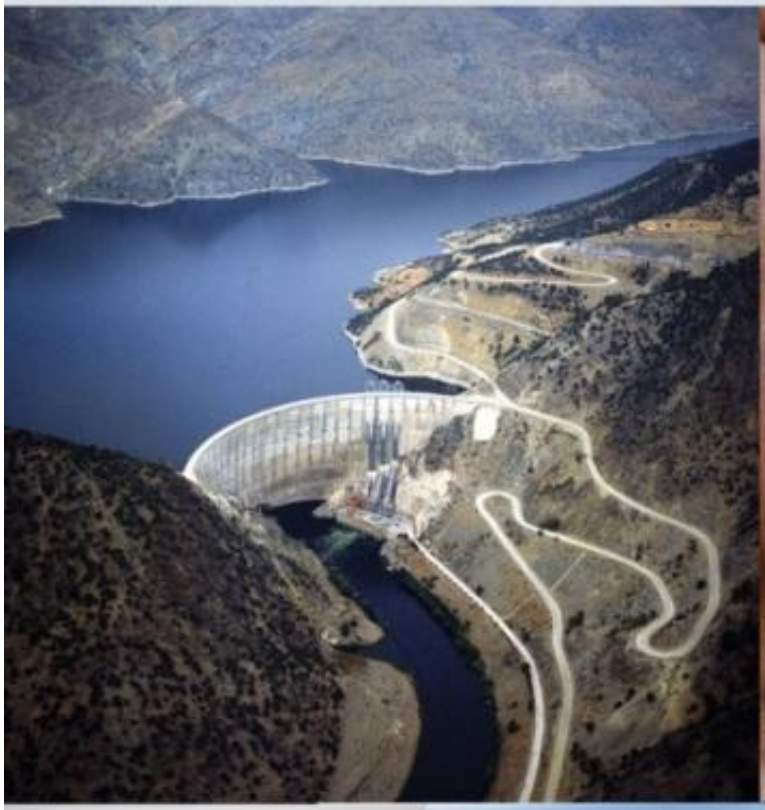


ORSAM WATER BULLETIN

Weekly Bulletin by ORSAM Water Research Programme

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





Issue 61

ORSAM WATER BULLETIN

30 January- 5 February 2012

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

❖ Iraqi Kurdistan funds water project in disputed area

GARMIYAN, Feb. 4 (AKnews) - The Iraqi Kurdistan regional government has allocated more than 545 million IQD ($468,000) to provide a water network in the disputed area of Koks parish.

The parish is located 100 km southeast of Kirkuk and lies between Kalar and Jalawla. The ownership of all these areas is disputed between Kurdistan and Baghdad.

Salar Aziz, press secretary for Garmiyan Water Directorate, said the construction of the project will launch as soon as possible.

This is not the first project that the regional government has funded in Koks. In 2009 the Kurdish government allocated land and money for the construction of 600 houses for Koks residents.

"Iraqi Kurdistan funds water project in disputed area", 04/02/2012, online at: http://www.aknews.com/en/aknews/2/288085/

BACK TO TOP

❖ Basra welcomes plans for $100m waste plant

BASRA, Feb. 2 (AKnews) - Plans for a waste plant in Basra, worth $100 million (116.4 trillion IQD), have been approved.

The Investment Commission of Basra agreed yesterday to the environmental investment plans of Dow Chemical's Kuwait branch.

The company, which already has plants in Kuwait, Saudi Arabia and Qatar, will enter Basra and invest in water purification projects and will consider providing environmental solutions, professional consultation and technical services.

Waste and industrial water will be treated and recycled, converting polluted river water and high saline ground water into safe water for drinking and irrigation.

It is also hoped that the project will increase employment prospects in the area, in particular the high number of unemployed youth.

Tawfiq al-Manei, company adviser and director of the International Bureau of Consultancy and Economic Studies, said: "We chose Basra because of its multiple benefits, most importantly the geographical location for the State of Kuwait.

"The rate of waste in Basra reaches to 2,000 tons a year which makes us in dire need for such projects to recycle and treat waste and improve the environmental situation in Basra."

"Basra welcomes plans for $100m waste plant", 02/02/2012, online at: http://www.aknews.com/en/aknews/2/287740/

BACK TO TOP

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

❖ Climate Change Could be as Dangerous to Syria as Bashar al-Assad

Five thousand Syrians have died since the uprising started but climate change could kill many more in this dry country.

Approximately 5,000 people have been killed in Syria since the uprising began in March last year, according to UN estimates, and an additional 600 detainees and political prisoners have died under torture. And yet there is a force at work that is just as sinister as President Bashar al-Assad, who calmly told ABC's Barbara Walters that he was unaware of the torture taking place in his country. It's name? Climate change.

The dangers of climate change

The National Project Director of the Initial National Communication of the Syrian Arab Republic, Dr. Yousef Meslmani wrote an op-ed for Syria Today of the dangers that climate change poses to the country.

At the end of December, Syria launched its first "water-scarcity" park to highlight the dangers of desertification and water mismanagement. Meslmani notes that climate change will exacerbate existing problems and cites the following disturbing statistics.

"New studies show it [climate change] has already led to significant regional crop reductions: of 30 percent for rice, 47 percent for corn and 20 percent for wheat," he wrote, adding that "the very shape of the Fertile Crescent, of which Syria is a part, will change, and that it might even vanish completely."

The famous springs of Damascus are dry

According to Meslmani, the Euphrates and Jordan Rivers will lose up to 70% of their annual flow as a result of low rainfall, making sustainable development even harder to attain. Without water and food, the risk of famines (like the one experienced in the Horn of Africa) is likely to increase.

Already 500,000 residents of the country's dry northeastern region have fled their homes because of water scarcity, 1.3 million more have been impacted by serious droughts, and the famed springs of Damascus have dried up.

By 2100, a combination of diminishing rainfall and high temperatures will render this country borderline unlivable if serious measures to combat climate change and fix water management issues are not taken. This in turn will worsen the country's already fractious political situation. Meslmani writes,

Climate change will affect land use patterns, accelerate the pace of land degradation, and increase the risks of drought, heat waves and dust storms. Indeed, these have already become a reality for people living in the eastern parts of the country. Low-level areas of the Syrian coast are also expected to be flooded by seawater.

Climate change may not have weapons of war. Climate change may not have a torture chamber. But this phenomenon causes by accelerated levels of greenhouse gases in our atmosphere could be just as ruthless as any dictator.

"Climate Change Could be as Dangerous to Syria as Bashar al-Assad", 30/01/2012,online at: http://www.greenprophet.com/2012/01/climate-change-danger-syria/

BACK TO TOP

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

❖ Analysis: Drought-hit Middle East ripe for conflict

Drought, rising food prices and extreme poverty have all been attributed as factors that led to the Arab Spring.

While not rated at extreme risk from climate change, the Middle East and North Africa region does suffer from severe water shortages, which could lead to conflict in the future.

Some academics attribute the collapse of the Egyptian Empire over 4,000 years ago to drought, causing 'great riots and anarchy'.

Limited adaptation planning and the lack of environmental awareness within countries' economic models has further damaged the area's ability to deal with prolonged weather events.

Between 2000-2011 Syria experienced four severe droughts, which the UN estimate left 2-3 million people in extreme poverty, and wiped out 80-85% of herders livestock.

Poor rains could lead to two of Syria's arterial rivers, the Jordan and Euphrates to lose more than half of their annual flow – potentially exacerbating an already febrile political atmosphere.

Last week UNICEF warned that half a million children could die 'or suffer physical and mental damage' unless the deadly trio of drought, conflict and poverty could be alleviated.

And access to water is also one of the key negotiating positions between Israel and the Palestinian Authority, with research suggesting the area is set to become drier as a result of a changing climate.

RTCC asked Dr Charlie Beldon, Principal Environmental Analyst at Maplecroft – who produced the Climate Change Vulnerability Index map below – for her reading of the situation in the Middle East and North Africa region.

RTCC: *The MENA region has many problems to contend with at the moment – where does climate change rate?*

CB: Climate change and related issues have the potential to be a significant risk factor in the MENA region.

Although there continues to be debate over the precise effect that climate change will have on the MENA region, it is certain that the importance of water stress issues and sustainable water use in the region will increase.

For example, Egypt will face increasing pressure on their water supply, as weather patterns and the flow of rivers such as the Nile become unpredictable.

Although drought is one of the most significant risks in the region, severe storms resulting in flooding are also a risk and events such as the flooding in Jeddah, Saudi Arabia in 2009, could become more frequent.

These risks will be compounded by the rapid population growth and rising urbanisation predicted across the MENA region.

RTCC: *What impact is climate change expected to have in the region?*

CB: Despite the generally low vulnerability across the MENA region revealed by Maplecroft's Climate Change Vulnerability Index (when compared to other countries), some of the most significant risks likely to be influenced by climate change are drought risk, particularly in the Mashriq region, flood risk in parts of Iran and severe storm risk in South West Yemen and the coast of Saudi Arabia.

However, the effects of water stress in the region is one of the most pressing issues as the MENA region is already one of the poorest in terms of available water in the world.

Current supply will be placed under even more pressure both by the growing population and the effects of climate change.

This will have an important knock-on effect on crop yields, which are predicted to decrease, which will push up local food prices and force further reliance on imported crops.

This then leaves the region more vulnerable to price shocks in the international market.

RTCC: *Is there enough capacity in the region to adapt to these changes…?*

CB: Despite the vulnerability to climate change found in some parts of the MENA region, many of the countries have some capacity to adapt to the changing climate.

In Maplecroft's Adaptive Capacity Index, which assesses governmental and institutional ability to adapt to climate change, Saudi Arabia, Oman, Iran and Kuwait are all categorised as medium risk.

In contrast, the index reveals that adaptive capacity is lower in Iraq, Egypt, Syria, Iraq, Libya, Algeria and Yemen.

This must be balanced with the sensitivity of the population, when considering factors such as the population pressure, economic resources, infrastructure, accessibility and the general health of the population.

RTCC: *Which countries could be at particular risk, and why?*

CB: Areas of high sensitivity, which will make adapting to climate change more challenging, are along the Nile where populations are high, in Iraq and the South West corner of Yemen.

The level of poverty, access to sanitation facilities and access to health care services will all make the populations living in these areas more sensitive and adaptation more challenging.

RTCC: *To what extent is CC perceived to be a threat multiplier in the MENA region?*

CB: The effects that climate change will have on the region are likely to act as a key threat multiplier for a variety of inter-related risks. For example, the lack of water for crop irrigation will impact food prices and in the long term could affect energy production.

However, climate change is just one potential threat multiplier and the effects of population growth and land use change may also have a significant impact on the risk landscape. In turn these can contribute to the risks of violent confrontations in the region.

As well as the impacts of increasing food prices, the need to irrigate crops may lead to the diversion of rivers placing increasing pressure on downstream populations.

However, joint management of water resources may help to ensure that all stakeholders are considered in mitigation plans.

