heart attacks. It is estimated that each year, several hundred lives would be saved by regular consumption of magnesium in desalinated water, in either regular rainwater or bottled mineral water.

The pilot program was recommended by Litzman, his director-general Prof. Ronni Gamzu and other senior ministry officials. Ashkelon was chosen for the first stage since residents depend on desalinated water there.

There has been no controversy about adding the magnesium from a health perspective, but the cost has been debated for more than three years – with the Treasury and the Water Authority on one side, and the Health Ministry on the other. The Water Authority maintains that adding the mineral would cost hundreds of millions of shekels annually, thus significantly hiking the consumer price of tap water, which is already high. The Health Ministry counters that the cost will be much lower and not top NIS 20 million annually.

There have also been arguments over the government's decades-long policy of adding fluoride to water, which does not appear in adequate amounts in the natural supply. It is not expensive, and global research has proven that it significantly protects teeth – especially childrens' – from cavities. It is also widely regarded by health experts as absolutely safe, but extreme groups in various parts of the world deny this despite the evidence.

A meeting to work out details of the pilot project will be held on Thursday between Litzman and Harel Locker, director-general of the Prime Minister's Office, in participation with Water Authority and Treasury staff.

"Gov't okays adding magnesium to drinking water", 17/05/2012, online at: http://www.jpost.com/Health/Article.aspx?id=270296

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* FYRMacedonia, Israel sign agriculture cooperation arrangement

Minister of Agriculture, Forestry and Water Economy Ljupco Dimovski and Israeli counterpart Orit Noked signed late Monday a bilateral cooperation arrangement in the agriculture sector.

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"The document formalizes bilateral cooperation, which has intensified in recent years through projects and technical support programmes, transfer of modern Israeli technology, know-how, experiences, training and other forms of support from Israel", the Agriculture Ministry said in a press release.

The arrangement stipulates the construction of capacities and exchange of knowledge and experiences in agriculture techniques and technology, cooperation on advisory level, information exchange, promotion of public-private partnerships, diversification and intensification of agriculture production, rural tourism, water management and innovative irrigation technologies, land protection and appropriate agriculture practices, but also production of certified seed and related materials.

The document also regulates information exchange with regards to agriculture laws, statistics and other issues of mutual interest.

"FYRMacedonia, Israel sign agriculture cooperation arrangement", 17/05/2012, online at: http://www.emg.rs/en/news/region/179608.html



EIB assists Gaza desalination progress

The desalination project for Gaza backed by the Union for the Mediterranean (UfM) took a small step forward at a meeting in Barcelona on 4 May 2012.

The European Investment Bank (EIB) provided the preliminary results of a technical assistance consultancy in the form of a Project Information Memorandum for potential financiers.

The document synthesizes existing studies of water supply options in Gaza and previous feasibility studies. It presents the different project components, including cost estimates related to the different subprojects, scenarios and conditions which would lead towards the successful implementation and sustainability of the project.

The Palestinian National Authority (PNA) was represented by the head of the Water Authority, minister Shaddad Attili, and the head of the Energy Authority, minister Omar Kettana. The meeting also included representatives from the EIB, the World Bank, United Nations Environment Programme (UNEP) and the Office of the Quartet.

The one-day discussions resulted in a broad consensus of the next steps forward, says the UfM. Kettana presented the Power Supply Plan for the Gaza strip for the short, medium and longer terms, and discussion included power needs for running the desalination plant.

Attili expressed full satisfaction with the outcomes, stating that "there was full agreement on the speedy finalization of the Information Memorandum prepared by EIB consultants in consultation with the PWA, the drafting of terms of reference for the implementation consultancy and the funding strategy to be implemented without delay."

UfM secretary general Sijilmassi reaffirmed the commitment of the union to promote the project, especially in the fundraising and coordination spheres, highlighting the importance of not only reaching the "implementation" stage, but delivering an operational project, a goal that remains the objective of the PNA and the UfM.

"EIB assists Gaza desalination progress", 14/05/2012, online at: http://www.desalination.biz/news/news_story.asp?src=nl&id=6520

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Egypt's Nile water quota unchanged since 1955, says irrigation minister

Water resources and irrigation minister Hesham Mohamed Qandil told the Parliament Agriculture and Irrigation Committee on Sunday that Egypt's Nile water quota of 5.55 billion cubic meters has not changed since 1955.

Kandil explained that the per capita share of water has decreased due to an increase in irrigation and population.

He added that the government is making efforts to ration the use of water and cooperate with Nile Basin countries to increase water resources for all member states.

"We keep clearing weeds and other obstacles that prevent access of water to the canals," he said. "But fishermen are against it because fish feed on those weeds."

Parliament accused the ministry of failing to prevent Nile Basin countries from building dams, which reduced Egypt's quota to 32 billion cubic meters last year.

"Egypt's Nile water quota unchanged since 1955, says irrigation minister", 12/05/2012, online at: http://www.egyptindependent.com/news/egypt%E2%80%99s-nile-water-quota-unchanged-1955-says-irrigation-minister



Experts confront visions and realities of a greener Cairo

In Cairo, environmental experts must struggle with the paradox between the visions they have for the city's future and the realities of actually implementing them.

On Sunday night, at Cairo Climate Talks' sixth monthly panel discussion, German and Egyptian experts gathered to share their views on the idea of "A Greener Cairo" for the future and talk about the distinction between the practical and the ideal.

They discussed whether or not Egypt's capital can eventually become a more environmentally stable and livable city, especially with regard to urban planning and development.

Many issues from Cairo's enormous list of environmental and urban planning concerns were brought to the table: air and water pollution, poor waste management, the disregard of housing and zoning regulations, heavily increasing traffic and congestion, and an ongoing energy crisis.

Rather than trying to push huge, unfeasible redevelopment prescriptions, panelists tried to offer more feasible solutions by looking at what can be done now and what the effects may look like in 20 years.

Adel Yasseen, an environmental architecture specialist from Ain Shams University, said that rather than trying to battle air pollution through the government, which is difficult, his research has found that certain trees can actually combat air and water pollutants specific to Cairo's needs.

He added that if these trees were planted throughout the city now, in 20 years they would yield marvelous results effortlessly.

Hend Farouh, senior researcher of sustainable urban development at Housing and Building National Research Center (HBRC), suggested that the urban city needs to develop a building rating plan through which governing bodies can measure and rate the current status of buildings, whether or not they are breaking any important laws, and proceed to set a restoration and developmental standard.

HBRC is currently working on introducing this plan. The disregard for housing and zoning laws in construction is one of the most detrimental contributors to Cairo's urban deterioration.

According to HBRC research, this developmental lawlessness is a major reason why the city's streets resemble an over-sized parking lot.

However, despite the initial suggestions, third panelist Rudolf Schafer, founding director of the El Gouna Campus of the Technical University of Berlin — who admittedly said he is "no expert" on Egypt — offered an outsider's perspective as to what he thinks Cairo's planners need to address immediately.

"Of course discussions of more public space and issues of green awareness are invaluable, but there are crucial issues that need to be prioritized immediately if the city is to survive," he said.



Schafer said the first major issue is to address mobility and traffic within the formal city.

"There are no direct recipes [improved public transport, bicycle lanes...], but experts need to start attacking this issue hours a day, not days a year," said Schafer. "Air pollution, noise pollution, greenness, economic productivity and socio-psychological factors [general well-being and happiness] will naturally follow."

The second major issue, according to Schafer, is to address the informal settlements, which reportedly are now home to more than half of the capital's total population.

"These are not just one-story houses like in China that you can destroy, rebuild and re-inhabit, they're kilometer after kilometer of red brick buildings with millions of people, and there is little option now but to redevelop them and incorporate them into the formal city somehow," he said.

Schafer said Egypt needs to develop plans similar to Hend Farouh's HBRC plan, but ones that establish minimum health and safety substandards that can be applied to Egypt's poorest areas.

"You can't halt the city's deterioration and improve it until you develop a standard of what is considered 'the minimum standard." he said.

The third major issue to address — and, in Schafer's eyes, the most important — is a framework for the implementation of ideas, plans and development.

It's important to make the step from planning to actual implementation, he said.

"Planning is the surface part. Without a framework for implementation of these ideas through the government, nothing will never ever work or change," he said. "At this stage, all plans should be looking at how to commit political leaders to these ideas. It's difficult, but that's not reason to ignore it."

HBRC's Farouh confirmed that urban planners are currently in the process of establishing an efficient implementation process with officials.

"We have put together a comprehensive document with which we have been approaching mid-level officials and ministers in order ensure that these developmental issues are reflected in the constitution and future policy," she said.

However, Farouh admitted that considering Egypt's current political turmoil and that the ministerial cabinet has been shuffled on more than one occasion, this has been difficult, though it remains a priority.

Final panelist, urban planner and architect, Mohamed Salheen, shared his view that while everyone should be striving for the idea of a greener Cairo, 'green' people and urban planners need to get realistic.



Salheen referred to the presentations of planners that often feature large, green spaces of trees and parks.

"We need to stop comparing Cairo's development to European countries where it rains all the time. Egypt will never look like Vienna or Paris, even if all the world supported us, so our vision must be unique, and more sympathetic to our geography," he said.

Salheen said that despite common statistics showing Cairo as having green land of about 7 to 8 square meters per capita (per person), his research shows that it is actually between 0.3 to 1.5 square meters per capita.

"Compare this to 15 to 20 square meters in Europe, it's impossible," he said.

To properly develop Cairo, Salheen advocated the idea that Cairo needs a series of pilot projects throughout the city, rather than just one or two.

"We don't really know what works and what doesn't, so instead of investing all of our money into very large, single-vision projects, we need to create many small pilot projects, that attack a variety of issues like traffic and urban redevelopment," he said. "Then we can pursue and invest in the ones that do seem to work, and replicate the ideas following the initial implementation guidelines."

However, in conclusion, Salheen believes that it will take at least 20 years to cleanse the country of the old regime and start over again for a more eco-friendly Cairo.

"So if we can set up small pilot project to measure signs of developmental change, we know we are on the right track at least," he said.

"Experts confront visions and realities of a greener Cairo", Egypt Independent, 14/05/2012, online at: http://mideastenvironment.apps01.yorku.ca/?p=4987



Climate change takes heavy toll on Kenya: PM

NAIROBI, May 17 (Xinhua) -- Kenyan Prime Minister Raila Odinga said climate change has caused economic losses of 11.5 billion U.S. dollars in 2011 in his country.

Odinga told parliament late Wednesday of the steps to mitigate disaster risks and emergencies, which have grown in frequency and scale as a result of climate change since 2008.

He said recovery and reconstruction would cost 1.8 billion dollars.

"The government is currently undertaking disaster risk and vulnerability assessment countrywide," he said, citing a study carried out by the European Union and the World Bank to quantify drought effects and to advise the government on strategies to deal with them.

The Kenyan leader said preservation of forests should form the main part of the climate change resilience methods developed.

Odinga urged Kenyans to reduce the national carbon footprint to contribute to efforts to lessen the disaster risk profile.

"Our country has been experiencing droughts and floods in the same way we experience the sun and moon: One follows the other. As part of our nation's efforts at adaptability to climate change, I call upon all Kenyans to mind their carbon footprint," he said.

The joint study estimates that Kenya needs 1 billion dollars for drought recovery operations, which include building dams and water catchment for drought-affected communities as well as restoration of livestock destroyed by droughts and diseases.

The East African nation also needs 830 million dollars to rebuild key infrastructure destroyed during droughts in the past year, believed to be the region's worst in more than half a century, which affected nearly 5 million people, according to the study.

"Climate change takes heavy toll on Kenya: PM", 17/05/2012, online at: http://news.xinhuanet.com/english/sci/2012-05/17/c 131594586.htm?utm source=Circle+of+Blue+WaterNews+%26+Alerts&utm campaign=a7587fe163-RSS EMAIL CAMPAIGN&utm medium=email



Bribery hits 600MW Karuma power dam

Political interference cited in appointments as government committee pockets billions to prequalify Chinese firm

If constructed, the 600 MW Karuma Hydropower Dam will be the biggest dam in the country. For now however, the project that should have started in the 1990s faces further delays. In the latest sign of ineptness, the team overseeing it is fighting over appointment of a manager who has promised to sort out the mess.

The fight over the Project Manager is raging at a time when police is investing the same team, which comprises 12 officials from the ministries of Energy, Finance, Works, Water and Environment, over allegations its members took bribes to prequalify incompetent constructors for the US\$ 2.2 billion (Approx. Shs 6 trillion) project.

Uganda has a huge electricity deficit and outages are commonplace. There is, therefore, a growing view that since it appears impossible to get Uganda government officials to approve anything without bribing them, attention should shift to ensuring that they at least select a competent firm to build Karuma Dam.

Three members of the committee have written a minority report disputing the majority position that favoured some pre-qualified bidders to win the Karuma construction contract. Sources involved in the process who spoke to The Independent on condition of anonymity say the technical competence of the evaluation committee to handle the pre-qualification process for bidders is questionable.

"Some of the bid documents the evaluation committee prepared and the questions they asked during interaction with some of the bidders show that they clearly do not understand what is required for the job," said a representative of one of the bidders that lost.

Although, such accusations from losing bidders are nothing unusual, observers say the prequalification of bidders needed to be handled by a more competent team. So say the prequalification should have been handled by a consulting agency familiar with building dams.

Karuma Hydropower Dam is to be built underground outside the Murchison Falls National Park with a 9km dam water discharge tunnel, technically called the tailrace tunnel, running through the park. Although it was mooted way back in 1995, Karuma dam on the Nile River has failed to take off due to corruption and poor project implementation.

At one point it became a big issue when it sucked in then-World Bank executive director for eastern and southern Africa, Richard Kaijuka, then-head of the Parliamentary Committee on the Economy, Isaac Musumba and other MPs. At the time, it was alleged that a Norwegian company, Veidekke, which was lobbying to build Karuma Falls Dam had, through its British subsidiary Noricil, allegedly paid a US\$10,000 bribe to a Uganda government official in 1999.



This time the Ministry of Energy has completed the feasibility study for the dam and completed two steps, in the three-pronged prequalification process involving the administrative, technical, and financial evaluation of bids.

Manager-mongering

But bickering has erupted over the position of project manager. The ministry advertised the position whose role would provide management advisory services to the government team; monitor the project implementation activities by both the Consultants and the Contractors and liaise with the Uganda Electricity Generation Company Ltd (UEGCL) and the Uganda Electricity Transmission Company Ltd (UETCL) to ensure timely completion of the evacuation transmission lines. Unlike the 250MW Bujagali Hydropower Dam which is a Boot (Build-Own-Operate-Transfer) project financed by the government of Uganda and Bujagali Electricity Ltd, the Karuma Dam project is to be fully financed, built, and operated by the government.

