



# ORSAM WATER BULLETIN

Weekly Bulletin by ORSAM Water Research Programme

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



**ORSAM WATER BULLETIN**  
**21 February 2011 – 27 February 2011**

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## ❖ Water Wars and GAP

Last week, I discovered a “mole” deep inside a mountain on the outskirts of the southeastern province of Şanlıurfa. This was neither the kind we hear and see in fascinating FBI mole stories scripted in Hollywood nor the ones we read about in National Geographic magazine. This mole is also called a tunnel boring machine (TBM) -- a massive drilling machine used to excavate tunnels with a circular cross section in the front.

This TBM, used in the largest tunnel ever to be built in Turkey using this excavation method and the fifth largest in the world, will open a 17-kilometer-long irrigation tunnel from Atatürk Dam to 234,000 acres of fertile land in Suruç Valley near Şanlıurfa. The tunnel will be part of the larger channel that extends for 340 kilometers within the gigantic \$35 billion Southeastern Anatolia Project (GAP). Almost one-third of the tunnel project is completed, and it will pump water at 90 cubic meters per second into the valley when it is finished.

I rode in the construction wagon deep into this tunnel with Environment and Forestry Minister Veysel Eroğlu, who was explaining along the way how his government would pick up speed on infrastructure projects such as this one. He is a pushy one when it comes to fast tracking projects with contractors. Even though the legally binding documents signed with contractor İlci Group specified that the project should be completed in 2013, Mr. Eroğlu secured a pledge from company officials in a public forum to do so by 2012. With the mole excavating a 25 to 30-meter length of tunnel that is seven meters in diameter per day, the company has achieved a much better record than originally anticipated, and I guess they do not see any problem with moving the date a year earlier.

With the Treasury coffers increasing and economic growth well in place, the government feels confident enough to move quickly on major infrastructure projects. The GAP action plan unveiled in 2008 by Prime Minister Recep Tayyip Erdoğan provided the needed fuel to drive uncompleted projects in the region. Before the action plan, 674,000 acres of land had access to irrigation. With the completion of ongoing projects by 2013, 2.6 million acres in the Southeast will be irrigated. For the budget year 2011, the government allocated TL 1.4 billion just for irrigation projects, almost seven times more than the figure in 2003 when the ruling Justice and Development Party (AK Party) took power.

As of today, 29 percent of the arable land in the GAP region, which cover nine provinces in the Southeast, can benefit from water resources utilizing irrigation channels and dams, compared to just 12 percent in 2002. The government estimates it will earn \$2.1 billion in agricultural revenue annually once GAP is completed. Eroğlu says Turkey can easily export \$112 billion worth of agricultural goods -- currently amounting to \$12 billion -- if it continues the infrastructure projects. What is more, GAP helped the government solve potable public water problems in all provinces in the region, and it has an abundant water supply in reserve. For example, the water supply in the main channel in the upper Harran Valley could easily meet the demands of 100 million people.

In fact, that is one of the main reasons why Minister Eroğlu sounded optimistic when I asked whether a war could break out between Turkey and its neighbors over water needs, as some have predicted. He said Turkey sees no such possibility in the light of recent developments. He was referring to the recent start to the joint construction of a dam with Syria, also known as the friendship dam, on the Asi River, which flows from Syria to Turkey. The prime ministers of both countries met at the border for a groundbreaking ceremony earlier this month. Eroğlu also said his ministry allowed many technical experts from Arab countries, especially from Syria and Iraq, to examine GAP projects and dams built or in the process of being built on the Tigris and Euphrates rivers. “This helped remove suspicions and concerns on their part,” he said, stressing the government carefully studied the feasibility of projects and took measures to prevent any harm to its neighbors. “What we are doing is actually helping our neighbors, such as with the prevention of floods from torrential rains,” he added.

Turkey has for many years faced water-related problems with its neighbors. The Iraqi and Syrian governments have in the past criticized Turkey for failing to release sufficient water from its dams. Turkey’s construction of dams on the Tigris and Euphrates rivers was the major point of discussion. Eroğlu says all these criticisms were based on false premises -- some of which were intentionally fueled by third parties to drive a wedge between Turkey and its Arab neighbors. “We cannot hold the water as it is simply not possible technologically,” he underlined, adding that Turkey releases more than enough water to both Syria and Iraq.