"Analysis: Drought-hit Middle East ripe for conflict", 31/01/2012, online at: http://www.rtcc.org/living/analysis-drought-hit-middle-east-ripe-for-conflict/

BACK TO TOP

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

❖ And At Last There Was Water

BIR EL-BASHA, Occupied West Bank, Jan 31, 2012 (IPS) - Only days ago, turning on the tap was cause for concern. Would there be running water? Now, it's reason for celebration.

"Thank God, the installation works!" rejoices Muhammad Dakka, the village Imam. "For the first time in our lives there's running water!" his mother Rasmiyeh, 71, revels, serving sage tea and nut-filled dates to a party of Palestinian Water Authority (PWA) and International Committee of the Red Cross (ICRC) delegates.

In association with both organisations, the villagers recently inaugurated a unique water project. ICRC engineer Abed Al-Jalil Rimawi explains: "The village wasn't connected to any network. Our objective was to build an integrated system by installing connections to each household, thus making water available to everyone."

A painted jar adorns the Dakkas' door. Symbols are often a measure of what's lacking and most in need. As far as daily life is concerned, for the people of Bir El-Basha, there's 'before' the arrival of running water and 'after'. And, with it, saving money.

Until now, trucks supplied water to the villagers. The essential utility was pumped electrically at a cost into private wells up into rooftop reservoirs. "You'd order a tanker two-to-three days in advance. It was expensive," recalls Abdullah Qawadri.

"Before, water cost 4.20 dollars per cubic metre. With the network, the fee is cut by four," notes Hosni Al- Qadri, the village council head.

Water is a precious commodity here. The rainy season lasts three months, if there's no drought. In a nearby field, boys puncture lines of plastic sheets covering zucchini buds that evoke water-filled trenches glistening under the sun.

"From rains only!" exclaims a farmer watching his sons. The villagers don't own the land they work on. Fields are leased from wealthier landowners.

Here, water isn't only the water of life. Use of it, access to it, is source of pressure. A French parliamentary committee recently reported that Israel's water policies in the Palestinian territories are like "apartheid" for they discriminate Palestinians from Israeli settlers.

Brothers Kifah and Hussein Ghawadri would have bitter arguments over water consumption and how much their respective households should pay. "We'd suffer from family tensions," recalls Kifah. "It's over. Now each household has its water meter," adds Hussein.

Bir El-Basha was founded by Bedouin Palestinians. Refugees of the 1948 war belonging to the same extended family, they settled here, living in tents for over a decade.

The now dried Hafira well was their only available source of water. According to tradition, it's the pit into which the sons of Jacob, the Biblical patriarch, threw their brother Joseph. "Life was tough," Jihad Ghawadri reminisces. "We'd walk two kilometres to the village with water carried on donkeys."

Though the villagers are modest, it isn't poverty per se which has hindered them from having direct right to water, but who rules the land, and who controls its resources, its sources. In the early 1960s, the Qawadris built their dwellings with neither master plan nor permits. Temporary to this day, the village exudes a sense of everlasting.

During the 1990s, territorial agreements divided the West Bank into three zones: "Area A" (under Palestinian Authority); "Area B" (under Israeli security control and Palestinian municipal authority); and "Area C" (under full Israeli rule).

Dug by Israel in the 1970s deep into the aquifer, connected to the regional transmission pipeline, the Arrabeh well is monitored by the PWA. It feeds over 20,000 people living in three neighbouring villages in "Area A".

Eleven kilometres away from the well, adjacent to the water pipeline, the 1,700 Bir El-Basha residents were left without running water, enclosed in limbo in "Area C".

Seven years ago, the village applied to the Israeli authorities for authorisation to be connected to the network. Then, it contacted the PWA, presented the project to Palestinian Prime Minister Salaam Fayyad. "Everyone helped," says Al-Qadri.

"The PWA investigated the village's needs, created a filling point operated by the council. Afterwards, it contacted the ICRC," explains PWA project manager Ziad Drameh.

"Giving services in general – water, electricity, waste collection – is a way for the Palestinian Authority of asserting responsibility for their people's lives," notes ICRC geologist Jean-Marc Burri.

But the project lingered. "We had to obtain Israeli permits to proceed with laying the network lines inside the village," says Drameh.

"Our role was to understand why the project wasn't implemented. There was an authorisation.

We realised politics didn't interfere. Yet, nobody really pushed, we still needed to bring everybody together," Burri stresses. "We acted as catalyst," chimes in the head of the ICRC Water and Habitat, Ikhtiyar Aslanov.

Partnership and cooperation were keys for success. The PWA contributed with expertise and design. The ICRC donated 400,000 dollars. The beneficiaries themselves demonstrated rare ownership.

"Usually, we explain to people what to do to implement a project. Here, the village council told us what their needs were. If the population's involved, it works; if not, you're blocked by a judicial process. Here, all decisions were taken at village level."

Each resident was required to contribute 130 dollars to the PWA. Everyone paid. More than 25,000 dollars was collected. "When you pay for a service, you expect quality to meet your requirements," says Aslanov.

Once Israel gave its final approval, connecting people with water took less than four months. "People, authorities, can get together to respond to the needs of the people," concludes Aslanov. The local filling point connects the 257 homes with 11 kilometres of pipes. Bir El-Basha enjoys three cubic metres of running water per hour for 12 hours three days a week – no miracle. Still, it dramatically improves the villagers' lives. "This model could be applied to other villages," confidently foresees PWA engineer Ala El-Masri.

In 2011, PWA water infrastructure projects funded by the ICRC benefited 775,000 Palestinians living in the West Bank and Gaza Strip. In the West Bank only, 72,000 people benefited from such projects, including the people of Bir El-Basha. (END)

"And At Last There Was Water", Pierre Klochendler, 31/01/2012, online at:
http://www.ipsnews.net/news.asp?idnews=106596

BACK TO TOP

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

❖ Samaria in a sewage stalemate

All but one of 22 Palestinian villages refuse connection to sewage line, Environmental Protection Ministry says.

Gilad Erdan tours Samarian communities By Courtesy Environmental Protection Ministry
Swirling in the strikingly green valley below the southern Samaria community of Nofim is a rambling stream amid grass and trees – filled with dangerous quantities of sewage.

A subterranean sewage pipe connects to the underbellies of four of the five surrounding settlements – Nofim, Yakir, Etz Ephraim and Sha'arei Tikva – and will within a few months also connect to that of Ma'aleh Shomron, bringing all of the effluent to a treatment facility in Eliyahu.

Despite Israeli offers to connect the 22 surrounding Palestinian villages to the same pipe, all but one of them refused the proposal, Environmental Protection Ministry and Shomron Regional Council officials explained during an exclusive tour of the area on Thursday.

Instead, their sewage flows into the aquifer below and ends up directly in the stream, according to the officials.

"That's a testament to the fact that we are doing everything we can to prevent pollution in Judea and Samaria, but nevertheless, the Palestinians refuse to cooperate," Environmental Protection Minister Gilad Erdan told The Jerusalem Post during the tour.

Although planned about 15 years ago, the pipeline was only constructed about eight years ago, and a decade ago sewage from the settlements as well flowed directly into the stream, according to Shomron Environmental Association director Itzik Meir.

Erdan expressed hope that donor countries would agree to only continue giving the villages financial support if they agree to connect to the sewage pipeline. Meanwhile, he also said he hoped that the relationship between the local Palestinian and Israeli communities would improve, though he certainly has doubts about this matter.

"Hopefully I will be surprised," he said.

"It's important for me to reveal whether they're making political use of water," Erdan said. "Or maybe it's a problem of misunderstanding – but that is hard for me to believe."

Another Environment Ministry official was slightly more optimistic, explaining that one of the 22 villages had, in fact, recently agreed to hook up to the sewage pipe, a deal that would be finalized in a few weeks time. The official said he could not reveal the name of the village at this point.

Yet a third official told the Post he suspected that the local Palestinian governments were unwilling to connect their villages due to "political reasons" – simply "because they don't want to recognize Israel as a presence in the area."

The Palestinian Water Authority could not be reached by press time.

"Samaria in a sewage stalemate", Jerusalem post, 03/02/2012, online at: http://mideastenvironment.apps01.yorku.ca/?p=4228

BACK TO TOP

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

❖ Western Galilee unveils plan to combat recurrent flooding

Overflow from Ga'aton River, which runs through Nahariya, causes extensive property damage each year.

By Zafrir Rinat

Townships in the Western Galilee have for the first time prepared a plan to prevent recurrent floods that damage property and waste precious water every winter.

The Ga'aton River, which runs through Nahariya, serves as drainage for much of the Western Galilee. The result is that heavy rainfall quickly causes floods, which in turn cause property damage. Moreover, the water that overflows the Ga'aton's banks is wasted – often millions of cubic meters each year. The new plan is aimed at both preventing the floods and capturing the water for future use.
Nahariya flood – Tomer Neuberg – 31012012

Flooding last year on Nahariya's aptly named Ga'aton Street.
Photo by: Tomer Neuberg

The Western Galilee Drainage and Rivers Authority presented the plan to the northern district planning and building committee two weeks ago. Nahariya and all the nearby agricultural communities are backing the plan, which was prepared by the M. Rosenthal Engineers company.

The plan calls for building reservoirs to capture and store the region's run-off near the headwaters of the Ga'aton before it ever reaches Nahariya. One will be located in a quarry near Kibbutz Yehiam, since the quarrying activity there has already created a pit ideal for the purpose. The captured water will then be gradually fed back into the groundwater.

"Turning the quarry into a reservoir will be the easiest part, so we might begin it within a year" of the plan's approval, said Uri Arnon, deputy chairman of the Mateh Asher Regional Council and head of the drainage authority.

Another reservoir, able to hold 1 million cubic meters of water, will be built near Kibbutz Kabri. That water will be used for irrigation.

In addition, overflow from the region's springs, which currently ends up in the Ga'aton, will be diverted via a drainage canal into another stream that runs nearby. Arnon said increasing the water flow to that stream would also benefit the region's ecology.

An additional stream will be widened to improve the region's drainage.

But the engineering firm warned that none of this would suffice to keep Nahariya from flooding unless the city also improved its own drainage system.

Usually, major drainage plans of this sort spark opposition from environmental organizations, which fear they will harm the natural landscape. But the environmentalists' representative on the planning council, Yohanan Darom, has backed this initiative, saying it manages to help Nahariya without harming the surrounding countryside.

"Western Galilee unveils plan to combat recurrent flooding", Haaretz, 03/02/2012, online at: http://mideastenvironment.apps01.yorku.ca/?p=4230

BACK TO TOP

❖ Kinneret water level rises 55 cm. in 1 month

The water level of the Kinneret rose by 55 centimeters in January, however, it remained below the "bottom red line" by ten centimeters. From Tuesday to Wednesday the rainfall added another two centimeters of water into the lake.

The Kinneret is one of three main water sources – the other two are the mountain and the coastal aquifers. In total, the country is short about 2 billion cubic meters of water, an amount equivalent to the consumption of all the households in Israel for three years.

The Israel Meteorological Service forecast for Wednesday frequent showers from the North to the Negev, accompanied by scattered thunderstorms and strong winds.

Temperatures were forecast to drop, becoming unseasonably cool. Rain was expected to weaken Wednesday evening and overnight.