The central role of the project manager will be monitoring the consultants and Contractors management, coordination and control of engineering and construction of the project and advise the government and its entities (UEGCL, UETCL) on any required actions to ensure compliance with the agreed responsibilities / risk undertakings in accordance with the project implementation plan and budget. The job advertisement required applicants to have experience in tunneling and managing a project of the same magnitude in size (at least 250MW) and cost (at least US\$ 0.7billion) in the last 10 years.

The Independent has information that even-after re-advertising the position, ministry of Energy officials are fighting over two candidates; Traugott Benz, a Swiss national and Graeme Watson, a British national; each with a variety experience in engineering stretching over 20 years.

The two were selected in February but a decision on the winner is pending because the favourite of the ministry officials, Graeme Watson, lacks the competence required, according to a whistleblower. Watson's CV shows he has experience in undertaking feasibility studies, investigations, designs and documentation for hydro-electric power stations of a capacity of up to 358 MW in the East African region.

But a whistleblower within the ministry of Energy says Traugott Benz's CV is richer because he is a member of the Swiss Committee on Dams, has experience in hydro-power plants (underground), tunneling works, and has been a project director for the 900MW Nant de Drance power plant in Switzerland, among others.

The Independent could not independently verify the accuracy of the CVs but the whistleblower claims Traugott Benz is losing out because he is more expensive and asked the evaluation committee some tough questions during his interview.

The whistleblower says the real reason for alleged sidelining of Benz is because he promised to review all bid documents, evaluate the bidders, and give an independent report.



"This did not go down well with some ministry of Energy members on the interview panel. Mr Benz is being sidelined on the pretext that he is too expensive yet they have not had any negotiations with him on that matter apart from the brief interview," says the whistleblower.

The whistleblower alleges that the squabbles over who should become the project manager would leave government taking a bad deal and lead to non-performance challenges that have dogged most government projects.

Big money fights

Earlier there have been battles in the evaluation committee over who finally takes the tender. Two Chinese companies (China Water and Electric Corporation and Synohydro Corp) and an Iranian company (Perlite Construction) were selected out of six companies that bided. Since then, however, members of the evaluation committee have been quizzed by the police's Special Investigations Unit on allegations that they had they pre-qualified a Chinese firm with doubtful credentials after some US\$1.2 million changed hands.

Earlier, another Chinese company, through its local front man who is a prominent businessman in Kampala, had allegedly offered US\$600,000 to some members of the evaluation committee. But when the other bidder learnt of it, they doubled the bribe to US\$ 1.2 million.

Apparently the company that offered lesser bribe resorted to whistle-blowing and pointed out inconsistent information provided by the other company in their bid forms. President Yoweri Museveni intervened and ordered an investigation into the evaluation committee.

"The evaluation and investigation is ongoing. Karuma dam will not start this month but it will start soon once the evaluation of the bidders is complete," says Simon D'Ujang, the Minister of State for Energy.

Three members of the committee have written a minority report disputing the majority position that favoured the inclusion of one of the Chinese firms among the three pre-qualified bidders from which a contractor for construction of the power plant will be selected. The trio argues that China International Water and Electric Corporation, CWE, made it to the final list despite glaring inconsistencies in its bid documents. But this allegation has led to the technical competence of the evaluation committee to handle the pre-qualification process for bidders to be questioned.

When contacted for a comment, Henry Bidasala, an engineer and member of the evaluation committee declined to comment referring *The Independent* to the minister.

If construction of Karuma is handed to a doubtful company, it could endanger the energy security of the country. Insider information indicates that one of the prequalified Chinese companies has already contacted the French company, Vince Construction, which bid but was dropped, to work with it as a subcontractor. Western donors have also voiced their concerns over the size of the power dam arguing that it is too big and advising that a 450 MW dam would be better to match the available stream and the excess capacity is wastage of scarce resources. But the government has turned a deaf ear and is focusing on the contractors from the East.



Karuma is one of the critical hydropower projects aimed at solving Uganda's protracted power crisis that has hurt the operations of industries, business and homes. Uganda's electricity supply stands at 330MW while demand is 455MW and growing at 9% annually. Sector experts say Karuma needs to be completed quickly because completion of the 250MW Bujagali plant this year will only ease the situation for three years.

Karuma timeline

1995: Uganda government announces plans to construct electricity dam at Karuma.

2006 (October): Norpak, a Norwegian firm submitted the feasibility study and Environmental Impact Assessment to government of Uganda.

2006 (November): Bids for construction of the project were received. Initially, the plan was to build a 200-250 MW power station.

2009: The plans were redrawn, calling for a much larger project of 750 MW. At the same time Norpak pulled out of the project citing the global economic meltdown.

2009 (November): Government contracted Energy Infratech Pvt. Limited of India to perform new Feasibility Study and Environmental Impact Assessment.

2011: Energy Infratech Pvt. Limited submitted its report.

2012 (January): Construction bids called and evaluation begins amidst bribery allegations.

⁶⁶Bribery hits 600MW Karuma power dam", 14/05/2012, online at: http://www.independent.co.ug/news/news-analysis/5756-bribery-hits-600mw-karuma-power-dam



❖ South Sudan minister says cooperation with Israel does not involve water projects

South Sudanese Minister of Water Resources and Irrigation Paul Mayom Akec said his country is not considering projects that could threaten Egypt's water security.

He added that his country's relations with Israel do not involve cooperation in the water sector that could have negative repercussions for neighboring countries.

Regarding South Sudan's relations with Israel, the minister said that his country is ready to cooperate with any country that wishes to have a relationship, even if that country is Israel.

In statements to the press on the sidelines of the African Water Week meetings, Akec ruled out the possibility of cooperation with Israel in the field of large scale water projects on the Nile, adding that South Sudan has not signed any agreements on water projects with Israel so far.

Israel trains South Sudanese citizens so that South Sudan can benefit from Israel's experience in the field of water resource management, he said.

Concerning relations with Egypt, Akec said Egyptian projects in South Sudan are progressing slowly due to the unrest that followed the 25 January revolution.

Meanwhile, Sudanese Minister of Water Resources Saif Eddin Hamad Abdallah said the African Water Week meetings are intended to establish mechanisms to implement joint projects between African countries to increase water supply in certain areas, expand the scope of sanitary drainage projects and improve health conditions.

He said meetings for African ministers of water resources constitute an occasion to discuss issues that are not on formal meeting agendas, adding that Nile Basin water problems could be discussed.

"South Sudan minister says cooperation with Israel does not involve water projects", 14/05/2012, online at: http://www.egyptindependent.com/news/south-sudan-minister-says-cooperation-israel-does-not-involve-water-projects



Africa floats on underground water reserves

Researchers mapping underground water reserves in Africa find huge reservoirs, but warn this may not be a magic bullet solution to the continent's increasing need for fresh water.

Africa sits on huge underground water reserves which contain 100 times the amount of fresh water resources on the surface, according to a new comprehensive map.

A team of researchers from University College London collected hundreds of geological maps and aquifer data and combined and georeferenced them to create a comprehensive picture.

There were many previous attempts to determine the amount of groundwater in Africa, "but this is the first time that the data and maps have all been put together to give a quantitative estimate of available groundwater and potential borehole yields," says Alan MacDonald, principal hydrogeologist at the British Geological Survey and the project's lead researcher.

The largest underground water reserves are found in the drier North Africa region, especially in Egypt, Libya, Sudan and Algeria.

Much of the water in this region is located deep underground, 100 - 250 m below the surface. MacDonald warns this inaccessibility might make it almost impossible to use the reserves for irrigation or to provide drinking water for new urban centres across the continent.

"A community borehole which is 50m deep equipped with a hand pump costs around US\$6,000," he says. This rises to US\$20,000 for a 150m deep borehole. "The deeper large aquifers found in North Africa require even deeper boreholes which can cost in excess of US\$100,000." Additionally, such boreholes require ongoing maintenance to ensure longevity.

"This map will be very useful," says Ahmed Awad, a geologist at the ministry of environment in Egypt. He hopes that a clearer view of the location of underground water aquifers will decrease conflicts and allow successful co-projects between states "which require expertise and technology transfer."

"A regional project to tap into these groundwater aquifers in North Africa will need a huge budget of around US\$15 billion," he adds.

The study estimates the amount of underground water but does not determine its quality. Contaminants such as fluoride, arsenic and other undesirable natural parameters such as faecal coliforms and nitrates due to on-site sanitation and leaking sewer may make the water unusable.

"To give a meaningful assessment of groundwater quality across Africa is a large task, and will require systematic sampling country by country," said MacDonald. "This will require significant funding for several years, and a large partnership across Africa. It would be a great project, but currently we have no funds to do this."

"Africa floats on underground water reserves", 12/05/2012, online at: http://www.nature.com/nmiddleeast/2012/120512/full/nmiddleeast.2012.72.html

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Climate deal milestones should be set this year - UN

LONDON, May 16 (Reuters) - Countries which agreed to sign a deal in 2015 to cut greenhouse gas emissions should set milestones this year to ensure the necessary work is done on time, the United Nations' climate chief said on Wednesday.

Last year's U.N. climate talks in Durban, South Africa, agreed a package of measures which would eventually force all the world's polluters to take legally binding action to slow the pace of global warming.

Delegates agreed on the so-called "Durban Platform for Enhanced Action" - a process to develop a new protocol, legal instrument or legally binding deal by 2015 which would apply to all parties under the U.N.'s climate convention and would come into force no later than 2020.

But a clear timetable and targets for this process have not yet been set.

"Parties need to think between now and Doha how they want to organise their work between now and 2015 and how they will move towards that legal agreement," Christiana Figueres, executive secretary of the U.N.'s Framework Convention on Climate Change told the Reuters Global Energy & Environment Summit.

"My hope is they will establish milestones along the way so they are able to measure their progress."

U.N. climate talks are currently taking place in Bonn, Germany until May 25. More talks are expected in South Korea in the autumn and in Doha, Qatar, at the end of this year.

A working group on the Durban Platform will be launched later this week at the Bonn talks.

"How they want to do that (set milestones) might be more for the end of this week once we hear the first statement from (the group)," Figueres added via conference call at the Reuters summit in London.

FUND

Other issues to be discussed in Bonn and in Qatar at the end of this year include how to implement an extension to the Kyoto Protocol and how long that will last; how to raise ambition on emissions cut pledges, and raising long-term finance to help more vulnerable countries adapt to the harmful effects of climate change.

The Durban climate talks agreed on the design of a Green Climate Fund, which should help channel up to \$100 billion a year by 2020 to developing countries most affected by climate change.

The fund is still empty, although discussion of ways to fill it are ongoing, Figueres said.



Many countries, including the European Union, have yet to come up with a plan to provide long-term climate financing, against the backdrop of globally depressed economies and the euro zone crisis.

Financing the fund cannot happen until its board is constituted and that is still being decided, after more countries applied for board seats than are available.

"Not until we have the full board nominated can we go forward on programming and planning the first board meeting," said Figueres.

"There is more enthusiasm than seats. The challenge is to fit (countries) around the table."

The first board meeting is scheduled for May 31 but a delay seems increasingly likely if the board is not agreed soon.

"We would highly welcome being able to respect the current dates for the board but it makes no sense to call for a board meeting before all countries have agreed how it is going to be constituted," she said.

"Climate deal milestones should be set this year – UN", 16/05/2012, online at: http://www.trust.org/alertnet/news/climate-deal-milestones-should-be-set-this-year-un/?utm source=Circle+of+Blue+WaterNews+%26+Alerts&utm campaign=a7587fe163-RSS_EMAIL_CAMPAIGN&utm_medium=email



❖ "Water conservation can be done at relatively low cost in Pakistan," COO, Pak-Oasis Industries Limited

BR Research: First off, tell us about how Pak-Oasis Industries went from a local company to establishing an international presence headquartered in Dubai? Irshad Hussain: Pak-Oasis Industries Private Limited was established in 2004 by offering most economical RO desalination technology for municipal, agriculture, community and industrial water solution.

Our first project was in Thar for the installation of four RO desalination projects.

The entire project was completed within three months, and fresh water, fit for human consumption was made available in the desert area as a consequence.

The timelines that we have implemented successfully were only possible through endless efforts of our entire team which is mostly based on local engineers and technicians trained by our experts; and we are proud of the hardworking nature of our internal resources.

Due to these efforts, fresh water has been made available at 54 different locations in the Thar region.

Subsequently our operations expanded and we got more projects as our own processes also improved with time and experience.

It is worth highlighting here that all our projects completed and if operated by Pak-Oasis are under lifetime warranties with zero liability to our valued clients in terms of replacement of major equipment, membranes and allied material.

These projects have not only brought clean water to desolate and rural communities, but also brought skill development and jobs to the local youth.

In this day and age, where prices of almost all things appear to be rising continuously, we have not raised the prices of our products and services even once in five years.

Due to our expanding operations we have capitalised on economies of scale and we have passed on the resulting benefits to our valued clients.

BRR: The Company is making potable water available at a relatively low cost.

How has this been achieved?

IH: Typically we are able to provide a single gallon of water for about 16 paisa in Tharparkar as compared with the water cost of 28 paisa is being supplied from canal source.



The fundamental difference is that instead of relying on pumping stations that are often hundreds of miles away from rural and desolate communities, we are extracting water by digging down.

So we go 300-1,000 feet below the ground level, extract the ground water, pump it to the surface and then filter and desalinate it to make it fit for consumption.

The cost of desalination is quite economical compared to other available gallons.

Similarly, if you consider the power savings compared to pumping water from reservoirs located many miles away, in the Thar region would need about 900 kilowatts per hour to pump water from Naukot

Instead, we are pumping it up from the ground using up only about 200 kilowatt per hour.

So, you can see that there is a huge saving of energy of about 700 kilowatts every hour, which is already in short supply in the country.

Then the technology that we have used is very reliable.

In a testing environment like Tharparkar where average temperatures are around 50 degrees Celsius, we have not had a single call for repairs yet.

Out of 250 pumps that have been installed, only two have required any parts to be changed, so all these factors contributed to bringing down the cost of delivering potable water.

Many other projects were also initiated along similar lines but it is observed that most projects hit snags or hit complications due to either inappropriate use of technology or lack of intent from the initiators and executioners of the projects.

In some of the cases the companies bidding for these projects only installed equipment but did not agree to run the operations of these projects, so that was a major reason behind the failure of many projects.