Many people call Mr. Eroğlu the water man because he helped solve the chronic water problem in İstanbul, the largest city in Turkey with some 12 million residents, in the 1990s when Erdoğan, then the mayor of the city, charged him to run the city’s water authority. With major channeling and

reservoir projects completed, Erođlu not only solved the city’s water problem but also made sure the city would have a sustainable water supply until 2050. In a town hall meeting held in řanlıurfa, a group of residents from a remote village, who are apparently having water problems, greeted him with a placard saying, “A man who solved İstanbul’s water problem can easily solve our water problem as well.” Erođlu pledged that he would personally follow up on that issue.

“Water wars and GAP”, Bozkurt, A., 22.02.2011, Online at: <http://www.todayszaman.com/columnist-236250-water-wars-and-gap.html>.

### ❖ **Minister: Water War No Longer a Possibility in Turkey's Region**

Contrary to the arguments of some international analysts that a war over water resources will inevitably erupt in the Middle East, Turkey sees no such possibility in the light of recent developments, the Environment and Forestry Minister Veysel Eroğlu said in a discussion with Today's Zaman.

Turkey has for many years faced water-related problems with its neighbors. The Iraqi and Syrian governments have in the past criticized Turkey for failing to release sufficient water from its dams. Turkey's construction of dams on the Tigris and Euphrates rivers was the major point of discussion at the time. However, a policy of zero problems with neighbors has culminated in strong cooperation between the three countries for the past few years. Recent agreements between Turkey and its two southern neighbors discredit the thesis of a clash over water, argues Eroğlu, who spoke to Today's Zaman following the recent opening of five new dams in the southeastern province of Şanlıurfa.

The joint construction of a dam on the Asi River, which flows from Syria to Turkey, which recently began is the latest example of such developments. Recalling that state officials from Syria and Iraq were invited to see developments at Atatürk Dam in the first place in 2006, Eroğlu said Turkey, Iraq and Syria have agreed to cooperate to sort out water-related problems among the three, while avoiding "third parties' intervention." The minister said the Turkish government has recently signed dozens of cooperation deals in many fields with Iraq and Syria, a clear sign of improving relations with these countries.

Eroğlu noted that some Western governments tried to mislead Arab countries in the Middle East, particularly Iraq and Syria, arguing that although it has vast sources Turkey does not release water to the region. "The leaders of countries like Syria have for many years believed that Turkey did not share its water sources with other countries in the region. Some countries in the region even provided support to the terrorist Kurdistan Workers' Party [PKK] in return for what, they believed or were made to believe, Turkey had done."

Eroğlu argues that, thanks to recent rapprochement between Turkey and the Arab world, people in the region "no longer fall for some groundless stories told by some Western governments." Making mention of the United Nations Forestry Forum, the last one of which was held between Jan. 24 and

Feb. 4 in New York, the minister said the UN has accepted Turkey's earlier proposal to hold the next forum in İstanbul. The city is going to host the forum, the first time it will be held elsewhere other than New York.

“The amount of monetary aid that Turkey provided for different planting and watering projects around the world equals \$1 billion. ... Many countries are aware of Turkey's efforts aimed at forestation, erosion control and fighting forest fires ... while many have offered to cooperate and share experiences with Turkey to this end.” He recalled that over 1 million trees would be planted in İstanbul as part of a program in parallel to a project launched in New York, which aimed at planting 1 million trees by 2017.

EU environment chapter, Kyoto to strengthen Turkey's hand

As regards the opening of the environment chapter in EU accession talks and the signing of the Kyoto protocol, the minister said these developments will further strengthen Turkey's hand in the global arena while raising the country's environmental standards. “We opened the environment chapter not only because the EU demanded it but also because we expected to raise the standards in this field in Turkey. This was a key development in Turkey's bid to enter the union, and Kyoto shares similar importance,” he explained. Turkey opened the chapter in December 2009.