"Kinneret water level rises 55 cm. in 1 month", 02/02/2011, online at:
http://www.jpost.com/NationalNews/Article.aspx?id=256006

BACK TO TOP

❖ Israel leads way in making saltwater potable

Scarce rainfall and abundant seawater prompted Israel to find desalination solutions now getting a 'green' makeover and being shared globally.

In an old Middle Eastern curse, enemies are told to drink from the sea. Cursed with water-shortage problems, Israel has pioneered desalination solutions that are changing the world. From manufacturing China's largest desalination plant and smaller ones on Caribbean islands, to watering its own agricultural industry, Israel's desalination business is a story that started at the founding of the state.

Today Israel's award-winning desalination companies are quenching the thirst of dry nations, and are challenged by today's environmental questions to provide greener options for tomorrow.

Desalination is a process that removes salts and minerals from otherwise undrinkable sea or saline water. With about 70 percent of the world covered in water, and more than 90% of it saltwater, even the water-rich United States finds itself in need of desalination solutions in California. And Israel is there to help.

The biblical Book of Exodus relates how the ancient Israelite leader Moses was empowered to turn bitter water sweet for drinking. Wind the tape forward to the 1950s, when Israel's technological progress in desalination was catalyzed by founding father David Ben-Gurion, who saw desalination as part of Israel's destiny.

Over the last few thousand years, nothing has changed: To survive and thrive, Israelis still need a source for fresh drinking water.

Israel's major foray into desalination began with IDE Technologies - known as Israel Desalination Engineering when it was government-owned - which has built more than 400 desalination plants in some 40 countries, from Caribbean islands to the United States, to mammoth plants in China and Israel. The company is headquartered in Kadima.

Every day, IDE plants produce about two million cubic meters of potable water for the world to use, and its R&D staff is investigating and implementing greener solutions for an industry not known for its environmentalism.

Early experiments in Eilat

Israel's desalination story started with a "crazy" scientist and local legend, Prof. Alexander Zarchin, who headed a research group that proposed a process called vacuum freezing vapor compression (VFVC), which eventually was put into practice in the Israeli Red Sea city of Eilat. The idea was to force water into its three forms - vapor, solid and liquid - pull the salt-free ice out of the mixture and melt it.

Unfortunately, this very secretive project failed. The problem with VFVC, says IDE executive VP of special projects Fredi Lokiec, was that it required too much space and too specific maintenance

temperatures to contain the vapor phase. Although the process was much less energy intensive than reverse osmosis (RO), now the most commonly used system for desalination, it wasn't feasible on a large scale.

Eventually Zarchin joined other innovators, such as Israeli-American Prof. Sydney Loeb, in pioneering the artificial membranes that form the basis of RO. Water is passed through this membrane to filter out minerals and other large molecules.

"Prof. Sidney Loeb, a brilliant chemical engineer from California, came to Israel on a sabbatical after the Six-Day War and never left," Lokiec relates. "At Ben-Gurion University he was part of a small unit doing some research in the desert. He immigrated to Israel and got married. Together with IDE, he was working to build one of the first membrane facilities in Yotvata in the Arava Valley not far from Eilat."

Greening up desalination

In addition to the 40 foreign countries in which IDE is operating, the company built two of the world's largest desalination plants in Israel, one in Ashkelon in 2005 and the second in Hadera in 2010. IDE has a third in the works in Soreq, which will produce some 150 million cubic meters of water starting next year. Also under construction by IDE is China's largest desalination plant, which will use heat recovery to help fuel the process in a more "green" way.

Desalination requires enormous energy, and its byproducts include chemicals and brine, as well as greenhouse gases. IDE is committed to making the desalination process not only cheaper for its clients, but more environmentally sound as well, says Lokiec. "We do desalination the way nature does it, using evaporation and condensation with some form of external energy input," says Lokiec. "This input can include waste energy or solar energy."

In other innovations, IDE is replacing the use of pre-treatment desalination chemicals with a mechanical process called ProGreen. According to the company, this is the world's first green RO system for water desalination.

Normally the seawater intake is pretreated to change its chemistry before it is processed. Some of these chemicals may find their way into the brine waste product, which goes to the sea, and handlers of the chemicals may suffer side effects. ProGreen, easy to install as an upgrade to existing plants, eliminates these problems and also optimizes energy consumption.

The company is currently focusing on the smaller desalination plants as pilots and hopes to scale ProGreen up to larger desalination facilities.

Desalination alleviates world "water pressure"

Some estimates suggest that the demand for water-treatment products will rise 6.2 percent every year to $65 billion in the year 2015. Meeting the world's water needs requires local and international policy and legislation. Israel is deeply involved in implementing policy locally and sharing its processes with the world.

Looking locally, Israel's major sources of water are the Sea of Galilee, its holding tank and a number of inland and seaside aquifers. Those sources, now combined with desalinated water, supply a population that has expanded many times over from its former size in the last 80 years. As environmentalists rally to protect coastlines from development, the country is also seeking to establish the creation of artificial islands on which to build desalination plants.

Booky Oren, a former CEO of Israel's national water carrier Mekorot, is now an independent water consultant and is chairman of Israel's WATEC conference and expo, held in Tel Aviv from November 15-17, 2011. Oren says rising needs lead to little choice but to desalinate water, and similar situations are felt in the rest of the world as well.

"All the population here is increasing and the demand for water is increasing. This is the force that caused Israel to reinvent itself," he says. "In the beginning, 50 years ago, Israel began to deliver water from the north to the south from the national carrier. Then we moved to recycled water. We began to recycle the wastewater to create more water because we don't have enough. All the time there is a crisis because we are coping with continuous droughts. The water you have from natural collection is not enough," says Oren.

"While tools like drip irrigation help to alleviate the problem, at the end of the day this doesn't solve Israel's crisis. Israel took a strategic decision to produce more water from the sea," he continues, though this is expensive. "By 2015, Israel will be fully independent from rainfall and will produce enough water from the sea. Even coping with continuous droughts, we will have enough."

Israel had to formulate policy to assure that the price of desalinated water would remain relatively low, and this is where ingenuity had to factor in. Water in Israel was about $2 per cubic meter 20 years ago, and it now it is down to 50 cents-- a 75 percent reduction, says Oren. To achieve this cost benefit, Israel invented better ways to recycle water, and processes that were less energy intensive.

Sharing solutions

In addition to IDE, Israel's less famous players in desalination include Global Environmental Solutions, which operates a plant at Palmachim, and Nirosoft. The Israeli government-owned Mekorot is also getting into the desalination business. "Mekorot is doing a lot," says Oren. Its plants in Eilat are rehabilitating brackish aquifers, which have become saline from over-pumping. The company has also had to manage the flow of Israel's water, whose north-to-south path was reversed through what Oren calls a major engineering feat.

Mekorot is currently sharing its know-how with the Mediterranean island of Cyprus, where Israel is building a desalination plant in the south. Oren also points to two Israeli startups, Desalitech and Rotec Reverse Osmosis Technologies (www.rotec-water.com), which are offering innovative solutions as well.

Nadav Efrati from Desalitech says the company includes some of the world's thought leaders in desalination. "We are building complete plants according to our patented closed-circuit technology to greatly decrease energy consumption and increase the recovery of feed water, and we do this to reduce erosion and the negative effects of [using] membrane technology," he says.

The company, which claims its modular and scalable system can cut water production costs by more than 25%, can build its own plants or update existing ones. Two in Israel are each supplying water to 10,000 people. Desalitech is building a plant on the Dead Sea for consumers and industry, and is working on a pilot with General Electric to integrate GE technology into Rotec plants.

Rotec is building desalination facilities to remove salt from brackish groundwater. Its technology is based on research from Ben-Gurion University, where Israel's water story started with a nucleus of desalination water researchers. Among Rotec's activities are peace-building measures: It has a grant with NATO to create a "water bridge" between Israeli and Jordanian researchers in the form of two Rotec plants, one being built in Israel and the other in Jordan.

"Israel leads way in making saltwater potable", 31/01/2012, online at:
http://www.mfa.gov.il/MFA/InnovativeIsrael/Israel_leads_saltwater_potable-Jan_2012.htm

BACK TO TOP

❖ Christian Pilgrimage and Middle Eastern Water Scarcity

At today's Jordan River, the long history of Christian pilgrimage intersects with religious tourism. For many Christians, baptism in the Jordan provides the opportunity for a second baptism or a rebirth experience. Christian pilgrims cannot help but experience the Jordan as a border if they seek baptism near Jericho where Jordan and Israel have established competing baptism parks directly across from one another. If not intimated by the Jordanian and Israeli soldiers watching from the riverbanks, a pilgrim could easily swim -- in fact float -- to the other country. What most pilgrims don't seem to realize is that they are immersing themselves in an agricultural runoff and wastewater. These contemporary baptisms function as initiations of sorts into a state of globalized pollution for which nations, not to mention industry, refuse to accept responsibility.

In the current climate of political contest and a reduced Jordan River, currently conveying 2 percent of its historic flow, it is worth thinking anew about the importance of the Jordan, borders and water. In place of reactionary territorial claims justified through religious precedent, perhaps the time has come to acknowledge biblical depictions of regional societies in which local economies and resource availability provide the basis of coexistence. Neither ancient nor modern claims will matter when the water sources run dry.

Water scarcity in the Middle East may lead to more internecine violence or to the actual demise of large, poor families. Every Middle Eastern government with a coastline looks to solve the problem through large de-salination projects without regard for the saline byproducts, the enormous energy costs and the need for global capital investment. While global capital finds it way into most local infrastructure projects these days, it causes particular concern to think of global capital setting water prices in situations like the Israeli-Palestinian conflict in which the state (or proto state) encourages families to expand in the name of winning the demographic war. Yet the diminishing water table may be the very agent of political transformation.Friends of the Earth Middle East (FOEME), an environmental organization based in Amman, Bethlehem, and Tel Aviv proposes to transform the relationship of Israelis, Palestinians and Jordanians, as well as Christian pilgrims, archeology buffs, and eco-tourists, to the Jordan River by creating a transborder peace park. Through a "flood event," FOEME plans to flush pollutants through the waterway, and by reallocating water, the organization intends to restore the flow of the Jordan. The peace park will create a space for contact among traditionally hostile groups as well as a place for enjoyment of the river. The FOEME peace park promises to transform the political situation through a collective water conservation project.

The project has begun through the creation of smaller ecoparks, which anyone can visit in Ein Gedi, Israel; Auja, Palestine; or Sharhabil Bin Hassneh, Jordan. The ecoparks function as

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

laboratories for sustainability projects and regional organizations. Young Jordanians, Palestinians, and Israelis gather at the ecoparks to learn about resource availability and conservation. The mayors and officials of Jordan River Valley towns, with FOEME's help, have begun to collectively address water use, wastewater treatment and water conservation. No matter their religious or political leanings, the members of these organizations recognize that their water use effects one another and that everyone will lose should the central water system in a dry region disappear. The Jordan River Peace Park will enact these trends on a larger, transnational scale.

Faced with the bleak alternatives, FOEME offers a very concrete form of hope. Those with knowledge of the Bible might remark how close the proposal comes to traditions of the Jordan River as a place of connection and transformation. Skeptics might do well to remember that, in many of these same traditions, the Jordan is the gateway to heaven.