BRR: Please tell us more about the Company's operations in other countries.

IH: We are very proud to tell you as a Pakistani Company that we are well recognised OEM in water industry and are well recognised as a top Pakistani water desalination company all over the world and we are getting very good response as well as enquires for supply, installation, commissioning and operation of Water Desalination Projects specially in the Middle East region.

We found that tapping these markets would be very viable for us.



So, we exported some units which were received well and we immediately received some very strong inquiries from the UAE and other countries.

Thus we built recognition in the Middle East by leveraging our good image in Pakistan.

Slowly and gradually we started gaining respect in the Middle East and are now receiving inquiries from other regions as well, for instance, we have recently been approached by a potential client from Somalia.

The idea behind using Jabl Ali to expand our international presence was motivated by the fact that it is a booming industrial zone with tax relaxations for growing companies and a free port.

BRR: There is a basic dilemma that water resources are increasingly scarce.

How is Pak-Oasis playing a part in addressing the wastage of water resources?

IH: The world is quickly realising that water resources are limited and mushrooming demand for water will only make its availability scarcer in times to come.

The water that we consume and dump into the oceans does not get replenished even in a hundred years so there is a very strong need for conserving fresh water resources.

Companies and entire economies have to move towards recycling water to ensure adequate supplies in the future.

If you consider the example of Karachi, we end up wasting about 400 million gallons, because the city is supplied about 600-700 million gallons daily, of which only about 20-30 percent remains in the system while the vast majority of this supply is used and discharged in to the sea.

This water which is being discharged and essentially wasted can be recycled and that could enable us to really turn the tide on this growing divide between the supply and demand for water as well as bio fertiliser that would be collected and reused in agriculture to improve food security.

What is essential for the efficient use of water resources is the use of cutting edge technologies and procedures with the help of well-trained and enthusiastic youth who are comfortable with the use of modern methodologies and technology.

This is a primary focus of our Company.

For example, manual systems have traditionally been used to measure the flow of water, but these are very inaccurate and inconclusive in terms of water quality and content.



Instead of relying on these archaic methods, we can identify a path of flow within the LBOD, place ultra sonic meters along this path, and use these to record and communicate key data to a monitoring location where the information can be used.

So, you can see that the development of relevant skills among youth is also very vital, not just in terms of efficient use of water, but also for other developmental efforts.

The technologies that are now available can be used very effectively but to do that we have to increase the focus of educational institutions especially engineering universities on practical research and development.

We need 700-800 qualified engineers to manage the country's water resources.

Unfortunately the syllabus that is being followed is outdated in many instances and then there are also many people on key positions whose approach must be altered so that they are more willing to give opportunities to young blood.

""Water conservation can be done at relatively low cost in Pakistan," COO, Pak-Oasis Industries Limited", 18/05/2012, online at: http://www.brecorder.com/company-news/235/1190738/



Kalabagh Dam only solution to ongoing energy crisis

Lahore—Kalabagh Dam is the only solution to ongoing energy crisis and the government should evolve a strategy to develop consensus for paving the way for early construction of this mega project of national importance.

This was stated by the Chairman Auto-parts Manufacturers and Exporters Association Tahir Javaid Malik and Lahore Township Industrial Area Association Chairman Iftikhar Bashir in a statement issued here Saturday. They said that the Lahore Chamber of Commerce and Industry had done a great national service by initiating Grand debate of Kalabagh Dam that would help bring this issue to the limelight.

They said that a big majority of Pakistanis want early construction of this dam which is lifeline to the country's economy. They said that the government silence over the construction of Kalabagh Dam and its reliance on thermal power is not only giving birth to many questions in common mind but also denting government reputation.

They said that the business community was unable to understand the reluctance of the government on Kalabagh Debate. "They government should bring all the parties to negotiating table and should as them to convince each other as if the country continued to waste huge quantity of water to sea, in near future the biggest issue would be the scarcity of water and not the electricity."

They said that the government should also understand that the neighbouring India is fast constructing new dams and in Pakistan the work on water reservoirs is very slow. They said that Indian government had very recently released more funds for the construction of seven new dams on three rivers because they know that the hydle power is the answer to the electricity shortage and not the thermal power.

"Kalabagh Dam only solution to ongoing energy crisis", 20/05/2012, online at: http://pakobserver.net/detailnews.asp?id=156198



Experts call for more mega dams to end energy crisis

LAHORE: Construction of Kalabagh Dam and other mega dams is the only solution to the energy crisis in Pakistan while President Asif Ali claims himself the biggest political leader in the country who should be courageous on this issue to develop consensus among political parties.

All political parties are doing politics on energy issues while none of them is serious in resolving it. These views were expressed by discussants at the Jang Economic Session on Energy Crisis- Budget 2012-13 on Tuesday.

Participants were CEO LESCO Sharafat Ali Sial, Economist Rafiq Ahmed, Engineer Iftikharul- haq, Director Farmer Associate of Pakistan (FAP) Rabia Sultan, former Chairman Pakistan Hosiery Manufacturing Association Shahzada Azam Khan and senior Vice Chairman Pakistan CNG Association Shuja Anwar while hosts were Sikandar Hameed Lodhi and Intikhab Tariq.

Sharafat Ali Sial said that after IPPs, no serious effort was made for electricity generation in Pakistan, so the critical crisis was being faced by the country.

He said no concrete work was initiated in energy sector for the last four years too while now the federal government showed seriousness on it while the president also took notice of it. He said country was facing irreparable loss due to non-construction of Kalabagh Dam.

He said new experiments in energy sector were also the one reason of energy crisis in Pakistan. He said the LESCO had given importance to the industry and ensured 250 watt electricity to the textile industry.

He stressed the need for increasing hydel generation to 60 percent to overcome energy crisis while India was interested to export 600 watt and Iran 1000 watt electricity to Pakistan while India was exporting electricity to Bangladesh at Rs 5.50 per unit and Pakistan was also asking for the same rate.

Dr Rafiq said the President could get clean cheat by announcing the construction of Kalabagh Dam . He said economy running institution collapsed while the federal board of statistics was given wrong figures about economy due to which proper planning was lacking.

"Experts call for more mega dams to end energy crisis",16/05/2012, online at: http://www.thenews.com.pk/Todays-News-2-108586-Experts-call-for-more-mega-dams-to-end-energy-crisis



India's dam plans anger Pakistan, symbolise global water woes

ITS three great basins - the Indus, the Ganges and the Brahmaputra - are the most densely populated area in the world. The Ganges alone supports half a billion people.

Seventy per cent of South Asia's 1.5 billion people live in farming families, and depend on the water of those basins for their survival. That number grows by 25 million every year.

For generations the rivers have watered the bread basket of the Punjab, the cotton plants and fruit trees of the Sindh, and the rice paddies of Bangladesh, and grown this region faster than anywhere else.

Advertisement: Story continues below

But South Asia's water supply is unpredictable, and increasingly unmanageable. Lashed annually by monsoons, and regularly by devastating floods, between, there are severe and prolonged droughts across the region.

Even when the rain falls in moderation, there is little infrastructure to preserve it for leaner times. Across all three basins, there is less water, and ever more people.

The issue of water in this part of the world is back in the spotlight with a case before the Permanent Court of Arbitration this week between Pakistan and India.

Pakistan claims a new hydroelectric plant India is building on the Kishanganga River (known as the Neelum River in Pakistan) in Kashmir will rob it of water that rightfully belongs to it.

This is the political reality of this water-short century. Water is becoming a powerful weapon of diplomacy, even of coercion, and a new point of dispute. And South Asia's geography, demography and climate portend a global problem.

A security report from the US Director of National Intelligence released this year says that over the next decade "many countries ... will experience water problems - shortages, poor water quality, or floods - that will risk instability and state failure".

"As a result of demographic and economic development pressures, North Africa, the Middle East and South Asia will face major challenges coping with water problems."

Disputes are likely between countries, between states within countries, and even between cities and communities. Water shortages will probably drive nation states towards diplomatic solutions and to sharing agreements, the report says, but extremists will "almost certainly" target vulnerable water infrastructure.

"Beyond the next 10 years, water in shared basins will increasingly be used as leverage, the use of water as a weapon or to further terrorist objectives also will become more likely."



US Secretary of State Hillary Clinton told her department: "These threats are real."

Already, water has become part of the terrorist call-to-arms. Alleged mastermind of the 2008 Mumbai attacks Hafiz Saeed has railed often against India for it's so-called "water terrorism", threatening "water flows or blood".

Lashkar-e-Taiba, an outlawed terror group, regularly threatens to blow up India's dams, and violent condemnation of India's water policies is cheered on by a growing hard line.

Last year, Pakistani newspaper *Nawa-i-Waqt* urged the government: "Pakistan should convey to India that a war is possible on the issue of water and this time war will be a nuclear one."

Most experts argue a declared war between nations in the near future is unlikely, but as pressure grows, smaller conflicts will flare across the region.

The Strategic Foresight Group has postulated the idea of an "arc of hydro insecurity", stretching from Vietnam through China, South Asia, to Iran, Iraq and other Middle East countries, through to Egypt and Kenya in East Africa.

Scarce water will drive up food prices, destabilise governments and spark mass migrations.

A Dutch study found that by the middle of this century, shrinking glaciers will reduce the flow of water to the Indus by 8 per cent.

A Princeton study published in *Science* magazine last year found "the observed precipitation decrease can be attributed mainly to human-influenced aerosols emissions".

Demographics are changing too. As India develops, a wealthier population will eat more meat, requiring more energy and water-intensive agriculture.

Environmental author B. G. Verghese told *The Age*: "Water, and the energy that comes from water, affects every household. If you have a 12-hour blackout, children cannot do their homework, factories cannot operate. If the well is empty and the women have to walk to the next village for water, mini water-wars break out between villages, fighting over the last bucket.

"More people will be killed by insanitary water than by all the sum total of all the wars and all the insurgencies that might be fought."

Mr Verghese said while water will lead to disagreements between countries, and could spur a deterioration in diplomatic relationships, "I don't think it will lead to war".

"The only country that could go to war on this question is Pakistan, and Pakistan simply has no case."

The current Pakistan-India water dispute is the sharp relief of a still-hazy problem. And it is a test of a decades-old water-sharing agreement that has withstood three wars, constant territorial disputes, nuclear tests and terrorist attacks.



The Indus Water Treaty, signed in 1960, gives Pakistan rights over the Indus Valley's three western rivers. India controls the three rivers to the east.

The treaty is important, in particular to Pakistan, which is downstream from India, and relies on its neighbour's adherence to it for survival.

But the treaty is beginning to crack under new pressures, and Pakistan's increasing anxiety about its neighbour's activities on its watercourses.

India has no fewer than 45 dams or power stations completed, planned or proposed on Pakistan's western rivers, which Islamabad believes will give Delhi control over how much water flows over the border, and the ability to destroy Pakistan's agriculture, starve its people and ruin its economy.

India dismisses Pakistan's fears as paranoid and without scientific basis. It says it has adhered to the treaty and dams do not affect its neighbour.

But after 15 rounds of bilateral talks the parties are back in the Permanent Court of Arbitration next week.

But India, too, feels vulnerable. There are rumours China might attempt to change the course of the Tsangpo/Brahmaputra River in Tibet.

China has denied such a plan, but the idea worries India.

"India's dam plans anger Pakistan, symbolise global water woes", 19/05/2012, online at: http://www.smh.com.au/world/indias-dam-plans-anger-pakistan-symbolise-global-water-woes-20120518-1yw6l.html



❖ Water is not a luxury item

The Union government has recently brought out a draft national water policy for enhancing the efficiency of utilisation and disposal of water in the country. But the draft policy is inconsistent with best water management practices.

The Draft National Water Policy 2012 does not focus on the dire need of usage of water in tune with nature's water recycling mechanism. The policy paper talks of water as a community resource, but flippantly points at an economically viable cost of water supply based on realistic tariffs.

Water is proposed to be made available on cost-plus basis thus covering the entire cost of operating and maintaining the collection, storage and supply systems. The corporatisation of water supply is going to further reduce the availability of water for ordinary people in India.

Right now, drought-like situation prevails in several pockets of Maharashtra with many irrigation projects remaining incomplete. With the summer on, water reservoirs in several other states too are fast depleting.

India is home to 17% of the world's population and is endowed with only 4% of global fresh water. According to a study on the global water scenario by international consultancy group McKinsey in collaboration with the World Bank-affiliate International Finance Corporation, India is in for a major water shortage. The situation will be dire as water demand will grow annually by 2.8% to reach a whopping 1,500 billion cubic metres (bcm) while supply is projected at only about 744bcm, that is, just half the demand, the report says.

So it is of paramount importance that the national water policy be blueprinted on the basis of our ageold, traditional approach and practice which is environment-friendly and time-tested. The construction of ponds and natural reservoirs and their maintenance could form one component of this policy. We may also consider harnessing the ocean for the needs of our teeming millions as India has a huge sea coastline.

Our water policy should be pragmatic, environment-friendly and in tune with the grassroots needs of the consumers. It should contain strong deterrents against water pollution.

In accordance with the fundamental premise of natural resources being available rightfully to all human beings according to their basic physical needs, we need to make new laws and regulations to ensure the provision of clean drinking water and need-based non-potable water for all our citizens directly by the State. This should have no room for traders, hoarders or profiteers.

In the context of the proposed privati-sation of potable water production and distribution, we should understand that the very core and crux of private industry is profiteering. Water is not a luxury item — it's a basic necessity and every human being ushered into this world is at once entitled by nature to his quota of water.



It is the State's responsibility to make it available in the best possible manner. Water is neither an item which should be taxed nor a commodity which should be traded. Taxing or trading this item amounts to denigrating nature and this goes against the Indian ethos.

Atul Sehgal is a senior infrastructure consultancy business professional

The views expressed by the author are personal

"Water is not a luxury item", 15/05/2012, online at: http://www.hindustantimes.com/News-Feed/ColumnsOthers/Water-is-not-a-luxury-item/Article1-856318.aspx



❖ Water 'Wars'

Mumbai is set to receive 455 million litres of additional water per day by the end of the upcoming monsoon season as the Brihanmumbai Municipal Corporation (BMC) is about to complete construction on the Middle Vaitarana dam in the Shahapur taluka of Thane district, about 90 km from the country's financial capital. On the other hand, Shahapur town and its villages — where along with Middle Vaitarna, four other dams supplying water to Mumbai are located —are grappling with one of the most acute drought-like situations in recent times. As many as 923 villages and 4,345 tribal hamlets in 88 tehsils and 15 districts of the state have been affected.