Regarding the signing of the Kyoto protocol, the UN-led pact to combat global warming, Erođlu said the government does not regret having signed the protocol since it helped Turkey to escape intense pressure from both the EU and international environmental organizations. The Turkish Parliament approved its membership of the Kyoto Protocol in February 2009. “The more we delayed signing the protocol the more our efforts in combating global warming came under suspicion,” the minister argued, adding that some energy projects along with wastewater treatment plants are already under way.

Minister: Water war no longer a possibility in Turkey's region, Yavuz, E., 21 Feb 2011, Online at: <http://www.todayszaman.com/news-236174-minister-water-war-no-longer-a-possibility-in-turkeys-region.html>

## ❖ 'Blue Peace' Needed to Solve Middle East Water Crisis

Water shortages in the Middle East could lead to social unrest unless urgent action is taken to transform a potential crisis into an opportunity for a "new form of peace", according to a new report presented in Geneva.

"You are looking at a huge social and political crisis," said Sundeep Waslekar, president of the Mumbai-based Strategic Foresight Group, which drew up the report, 'The Blue Peace: Rethinking Middle East Water'.

He said the crisis would result from a decline in the availability of water in the region, which would have repercussions on food crop production, and might in turn lead in turn to migrations from water deficit areas.

The report notes that the flow of the Jordan River at the Dead Sea has declined from 1300 million cubic metres in the 1960s to between 100 and 200 million cubic metres in a wet year and much less in dry years.

The water level in the Dead Sea dropped from 390 metres below sea level in the 1960s down to 420 metres below sea level at present and will be 450 metres below sea level by 2040, if the trend continues, the report states.

"The Dead Sea will become a lake, no longer a sea," said Waslekar, presenting the report at a recent media conference in Geneva. "The Jordan River will disappear for seven or eight months of the year."

The report was drawn up after consultations with almost 100 leaders and experts from Iraq, Israel, Jordan, Lebanon, the Palestine Territories, Syria and Turkey.

It outlines ten recommendations to harness water to satisfy people's social and economic needs, and to enable water to become an instrument of peace and cooperation - something that the report calls a "blue peace".



"While peace is needed in cooperation in water, a collaborative and sustainable approach to water management can build peace," states the report. The report was drawn up with support from the Swiss Agency for Development and Cooperation, the Swiss Federal Department of Foreign Affairs, and the Swedish International Development Cooperation Agency.

"Water, today a source of division and tension should become an instrument of peace and cooperation," Micheline Calmy-Rey, the president of the Swiss Confederation, told journalists at the report's presentation. On relations between Israel and the Palestinian Authority, the report describes a "breakdown of trust" between water managers on the two sides, leading to conflicting claims on water issues by Palestinian and Israeli experts.

Waslekar said the report is calling for a "confidence-building initiative" between the heads of the water authorities of Israel and the Palestinian Authority - with international observers - to assess the "real situation" of freshwater resources in the aquifers, the underground layers of permeable rock or soil that yield water. The report describes the renewable freshwater resources in the Mountain Aquifer, shared by Israel and the Palestinian Territories, as being reduced by 7 per cent since Oslo Accords in 1993.

Among its other recommendations, the report proposes a Cooperation Council for Water Resources for Turkey, Syria, Iraq, Lebanon and Jordan to establish common standards for measuring water flow and quality, set goals for sustainable water resource management, and promote regional strategies to combat climate change and drought. "Together with climate change, water is becoming the most pressing social and environmental challenge of the 21st century," said Martin Dahinden, director-general of the Swiss development and cooperation agency.

At the same time, he noted, "Water is becoming more and more a new common challenge which is bringing peoples and governments together to find innovative solutions."