"Christian Pilgrimage and Middle Eastern Water Scarcity", Rachel Havrelock, 31/01/2012, online at: http://www.huffingtonpost.com/rachel-havrelock/christian-pilgrimage-and-_b_1194384.html

BACK TO TOP

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

❖ Water supply to run out by 2030

According to a study by National Centre for Groundwater Research and Training, by 2030, water supply will begin to run out in India, China and the Middle East due to over-extraction of groundwater, which currently makes up 97% of all fresh water available on the planet. Apart from acute drinking water scarcity, groundwater depletion will have a serious impact on industries. Over-extraction has serious implications for the ecology as well.

"Water supply to run out by 2030", 31/01/2012, online at: http://www.moneylife.in/article/water-supply-to-run-out-by-2030/23316.html

BACK TO TOP

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

❖ Court denies Bedouin villages' request for water supply

The Water Court has denied a petition filed by residents of two unrecognized Bedouin villages, who asked that the Governmental Authority of Water and Sewerage and the Israel Land Administration be instructed to connect them to water supply.

The residents claimed they had no access to drinking water, but the court ruled that there were water centers at a reasonable distance from the communities. (Ilana Curiel)

"Court denies Bedouin villages' request for water supply", 29/01/2012, online at: http://www.ynetnews.com/articles/0,7340,L-4182294,00.html

BACK TO TOP

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

❖ Mideast energy projects spend to hit $180bn

New power, water, and energy projects valued at $180 billion are planned in the Middle East, as the UAE forges ahead with 20 projects worth $34.2 billion, said the organisers of an upcoming energy event in Dubai.

Featuring more than 1,000 exhibitors, Middle East Electricity will take place from February 7 to 9 at the Dubai International Convention & Exhibition Centre.

"According to the World Energy Council, the GCC will require 100 GW of additional power over the next 10 years to meet growing demand. The power sector will require US$50 billion worth of investments in new power generating capacity and $20 billion in desalination," said Anita Mathews, Middle East Electricity exhibition director.

"In response, new contractor awards in the power, water and renewable energy sectors are being announced every month in the Middle East, as seen in December last year, when six new contractor awards were announced in Kuwait, Qatar and Iraq, valued at $1.5 billion, while in January this year, five new contractor awards worth $130 million were announced in UAE, Kuwait, and Oman."

"This too is reflected in exhibitor space occupied at Middle East Electricity 2012, which has exceeded last year's occupied space by 15 per cent. We have also seen growth in exhibitor numbers and expect more than 15,000 unique visitors to attend the three-day event," she added.

Spearheaded by the $20 billion Nuclear Power Plant in Abu Dhabi, which began construction late in 2011, the UAE will be one of the most active markets in the power, water and energy sectors over the next two years, at a time when power demand across all GCC countries is expected to grow 8 to10 per cent annually.

Saudi Arabia holds the lion's share of investment value in the region, due to the $100 billion King Abdullah City of Atomic and Renewable Energy, which begins construction in 2013.

The Kingdom also has a further 15 projects worth nearly $9 billion currently underway, or due to begin in 2012.

Qatar recently announced plans to build at least eight power and water facilities worth $4.8 billion in the next three years, including the $3 billion Qatar Facility D power project, which is slated to have construction started on in 2012.

Meanwhile, Bahrain has four projects currently ongoing worth $4.2 billion; Kuwait has 17 projects valued at $4 billion, while Oman has put aside $2.9 billion for 13 new power, water and energy projects which will begin construction in 2012.

Elsewhere in the Middle East, Jordan has nine projects predominantly in the water sector worth $6.1 billion set to begin construction in 2012, while Morocco looks to make the most of its natural abundance of wind resources, earmarking $3.8 billion worth of renewable energy projects over the next two years.

At the same time, Egypt and Iraq continue to move forward with power infrastructure plans as both countries commit $5.3 billion each to new projects over the next two years.

Organised by Informa Exhibitions, Middle East Electricity is under the patronage of Sheikh Maktoum bin Mohammed bin Rashid Al Maktoum, Deputy Ruler of Dubai.

A new feature for the 37th edition of the event is the Middle East Electricity Awards, established to recognise outstanding achievements of individuals, departments, teams or organisations that have contributed to the growth and development of the energy industry in the Middle East.

Other highlights of the event include the free-to-attend technical seminars, where a selection of exhibitors will present latest innovations and products to visitors on the over the three days on the show floor.

Middle East Electricity 2012 is the partner event to Power + Water Middle East in Abu Dhabi and Africa Electricity in Johannesburg. – **TradeArabia News Service**

"Mideast energy projects spend to hit $180bn", 02/02/2012, online at:
http://www.tradearabia.com/news/CM_212020.html

BACK TO TOP

❖ Water and Population: Limits to Growth?

Water – essential, finite, and increasingly scarce – has been dubbed "the new oil." Experts debate whether human societies are approaching "peak water," beyond which lies a bleak future of diminishing supplies and soaring demand. Others observe that, for many, the water crisis has already arrived.

Indeed, if any resource poses a serious limit to growth on human numbers and appetites, it would have to be water. The planet's supply of freshwater is fixed, and there is no substitute for its life-giving qualities.

Still, a general water crisis is not inevitable. It is true that people are placing unsupportable stress on freshwater supplies in many areas, while climate change threatens the quantity and reliability of those supplies. And population dynamics, especially growth and migration, contribute to the problem in ways both obvious and less so. However, a broad range of supply- and demand-side solutions are available and implementing those solutions could relieve – and avert – tremendous human suffering.

The "water crisis," as reported in the media, is actually two oft-conflated crises. First, there is the physical scarcity of water, experienced in arid areas from Yemen to the American Southwest. Second, there is the shortage of safe drinking water, typically caused by a lack of infrastructure in poor countries – even those with plenty of rainfall, such as Uganda. Some regions – notably the Horn of Africa – struggle with both crises at once.

Assessing Scarcity

Physical scarcity of water is a significant and growing problem. Although we live on a planet that is covered with water, very little of that is fresh: in fact, if all of the world's water could fit into a gallon jug, the freshwater available for our use would equal only about one tablespoon. In addition, that tiny sip of water is distributed very inequitably. So, while there is no global shortage, a growing number of regions are chronically parched.

Today, about one third of the world's population lives in countries with moderate to high water stress; by 2025, largely because of population growth, fully two out of three of the world's people will live under those conditions. A recent McKinsey and Company report warns that within two decades, demand for water will exceed supply by 40 percent.

Human numbers are growing most rapidly where water is scarce. The World Bank's Water and Development report identified 45 "water poor" countries that are both physically short on water and economically impoverished. Those countries have an average fertility rate of 4.8 children per woman – nearly twice the world average – and their populations are expected to double by 2050. "Rapid population growth makes water problems more complicated and difficult to solve," said Sandra Postel, director of the Global Water Policy Project, in an interview.

When water-stressed countries lack surface water supplies, they typically resort to overpumping underground aquifers, drawing down wells faster than they can be replenished. As a result,

groundwater levels have dropped precipitously in many places over the past nine years, and wells have gone dry in parts of India, China, and Pakistan.

The depletion of groundwater is an ominous sign for world food production, which must increase 70 percent by 2050 to meet the demands of a growing world population. Postel estimates that 10 percent of world food production now depends on the overpumping of groundwater.

And then there is the wild card of climate change, which has already begun to disrupt rainfall patterns and intensify drought in many parts of the world. The famine ravaging the Horn of Africa may be a harbinger of what is to come for fragile nations. Many countries, including Kenya and Ethiopia, are likely to experience longer, harsher droughts, which – superimposed on existing water scarcity, rapid population growth, poor governance, and poverty – could create the conditions for widespread starvation and misery.

In another grim development, climate change is melting glaciers and snowpack on the world's great mountain ranges, including the Himalayas, Hindu Kush, and Andes, which supply drinking water for one in six of the world's people. New evidence shows that those glaciers are disappearing faster than expected, leading to water shortages in Peru and elsewhere.

Quality and Delivery

The other water crisis – the shortage of clean drinking water – is not simply about the physical scarcity of water. Nor is it simply about poverty, though more funds are needed to address the problem.

Today, nearly a billion people lack access to clean drinking water; 2.5 billion lack adequate sanitation; and some 5 million die every year due to preventable water-related diseases.

Nowhere is the crisis more evident than in the fast-expanding cities of the developing world. Cities have seen explosive growth in recent decades, and the UN predicts that by midcentury the world's urban population will nearly double, from 3.5 to 6.3 billion – an increase equivalent to the current population of China, India, and the United States combined. Developing regions as a whole will account for 93 percent of that growth; more than 80 percent will be in the cities of Asia and Africa.

It is safe to say that they are not ready. Most of those cities are already failing to provide basic services – including water and sanitation – to new arrivals, who typically occupy informal slums and shanty towns beyond the reach of municipal services.

For example, Dhaka has grown sixfold since 1975 and is now home to nearly 17 million people but has "water supply network coverage for only a small fraction of this population," according to Pier Mantovani, lead water supply and sanitation specialist at the World Bank. As a result, in areas not served by official services, including the city's slums, people pay exorbitant prices to middlemen with tankers selling water of dubious quality.

Here, too, population dynamics play a role. Migration, mostly from rural areas, accounts for roughly 40 percent of urban growth. That migration is spurred, in part, by rapid growth in the countryside,

where the total fertility rate (average number of children born per woman) is usually higher. The remaining 60 percent of urban growth results from "natural increase," meaning simply that there are more births than deaths. Population growth, then, is a driving force behind the breakneck pace of urbanization and compounds the challenges of providing safe water to city dwellers.

Silver Linings

Today's twin water crises pose enormous challenges for human well-being and even survival. Without a dramatic change of course, water could indeed pose a severe "limit to growth" of the human enterprise. As Margaret Catley-Carlson, vice-chair of the World Economic Forum Global Agenda Council on water security, has written:
[I]f "business as usual" water management practices continue for another two decades, large parts of the world will face a serious and structural threat to economic growth, human well-being, and national security.

But there are alternatives to "business as usual."

Consider this: despite its growing scarcity, vast amounts of water are wasted through inefficiency; growing water-intensive crops in dry areas or using drinking water for purposes (like flushing toilets) where non-potable "grey" water would suffice, for example. Such waste is a "silver lining," said Postel. By reducing waste, "we can get the most value from limited water supplies."

Rethinking pricing is key. Irrigation is heavily subsidized in many parts of the world; farmers typically pay just 15 to 20 percent of the cost of the water they use, according to Postel. Reducing those generous subsidies would make conservation more cost-effective.

Meeting the need for safe drinking water will require greater attention to the needs of the poor, especially in informal urban settlements. That, in turn, will require a mobilization of resources and political will. "In every country," said Mantovani, "politicians swear that 'water is life,' and that providing safe drinking water is a critically important policy priority…but in many countries water supply is not adequately funded or supported."