Villagers of Shahapur had written to Water Supply and Sanitation Minister Laxman Dhoble on May 1, asking for immediate measures to solve water crises in the area or else they will break and damage the big pipelines that transport water from their own backyard all the way to Mumbai. Over 30, 000 villagers across the 58 villages in the Shahapur taluka have been relying on 10 tankers sent by the Taluka Samiti once in four days.

Each village has up to two public wells, all of which have been lying parched since early March. The jumbo tankers, each carrying about 10-15,000 litres of water, fill up these wells whenever they visit. Dashrath Bhalke, a resident of Madgaon village, said that a number system has been informally created amongst the villagers. "Women stand in queues around all sides of the well, a day in advance. As the tanker arrives, chaos erupts through the village as everyone runs towards the well. Villagers barely manage to get about three buckets of water per house for four days," said Bhalke.

"Water 'Wars", 14/05/2012, online at: http://www.indianexpress.com/news/water-wars/948888/



Damned if you don't (dam): groundwater use outpacing dam building

Last year, we had <u>covered a study</u> on the non-trivial contribution of groundwater depletion to sea level rise. It concluded that humans have pumped enough water from underground sources to account for up to 13 percent of the rise in ocean levels that occurred between 2000 and 2008.

A caveat, from a related paper, was that this might be offset by an increased retention of surface water in large reservoirs behind new dams. That would make the net effect of these human activities a wash. In fact, the 2007 IPCC report left out groundwater depletion when projecting sea level rise because of the uncertainty of existing estimates and the presumed balance with reservoir impoundment.

A new estimate, published recently in *Geophysical Research Letters*, takes a closer look at dam building and projects current trends into the future. While groundwater depletion continues, dam construction is on the decline. The result should be an increasing contribution to sea level rise.

For the new estimate of global groundwater depletion, the researchers used data on groundwater use and "recharge"—water that refills groundwater aquifers. This additions-and-subtractions water budget approach is less reliable than actual measurements of falling water levels, but solid data is much easier to come by, allowing for country-by-country estimates instead of extrapolations from those areas where there's detailed monitoring.

These detailed water budgets were tallied by country for the year 2000, which was used as a benchmark. To extend the estimate back to 1900, each country's benchmark value was scaled to changes in water demand. The numbers compare reasonably well to earlier estimates, including those that used measurements of groundwater levels. The researchers did find that their method overestimated groundwater depletion in some wetter regions, so a correction factor was used to bring them into line.

They then projected these processes into the future, using three of the familiar IPCC scenarios. These scenarios include things like trends in land use, development, and population, as well as the magnitude of climate-altering emissions. Socio-economic patterns controlled changes in groundwater use, and a climate model was used to simulate meteorological conditions and calculate groundwater recharge.

This estimate puts the past contribution of groundwater depletion to sea level rise higher than the last study we covered. Where that study calculated a rate of 0.35 ± 0.07 mm per year for the period 1993-2008, this new one estimates 0.54 ± 0.09 mm per year—nearly 20 percent of the total sea level rise. Of course, newer does not always mean better, and it's hard to say which of these is closer to reality.

Dam building has offset much of the contribution from groundwater depletion, wetland draining, and deforestation. In the early 1900s, the net contribution from these other activities was positive—raising sea level. When dam construction really kicked up in the 1950s, it held back more water than

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we were losing. Between 1970 and 1990, the net contribution from continents was -0.15 ± 0.09 mm per year, partially counteracting those other contributions to sea level rise.

The number of new dams being built has dropped off markedly since 1990, though, and once a reservoir fills, it no longer affects the amount of water that makes it to the ocean. Because of that, the net contribution of these human activities between 1990 and 2000 was 0.25 ± 0.09 mm per year, meaning that dam construction no longer offsets groundwater depletion.

If you look at the total impact on sea level since 1900, we're on track to break even in 2015. Since dam construction continues to decline while groundwater depletion continues to increase, the researchers estimate that these terrestrial sources will have accounted for 3.1 ± 0.03 cm of sea level rise by 2050.

The researchers say that, while increasing groundwater depletion in the past was primarily caused by growing demand, future growth in groundwater use looks to have more to do with climate change. Yoshihide Wada, a researcher at Utrecht University in the Netherlands and the lead author of this study, told Ars that, in 1900, the area of irrigated land globally was about the size of France. Today it's about the size of India.

That expansion has limits, and the growth has slowed. In the future, Wada explained, "Our results also indicate changes in precipitation patterns such that the available water becomes less during cropping periods. In many regions, the amount of irrigation water that needs to be supplied over irrigated areas will also increase due to enhanced evaporation as a result of increased temperature under global warming."

That means more depletion for places that rely heavily on groundwater, like the western United States, northern China, western India, and Iran. "About 600 cubic kilometers of water was used for irrigation in India for the year 2000," Wada wrote, "Irrigation water withdrawal for India is nearly [one] quarter of the global total." That leads to the loss of some 50 cubic kilometers of groundwater each year in India. "Groundwater use is especially intensive [in] northern Iran," Wada added, "where some local studies report that the groundwater table has dropped [at a] rate of 0.5 to 1 meter per year for the last decade." Iran is losing an astounding 20 cubic kilometers of groundwater every year.

Since new dams are no longer making up for it, that water adds to the sea level rise. It's a small addition but gets combined with the usual suspects—melting glaciers and thermal expansion of ocean water—to drive long-term trends.

"Damned if you don't (dam): groundwater use outpacing dam building", 17/05/2012, online at: http://arstechnica.com/science/2012/05/damned-if-you-dont-dam-groundwater-use-outpacing-dam-building/



***** Centre rules out review of NE dams

NEW DELHI, May 18 – Notwithstanding the controversy over the construction of mega dams in the North-east, the Centre has ruled out the possibility of reviewing the proposals for the construction of the big dams in the region.

Union Minister of State for Power KCVenugopal, however, added that the concern of the local people on the safety of the dams including the 2000 MW Lower Subansiri Hydroelectric Project and 1750-MW Lower Demwe Hydroelectric Project have been given due consideration.

On the concerns of downstream impact, a joint steering committee has been constituted by the NHPC last April to suggest feasible and practicable remedial measures in the downstream areas with reference to the expert group's recommendations on the downstream impact of the Subansiri Lower Dam (Phase II) along with issues related to floods, bank erosion and sediment control.

Also, as recommended by the Inter-ministerial Group headed by the Secretary (Water Resources), a cumulative Environment Impact Assessment Study of Lohit Sub-basin has been completed by WAPCOS and studies for the Subansiri and Siang Sub-basins have been commissioned by the Central Water Commission (CWC), the Minister said in reply to a question by Rajen Gohain.

The CWC has informed that the seismic data and past history of earthquakes in the country are maintained by the Indian Meteorological Department, which includes the earthquake of 1950. All such information has been taken into account for carrying out the seismic studies during submission of proposal of Lower Subansiri Hydroelectric projects, the Minister said.

Further, the National Hydro Power Corporation (NHPC) has informed that the occurrence of the 1950 earthquake was considered during the site specific earthquake design parameters study for the project by the Department of Earthquake Engineering, IIT Roorkee.

The Minister was replying to a question whether the Government has considered the possible consequences of the disaster from big water reservoir from a big dam like Lower Subansiri.

The Minister said as per the wishes of the Assam Government, the NHPC has constituted an expert group consisting of experts from IIT, Guwahati, Gauhati University and Dibrugarh University to study the downstream impact of the Lower Subansiri Hydroelectric Power project. The expert group submitted its final report last March.

Following the Assam Government's concern regarding structural safety of the dam, the Planning Commission has appointed a two-member Technical Experts Committee to study the technical reports of the expert group, the Minister said.

Meanwhile, 10 hydroelectric projects with aggregate capacity of 7,221 MW have been allotted by Arunachal Pradesh in Lohit River Basin.





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❖ India violating Indus Water Treaty: Pakistan to face severe water shortage

KARACHI: Pakistan is heading towards severe water shortage as Indian government has decided to build seven dams on rivers running into Pakistan for held Kashmir.

Pakistan has absolute rights on these rivers, as their flow is towards Pakistan and under the Indus Water Treaty India is violating the accord, said a senior member of Sindh Agriculture Forum (SAF) on Saturday.

It is reported that UN Environmental Programme (UNEP) has funded these water-building projects with a sum of \$700 million. SAF member said Pakistan should raised voice on international forum in order to stop Indian government to build water reservoirs on the rivers run into Pakistan.

He said Pakistan remained undecided to appoint patriotic and real water management experts to take up its case before International Court of Arbitration (COA) against India over construction of hydropower project in violation of the 1960 Indus Waters Treaty. The country is heading towards the worst water shortage in the next couple of years due to insufficient water management practices and storage capacity, he said.

Pakistan has right to oppose these dam projects besides opposing Kishanganga project because its diversion will reduce more than 20 percent of the power generation capacity of the 975 megawatts (MW) Neelum-Jhelum power project on the same river downstream Muzaffarabad in Azad Kashmir.

In recent past due to the poor handling of case with India as well as in COA, Pakistan could not gain points in favour of its case, only because of a team of jurists, not sincere from the start.

The Indus Water Treaty has now become ineffective as India was continuously violating all clauses of the treaty and Pakistan was not challenging them at any international forum by tacit approbation. Under the treaty, three western rivers, Chenab, Jehlum and Indus are allocated to Pakistan and India is not allowed to build storages on them.

A report by the Washington DC based Woodrow Wilson Centre described Pakistan's water shortage as deeply troubling.

It said Neelum-Jhelum power project case in COA, Pakistan would face a loss of energy of more than Rs 6 billion every year.

The Indus Water Treaty with India remained just on papers. India had diverted Pakistani water and constructed more dams, which would further worsen the water situation in Pakistan.



The underground water level went down from about 70-100 feet to up to 1,000 feet and has been termed as a worsening situation. International Water Expert Engr Bashir Malik, who has served United Nations and World Bank as chief technical adviser said the cheapest and environment-friendly solution to water and energy crisis in Pakistan was the Kalabagh Dam, which could only be built by a patriotic and brave leader having the courage to break all the barriers in the best national interest.

Malik said Save Water Save Pakistan Forum would initiate a campaign to highlight water and energy crisis and their solution at national level for which they would have dialogues with the national leadership besides conducting seminars and conferences with the help of technical and legal experts.

The availability of water for irrigation purposes would face worst situation during April to June 2012 as Indus River System Authority (IRSA) announced around 21 percent water shortage in Punjab and Sindh during said period. It means farmers will get lesser availability of water for irrigation purposes in Kharif season.

He said IRSA and Water and Power Development Authority (Wapda) concentrated more on releasing water for hydro-power generation instead of releasing sufficient water in canals for irrigation purposes.

"India violating Indus Water Treaty: Pakistan to face severe water shortage", 20/05/2012, online at: http://www.dailytimes.com.pk/default.asp?page=2012\05\20\story_20-5-2012_pg5_10



❖ Nature's 'water filters' threatened by development, urbanization

Although the Ergun Wetland Protection Zone attracts more than 1 million domestic and foreign tourists every year, local forestry authorities struggle to balance operating costs for the zone, one of the largest in Asia.

"Besides the costs for daily protection and maintenance, the budget for infrastructure construction is far above our means," said Zhen Guang, head of the Ergun city forestry bureau in the Inner Mongolia autonomous region.

But money problems are relatively easy to solve, because Zheng is applying for State-level wetland protection zone status, which will bring funding from the State Forestry Administration.

Lack of a national wetland protection law, however, has become the major barrier for wetland preservation across the country, experts said.

"China does not have a national law exclusively for wetland protection. Therefore, local governments have no rights to punish wetland violators, which speeds up the urbanization of wetlands," said Niu Zhenguo, a professor of the Institute of Remote Sensing Applications under the Chinese Academy of Sciences.

He added it is common for factories and villas to be built on wetlands or for dams and bridges to choke off the water.

Experts explained that the cost for 1 square meter of land reclamation from wetlands is less than 300 yuan (\$47), much less than the price of land available through the market.

At the end of March, media reported that nearly 100 villas were built in Hebi National Wetland Park, Central China's Henan province.

With money to be made, many wetlands have vanished.

Wetland losses from the total 91 national protected wetland zones was about 8,152 square kilometers (almost equivalent to the area of eight Hong Kong) from 1978 to 2008, according to a four-year-assessment by the institute, which was released in February.

Nearly 80 percent of the wetland had been poorly protected, especially those areas located along the Yangtze River and the coast, the assessment said.

A wetland is a land area that is saturated with water, either permanently or seasonally, which plays the ecological roles of water purification, flood control and shoreline stability.

Wetlands are also considered the most biologically diverse of all ecosystems, serving as home to a wide range of plant and animal life, such as migratory birds.



Ma Guangren, director of the Wetland Conservation and Management Center of the State Forestry Administration, told China Youth Daily in April that the severe drought in five provinces in Southwest China was partially triggered by wetland losses.

"It is like an unknown world full of surprises for us to discover," Niu said, adding that protecting wetlands is like passing a treasure on to future generations.

Research shows that 1 hectare of wetland can purify the excess nitrogen and phosphorus from 100 hectares of farmland, which is the most effective way to filter out agriculture pollution and industrial sewage.

Fortunately, the authorities have become aware of the importance of wetland. The culmination of ten years of work, a national wetland protection regulation is expected to be launched before 2014, Ma said.

About 11 provinces and autonomous regions had launched provincial or regional wetland preservation regulation as of October, according to the center.

Zhen in Ergun said that Inner Mongolia is carrying out the strictest wetland protection measures this year and investing in wetland preservation programs.

Beijing publicized the draft of the capital's wetland protection regulation online recently, which said that anyone who reclaims wetland will be given a maximum fine of 5,000 yuan per sq m.

The draft said activities such as taking bird eggs, collecting peat, picking wild vegetables, introducing harmful species and blocking water resources are strictly banned in wetland areas.

Jiangxi province, home to Poyang Lake, a crucial winter habitat for migratory birds, is also expanding its wetland protection regulation coverage from the lake area to the whole province on May 1.

Regulations state that a fine of at least 50,000 yuan will be levied on those who discharge industrial waste or domestic garbage into the lake and the wetland area.

"The current protection is for the future sustainable and scientific development of the resource and environment," Niu said.

Zheng Yaomin from the Institute of Remote Sensing Applications said that under the frame of wetland protection regulation with proper supervision, commercial activity, such as building entertainment facilities and fishing, could take place in wetland areas, so protection and profit are balanced.

Robert McGinnes, a British independent wetland expert, said that protecting wetland does not mean putting up a fence to keep everyone out, but rather it is about wisely using the wetland for its benefits.