'Blue peace' needed to solve Middle East water crisis, Brown, S., 21 Feb 2011, Online at: <http://www.ekklesia.co.uk/node/14193>

## ❖ Iraq Oil Fields Require Water Injection

Onus is on the international oil companies to build a giant and costly desalination facility in Iraq

Despite being known as the land of two rivers, one of the biggest challenges for investors in Iraq will be to source the huge amounts of water they will need to inject into the southern oil fields to sustain the pressure required to maximise production. Agriculture accounts for 92 per cent of Iraq's freshwater consumption and the water level of the Euphrates and Tigris rivers has diminished. The UN estimates that 7.6 million Iraqis, almost a quarter of the population, lack access to safe drinking water.

The Oil Ministry's solution is to build one of the largest desalination plants in the world. The estimated \$10bn Common Seawater Supply Facility is intended to process 15 million barrels a day (b/d) of seawater to provide 12 b/d of treated water.

A project of this scale does not only present technical challenges. The Oil Ministry must also provide an attractive commercial framework to make it worthwhile for the developers to pay for the plant. At present, Baghdad is asking for an enormous investment at a time when the international oil companies (IOCs) will see little return from the fields.

But the burden remains with the IOCs. To hit their targets, they must build the plant. The problem is investment is needed today, rather than when the water is required in several years' time. If the IOCs can work with the Iraqi government and bridge this funding gap, the project should go ahead, and there are incentives for both sides to make this happen.

"Iraq oil fields require water injection", 24.02.2011, Online at: <http://www.meed.com/sectors/oil-and-gas/oil-upstream/iraq-oil-fields-require-water-injection/3087757.article>

❖ **Minister of Irrigation Affirms Necessity of Equitable Use of Nile Water among all Nile Basin Countries**

Goma, Democratic Republic of Congo, Feb. 23 (SUNA) - The Minister of Irrigation and Water Resources, Engineer Kamal Ali Mohamed, has commended the cooperation between the countries of the Nile Basin since 1960s which was reflected in projects for optimum use of water of the River Nile for the benefit of the peoples of all the countries

Addressing the 2011 Regional Nile Day celebrations under the theme: "Together for Better Cooperation" in the City of Goma in the Democratic Republic of Congo in the presence of the Congolese President, Joseph Kabila, and the Ministers of Water Resources of the Nile Basin countries and representatives of international and regional organizations Wednesday, the Minister urged the Nile Basin Countries to boost unity in order to enhance their cooperation

The minister stressed that the policy of Sudan aims for reaching equitable use of the water of the River Nile to all the Nile Basin countries

The minister added that Sudan policy aims for pressing ahead in realization of peace and security between Sudan and the newly-established State of South Sudan as well as enhancing the level of cooperation and extending support to it in terms of the utilization of the River Nile water for the interest of the peoples of the two states and all the states of the Nile Basin. MF/MO

"Minister of Irrigation affirms necessity of equitable use of Nile Water among all Nile Basin Countries", 24.02.2011, Online at:[http://www.sudaneseonline.com/en3/publish/Latest\\_News\\_1/Minister\\_of\\_Irrigation\\_affirms\\_necessity\\_of\\_equitable\\_use\\_of\\_Nile\\_Water\\_among\\_all\\_Nile\\_Basin\\_Countries.shtml](http://www.sudaneseonline.com/en3/publish/Latest_News_1/Minister_of_Irrigation_affirms_necessity_of_equitable_use_of_Nile_Water_among_all_Nile_Basin_Countries.shtml)

### ❖ Iraq: Drinking Water Project for Amedi of \$90 Million

Kurdistan Ministry of Municipality and Tourism sealed Monday a contract for construction of drinking water project for Amedi area within Dohuk province.

The minister, Samir Abdullah Mustafa, signed the contract priced at 90,000,000 U.S. Dollars with the Lebanese Ster Group and Homan Ederson companies according to a statement issued by the ministry.

With this project getting underway, the town of Amedi and the townships of Deraluk, Sarsing, Qadash, and Bamarne, as well as four surrounding villages will receive 2,400 cubic meters of drinking water per hour on average.

The project will get started soon and finished in almost two years.

Amedi area, 70 km northeast of Dohuk, 467 km north Baghdad, encompasses five townships including Bamarne, Deraluk, Sarsing.

“Iraq: Drinking Water Project for Amedi of \$90 Million”, Iraq Daily Journal, 23.02.2011.