On the demand side, slower population growth would help reduce pressure on limited water supplies, providing some breathing room to develop creative solutions. As it happens, many water-poor countries also have high levels of "unmet need" for family planning – they are home to millions of women who want to prevent or postpone getting pregnant but aren't using modern contraception. Investments in family planning programs could improve women's health and well-being, slow population growth, and reduce vulnerability to water stress.

In short, solutions abound. "We can meet the water needs of seven billion and have healthy aquatic ecosystems at the same time," said Postel. However, she added, "We are not moving toward those solutions at a rate commensurate with the problem."

Laurie Mazur is a consultant on population and the environment for the Wilson Center's Environmental Change and Security Program and director of the Population Justice Project.

Sources: Africa News, The Daily Beast, Global Water Policy Project, McKinsey and Company, National Geographic, The Pacific Institute, Population Action International, Population Reference Bureau, Postel (1999), Science News, UN Environment Programme, UN Population Division, UNESCO, UNFPA, World Bank, World Economic Forum, World Food Programme, World Health Organization, World Water Crisis.

"Water and Population: Limits to Growth?" , Laurie Mazur ,Wilson Center, 03/02/2012, online at: http://www.newsecuritybeat.org/2012/02/water-and-population-limits-to-growth.html

BACK TO TOP

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

❖ Human dignity, water and revolutions in Africa

Will the Arab spring spread south?

The issue for much of Africa is not the volume of water it can access, but its uneven distribution across the continent. Alongside the Middle East, the drylands of North Africa, the Sahel and the Horn of Africa face the challenge of balancing declining resources with increased consumption borne from rapid population growth.

Water scarcity in North Africa and the Middle East is at the root of the region's uprisings. In the coming years, it will be the source of further social unrest across North and sub-Saharan Africa.

Human dignity has been widely acknowledged as the engine for the Arab Spring. There is broad consensus that the right to have a voice as well as a more equitable stake in the future of a nation have been significant factors. Dignity also includes more prosaic notions, such as having access to basic staple foodstuffs and to water, both to drink and for sanitation purposes.

Given the challenges it faces, a regional water strategy stretching across northern Africa and the Middle East is no longer an option; with unprecedented levels of water stress, it is a necessity if it is to avoid further social and economic crisis in the coming years.

Human dignity has been widely acknowledged as the engine for the Arab Spring. There is broad consensus that the right to have a voice as well as a more equitable stake in the future of a nation have been significant factors.

Dignity also includes more prosaic notions, such as having access to basic staple foodstuffs and to water, both to drink and for sanitation purposes.

Poor political governance and moribund economic policies have failed to provide adequate protection against increased water scarcity in North Africa and much of the Middle East. Two-thirds of the region's water supplies originate outside the region. Consequently, Arab nations need to import more than half their food; they are the greatest importers of cereal in the world. This means that when commodity prices surged in the autumn of 2010, largely due to water scarcity issues such as the Russia's disastrous drought, basic foodstuffs were in short supply and, therefore, more expensive.

Even in Egypt, where the government spends close to 7 percent of gross domestic product on food and energy subsidies, commodity hikes led to food price inflation hitting 11 percent in 2010. It's not a co-incidence that the Food & Agricultural Organisation's food price index, a measure of the monthly change in international prices of a basket of food commodities, peaked at the beginning of 2011.

Unrest has been simmering south of the Sahara as well. Before the Arab Spring, riots erupted in a number of African countries between 2008 and 2010 due to similar hikes in food. A lack of water needed for increased agricultural production to feed rapidly growing populations lay behind those riots.

In the run up to the disturbances in Tunisia in 2010, the Arab Forum for Environment and Development cautioned that the region would face severe water scarcity as early as 2015. It also warned lack of water would also have profound social, political and economic ramifications.

Few could have anticipated that events would have unfolded with such alacrity less than a month later. But the warning signs were there.

Mohamed Bouazizi, the market stall holder in Sidi Bouzid whose self-immolation triggered the Tunisian uprising, made a statement not only about corruption and malfeasance but also about food and water. In the days that followed his action, the town took to the streets in protest chanting 'Water and bread, yes! Ben Ali, no!'

Projections to 2025 indicate that water scarcity will increase across all of Africa, impacting hardest the dry north including the Sahel and the Horn of Africa.

There can be little dispute that the current famine in the Horn of Africa has been caused, in part, by drought and associated water and food shortages. UNICEF has already issued a chilling prediction of further famine this year including in the Sahel. Niger, Africa's poorest country, is particularly susceptible say relief agencies.

Most water withdrawals in Niger are used to irrigate its fragile subsistence farming. Its population growth over the last 20 years has resulted in a loss of more than 80% of the country's freshwater wetlands, which have traditionally provided important ecosystem services for the country, not least being important dry season grazing for the country's livestock population. Oxfam is reporting that Niger is already seeing people displaced by hunger. Population movement in already water-stressed regions can be destabilising.

Djibouti, sub-Saharan Africa's most water stressed nation is also struggling to cope. The spectre of what's happening in nearby Yemen is fuelling concern. Riots erupted in the port city of Aden in 2009 triggered by water scarcity. The price of water has risen five to tenfold in the country since January. With fuel supplies used to pump water from underground aquifers becoming scarce, Sana could be the world's first capital to run out of water. Increasingly policymakers talk about the Water, Food, Energy nexus and Yemen looks set to become the case study when that relationship collapses.

The issue for much of Africa is not the volume of water it can access, but its uneven distribution across the continent. Alongside the Middle East, the drylands of North Africa, the Sahel and the Horn of Africa face the challenge of balancing declining resources with increased consumption borne from rapid population growth.

Surface water supplies will not meet growing demand while groundwater resources have been over-exploited beyond safe yield levels leading to significant declines in water tables and in the pollution of aquifers. Some countries could benefit from so-called fossil water. Libya's exploitation of this resource through the Great Man-made River (GMR) water supply project is the most extensive water transfer scheme in Africa. Fuelled by oil revenues, Libya has been able to fund this large-scale exploitation of fossil resource but few other countries have the means to undertake such expensive solutions for their water problems.

So what steps does can be taken to meet water demands while averting a looming environmental and social crisis?

First, a regional approach should be adopted to deliver a sustainable strategy for the equitable provision of water in a region equally hard hit. Bold thinking is required to begin looking at North Africa, the Sahel, the Horn of Africa and the Middle East as one region united by a common cause.

This needs to include a co-ordinated regulatory framework. Without proper regional co-ordination, measures taken that may disadvantage neighbouring countries will lead to water conflicts. Trying to separate the Sahel from North Africa or the Horn of Africa from the Arabian Peninsula would reduce the effectiveness of any concerted action in a region bound by historical trade and migratory flows. A welcome initiative by the Qatari Government to establish a Dry Land Alliance may be a starting point in that process.

Second, proper management of municipal and industrial water supplies requires the introduction of water pricing schemes. Water pricing is likely to be poorly received in the short term, but it is proven to moderate consumption behaviours and to lead to a more efficient use of water, and helps protect water supplies from overuse and pollution.

Third, with the right political and regulatory framework in place, the poorer nations in the region need technical expertise to build capacity and aid from wealthier Arab states and OECD nations to help provide technology, such as more efficient irrigation and recycling systems.

Fourth, raising investment and providing sources of funding is crucial. The region's formidable collection of sovereign wealth funds and leading investment institutions should pool some resources and launch a regional water investment fund to invest in the huge outlays required for the necessary infrastructure.

The Arab Spring has taken hold for a variety of complex, and interconnected reasons. Water, or the lack of it, is a fundamental element in that mix. The intriguing question is whether the Arab Spring will spread south.

With 70 per cent of the continent's population under 30, Africa may yet begin to feel the ripple effect. Like young Arabs, young Africans are better educated and better connected and have higher expectations of their governments and leaders than do their parents. Meeting those expectations will, to a large extent, rest on access to water.

Given the challenges it faces, a regional water strategy stretching across northern Africa and the Middle East is no longer an option; with unprecedented levels of water stress, it is a necessity if it is to avoid further social and economic crisis in the coming years.

"Human dignity, water and revolutions in Africa", 03/02/2012, online at: http://www.naiforum.org/2012/02/human-dignity-water-and-revolutions-in-africa/

BACK TO TOP

❖ Security aspects of water in Asia

The book traces the emerging water tensions against the backdrop of the booming economies of China and India

A distinctive feature of the book under review is that it focusses on the diplomatic and geopolitical dimensions of water, rather than its physical, economic, or other aspects. Also it looks at it from the perspective of Asian continent as a whole, instead of in the national, regional or basin context. A product of intensive research by one of the internationally known scholars in the geopolitical dimensions of water, the book traces the emerging water tensions against the backdrop of the booming economies of China and India. To begin with, Chellaney looks at why Asia remains the hub of global water conflicts and crisis. Home to three-fifths of global population, Asia has one of the lowest *per capita* water availability; the relevant figure for fresh water is less than half of the global average. It is this water scarcity coupled with the trans-boundary nature of most rivers that makes Asia a theatre for potential water wars or diplomatic arm-twisting in the years to come.

The chapter dealing with the geopolitics of Asian countries throws light on country-specific security aspects of water, the focus being on the emerging water and environmental crises in India and China, the two dominant players in the continent. Regional demand-supply imbalances have forced China to go for south-to-north water transfer, in spite of the serious environmental and regional consequences. According to the author, forced labour and prisoners were used in the construction of dams within China and even outside.

The Tibetan Plateau, the world's most unique water repository that plays a critical role in the hydrological cycles and weather regimes of Asia, is discussed in the next chapter. The ecology of the region has been seriously disturbed by such factors as growing population, increasing deforestation, expansion of intensive agriculture, and disappearance of grass lands. The hydrological impact of deforestation and water contamination by ore tailings have severely affected the region's ability to provide quality water to the rest of Asia. Every major river in Tibetan Plateau, including the Mekong, the Salween, and the Brahmaputra, has been dammed, thanks to China's control of the region.

Implications

The geopolitical and environmental implications of the Chinese plan to divert waters of the Brahmaputra by putting up a huge dam close to its border with India are examined in the fourth chapter. Already, there are as many as 13 dams across the Brahmaputra and its tributaries. Security concerns, water shortages in the north, and the growing dominance of engineers in the top political echelons of China are identified as the major factors that prompted China to harness the waters not only of the Brahmaputra but of the Mekong and the Salween as well. Significantly, most of the proposed dams are in Tibet, the region that enjoys immense upper riparian advantages in respect of rivers originating there; China is set to exploit them. The fifth chapter presents a number of case studies — including those from Central Asia and South Asia — to show how water conflicts are developing along ethnic and religious fault lines. China too is not free from intra-country water conflicts, although not much is known about them outside. In South Korea, the ‘Four-River Project' has caused an inter-regional chasm.

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

Disputes between countries are dealt with in the sixth chapter. Water conflicts between China and its neighbours, India and its neighbours, Israel and its neighbours, and among the countries of Central Asia are covered. These conflicts invariably have also a link with territorial disputes. The case studies of inter-country water disputes underscore the need for developing institutional mechanism at the basin level for working out a mutually beneficial arrangement on water sharing, use, and management. There is also a discussion on India-Pakistan and India-Bangladesh water treaties.