According to the first national wetland survey, released in 2003, China has nearly 4 million hectares of wetland with about 1,700 species of wild animals.

The second national survey started in 2009 and is expected to be finished this year.

In 1992, China joined the International Convention on Wetlands and designated seven wetland sites as the "Wetlands of International Importance", known as Ramsar sites.

"Nature's 'water filters' threatened by development, urbanization", 14/05/2012, online at: http://www.chinadaily.com.cn/cndy/2012-05/14/content 15281008.htm

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❖ Gov't to fight water pollution with more funding

BEIJING, May 17 (Xinhua) -- The Chinese government plans to allocate 500 billion yuan (79 billion U.S. dollars) for the prevention and control of water pollution in major drainage areas from 2011 to 2015, up from 300 billion yuan for the previous five-year period.

The move was revealed in a 2011-2015 guideline on fighting water pollution that was jointly released Thursday by the Ministry of Environmental Protection (MEP), National Development and Reform Commission (NDRC), Ministry of Finance and the Ministry of Water Resources.

According to Zhao Hualin, a MEP official, the guideline includes 5,998 projects focusing on a variety of issues, including pollution in areas with drinking water sources, industrial pollution, urban sewage treatment, pollution from livestock-raising and nearshore water pollution.

"With increasing pressure from economic and social development, our country's water environment will suffer more obvious and persistent pollution and other long-overdue issues as of 2015," Zhao said.

The document sets a goal of cutting chemical oxygen demand (COD), a measure of organic pollutants in water, by 9.7 percent and ammonia nitrogen content by 11.3 percent by 2015 in comparison to 2010 levels.

"The guideline indicates that the government's focus has shifted to more elaborate methods of water management, as well as coordinated prevention and control efforts," Zhao said.

"Local governments are ultimately responsible for the quality of water resources within their jurisdiction. Governments at various levels should adopt a market mechanism to encourage more investment in the fight against river pollution," NDRC official Huang Weibo said.

According to Xia Xiquan, an official from the Ministry of Finance, the central government plans to earmark more than 30 billion yuan annually from now until 2015 to treat water pollution.

China met its 10-percent COD-reduction goal for the 2006-2010 period after reducing COD levels by 12.45 percent from 2005. Ammonia nitrogen is a new addition to China's major pollutant monitoring list.

"Gov't to fight water pollution with more funding", 17/05/2012, online at: <a href="http://news.xinhuanet.com/english/china/2012-05/17/c_131594817.htm?utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=a7587fe163-RSS_EMAIL_CAMPAIGN&utm_medium=email



Stricter Water Standards to Be Applied Nationwide

China is adopting a new drinking water standard throughout the country in July with stricter requirements on water supplies, according to the Ministry of Health.

The new standard has 106 requirements concerning organic substances, microbes and purification levels, or three times the number of the current version which was instituted in 1985.

It will also unify drinking water standards in cities and in rural areas and for the first time define the meaning of domestic drinking water as that for daily drinking and domestic use.

The new standard was originally drawn up in 2006 and Shanghai and some other major cities have been applying it since 2007, the Shanghai Water Authority said.

"More limitations were added on the content of microbes," said Zhang Lan, deputy director of the water office under the China Center for Disease Control and Prevention. "The biggest change was the extension of toxicological indicators, which was increased to 21 from 10 named in the 1985 version."

Zhang said the increase in indicators was in accordance with current water quality in China and more scientific.

"The water quality of our resources (in 1985) was very different, especially in certain regions where pollution was not as serious as it is and emergency pollution cases were not as frequent as they are, so the indicators then were fewer," Zhang said.

"Additionally, we have stricter requirements on certain indicators as arsenic, chromium and lead."

"Stricter Water Standards to Be Applied Nationwide", 14/05/2012, online at:

 $\frac{http://english.cri.cn/6909/2012/05/14/1461s699430.htm?utm_source=Circle+of+Blue+WaterNews+\%26+Alerts\&utm_campaign=c13fc120ff-RSS_EMAIL_CAMPAIGN\&utm_medium=email$



❖ Lingering drought dries rivers, reservoirs in S China

KUNMING, May 15 (Xinhua) -- A lingering drought has resulted in below-average water levels in 549 small and mid-size rivers and has left 673 small reservoirs dry in south China's Yunnan province, provincial drought relief authorities said Tuesday.

Affected by the drought, the total water inflow volume into all river courses in Yunnan is about 31 percent below the annual average, according to the Yunnan provincial flood control and drought relief headquarters.

To date, the Yunnan provincial government has earmarked 2.552 billion yuan (about 404 million U.S. dollars) as drought relief funds.

To date, the drinking water shortage has been temporarily solved for over 5.56 million people and 2.7 million large heads of livestock, said the headquarters.

As of May 8, the severe drought had affected 8.97 million people and destroyed more than 12.63 million mu (about 842,000 hectares) of cropland.

"Lingering drought dries rivers, reservoirs in S China", 15/05/2012, online at:

http://news.xinhuanet.com/english/china/2012-

05/15/c 131589921.htm?utm source=Circle+of+Blue+WaterNews+%26+Alerts&utm campaign=c13fc120ff-RSS EMAIL CAMPAIGN&utm medium=email



China's dams threaten unique river species

THE Yangtze River is still home to some amazing marine life, but projects like the construction of the Xiaonanhai Dam, the latest in a series of 12 dams constructed by the Three Gorges Corporation, may spell the end for several rare species.

Environmental groups, including China's Friends of Nature (FON), believe that the Xiaonanhai Dam will drive these species into extinction by destroying an important fish conservation area called the Upper Yangtze Rare and Endemic Fish Nature Reserve. The reserve is home to hundreds of fish species, including wild carp, which are considered crucial to China's food security.

Though the energy benefits of hydroelectric dams are clear, sometime the environmental damage is not. It's not just about and endangered species. Local economies and food sources can be devastated.

From the Guardian:

Less often calculated is the economic loss of biodiversity. With fewer wild carp to bolster farm stocks, environmental experts say China is taking a risk with a primary source of protein. Since the Three Gorges was built, the downstream carp population has crashed by 90%, according to Guo Qiaoyu, Yangtze River project manager at <u>The Nature Conservancy</u>.

The Yangtze River Dolphin, or <u>Baiji</u>, is already considered extinct, the last known Baiji having died in 2002. The Yangtze Finless Porpoise may also be headed the way of the dodo. Though other finless porpoises exist in Asia, the Yangtze is home to the only fresh water variety.

Even without the construction of new hydroelectric dams, the finless porpoise is having trouble surviving due to a multitude of threats such as boat propellers, illegal electrofishing, poisons and other types of pollution, and perhaps climate change. Recently, over a two-month period, some 32 finless porpoises were found dead in lakes in the Yangtze.

From Mongobay:

Researchers believe that around 1,000 Yangtze finless porpoises survive in the river with the population in dramatic decline. Currently, the IUCN Red List is evaluating the subspecies to see if the situation warrants classifying the population as Critically Endangered.

The <u>Yangtze Sturgeon</u>, a massive fish that has survived since the time of the dinosaurs, is another endangered species protected by the threatened reserve. It even looks like a dinosaur. Besides the dams, China does take the plight of the Yangtze Sturgeon seriously. When one was mistakenly caught by fishermen last week the 3-meter long, 232kg (511lbs) fish was immediately brought by authorities to a sturgeon protection center for treatment.



From **Eastday**:

Initial examination showed that the fish, about 30 years old, had multiple injuries on its belly, back, neck and tail, and its gill was broken – probably by a propeller before it hit the net.

Other examples of endangered marine life in the Yangtze include the <u>Chinese Paddle Fish</u> (one of the largest freshwater fish in the world), the Chinese Alligator and the Yangtze Soft-Shelled Turtle.

"China's dams threaten unique river species", 16/05/2012, online at: http://asiancorrespondent.com/82587/chinas-dams-threaten-unique-river-species/



Drought warning to water industry

Water providers have come under increased pressure from the industry watchdog to ensure droughtstricken areas are helped by regions with more plentiful supplies.

The impact of recent weather - flooding in a time of drought - is one of the major long-term issues water suppliers have to tackle, Ofwat warned, as it unveiled guidelines for how it intends to set tariff limits between 2015 and 2020.

The regulator warned the water industry will need to find creative ways of working to meet challenges posed by a bigger population and climate change. As well as giving customers a stronger voice on how water companies deliver services, Ofwat will "send clear signals" to companies on what is required of them, such as trading water during times of drought and heavy rainfall.

Ofwat chief executive Regina Finn said: "These principles will ensure that customers are at the heart of decisions. They need to know that bills are fair and legitimate."

A more detailed consultation on the methodology to be used for the next price review will be published in the autumn.

April was declared the wettest for the month since records began in 1912, but the preceding dry winter meant water companies and the Environment Agency refrained from lifting drought status from several areas for about two weeks.

Ofwat flagged the impact of recent weather as it unveiled its new principles, which also included giving companies "more opportunity to innovate", for example by finding lower cost, lower environmental impact and lower carbon solutions.

The watchdog said it would ensure that regulation is focused and targeted on where it is most needed to protect customers and adapt and support the sector as it learns how to tackle new challenges over time.

Ms Finn said £98 billion has been invested since privatisation, service for customers has improved significantly, drinking water quality is among the best in Europe and average bills are £120 lower than they would have been without regulation.

She added: "But now we need to become smarter in how we value, manage and use water. This means the industry must focus on customers and show them how they are meeting their priorities."

"Drought warning to water industry", 15/05/2012, online at:

 $\underline{http://www.google.com/hostednews/ukpress/article/ALeqM5i5ZP2r4cpwzLCoQDk5YXqXRMhuGA?docId=N01124713}\\37070030356A$

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❖ In Yemen, eating is a luxury millions struggle to afford

For almost half of Yemen's 22 million people, eating has become a luxury they can't always afford.

On a bad day, Umm Ahmad and her family of five, who live in Sanaa's shanty-town district of Al-Sunaina, go without any food at all.

On a better day, Umm Ahmad's husband, who works as a vendor, selling baby clothes in the market, comes home with "500 Yemeni riyals (about \$2.30) and we eat."

"Have pity on us," she said, breaking into tears as she clutches her sick and hungry daughter Amira and describes her family's daily struggle to survive.

She feared for Amira's life. Lifting the five-year-old's dress and pulling up her sleeves, she revealed skinny and slightly bruised limbs, a consequence she said, of a blood disorder for which they cannot afford treatment.

In the past year alone, according to the latest UN report, the cost of basic foodstuffs has surged by between 40 and 60 percent and the price of always scarce drinking water has risen by 200 percent, contributing to skyrocketing inflation.

Unemployment rates have also soared, and 10 million Yemenis, out of a total population of about 22 million, struggle to put food on the table, the UN said.

The popular uprising that ousted veteran leader Ali Abdullah Saleh and the months of political unrest that followed has crippled the government's already weak and corrupt institutions.

The result, said the chief UN representative in Yemen, Ismail Ould Cheikh Ahmed, is "a much more profound and much more deep humanitarian crisis than what we have been describing."

Evidence of the crisis is clear, not just in the country's distant provinces where government services are weakest and international aid is hindered by ongoing conflicts, but also in the capital Sanaa.

Sharing a single room with her two daughters and father, Fatima Hawsali said life in the past year has gone from "bad to worse."

No one in this Yemeni household has an income. They rely on government hand-outs, which they said have become increasingly unreliable.

"We fight death" every day said Fatima's father, Rizq.

Neighbor and local store-owner Haidar Saleh lended people bags of rice, sugar and flour on credit, but he too was struggling.



Two notebooks sit on his shop counter: one detailing debts owed to him by residents of the neighborhood, the other, debts he owed to his suppliers.

"I can't pay them because my customers don't pay me," said Saleh.

These are the humanitarian facts: About 55 percent of Yemenis live below the poverty line on less than \$2 dollars a day. Ten million are "food insecure," and five million of them are "severely food insecure."

Almost one million children, an estimated 967,000 under the age of five, are suffering from "acute malnutrition," and more than a quarter of them "are at risk of dying" unless immediate action is taken, the report said.

The health sector, which was barely functioning before the 2011 Arab Spring-inspired uprising against Saleh, has suffered major setbacks.

Measles has made a comeback, killing a total of 170 children, most of them since January. Other communicable diseases have re-emerged, including cholera and dengue fever.

Unemployment among the country's youth, considered a major destabilizing factor, has risen to 53 percent.

Investors have pulled out and businesses have shut down, creating, according to the latest UN estimates, an \$8 billion loss in private sector revenues. That has dealt a severe blow to the economy of what was already the poorest country in the Arab world.

The UN in partnership with international NGOs has launched an emergency appeal for \$455 million for 2012. To date, it is only 42 percent funded. Education has received no funding at all and the water, sanitation and hygiene cluster is only 12 percent funded.

Protection, a key sector that works to prevent the abuse, neglect and exploitation of Yemen's most vulnerable groups, including women and children, is only 8 percent funded.

"In Yemen, eating is a luxury millions struggle to afford", 16/05/2012, online at: http://www.nowlebanon.com/NewsArticleDetails.aspx?ID=396947



❖ International water conference opens in Amman

Amman, May 13 (Petra) -- The annual international conference on water resources opened at the University of Jordan UoJ on Sunday to discuss water security in the Middle East and the Mediterranean region.

In opening remarks at the gathering, organised by the UoJ Centre of Water, Energy and Environment in a partnership with the Euro-Arab Organization for Environment, Water and Desert Researches, Minister of Water and Irrigation Mohammad Najjar said the Arab world was facing the enormous challenge of rising demand on water and scarce resources.

Najjar, who deputized for Prime Minister Fayez Tarawneh at the opening session, said the water shortage was a result of using up cross-border sources exacerbated by climate change

"The present condition of water requires a firm stand to assess the status quo and put short-, mediumand long-term strategies and executive programmes to achieve sustainable development requirements using innovational methods that rise to the level of the challenges," he added.

The minister called for fair and equitable sharing of cross-border water sources by upstream and downstream states through adhering to international conventions, adding: "We in Jordan are facing chronic imbalances in the water-population equation," pointing out that the Kingdom's per capita share of water is one of the lowest in the world.

He outlined projects underway by his ministry to develop available conventional and nonconventional water sources, including building dams, water harvest programmes, rehabilitation of water networks, water efficiency programmes and raising irrigation water's economic revenue.

UoJ President Khlaif Tarawneh said the conference is an opportunity to exchange data and scientific know-how to address water scarcity that the Middle East is suffering from, expressing hope that regional states would find solutions and devise policies between them that would reflect positively on their peoples.

The 3-day gathering, attended by water specialists from the region and the world, will debate 70 working papers on water security, water challenges across the Arab world, up-to-date rain water management techniques in addition to drought and water scarcity in the Horn of Africa.

"International water conference opens in Amman", 13/05/2012, online at: ype=1">http://www.petra.gov.jo/Public_News/Nws_NewsDetails.aspx?Site_Id=1&lang=2&NewsID=70151&CatID=13&Type=Home>ype=1

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Climate Change and Security in Pakistan: Ambassador Holbrooke's Prescient Warning

According to Bob Woodward's most recent book *Obama's Wars*, the late Ambassador Richard Holbrooke, during a meeting on Pakistan chaired by President Obama, <u>asserted that there was a climate change angle</u>to the situation in Kashmir, where Indian and Pakistani troops were concentrated on and around the fast-melting Siachen glacier. His concerns were apparently met with incredulity, with some unnamed participants in the meeting later asking "Was Holbrooke kidding?"

Well, as it turns out, Holbrooke's concerns were highly prescient. In the years following his warning, Pakistan has experienced some of the worst climate-related disasters in its history, including in Siachen.

A recent piece in *Foreign Policy* by Michael Kugelman, South Asia expert at the Woodrow Wilson Center, demonstrates Pakistan's precarious climate and environmental landscape, highlighting glacial melt in Siachen which recently led to an avalanche killing "124 Pakistani soldiers and 11 civilians," the massive floods of 2010 which affected over one-fifth of the country and displaced millions of people, and the record-breaking monsoon rains of 2011, all of which a number of climatologists have since linked to climate change. The piece also explores the effect of climate change and environmental insecurity on Pakistan-Indian relations, urban violence in Pakistan, and nuclear security.

In short, climate and environmental security are important factors in Pakistani security. There is no longer any excuse for national security planners to treat the issue with incredulity. It is a reality that will have to be confronted.

"Climate Change and Security in Pakistan: Ambassador Holbrooke's Prescient Warning", 14/05/2012, online at: http://climateandsecurity.org/2012/05/14/climate-change-and-security-in-pakistan-ambassador-holbrookes-prescient-warning/

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Women and sustainable development: Women's empowerment is a key factor for achieving sustainable

Sustainable development depends on an equitable distribution of resources for today and for the future. It cannot be achieved without gender equality. Women's empowerment is a key factor for achieving sustainable economic growth, social development and environmental sustainability.

Sustainable development is broadly defined as development which meets the requirements of the present without compromising the ability of future generations to meet their own needs. Sustainable development should be a key principle of all policies and actions, which are broadly designed to create a society which is based on freedom, democracy and respect for fundamental rights, fostering equality of opportunity and solidarity within and between generations.

The sustainable development should be based on balanced economic growth and price stability, a highly competitive social market economy, aiming at full employment, a high level of education and social progress, and a high level of protection and improvement of the quality of the environment.

Sustainable development should be a key objective for all national policies, and should aim at the continuous improvement of the quality of life on earth of both current and future generations. It is about safeguarding the earth's capacity to support life in all its diversity. It is based on the principles of democracy and the rule of law and respect for fundamental rights including freedom and equal opportunities for all. It brings about solidarity within and between generations. It seeks to promote a dynamic economy with a high level of employment and education, of health protection, of social and territorial cohesion and of environmental protection in a peaceful and secure world, respecting cultural diversity.

Viewed in a broad spectrum, women have played a vital role in the global environmental movement. The World Commission on Environment and Development, in its report entitled Our Common Future, published in 1988, linked the environmental crisis to unsustainable development and financial practices that were worsening the North-South gap, with women a majority of the world's poor and illiterate.

Over the years, women have continued to speak out for policies and practices that do not threaten the health and well-being of future generations. They continue to fight for improved living standards and protection of the environment. In almost all countries, women are disproportionately represented among the poor. And studies have found that the poor, in urban and rural areas of rich and poor countries, bear the greatest burden of environmental degradation and pollution.

Women share the primary responsibility for nutrition, child care and household management in almost all countries. They are also active in environmental management. In most developing countries, women play a major role as farmers, animal tenders, and water and fuel collectors. Yet,



despite their roles, women are not adequately represented in the decision-making processes related to the issues of environment and development at local, national or international levels.

Having their expertise, knowledge and perspective been overlooked for years, women are now demanding that their voices be heard. They recognize that an integrated approach to sustainable development is necessary since political, economic, social and environmental issues are closely interlinked.

Women took active part in the Rio Earth Summit process and succeeded in obtaining a chapter on women and sustainable development and and over one hundred references and recommendations pertaining to women in the final agreement, Agenda 21. The 1992 Rio Summit, together with the 1993 Human Rights Conference, the 1994 International Conference on Population and Development, the 1995 Social Summit and the 1995 Fourth World Conference on Women, have focused the work of the United Nations on the environment, population, human rights, poverty and gender, and the relationships between these issues.

In Rio, women were considered a "major group" whose involvement was necessary to achieve sustainable development. Today, there is a growing emphasis on "mainstreaming"- integrally incorporating women's concerns and participation in the planning, implementation and monitoring of all development and environmental management programmes to ensure that women benefit. The United Nations system is in the process of mainstreaming a gender-perspective in its work.

The Fourth World Conference on Women held in Beijing in September 1995, emphasized that empowerment, full participation and equality for women are the foundations for peace and sustainable development. The plan also acknowledges that sustainable development policies that do not involve women and men alike will not succeed in the long run.

Women and poverty

According to broad estimates, more than one in five people around the world live in conditions of extreme poverty on little more than \$1 per day. In all developing regions except East Asia, the number of poor people has been rising since the 1980s. Studies indicate that the gaps between rich and poor are widening, and that the majority of the world's poor are women. Since the 1970s, the number of rural women living below the poverty line has increased by 50 per cent, in comparison with 30 per cent for men.

Women accrue less income than men over their lifetime for a variety of reasons. They get paid less for the same work and are more likely to work less in order to reconcile their careers with child or elder care. These gaps in women's employment history reduce the amount of social security women gain. It also decreases the likelihood of receiving credit or loans. All these facts increase women's vulnerability to poverty, especially in old age. Governments must introduce policies, programmes and quota systems which correct this imbalance.



The United Nations Development Programme has defined sustainable development as development that not only generates economic growth but distributes its benefits equitably, that regenerates the environment rather than destroying it, and that empowers people rather than marginalizing them. It is development that gives priority to the poor, enlarging their choices and opportunities and providing for their participation in decisions that affect their lives.

Many women's groups are concerned that current patterns of economic development and globalization are increasing the gap between rich and poor, benefiting men more than women, and leading to increased environmental degradation. One report published by the Women's Environment and Development Organization (WEDO), "The imperatives of the global economy seem to be outrunning the post-Rio agenda five years later. How to bring them into closer step is the current challenge." Women are calling for gender-sensitive research in this area. They are also calling for increased access to resources - land, credit, education, technology and information--so that they can participate equally with men in key decisions that affect their lives and all life on planet Earth.

Women have also raised demand that Governments establish new forms of economic accounting to include women's unpaid work and promote public policies that will reduce the disproportionate time women spend working, which is often twice as much as men.

Management of natural resources

In almost all developing regions, women are often the primary users and managers of land, forest, water and other natural resources. Women in rural areas of developing regions spend major parts of their day growing food, gathering fuel wood, cooking and carrying water.

Women are responsible for most local food production in Africa and Asia. Consequently, they are responsible for the selection of seeds, fertilizers and pesticides and the maintenance of productive soil to nourish seedlings and plants. Women are also users, preservers and managers of biodiversity. Research on 60 home gardens in Thailand revealed 230 different species - many of which had been rescued from a neighbouring forest before it was cleared.

Indigenous women have a special relationship to natural resources. Their cultures and practices promote a balanced, respectful use and preservation of natural resources so that future generations can meet their needs. Yet most development schemes today ignore the needs and practices of indigenous peoples.

As consumers and producers, caretakers of their families and educators, women play an important role in promoting sustainable development through their concern for the quality and sustainability of life for present and future generations. However, due to discrimination, many women are unable to exercise their full potential in natural resource and environmental management, given their lack of training, status, land and property rights and capital.



Women and water

In rural areas in most developing countries, women are the managers of water resources - often walking miles to fetch water for basic household chores. In some parts of Africa, women and children spend eight hours a day collecting water. The proportion of rural women affected by water scarcity is estimated at 55 per cent in Africa, 32 per cent in Asia and 45 per cent in Latin America.

Access to safe water is also an issue of increasing concern for urban women and families. Poor water access and quality affect not only women's crop and livestock production and the amount of labour they must expend to collect, store and distribute water, but also their health and that of their families. Water-borne diseases such as cholera, dysentery, typhoid, malaria and diarrhoea claim millions of lives each year. Parasitic diseases, such as onchocerciasis (river blindness), are also spread through contaminated water.

However, despite their responsibility for water collection and sanitation management, women rarely participate in decision-making when the construction of facilities is planned. All too often they have no say about the location of a pump or the design of latrines. It is now recognized that the exclusion of women from the planning of water supply and sanitation schemes is a major cause of their high rate of failure. In order to improve health and quality of life for women, water and sanitation programmes must concentrate on reducing the time and energy women expend in water collection, and increasing women's participation in community decision-making regarding water and sanitation.

Efforts must also be increased to ensure access to safe water. According to broad estimates, currently, more than one billion people in developing countries do not have access to safe water.

Conclusion

Women's contribution to sustainable development must be recognized. Women have a strong role in education and socializing their children, including teaching them care and responsibility with regard to the use and protection of natural resources. More should be done to increase women's voice in environmental decision making and to enable women to seize opportunities in the "green economy". More capacity building programmes and training tailored to the needs of women are needed. In order to build women as catalyst for sustainable development, their role in family, community and society at large has to free from socio-cultural and religious traditions that prevent women participation. There is need for change of mindset, especially of the males who dominate the scene.

"Women and sustainable development: Women's empowerment is a key factor for achieving sustainable economic growth", Arvind Kumar, 13/05/2012, online at: http://www.indiawaterportal.org/node/26747

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Report calls for action at Rio to reverse biodiversity free fall

Biodiversity has decreased by an average of 28% globally since 1970 and the world would have to be 50% bigger to have enough land and forests to provide for current levels of consumption and carbon emissions, the conservation group WWF said today (15 May).

Unless the world addresses the problem, by 2030 even two planet Earths would not be enough to sustain human activity, WWF said, launching its "Living Planet Report 2012", a biennial audit of the world's environment and biodiversity - the number of plant and animal species.

Yet governments are not on track to reach an agreement at next month's sustainable development summit in Rio de Janeiro, said Jim Leape, WWF International's director general said.

"I don't think anyone would dispute that we're nowhere near where we should be a month before the conference in terms of the progress of the negotiations and other preparations," Leape told reporters in Geneva.

"I think all of us are concerned that countries negotiating in the UN system for an outcome for Rio have not yet shown a willingness to really step up to meet these challenges. Those negotiations are clearly still tangled."

EU's Rio agenda

The European Union is pushing an agenda for Rio that includes binding targets for the expansion of sustainable energy to developing nations, a shift to a more resource-efficient economy and biodiversity protection. It also wants to strengthen the UN Environment Programme to give it more muscle to monitor and enforce treaties.

However, <u>EU officials have recently acknowledged that they face high hurdles</u> in achieving the EU's goals.

The Rio+20 meeting on 20-22 June is expected to attract more than 50,000 participants, with politicians under pressure from environmentalists to agree goals for sustainable development, in the spirit of the Rio Earth Summit that spawned the Kyoto Protocol 20 years ago.

Despite that pact aimed at cutting planet-warming carbon emissions, global average temperatures are on track for a "catastrophic increase" by the end of the century, WWF said.

Leape said there were many initiatives governments could take unilaterally without being "held hostage" to the wider negotiations for a binding global climate deal to replace Kyoto, which expires this year.

It said the world should move away from "perverse" subsidies on fossil fuels that amount to more than €389 billion annually and ensure global access to clean energy by 2030.

Greener economy

Asked why environmentalists were still struggling to win the argument that something needed to be done, Leape said: "Let's not underestimate the inertia in the system.



"We've built an economy over the last century that is built on fossil fuels and on a premise that the Earth's resources could not be exhausted. You see that conspicuously in the case of the oceans, where we've been taking fish as if there were no tomorrow, as if fish would just always be there.

"Secondly, we're doing it in the context of a marketplace that continues to send the wrong signals. So many of the costs that we're talking about are not built into the prices you see ... Markets can work well if prices are telling the truth but at the moment they don't, in hugely important ways."

<u>Consumers were helping to turn the tide</u>, he said, because of certification regimes that give products a seal of approval, forcing companies to abide by certain standards.

"You see a growing number of commodities in which this approach is rolling out. It's in timber, it's in fish, but it's also now in palm oil and in sugar and in cotton and so forth. I think that's part of creating market signals, to allow consumers to send signals, to show their preferences and to actually begin to build a market that's heading towards sustainability."

"Report calls for action at Rio to reverse biodiversity free fall", 15/05/2012, online at: <a href="http://www.euractiv.com/sustainability/report-calls-action-rio-reverse-biodiversity-free-fall-news-512709?utm-source=Circle+of+Blue+WaterNews+%26+Alerts&utm-campaign=c13fc120ff-RSS_EMAIL_CAMPAIGN&utm-medium=email



River Rally Rocks the Planet

I'm often asked how I manage to be hopeful for the future when I spend a great deal of time publishing news about the daunting environmental problems impacting the world. I reply that it's because of the passion and commitment of the people I know who work hard every day to protect the planet we all share.

There's no better example of the warriors working toward a sustainable future than the 700 people who attended <u>River Rally</u> in Portland, OR May 4-7. For the first time, <u>River</u>

<u>Network</u> and <u>Waterkeeper Alliance</u> joined forces to host River Rally with attendees from more than 40 U.S. states as well as Bangladesh, Bolivia, Brazil, Canada, Chile, Colombia, Czech Republic, Ecuador, India, Iraq, Mexico, Peru, Senegal and the United Kingdom.

The opening reception included a Tribal Invocation by Gerald Lewis, a Yakama Nation Tribal Councilman and <u>Columbia River Inter-Tribal Fish Commission</u> Chairman. U.S. Environmental Protection Agency Administrator <u>Lisa P. Jackson</u> gave the evening's keynote address.