The concluding chapter, apart from summing up the major challenges the Asian countries are facing on the water front, explain how they could be overcome through institutional water-sharing arrangements and legal frameworks that strike a balance between the rules and responsibilities over the shared water-resources.

Enriched by two annexures — one listing fresh water agreements and the other providing the web-links to some of the key Asian water treaties — and supportive maps, this is truly a treatise on the geopolitical, diplomatic, and security aspects of water resources in Asia from an international perspective. It can well serve as a source material for research and as a supplementary reading material for courses in history, political science, international relations, and environmental economics. Policymakers who have anything to do with varied aspects of inter-national water-sharing issues will have a lot to benefit from it.

"Security aspects of water in Asia", R.Maria Saleth, 31/01/2012, online at:
http://www.thehindu.com/arts/books/article2845262.ece

BACK TO TOP

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

❖ Boom time for power, water sectors in GCC

DOHA: The water sector in the GCC region is expected to reach a mammoth $70bn over the next 10 years, while the demand for electrical power in the region is set to grow three-fold over the next 25 years, said an expert of the industry at a media briefing here yesterday.

Nigel Blackaby, Director, Power-Gen Middle East Conference, said: "The power sector in the GCC region has seen exponential growth ranging from 10 to 15 percent annually in many of its member states, with demand for electrical power to triple over the next 25 years.

"Similarly, the water industry is expected to be worth $70bn over the next 10 years. Such developments in the power and water sectors of the GCC countries underline the fact that the region is not only one of the fastest growing but also holds the most potential of global electricity and water markets."

Power-Gen Middle East and WaterWorld Middle East 2012 is in the final countdown for a three-day conference and exhibition at Qatar National Convention Centre from February 6. Speakers at the event incluse Abdulla Anbar Al Jassim, Public Relations and Communication Department Manager, Kahramaa; Rashid Nasser Al Hajre, Public Relations and Shareholders Manager at QEWC; Abdulsattar Al Rasheed, CEO, Ras Abu Fontas Power Plant, QEWC; Glenn Ensor, International Events Director, PennWell Corporation; and Nigel Blackaby, Conference Director, Power-Gen Middle East, PennWell Corporation.

"Over the years the event has grown in size and stature and is now recognised as the principle meeting place for delivering a formidable conference programme that tackles important strategic management and technical issues concerning the power generation business in the GCC and wider Middle East region. Together, Power-Gen Middle East and WaterWorld Middle East will continue to grow significantly as the region's leading event in the power generation and water industries," added Blackaby.

WaterWorld Middle East Conference Director Tom Freyberg said: "The inaugural WaterWorld Middle East event will enable participants to learn about future opportunities and take advantage of the promising market dynamics as forecasters predict a total of 39 million cubic metres per day of desalination capacity to be added between 2010 and 2020 in the Middle East region alone."

Organised by PennWell in partnership with Kahramaa and Qatar Electricity and Water Company (QEWC) as co-host and Platinum Sponsor, the event will kick off with the opening keynote ceremony led by H E Dr Mohammed bin Saleh Al Sada, the Minister of Energy and Industry, on February 6 followed by an official ribbon cutting ceremony. The Minister will be joined by other keynote speakers such as Eng Essa bin Hilal Al Kuwari, President, Kahramaa; Fahad Hamad Al Mohannadi, General Manager, Qatar Electricity and Water Company; and Glenn Ensor.

The seminar will be attended by over 4,000 delegates with more than 120 international chairs and speakers and nearly 140 exhibitors from 23 countries. Regional and international perspectives about topical power and water issues and opportunities for future growth and development will be

presented along with new and innovative solutions using pioneering technology to overcome the financial, resource and environmental challenges facing today's power and water industry.

"Boom time for power, water sectors in GCC", 02/02/2012, online at: http://www.thepeninsulaqatar.com/business-news/181850-boom-time-for-power-water-sectors-in-gcc.html

BACK TO TOP

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

❖ GCC needs more to match Europe in water saving

Despite the recent improvement in attitudes towards water and energy saving, a leading expert has called on the GCC to do more to match Europe's commitment to water saving.

A report conducted by Booz and Company, a US global management consulting firm, has found that the GCC will not be able to sustain its current rate of water consumption, with the UAE and Saudi Arabia consuming 83% and 91% more water than the global average.

As a result, Eric Kirwan, the director of International Projects at Grohe Middle East, told MEP Middle East that there was still a lot more work to be done.

"I've seen a change (definitely), there's much more awareness now and it (water saving) is being recognised, with first of all, international standards being used. LEED, from the US, is used widely across the Middle East. And then there's ESTIDAMA, which is used in the UAE itself. The awareness levels are much, much higher (than previously)," he said.

"However, that's not to say that there's not much room for improvement either. In the GCC in particular, water usage in hotels, for example, are still far and away ahead of typical usage levels in Europe. So there's still a long, long way to go," Kirwan added.

As a result, he said that his company has been promoting the use digital technology as a way to increase the sustainability of a product. Through the use of this technology, Kirwan hopes sustainability uptake in the GCC will speed up.

"The technology is available, and we'll be launching more digital products in mid-2012, which will capitalise on digital technology becoming simpler, more affordable and more intuitive to use," he explained.

However, he could not confirm a definite launch date for the technology.

"I think what we're really focused on is the user interface (of the technology), making it really simple, so that people actually use the products," he added.

"GCC needs more to match Europe in water saving", 02/02/2012, online at:
http://www.constructionweekonline.com/article-15495-gcc-needs-more-to-match-europe-in-water-saving/

BACK TO TOP

❖ Tap water, then bottled water... next?

The two-day Bangalore World Water Summit, which was inaugurated in the city on Wednesday, had policy-makers and researchers highlighting issues surrounding water security. Rural development minister Jagdish Shettar said: "We currently have about 300 schemes that cover 1,000 villages, but what we are doing is insufficient."

He said the money spent on water supply is a "national economic burden.""We are spending so much money — `1,000 crore — every year. But we want to ensure wards receive water. We have sent a proposal for grants worth `1,700 crore to the World Bank and the proposal is pending before the Centre," he added. He also said that India should copy Israel's model of using water economically.

"Now, 70% of water supply is used for agriculture. There should be better water management adopted here," he said. Dr Glen T Daigger, president, International Water Association, spoke about the importance of using water in moderation."Water should be looked at as a means to an end and not vice versa. We have enough water, but it needs better management. Water lubricates the economy. It is needed for the well-being of society and we need it to preserve the environment," he said. On the sidelines of the event, Daigger said he supported the monetisation of water as long as it is priced correctly. Urban development secretary Dr Sudhir Krishna said the summit is an opportunity to put in place correct policies regarding water security. "Groundwater development should be the focus. Treatment of water is another important issue and 70% of water can easily be recycled today," he said, adding that a clear policy should be formulated for the preservation of waterbodies as they are shrinking.

"Tap water, then bottled water... next?",02/02/2012, online at: http://www.dnaindia.com/bangalore/report_tap-water-then-bottled-water-next_1644958

BACK TO TOP

❖ PM Addresses 12th Delhi Sustainable Development Summit

The Prime Minister, Dr. Manmohan Singh gave away the Sustainable Development Leadership award for 2012 to the President of Finland Ms. Tarja Halonen in New Delhi today. Following is the text of the Prime Minister's address on the occasion:

"I am delighted to be here today at this inaugural session of the Delhi Sustainable Development Summit. I congratulate her Excellency the President of Finland Ms. Tarja Halonen for receiving the coveted Sustainable Development Leadership Award for 2012. We wish her well in her important role as co-chair of the UN High Level Panel on Global Sustainability.

This year marks the 20th anniversary of the landmark Rio Earth Summit of 1992 which set out the concept of sustainability and its importance as a critical parameter of human development.

The Rio Declaration on Environment and Development of 1992 had stated that the right to development must be fulfilled to equitably meet the needs of present and future generations. It also recognized that eradicating poverty was an indispensable requirement for sustainable development.

The idea of sustainability began as a developmental ideal. Over time, it has become an important focus of policy, particularly in developing countries as we struggle to reconcile our effort to develop with the compelling need to protect our environment. Air pollution, industrial pollution, increasing quantum of waste and pollution of our rivers are problems we all face.

There is also growing realization that sustainable development is not something that can be achieved by countries acting individually. The threat of climate change caused by greenhouse gas emissions has brought the world to a critical point where the actions of each and every country affect the planet as a whole. Sustainable development in this environment therefore, calls for cooperation of all countries both industrialized and developing. That cooperation must be based on the foundation of the right to development and the need for an equitable distribution of burden.

The need for equity is starkly reflected in the fact that the emissions per capita in industrialized countries are ten to twelve times those of developing countries. We know that total emissions in the world must decline, but what does this imply for emissions in individual countries? We must find a way of solving this problem in a way that does not deprive developing countries of their right to develop.

As a developing country in the frontlines of climate vulnerability, India has a vital stake in the evolution of a successful, rule-based, equitable and multilateral response to issues relating to climate change. The principles of the UN Framework Convention on Climate Change provide the basis for creating a workable framework along these lines. In this context, it is necessary to recognize that currently there appears to be a lack of collective global will to address this problem with the seriousness it deserves. We need to give renewed momentum therefore to the global negotiations for cooperative collective action for management of climate change.

The 17th Conference of Parties at Durban did achieve some important gains. The agreement at Durban on the 2nd Commitment Period of the Kyoto Protocol is a significant achievement because

there were doubts at one time about whether any agreement could be reached. I am glad that an agreement was reached. We cannot make progress in this difficult area if we allow the commitments of the past to be unraveled.

In the ensuing negotiations, we will need to focus on the substantive nature of arrangements, based on the principles of equity and common but differentiated responsibilities, more than their legal shape.

As we go forward, we will need to make progress on all the four pillars of cooperative action that were agreed at Bali namely, mitigation, adaptation, technology transfer and development and provision of financial resources and investment. There should be action in all these areas as part of a coherent and organic response to the problem of climate change. In that sense the Durban Platform must build on the Bali Action Plan.

I can assure you that India will play a constructive role in the ongoing negotiations and we will certainly live up to whatever obligations fall upon us as part of a fair and equitable agreement.

On our part, we are progressing with our own national strategy for mitigation and adaptation. Our National Action Plan on climate change is progressing satisfactorily and the eight National Missions are moving ahead. We hope to build a strategy for the Twelfth Five Year Plan which begins in April this year and it will be designed to ensure significant benefits for climate along with inclusive sustainable growth.

Food and energy security and sustainable use of scarce natural resources will constitute important constituents of our strategy for sustainable development. We will seek to reduce the emissions intensity of our GDP by 20-25 percent by the year 2020 taking 2005 as the reference level.

India is one of the mega bio—diverse countries of the world. Our traditional knowledge is both coded as in our ancient texts on Indian systems of medicine, and non-coded, as in oral traditions. With four global biodiversity hotspots, India ranks amongst the top ten species rich nations.

India was one of the first few countries to enact a comprehensive Biological Diversity Act in 2002 to give effect to the provisions of the Convention on Biological Diversity, 1992. Yet India and the world have miles to go before we can claim notable success in fulfilling the three objectives of the Convention namely, conservation of biological diversity, sustainable use of its components and the fair and equitable sharing of the benefits.