The following morning began with <u>Alexandra Cousteau</u>, National Geographic Emerging Explorer and founder of <u>Blue Legacy</u>, relaying "the need to tell our stories" and how "we have to shine the light on the important work people are doing" to protect the world's water.

During the four days of the conference, water advocates spent time in workshops that shared best practices for watershed restoration, stormwater management, water quality monitoring, water and energy conservation, green infrastructure, habitat restoration, safe drinking water and more.

The keynote speaker for Saturday eventing was Robert F. Kennedy, Jr, senior attorney for Natural Resources Defense Council and president of Waterkeeper Alliance, who was introduced by James Curleigh, CEO of <u>Keen Footwear</u>, one of the leading sponsors of the Rally.

Curleigh's exuberance shined through as he philosophized on "living a <u>HybridLife</u>" -- having a commitment to create, play and care. He then introduced Kennedy, referring to him as "a legend and the ultimate water warrior."

Kennedy also keynoted a <u>rally in Portland</u> with more than 400 people on May 7 opposing the exporting of coal and six coal export terminals proposed for Oregon and Washington that would ship 150 million tons of coal per year from Wyoming and Montana to Asia.

The last night of the conference was the River Heroes Reception, which celebrated the work of many of the water advocates through the presentation of awards from their colleagues.



Throughout the conference, I had the opportunity to sit down with many of the Keepers and River Network affiliates to get the skinny on their work.

One of the most interesting stories I heard came from Nabil Musa, the <u>Iraq Upper Tigris</u> <u>Waterkeeper</u>. Musa discussed the many problems Iraq's watershed faces due to pollution and degradation of the rivers themselves, and upstream water diversion projects. He also mentioned the challenges he faces as an advocate in a country where government decision-makers view the rivers as abstract resources that they can pollute, divert, drain and trade away without consideration of the communities and ecosystems that are destroyed.

Danielle Katz, founder and executive director of <u>Rivers for Change</u>, talked about the 12 Rivers in 2012 campaign that will explore, sample and record conditions on 12 critical California rivers as they paddle from Source to Sea down these watersheds. The campaign will highlight the health of these local ecosystems to help promote the interconnectedness and interdependence of our states' communities on this precious resource.

I met with Carla Garcia Zendejas, a board member of <u>Bahia Magdalena Baykeeper</u> and <u>Tijuana Waterkeeper</u>. Bahia Magdalena works along the Pacific coast of the Mexican state of Baja California Sur. Julio Solis serves as Magdalena Baykeeper and works to protect mangroves and gray whale breeding grounds against unsustainable large-scale tourism development. Tijuana Waterkeeper is on the U.S.-Mexico border in Baja California. Margarita Diaz serves as Tijuana Waterkeeper and works to improve conditions of the Tijuana River watershed due to challenges from the lack of sewage infrastructure, and educates the public and governmental officials on the consequences of polluting the waterway.

Cathy Kellon and Kate Carone from <u>Ecotrust</u> talked about the Whole Watershed Restoration Initiative that focuses on restoring salmon spawning and rearing habitat to ensure recovery of Pacific Northwest salmon and steelhead.

<u>Spokane Riverkeeper</u> Bart Mihailovich shared his story about trying to reverse a culture of non-compliance with state, federal and tribal clean water laws. From addressing toxic runoff to holding dischargers accountable, Spokane Riverkeeper is restoring a river that for generations has been the main vein of the great Inland Northwest.

Brenda Archambo, president of <u>Sturgeon For Tomorrow</u>, explained the importance of protecting the bottom-dwelling, ancient species of lake sturgeon and how she assists fisheries managers in the rehabilitation of this species that made its first appearance about 136 million years ago.

I sat down with Krystyn Tully, vice president of <u>Lake Ontario Waterkeeper</u>, who told me about the new <u>Swim Guide</u>, an app that makes it easy to explore and enjoy the best beaches near the Great Lakes, California Coast, Florida and Alabama.



While hanging out in the hotel lobby, I ran into Hans Cole from <u>Patagonia</u>, the sponsor of the scholarship fund for River Rally. I thanked him for his support and he replied, "We know how important it is for grassroots activists working on the front lines of the environmental crisis to get the right training and to feel connected to a larger community."

Thanks to the leadership of executive directors Marc Yaggi from <u>Waterkeeper Alliance</u> and Todd Ambs from <u>River Network</u> for having the foresight to combine efforts and create the largest international gathering of water protection advocates.

I'm grateful for the time I spent with these incredible water warriors who are making a difference in their communities and local watersheds. There's nothing like spending five days with kindred spirits in the lush Pacific Northwest to rejuvenate the soul and rekindle the fire to go back home and continue the work of protecting our planet.

"River Rally Rocks the Planet", 15/05/2012, online at: http://www.huffingtonpost.com/stefanie-penn-spear/river-rally-rocks-the-pla b 1514526.html



* Most satisfied with air, water quality

WASHINGTON, May 15 (UPI) -- People living in Europe and Asia are most satisfied with their air and water quality, with Hong Kong the least, surveys of 140 countries indicated.

The Gallup surveys found a median of 75 percent of adults from 140 countries said they were satisfied with their air quality, while a median of 68 percent were satisfied with water quality.

Ninety-five percent in Ireland said they were satisfied with their air quality, followed by New Zealand, Australia, Cambodia, Bangladesh, Singapore, Germany, United Kingdom, India and Tajikistan.

The countries least satisfied with their air quality were Hong Kong, Angola, Malta, Iraq, Haiti, Lebanon, Albania, Russia and Ukraine.

Ratings of water quality were highest across wealthier countries in Europe, the Americas and developed Asia.

Specifically, 97 percent of residents in the United Kingdom were satisfied with water quality, 96 percent in Germany, 96 percent in Sweden, 96 percent in Denmark and 95 percent in Singapore.

Perceived water quality was generally lowest in sub-Saharan Africa, the Middle East and countries that were formerly in the Soviet Union. Seven of the 10 countries where residents are least satisfied are in sub-Saharan Africa, where residents sometimes have to walk miles for water, and waterborne and water-related diseases such as cholera are common, Gallup officials said.

The telephone and face-to-face interviews of 1,000 adults, age 15 and older, were conducted in more than 140 countries in 2011. The surveys' margin of error ranged from 2 percentage points to 5.1 percentage points.

"Most satisfied with air, water quality", 15/05/2012, online at: http://www.upi.com/Health_News/2012/05/15/Most-satisfied-with-air-water-quality/UPI-38301337057190/



History in the making, water agreement touted as game changer for Colorado Water Management

The culmination of several years of negotiations on water protections for the Western Slope took place on Tuesday at the Grand County Administration Building during an official signing of the Colorado Cooperative Agreement.

The signing took place more than one year after Colorado's Gov. John Hickenlooper last visited Grand County, when he first rolled out the Colorado Cooperative Agreement, deemed an unprecedented water agreement for our time. The agreement aims to settle years of East and West Slope water disputes.

"I'm not sure the fighting's ever going to completely stop," Hickenlooper said, "but it is nice to see we are at least moving into rubber bullets and beanbag shot guns rather than the high-velocity weapons we were using before."

"We're saying by this agreement that there's a better way of doing business," said Denver Water Commissioner Penfield Tate. "We ended a bunch of lawsuits and decided to cooperate and that's important from my perspective. It's better to reach an agreement and have certainty rather than spend a whole bunch of time and a whole bunch of other people's money fighting over things. It doesn't belong to me, it doesn't belong to you, it belongs to the planet. We need to have a healthier way of ensuring a more reliable water supply, on both sides of the Divide and for all of our customers."

Since the governor's roll-out of the agreement last year, water attorneys and water officials have been pounding out implementation strategies for each of the benefits highlighted in the agreement, according to Grand County Manager Lurline Underbrink Curran.

"It is hoped by all the signatories to the agreement, including Denver, that we have formed a peace pact for our time," Underbrink Curran said last week, "and that we are all going to work together from now and into the future to make sure that all the things that each entity was promised happens, and that the protections Grand County was promised happen."

Denver Water's Moffat Firming Project and its goal to enlarge Gross Reservoir to divert more water from the West Slope, plus its 2006 diligence application in federal court regarding water rights under the Blue River decree, sparked negotiations in an arena when litigation and political disputes between Colorado's West and East Slopes were ripe with potential. A mediator was hired in 2007 under then-Denver Mayor Hickenlooper's advisement, and as many as 35 parties from the Front Range to the western state line joined in to try and resolve some of the state's longest-standing water issues.

The result is a 50- page document, plus pages upon pages of legal attachments, that spells out water



resolutions or "enhancements" for the Fraser and Blue rivers, certain tributaries and the upper and middle rivers of the Colorado River to the Grand Valley.

A hole in the river

In his address about the Colorado Cooperative Agreement, Hickenlooper nodded to the "mother of all compacts 90 years earlier," the Colorado River Compact signed in 1922.

Population and temperature increases and greater uses of the river have put a strain on the state's resources, he said, pointing out that 80 percent of moisture falls west of the Continental Divide, while 80 percent of the consumption is east of the Continental Divide.

With this in mind, the cooperative agreement and its "Learning by Doing" comes at a key time. "Like a muscle, once you start using it, it can only get stronger," Hickenlooper said.

"It's important to do a deal like this, because water is something none of us know how to make any more of," Tate said. "So the best we can do is manage the resource that has been given to us by other sources to make sure it's available to everyone in the state, not just those of us in Denver."

Besides \$11 million in Denver Water dollars promised to address some river issues specifically in Grand County, with more dollars for Summit and Eagle counties, the agreement highlights the importance of the Shoshone Power Plant to the entire Western Slope.

The plant, which has been around since 1902, "puts a demand on the stream," according to Eric Kuhn, executive director of the Colorado River District, during an annual State of the River meeting last week. "When it puts a demand on the stream, water is released from Wolford to Green Mountain and from Williams Fork (reservoirs). All that water reaches Kremmling and runs downstream and provides stability," he said.

"The thing we've been concerned about is the 110 year-old plant has started to behave like a 100 year-old plant. We've asked, and Denver has agreed ... to operate its system like the plant was operating, so we wouldn't put a hole in the river. That hole in the river causes problems for irrigators, causes problems for fishing and causes problems for rafting."

The agreement is also poised to settle a Green Mountain reservoir administration dispute, which has been brewing since 1955, according to Kuhn, as well as the Blue River Decree settlement.

And in the agreement, Denver Water set its service area so that it does not become a conduit for expansion on the Front Range.



An agreement on Denver Water bypass flows on the Fraser River amounting to about 3,000 acre-feet, plus 1,000 acre-feet of water allocated each year for environmental purposes from Denver Water's Fraser Collection System are big Grand County "gets," according to county officials.

"I believe the county got everything they could get out of this agreement," Underbrink Curran said last week.

"Would we have liked to have had more water? Sure we would have," she said. "Would we have liked to have had more money? Sure we would. In any negotiations, you always have to be able to give up some things to gain other things. Everything the county bargained for was for the environment."

And how will Grand County see to it promises outlined in the agreement are kept?

"This IGA is a contract," Underbrink Curran said. "Legal action can be taken to enforce the contract if necessary."

"At first we thought we wanted it all in the record of decision (of the Moffat Firming Project permit)," said Grand County Commissioner James Newberry, during last week's State of the River meeting. "But the more we thought about that, the more we thought we had a better chance of going back into the contract and dealing with the issues we wanted changed rather than reopening the entire federal process. It seemed a more direct and efficient way to approach it."

The Colorado Cooperative Agreement is not a deal until all players have signed.

And most of the benefits depend on the permitting of Denver Water's Moffat Firming Project.

Silent partners

With the exception of Grand County, which is a consulting agency on the Moffat Firming Project for the U.S. Corps of Engineers, all signatories of the enhancements document must be silent about Denver Water's National Environmental Policy Act, or NEPA, process with the Corps. If a permit is issued, then at that point, Grand County has agreed it will no longer object to the permit, according to Underbrink Curran.

But until that permit is issued, "We continue to support the comments we made for mitigations," she said. "We continue to provide any information the Corps has asked for."

Although it commends the collaborative approach to Colorado's water problems, Colorado Trout Unlimited still cautions West Slope water stakeholders that additional measures, such as more



mitigation listed in the federal record of decision, are needed to protect the Upper Colorado River ecosystem.

"The job isn't finished," said Mely Whiting, counsel for Trout Unlimited's Colorado Water Project. "Unless the impacts of these new projects are mitigated, the river habitat will continue to decline, according to the state's own studies. The Colorado River is still very much a river at risk."

Underbrink Curran assures the county is well-insulated from legal loopholes or future manipulation of the Colorado Cooperative Agreement. During the longer than five years of negotiations, Grand County was represented by legal council, two NEPA specialists, a water engineering firm and the county attorney, she said.

"Has this been vetted for Grand County? Over and over and over," she said.

"There were some of the most high-powered water attorneys and engineers in the state involved in this from day one," Underbrink Curran said. "To do all that with that many attorneys that are that well-known and respected in the state, without litigation, it's pretty amazing when it comes right down to it.

"At first, it was certainly a turf war," she continued. "But after awhile, while everyone was still protecting their turf, there was a recognition that we were doing something bigger than ourselves."

"History in the making, water agreement touted as game changer for Colorado Water Management", Tonya Bina, 16/05/2012, online at: http://www.skyhidailynews.com/article/20120516/NEWS/120519958/1079&ParentProfile=1067



Chile's Supreme Court Blocks Dam Project

Chile's Supreme Court has handed down a possibly landmark decision that will require more stringent environmental reviews of major construction projects and could help opponents challenge a series of planned hydroelectric dams in Patagonia.

In the 11 May decision, the high court voted 3 to 2 to invalidate the recent approval of the Río Cuervo dam in Chile's Aysén region. The justices ruled that project backers had not completed a required geological survey before a regional government agency approved the project. The dam's approval "is unlawful" because the agency hadn't considered "the indicated ground survey that, in the opinion of this Court, is essential for the approval or rejection of the project."

The decision "is clearly a radical change in the historical judgments of the Supreme Court," said Fernando Dougnac, attorney for the Environmental Prosecutor's Office, which filed the challenge on behalf of local residents opposed to the dam. It confirms that "studies should be performed before the decision is made," he said.

The Rio Cuervo dam is being developed by Energía Austral, a joint venture between Switzerland-based Xstrata Copper and Australian energy retailer Origin Energy. The dam would have a total installed capacity of more than 640 megawatts and cost \$735 million. It is part of a larger \$3.6 billion scheme that calls for three dams.

The project has been controversial. The proposed dam and a 13,000 hectare reservoir would be located on the Liquiñe-Ofqui fault, which was involved in the recent eruptions of the Chaitén and Hudson volcanoes, and in a 2007 earthquake that killed 10 people near the city of Puerto Aysén.

Energía Austral noted that "in no way should the court's ruling be understood as a rejection of the project under evaluation," and said it will renew its effort to have the project approved and will complete the required geological survey within 6 to 12 months.

The decision also appears to open the door to challenging another major hydroelectric project in Patagonia: the \$10 billion HidroAysén project, which plans to build five dams on the Pascua and Baker rivers and flood 5910 hectares. The same regional commission that approved the Río Cuervo dam gave the green light to the megaproject in May 2011, also without considering a number of incomplete studies.

Government officials say they will respect the decision, which overturns a long-standing practice of allowing project planners to carry out some environmental studies after project approval but before construction. "Now the Supreme Court has applied a change of opinion, of course, we will abide," said Ignacio Toro of Chile's National Environmental Commission.

"Chile's Supreme Court Blocks Dam Project", 16/05/2012, online at: http://news.sciencemag.org/scienceinsider/2012/05/chiles-supreme-court-blocks-dam.html

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❖ How a Lost Rope Swing Captures Everything Wrong with Water Policy

Although water is always with us — sitting on the desk in a bottle, splashing from the kitchen tap, atthe-ready to be flushed in the toilet — water problems often seem remote.

Drought...somewhere else. And how many of us are farmers, anyway? The lettuce and tomatoes always appear in the supermarket.

Fading aquifers...but who can envision an aquifer? You turn on the hose, the water arcs across your lawn.

And water policy decisions are even more evanescent. Who can really stop and grasp the details of withdrawl permits or irrigation allocations?

But how about when the local water authorities quite literally cut down the rope swing your kids use to plunge themselves into a peaceful, slow-moving Florida river? When officials tell you it's to protect the river your kids have so enjoyed plunging into over and over? That they are, in fact, protecting the river *from* your kids?

There's a water policy decision that smacks you in the face like a badly executed cannon-ball.

Florida is home to some of the most vividly short-sighted water policy anywhere. Rain delivers more than enough water to Florida, in a typical year, that it needs. Florida systematically collects that water and throws it away, right into the ocean — then to supply its vast farms and sprawling cities, Floridians pump furiously from an aquifer that underlies most of the state, and which is seriously over-used.

Florida is also home to some of the most beautiful river and spring landscapes in the U.S. It's hard to believe that one of the keys to protecting the state's waters is excluding children in swim trunks from those springs. Isn't the point of the protection precisely to let us enjoy the water?

The same state that cut down the rope swing out over the Suwannee River last year allowed a new permit for a power plant in Jacksonville to take 163 million gallons of water a day from the same river system — that's 6.8 million gallons of water an hour, enough for a city of 1.5 million people.

At least that old rope swing won't slow down all that pumping. Thank goodness.

Florida is also home to one of the nation's finest water journalists and authors, <u>Cynthia Barnett</u>, and in <u>an essay in yesterday's Tampa Bay Times</u>, she tells the story of her kids' lost Suwannee River rope swing, and the larger Florida water decisions that surround it.

Barnett is the author of a book about water in Florda, <u>Mirage</u>, and last fall a second book, <u>Blue</u> <u>Revolution</u>, which is about the need for a whole new attitude about water in the U.S., a new water ethic.



Both are elegant, inspirational, indispensible.

But water has the most impact on us when it is immediate, even intimate. Barnett's <u>short story in the Tampa Bay Times</u> is about getting the small things right while getting the big things terribly wrong; about disconnecting ourselves and our kids from nature; it's about Mother's Day. And it's about the unaccountable loss of the exuberance that comes right at the moment you let go of the rope and plunge for the water.

⁶⁶How a Lost Rope Swing Captures Everything Wrong with Water Policy", 14/05/2012, online at: http://newswatch.nationalgeographic.com/2012/05/14/how-a-lost-rope-swing-captures-everything-wrong-with-water-policy/



❖ Worst drought in 50 years takes toll in northern Brazil

Severe drought gripping northeastern Brazil – the worst in a half-century — is taking its toll on more than 1,100 towns, even triggering fighting in rural areas, local media reported Sunday.

An average of one person a day is being killed in "water wars" in rural areas, while scores of animals are wasting away before perishing, the O Globo newspaper reported over the weekend.

Short water supplies have devastated farm output, the report said, endangering the lives of local people and their livestock.

Many people in the area have lost half their livestock, and the Brazilian government has reduced forecasts for corn, soy and bean crops.

In Pernambuco, 66 municipalities are on water emergencies, rivers have run completely dry and animals looking for water in the riverbed can only find the odd muddy puddle.

Local dams in the region are running dry, and abuses are rife. In one cited example, water truck drivers make deliveries — but only if customers promise to vote for certain local candidates.

"Worst drought in 50 years takes toll in northern Brazil", 14/05/2012, online at: http://www.rawstory.com/rs/2012/05/14/worst-drought-in-50-years-takes-toll-in-northern-brazil/



❖ Is environmentally sustainable water, energy and land for all possible?

Lowering consumption in the developed world, renewables, ending land grabs, a price for natural resources, private sector investment – what's the answer?

How do you ensure access to safe <u>water</u>, <u>energy</u> and land in a way that benefits the poorest people on the planet but does not harm the environment?

The latest <u>European Development Report</u> (EDR), launched in Brussels on Wednesday, <u>sketches out a few broad ideas</u>, but the big question is how do we translate this 200-page document into practical action?

The overriding message of the report, Confronting scarcity: managing water, energy and land for inclusive and sustainable growth, is one of urgency – we have to act now to find sustainable ways to meet the increasing demand for resources. Fair access to water, energy and land can no longer be addressed in a piecemeal fashion. There needs to be joined-up thinking to meet the challenges. The authors have called this the "WEL nexus".

A joined-up approach is sensible. But how do we do this? The report calls for a "radical reduction" in consumption among developed countries, more innovation and scale-up of <u>renewable energy</u> technologies, more effective management of resources, inclusive land policies that make access to land and water for the poorest a prerequisite, and appropriate pricing of natural resources that safeguards the welfare of the poorest.

Achieving this will require efforts from the public and private sectors and the international community - in this case the EU.

The public sector provides the framework and some of the capital, the <u>private sector</u> brings new, sustainable business models and investment opportunities, and the international community backs this up with policies to promote corporate social responsibility, good governance and aid. There is also scope for public-private partnerships.

There are many things to applaud about the report; its acknowledgment of "land grabbing" being one.

The report is clear that the right government legislation needs to be in place to ensure any private sector investment in land is fair and transparent. It says land tenure needs to be addressed and acknowledges that an awful lot of land, particularly in Africa, is held under customary law, ie it may not have title deeds.

The report also calls for the separation of water and <u>land rights</u>. As <u>a report</u> by the International Institute for Environment and Development pointed out last year, investors are leasing tracts of land to get hold of the water rights to boost their productivity. Land acquisition should not imply water rights, said Imme Scholz, from the German Development Institute, at the EDR launch.

All good stuff, but how do you get the private sector to play ball?

The private sector involvement in development makes many people shudder. But increasingly business is being hailed as a saviour in times of austerity. The UK's Department for International Development set up <u>a private sector department</u> last year, and the US aid agency, USAid, has also given private sector involvement the green light.



At the EDR report launch, the EU commissioner Andris Piebalgs said the private sector has the resources and flexibility to do more and have a greater impact on development. It can "strengthen" the work of the European Commission and drive a country's growth – economically and socially – he said.

In the EC's new policy document, Agenda for Change, endorsed by European ministers on Monday, the EC outlined its commitment to increase private sector involvement, offering grant funding to manage investment risks in poorer countries. Working with national governments will be crucial in establishing clear legal obligations that investors must adhere to, so benefits are felt in a country rather than in overseas boardrooms, said Piebalgs. Land deals need to be transparent, he added.

The commissioner sees the private sector as crucial to increasing access to energy, a particular interest of his, and one that is being taken up by the UN. The UN general secretary Ban Ki-moon launched the <u>Sustainable Energy for All initiative</u> to ensure universal access to a modern energy source by 2030. The challenge is to provide innovative renewable energy sources, something the private sector could play an important part in generating.

But what is the best way to engage the private sector? How do you provide incentives for business to invest while at the same time make sure they act responsibly? And how do you support local investors and ensure the benefits of any new ideas trickle down to the poorest?

Big questions, but so far no satisfactory answers. And with a poor track record, it is perhaps not surprising that civil society groups are nervous about business investing in poorer countries.

Madiodio Niasse, director of the International Land Coalition, said at the EDR report launch: "We need to ensure local entrepreneurs, local people can invest in their communities. That's missing [from the report]."

And that brings us back to the question of how we translate the report into concrete actions for the benefit of all.

The EDR authors hope it will provide a good base for discussions at next month's Rio+20 summit, but with summit negotiations already behind schedule amid concerns there is no broad agreement on what should be in the outcome document, it is difficult to see what influence the report will have on proceedings. Piebalgs said the EC would take the report into account when designing policy, but surely only the bits that chime with member states.

Niasse said it is going to take a "quantum leap" to put the points of the report into practice. He's not wrong.

"Is environmentally sustainable water, energy and land for all possible?", 17/05/2012, online at: http://www.guardian.co.uk/global-development/poverty-matters/2012/may/17/environmentally-sustainable-water-energy-land?newsfeed=true

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❖ EU-funded programme to develop regional policy on waterways

Almost €200,000 has been made available to promote the environmental protection and economic development of the midwest region's principal waterways.

The Mid-West Regional Authority has been allocated €192,000 under an EU-funded programme to develop areas including Lough Derg, the Clare coastline, the river Shannon and the Shannon estuary.

The authority has been tasked with developing a regional policy aimed at ensuring the future planning and development of rivers and waters in Limerick, Clare and Tipperary are compliant with the water framework directive.

The objectives of the EU directive are to protect all high-status waters, prevent further deterioration of all waters and to restore degraded surface and ground waters to good status by 2015.

Under the terms of the EU-funded Territories of Rivers Action Plans project, the authority will work with authorities in seven other European countries, exchanging information on best practices in landscape protection, management and planning.

Several agencies are currently involved in the management of river territories in the midwest, including local authorities, the Environmental Protection Agency, Waterways Ireland, the Shannon Regional Fisheries Board, the ESB, the Office of Public Works and the Shannon-Foynes Port Company.

"EU-funded programme to develop regional policy on waterways", 15/05/2012, online at: http://www.irishtimes.com/newspaper/ireland/2012/0515/1224316130199.html



❖ Water policy needs 'radical' change to protect people and environment

Ahead of Rio+20, a report is calling for a joined-up approach to managing the world's water, land and energy demands

The international community needs to "radically transform" the way it manages <u>water</u>, <u>energy</u> and land to ensure the needs of the poorest people are met and the environment is protected, according to the European Report on Development, published on Wednesday.

The flagship report, <u>Confronting scarcity: managing water</u>, energy and land for inclusive and <u>sustainable growth</u>, calls on the EU to adopt an integrated approach to managing the three elements to achieve universal access to water and energy, and sustainable food security.

An estimated 1 billion people are still undernourished, around 0.9 billion have no access to safe water and 1.5 billion have no electricity. The demand for water and energy is expected to rise by 40% by 2030 and by 50% for food. Badly managed or scarce resources tend to hit the poorest people hardest.

"Co-ordination failures between policies on water, energy and land need to be addressed to avoid the negative impacts of these interlinkages," said the report, which aims to "shape global action" in the run-up to next month's Rio+20 UN conference on sustainable development.

"A drop of water, a piece of land, or a kilojoule of renewable energy cannot be seen through the single lens of one sectoral policy or management system. What might appear to be an efficient policy in one dimension can be harmful for others," it said.

Achieving this joined-up approach will involve the public and private sectors, and the EU. The public sector would provide the regulatory and legal frameworks for change, including those that make for a more conducive environment for <u>private sector</u> investment, as well as some of the money. The private sector should create more sustainable practices in accessing and consuming natural resources, while the EU will support poorer countries through aid and its wider development policy.

Launching the report in Brussels, the European commissioner, Andris Piebalgs, said: "This report is particularly relevant and timely ahead of the UN Rio+20 conference and the <u>international year for sustainable energy for all</u>. Water, energy and land are crucial resources for development and human wellbeing, and scarcity cannot be overcome by piecemeal actions."

The annual report, compiled by the Overseas Development Institute, the European Centre for Development Policy Management and the German Development Institute, sets out ideas for governments, business and the EU to consider. To strengthen water security for poor communities, for example, it suggests that national governments are supported to implement integrated water resources management programmes.

It calls for a significant reduction in the environmental footprint of consumption in developed countries – though not exclusively.



The report also urges governments to ensure land investments contribute to economic development and that deals are not at the expense of weakening ecosystems or people's livelihoods. It argues for strengthened land tenure to protect customary and collective rights.

Initiatives that protect the environment, such as halting deforestation, should be rewarded with payments, says the report, offering as an example a scheme operating around <u>Lake Naivasha</u> in Kenya under which companies pay local smallholders who put their land to good use.

The sentiments of the report chime with an increased focus on joined-up approaches to the challenges of water, land, energy and food security. In March, the <u>ministerial declaration</u> from the World Water Forum called for a greater recognition of the links between water, food and energy in decision-making to improve the "sustainable management of these scarce resources".

In November, a report by the International Institute for Environment and Development made an explicit link between water and land. It said African governments were signing away water rights to land investors, who want to profit from water fees and improved agricultural yields and revenues. These "water grabs" show little regard for their impact on people, said the report. "Water managers must seriously consider the extent to which water rights should be linked to land in this way before setting a long-term precedent that could compromise sustainable and equitable supply to all users in the future," it said.

Wednesday's report comes two days after foreign ministers endorsed the European Commission's Agenda for Change policy, under which more money will be targeted towards the world's <u>least</u> <u>developed countries</u> and budget support will be made dependent on governments' human rights and <u>governance</u> records. The new agenda makes clear the EU's desire to see sustainable, inclusive growth and development, and to increase the involvement of the private sector, which includes allowing them access to development aid.

Critics have argued that the private sector role lacks clarity. "Will it be local firms in developing countries or foreign multinationals who get access to funds? EU countries need to make sure they don't divert essential aid support away from those most in need," said Olivier Consolo, director of the European NGO confederation Concord.

Last month, the EU <u>pledged €50bn to support clean energy projects</u> in developing countries.

"Water policy needs 'radical' change to protect people and environment", 16/05/2012, online at: http://www.guardian.co.uk/global-development/2012/may/16/water-radical-change-people-environment?newsfeed=true