I am happy that India is hosting the eleventh Conference of Parties to the UN Convention on Biodiversity in Hyderabad later this year. I expect the Conference will bring about global consensus and forward-looking action on such major initiatives like operationalisation of access and benefit sharing mechanisms, which will go a long way in promoting community participation in conservation and sustainable use of resources.

I am happy to share with you the heart-warming news that India's tiger population is on the rise. The 2011 tiger census showed a 20 percent increase in the number of tigers over that of the year 2006. We have estimated that there are today around 1700 wild tigers in India out of a global population of

around 3,000. I hope that the lessons learnt will be used to conserve other endangered species as well.

I am also happy to state that India's forest cover had increased by nearly 5% between 1997 and 2007 with a small decrease since then. We hope to see further accretion with the implementation of the Green India Mission which aims to increase the forest and tree cover by 5 million hectares and improve forest cover on another 5 million hectares. Eventually these forests will act as a sink that could absorb 50-60 million tons of carbon dioxide annually. This would offset about 6 percent of India's annual emissions.

The Government of India is trying to put in place institutional arrangements and mechanisms to promote policy development and stakeholder engagement on sustainable management of commons.

We have recently established a National Green Tribunal under the National Green Tribunal Act, 2010. The Tribunal provides for the effective and expeditious disposal of cases relating to environmental protection and conservation of forests and other natural resources. This includes the enforcement of any legal right relating to environment, including providing relief and compensation for damages.

The National Ganga River Basin Authority is yet another example where we are trying institutional innovation to protect the sacred River. The objective of the Authority is to ensure conservation of the river Ganga and to maintain environmental flows by adopting a comprehensive river basin approach. We hope that the engagement of all stakeholders and this new approach will yield positive results.

The Rio Declaration of 1992 enunciated 27 far reaching principles that sought to protect the integrity of the global environmental and developmental system. These principles have stood the test of time. I urge all those gathered here today to reflect whether they have been given the importance they deserved in establishing a new and equitable global partnership that was the aim of the Rio Declaration. To the extent we have fallen short of those aims and objectives we must gear ourselves to do better in years to come. That’s the challenge and that’s also a great opportunity. With these words I once again thank you for listening to me patiently.

“PM Addresses 12th Delhi Sustainable Development Summit”, 02/02/2012, online at: http://pib.nic.in/newsite/erelease.aspx?relid=80046

BACK TO TOP

❖ Hedegaard: 'Rethinking our growth model'

EU Climate Commissioner Connie Hedegaard says global development challenges cannot be met if the world's economic powers do not rethink their growth model. In an exclusive interview with EurActiv, she also addresses controversial policies on emission charges for airlines and rejects calls for a price floor to sustain Europe's depressed carbon market.

Connie Hedegaard is the European climate commissioner. She one of 22 members of the UN's high-level Global Sustainability Panel that published a report this week containing 56 recommendations on low-carbon and sustainable development. She was interviewed by EurActiv's Frédéric Simon and Timothy Spence.

You were a member of the panel that drafted the UN's Global Sustainability Report. The document suggests that unless more attention is given to sustainable human development, there will be severe consequences for people and the climate. How does climate change affect development challenges and what is the EU doing to address it?

Climate is a threat multiplier in many developing countries. If you take the Horn of Africa, for instance, the Horn of Africa crisis is not just because of climate change, but that is making the crisis even worse. If you take the situation in Yemen, water scarcity is worse because of climate [change]. In China they make an annual calculation now how much does the change in climate cost their GDP, because they can see it is making other kinds of challenges worse and this changing weather, precipitation patterns things like that …

In Thailand, the world's largest rice producer, one-fifth of the harvest rotted due to flooding. That's the kind of interlinkage there is and that's why we saw, when you have still more people, wanting still more commodities, demanding still more food, still more energy, still more water, and on top of that as an overarching challenge, you also have climate change, then you really have the recipe for a lot more problems if you just continue business as usual instead of rethinking your growth model.

Are you happy with the progress made in Durban about the Green Fund for developing countries?

It was foreseen that we should make it operational in Durban, and that happened. And now countries are starting to put the money in …

But are you happy with the pledges that have been made?

The decision by many developed countries has been, we are not pledging until we know exactly how does it work, what will the money be given for, and for whom, who will administer it? That was what was agreed in Durban. Some of our member states started to pledge already in Durban – Germany did, Denmark did, I think the UK also did and others are on their way now to say what they will put into it.

Is the issue only about aid?

No … on the climate finance, the [UN Global Sustainability] panel says very, very clearly there is no way we can do it only through public budgets. As you might know, it is still in discussions in the international climate talks. Europe's position, and now it's also echoed by the whole panel, there is no way that you can allocate or re-direct the money that you need and the kinds of investments that you need - for instance in access to sustainable energy - only through public money. You really have to make this a good business case, for institutional investors, for pension funds, for lots of private capital. …

In your statements on the UN report, you called for more subsidies for renewable energy and less for fossil fuel energy …

I think we put in a slightly different way. We said we should phase out fossil fuel subsidies, then we should take into consideration that we should phase out first the most harmful, and in the way you phase out, take care of the poorest people's interests. We're just stating as a fact from the International Energy Agency that in 2010 … the world subsidised fossils for more than $400 billion whereas it was only subsidising renewables for between $60-and-$70 billion, meaning that was six to seven times as much subsidising of fossils fuels that we want less of instead of renewables that we agree we want more of.

Here in Europe there still policies that subsidise fossil fuels. The Commission has signed off on continued state aid for unproductive coals mines, and many countries have scaled back subsidies for renewables …

You are distorting it a bit when you say the Commission supported unprofitable coal mines, because what the commission did was actually to set a deadline, when what the members states wanted was to continue unprofitable coals mines. We set a deadline when it now must be phased out and got a decision on that.

But how do you reconcile the rhetoric about supporting renewable energy and the reality that many European countries …

It's true that, for instance, Spain cut back their renewables feed-in tariffs and Italy did the same, and in both cases the Commission wrote to the respective governments to say you can always change feed-in tariffs, but don't do it retroactively so that you are harming existing projects …

I think that's why we need milestones, why we need targets for renewables as we have for 2020, that's why we also need now to define the milestones for 2030, because if you are - say - a pension fund, and you need to decide today whether you want to put your money in a new offshore wind farm, you need to know the conditions, you need to know whether there is predictability – do the countries really want to do this?

The Commission's recommendations to member states have been very clear: don't mess with this in the short term. Of course if you want change after 2020, you can do that. But if now you have your national plans as to how much you want do in the field of renewables up to 2020, you should take very much care not to legislate retroactively or change the conditions retroactively.

This is not just an environmental or climate perspective, because what happens if you do this, then investors instead look to other regions and put their money there.

But how effective are milestones? They EU has plenty of milestone that the member countries are not recognising.

Definitely. But I think if you take the renewables target … there is a link between that kind of policy that we have here and, that even despite the [financial] crisis, member states have continued to invest in more renewables not less renewables … so I think this is a good example how targets actually help governments to stay focused on important issues even when they have other things that distract their attention.

Although they seem to be very reluctant about targets for 2030, which is something you have been promoting.

I think we should have it now. We will very soon be at crossroad where Europe has to decide, do we want to create jobs in the renewables sector or do we want to give away a stronghold we have had to, say, the China's or some others?

You are thinking of Vestas?

No, because I think there are many other reasons for Vestas. … The fact is [in] the solar market, wind market, the offshore market … Europe still has a clear market advantage.

But on solar PV, we've seen a lot of production now going abroad, so that market advantage is eroding fast, it would seem.

And you could say, yes, and our auto manufacturers produce in China for the Chinese growing market … I mean it's all about Europe's general competitiveness. But I'm just saying here, we have an area here – renewables, and maybe even it is more clear with energy efficiency - where we can still create a lot of growth and jobs in Europe by addressing challenges that would not only be good for climate and for energy security, it would also benefit our economy. Last year our the oil bill to Europe was €315 billion … it's almost the size of the Greek debt … €315 billion last year for our imported oil bill, increasing 40% compared to the year before. And last week Saudi Arabia announced that they want to stay in this three-digit oil price even if when/if the world comes back to normal.

That's why we what we are recommending, in the panels' report, is we must have a more wholistic approach. Normally people tend to believe if we continue business as usual, then it costs nothing, but that is very, very false in the world we are living in. If we continue business as usual, our oil bill will increase, there will be much more volatile prices and the risk of oil shocks will be there. And the consequences for environment, for people, for poor populations that want migrate … will only increase.

Whereas if we had said, why don't we now use the crisis to do something substantial to reduce this oil bill, to increase energy efficiency, to put less money to the Saudi Arabians of this world, to invest more in Europe? - and the big advantage would be that it would create jobs right now …

How do you do that in a time of austerity … in a time when companies are not investing?

If I could take an example from Denmark … Last year a big pension fund decided to pour substantial money into an offshore wind farm. All the risk analysis they had proved this is not more risky - if anything it is less risky than other areas where they would put their money. And now this big wind farm to supply 400,000 Danish household with electricity is being built, and it's creating loads of jobs in some rather remote areas where there are not that many jobs being created for the time being…

And if you ask these institutional investors, they say if we get the signal, the targets, if we have the predictability through the milestones, and you show that you really want it in Europe, then the capital is there.

Going back to the energy security issue and your point about oil. There is a growing field of science that biofuels are not as climate friendly as they've been sold to be. How do you respond to this need for alternative fuel, and yet address these concerns?

By doing what we have been doing. I was the [Danish] minister for environment when we set up the sustainability criteria out of exactly the same fear … But the knowledge and the science were not that well developed at that time, so now we have been struggling to try to get a defined indirect land use factor in. And within some weeks, the Commission will present a way forward on this.

Personally, I've always been very cautious on biofuels. It's great to see the potential in new technologies, but we should take very much care in Europe that we are now not establishing a new big industry that we then, after some time, say wow, that was not so good.

I think what they did in the US, for instance, on the corn ethanol - they're starting to realise that might not be the wisest way forward, and we should be sure to get as right as we can get it.

Would the Commission be ready to rethink it's endorsement and backtrack?

There are sustainable biofuels and there are not-so-sustainable biofuels. I have no problems and the Commission has no problems with sustainable biofuels – and there are sustainable biofuels – but there are also biofuels where you could say what it takes away from CO2 is not less than fossil fuels, in some instances it's even more. And that's of course not a clever strategy if we ask member states to replace fossils fuels with something that is not better than fossil fuels.

And that's why to get the sustainability criteria right, to get the methodology right … the Council discussions at that time we said, yeah, this is a new technology and you cannot always expect the total perfect world of a new technology. And that is why we made the percentage a dynamic one so that it will increase over the years, so that it's built into the legislation that the industry must innovate

and improve, and we are sort of adding to that also by what we are going to suggest on ILUC [indirect land-use change].

Could that lead to some rules that would effectively rule out some biofuels?

I'm not going to present what we're doing now because I have half the this portfolio - [Energy] Commissioner Günther Oettinger has another half of the portfolio - and it would not be fair if I – before we've had it through the Commission – tell you what we are going to do.

There's been a lot of talk in the European Parliament about instigating effectively a carbon price floor with a set-aside rule in the emissions trading scheme. Is it an initiative that you support and could you maybe quantify the amounts that in your view would make it workable?

In different Commission papers we have said how the set-aside could be done. I am also concerned about the too-low price we have for the time being, and we are also considering what to do and what not to do. But I cannot go into details because of the ETS, and it's market-sensitive. In my position, it's not because it's not tempting, but I cannot speculate about what to do or what not to do ...

But on this discussion on having floor prices and things like that, it's easy to see the logic behind that. If you start to toy with that idea … then you will also have a ceiling and very soon you will not have a market-driven system. And we think it's important to have a market-based system.

None of us should be surprised when there is a huge crisis in Europe, and production is coming down, it is no wonder then that in a market-based system, that demand will come down and therefore also the price. That is how the market works…

We will be in for so much more trouble if we had a politically regulated system all the time ….

On aviation emissions, the European Commission has said China and the US airlines could be exempted from emissions trading if they took "equivalent measures". Can you give examples of what these equivalent measures might be?

Our law says 'equivalent measures'. And it was no coincidence when the law was done – it was before my time here – but that they did not specify that means 'this and that', that's why there is a dialogue with different partners now.

Last fall or summer or even before, the Chinese authorities said, "Maybe we will set reduction targets for our aviation sector." As soon as I saw that, I wrote to the Chinese authorities and said, let's discuss that. ... They came forward with a figure and we are now discussing with them what it means.

"Hedegaard: 'Rethinking our growth model'", 02/02/2012, online at: http://www.euractiv.com/climate-environment/hedegaard-rethinking-growth-model-interview-510524

BACK TO TOP

❖ THE ART OF FRAMING - Rain water harvesting key to farming

WATER is essential to all life – human, animal and vegetation, therefore it is imperative that adequate supply of the commodity is developed to sustain such life.

The development of water supply should, however, be under-taken in such a way as to preserve the hydrological balance and the biological functions of all ecosystems.

This is crucial for marginal lands.

Human endeavour in the development of water sources must be within the capacity of nature so as to replenish and to sustain it.

If this is not done, costly mistakes can occur with serious consequences.

Harvesting rain water can work out well for instance in Zambia where a lot of water goes to waste especially during the rain season.

The country is endowed with massive water bodies and rivers which run all year round but water management is still a problem in the country and has continued to affect agriculture whose sole survival is water.

The country also receives favourable rainfall which equally goes to waste instead of being harvested for future use.

Rain water harvesting could be the answer especially in situations where it is allowed to go to waste. Even though rain water harvesting is a new concept in Zambia and it is practiced by a handful of farmers in rural areas.

Traditionally, rain water is harvested either directly in an open bucket or indirectly through shallow wells dug along river banks mainly for domestic use.

Rain water harvesting is defined as inducing, collecting, storing and conserving local surface run-off water for agriculture in arid and semi-arid regions.

Rainfall has four facets. Rainfall induces surface flow on the run-off area. At the lower end of the slope, run-off water collects in the basin area, where a major portion infiltrates and is stored in the root zone.

After infiltration has ceased, then follows the conservation of the stored soil water.

A successful integrated water resource management should call for a cross sectional approach to the planning, development use and protection of water resources.

There is need for training in rainwater management which should take into consideration the gender differences and inequalities, if development interventions are to be effective.

Rain water harvesting is a technology which is traditionally practiced in some parts of Zambia.

It is done on an ad hoc, very low technic basis usually by placing buckets under the roof space to catch the dripping rain water during heavy storms and this could mainly be stored in containers such as old 210 litre drums.

Apart from this, very few rain water harvesting systems had been installed, mainly at schools, and even then, not so widespread.

These were roof harvesting systems comprising of a roof catchement, gutters and tank.

Normally the water was drawn through a tap from the tank. It is the same water which was used for drinking and washing by pupils, teachers and the near-by communities.

The Ministry of Agriculture had constructed a number of different rain water harvesting systems for rural areas especially in the Eastern Province.

Some of the installations were at schools while others were at individual houses.

The Livingstone Sustainable Food Programme had also worked with the rural communities in establishing projects in harvesting rain water.

The structures constructed were mainly dams, weirs, and boreholes. The local government, with the support from UNICEF was planning to start pilot projects in 10 districts of the two provinces.

Rain water harvesting systems are also found at Batoka Basic School in Choma district of the Southern province.

As land pressure rises, more and more marginal areas in the world are being used for agriculture.

Much of this land is located in the arid or semi-arid belts where rainfall is irregular and much of the precious water is soon lost as it runs off the surface.

Recent droughts have highlighted the risks to human beings and livestock, which occur when rains falter or fail.

While irrigation may be the most obvious response to drought, it has proved costly and can only benefit a fortunate few.

There is now increasing interest in the low cost alternative generally referred to as ‘water harvesting’.

Various forms of rain water harvesting have been used traditionally throughout the centuries.

Some of the earliest agriculture, in the Middle East, was based on techniques such as diversion of "Wadi" flow (spate flow from normally dry water courses) onto agricultural fields.

Other examples include the Negev Desert, the desert areas of Arizona and Northwest Mexico and Southern Tunisia.

The potential of water harvesting for improved crop production received great attention in the 1970s and 1980s.

This was due to the widespread droughts in Africa which left a trail of crop failures and a serious threat to human and livestock life.

Consequently a number of water harvesting projects were set up in sub-Sahara Africa.

The main objectives were to combat the effects of drought by improving plant production and in some areas rehabilitating abandoned and degraded land

However, few of the projects have succeeded in combining technical efficiency with low cost and acceptability to the local farmers or agro pastoralists.

This was partly due to lack of technical know-how but also often due to the selection of an inappropriate approach with regard to the prevailing socio-economic conditions.

There are several types of systems to harvest rainwater, ranging from very simple home systems to complex industrial systems. The rate at which water can be collected from either system is dependent on the plan area of the system, its efficiency, and the intensity of rainfall.

Rainwater harvesting creates synergies by improving rain fed agriculture and enhancing productive landscapes Farms are indisputably the most important ecosystems for human welfare.

Rain fed agriculture provides nearly 60 per cent of global food value on 72 per cent of harvested land. Rainfall variability is an inherent challenge for farming in tropical and sub-tropical agricultural systems.

These areas also coincide with many rural small-holder (semi-)subsistence farming systems, with high incidence of poverty and limited opportunities to cope with ecosystem changes.

Water for domestic supply and livestock is irregular through temporary water flows and lowering ground water in the landscape.

Variable rainfall also results in poor crop water availability, reducing rain fed yields to 25-50 per cent of potential, often less than one tonne of cereal per hectare in South Asia and sub-Sahara Africa.

The low agricultural productivity often aggravates a negative spiral in landscape productivity.

Some small -scale farmers in Muchinga province who are affected by lack of investments in irrigation, however, said the concept of rain water harvesting is an alien to them.

Chief Mpepo of the Bisa people of Mpika said the area is near Chambeshi and its tributaries but we got affected because of lack of know how on water sustainable management.

He said the rainfall pattern is equally good but did not understand the benefits of rain water harvesting.

"We have the resources but if there is no one to tell us about them like you are talking , we will remain behind," Chief Mpepo said.

He claimed that extension services are non existences despite some extension officers being in the area.

Godfrey Kaseya of Chalabesa turn off in Mpika and Goodness Mubanga of Chikwanda area echoed similar sentiments that lack of latest information on some agriculture developments had affected the farming activities.

The duo said they were stuck to the traditional way of farming which was proving to be costly due to lack of latest information on agriculture development such as rain water harvesting and conservation farming.

"There is need to help us with the necessary tools such new information and innovation in agriculture so that we can improve but as long as the status quo remains the same, then our farming will starting going down," Mr Mubanga said.

Rain water harvesting should be an adaptation strategy for people living with high rainfall variability, both for domestic supply and to enhance crop, livestock and other forms of agriculture.

To enable full benefits of rainwater harvesting, rainwater used by crops and natural vegetation in many cases should pass through integrated water resource management, which primarily focuses on stream flow or groundwater resources.

And extension officers, where are you?

For comment email: theartoffarming@gmail.com

Crop weather Forecast

The agro-meteorological conditions in southern province have indicated that most crops are in the advanced vegetative and tasselling (flowering) stages and performing well.

Application of top dressing fertilizer by farmers and planting of sweet potatoes has continued in most places.

Expected reduction of rainfall in the next the ten days is likely to improve the status of well managed crops.

No harmful effect had so far been reported in the province.

Meanwhile, the Department of Meteorology Weather Monitor has indicated that relative moist easterly airflow prevailed over Southern Province during the period from January 2 to 31 this year, enhancing moderate to heavy and widespread rainfall over most parts.

Rain days ranged from two to eight.

Hot temperature values ranged from 34 to 38 degrees Celsius at Livingstone Met and Maamba Colliery respectively.

Heavy ten day rainfall was received over most districts where Masasabi in Itezhi tezhi, Siameja in Sinazongwe and Namwala had 136 milimeters (mm), 109mm and 104mm respectively.

Others were Chipepo Met. 94mm, Sinazeze, and Mambova 81mm each, as well as Moorings farm with 59mm.

Moderate rainfall was however reported in Kalomo, Siavonga and Mazabuka districts where Luyaba, Lusitu, and Magoye had 33mm, 23mm and 44mm respectively.

Masasabi in Itezhi tezhi comparatively, had the highest ten day rainfall of 209mm in the previous season during similar ten day period.

The highest cumulative rainfall from the July 1 2011 to January 31 this year was recorded at Maamba Colliery in Sinazongwe while Magoye Meteorology received the lowest reported figure of 200mm.

The seasonal rainfall departure from July 1 2011 on the other hand, indicates that below normal rainfall was observed over much of Kazungula, Livingstone, Namwala, Siavonga and parts of Monze and Sinazongwe districts. Magoye Met, Kanchele, and Simango had highest deficit of 65 per cent, 58 per cent and 45 per cent respectively.

Itezhi-tezhi, Sinazongwe, Monze and Choma districts received normal rainfall where Maamba, Chaanga and Chipepo Met., had 16 per cent, four per cent and one per cent respectively.

Damages to road and agricultural fields were minimal across the province, compared to the previous season during similar ten day rain period.

Weather forecast from 4 to 11 February 2012

The general situation indicates that relative moist south easterly airflow is expected to persist from today until February 7 thereby reducing rainfall activity over much of Southern Province.

Moist northwesterly airflow is expected to prevail from February 8 to the end of the forecast period and likely to induce rainfall over most places.

Meanwhile, all areas would be partly cloudy to cloudy with afternoon showers and thunderstorms in few places during the afternoon.

Thereafter cloudy to overcast conditions with showers and thunderstorms in places during the day would be followed by night rains up to the end of the forecast period.

"THE ART OF FRAMING - Rain water harvesting key to farming", online at: http://www.times.co.zm/index.php?option=com_content&view=article&id=4724:rain-water-harvesting-key-to-farming&catid=65:agro&Itemid=110

BACK TO TOP

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