## ❖ Middle East: Report Proposes Master Plan for Water for Peace

The Middle East is likely to plunge into a serious humanitarian crisis due to depletion of water resources, unless remedial measures are introduced urgently, says a new report [1]. The Strategic Foresight Group prepared the report, “The Blue Peace”, with support from the Swiss Agency for Development and Cooperation (SDC) and the Swedish International Development Cooperation Agency (Sida), and input from almost 100 leaders and experts from Israel, the Palestine Territories, Jordan, Lebanon, Syria, Iraq and Turkey.

The report assesses the principal challenges linked to the trans-border management of resources. At present a factor of division and tension, water harbours the potential of becoming an instrument of peace and cooperation. This emerges as the report’s central thesis. Subsequently, it compiles a list of ten recommendations, calculated in the short, medium, and long terms, which are aimed to lead to pragmatic solutions.

The ten recommendations of the Strategic Foresight Group (SFG). Source: SFG The total budget for the Blue Peace report was 650,000 Swiss francs (US\$ 702,000).

On Thursday, 10 February 2011, Swiss President Micheline Calmy-Rey presented the final report to the Swiss Press Club in Geneva.

“Middle East: Report Proposes Master Plan for Water for Peace”, PR Newswire, 24.02.2011

### ❖ Israeli Water Supply for Palestinian Authority Refutes ‘Big Lie’

The PA claims Israel denies water for Arabs, but a report proves that Israel – unlike Jordan before 1967 – has connected most of the PA to the water grid. Before the Six-Day War in 1967, when Jordan occupied all of Judea and Samaria – far beyond its United Nations mandate – 80 percent of the Arab population in Judea and Samaria was not connected to a water network. Since the return of the areas to Israel, the Jewish state has connected 90 percent of the Arab population in Judea and Samaria to the national water grid, according to the Civil Administration’s Water Department.

The Civil Administration also has refuted a World Bank claim that it allegedly delayed 82 water projects in Judea and Samaria. “In actuality, only three of the projects were rejected by the Civil Administration,” it stated in a report. The Civil Administration added that “47 of the projects cited in the report were situated in Areas A and B and therefore under the responsibility of the Palestinian Authority; 28 were in fact permitted by the Civil Administration; six projects were never submitted by the Palestinian Water Authority and five are still under review.”

Israel has upheld the Oslo Agreements that have given the Palestinian Authority total responsibility for water in nearly half of Judea and Samaria. Israel retains the authority to approved water projects in Area “C,” where there are high concentrations of Jews. The National Water Authority had provided documented proof of hundreds of water thefts by Bedouins and other Arabs in Area C.

The Civil Administration’s Water Department said it works closely with its Palestinian Authority counterpart, the Palestinian Water Authority, leaders of local communities in the region, and with international organizations that often fund the construction of wells and pipelines. Last year, PA Prime Minister Salam Fayyad inaugurated the Rujib well that now provides water for 11 Arab towns in the "Nablus" (Shechem) district that were previously not connected to the network.

One project approved last year by the Civil Administration is a joint effort by Japanese and Israeli NGOs that creates a wetland in Judea and Samaria, will treat waste water and serve as a water source for the agricultural sector.

“Israeli Water Supply for Palestinian Authority Refutes ‘Big Lie’”, *IsraelNationalNews.com*, *Gedalyahu, T.B.*, 20 Feb 2011, Online at: <http://www.israelnationalnews.com/News/news.aspx/142421>

## ❖ Watering a Thirsty Planet

Israel may be a land of milk and honey, but it is not blessed with an abundance of fresh water resources. In fact, the Sea of Galilee is the country's only natural lake and the rivers in Israel are quite modest in scale. Much of the southern half of Israel is desert and receives a meager amount of rainfall. Thus, the need to preserve and develop water resources has accompanied Israel since its formation - and even predated the establishment of the state.

The need for water resources was already a subject of discussion in 1898 when the visionary of the Zionist movement, Theodor Herzl, met with the German emperor in the Holy Land. And in 1937, more than a decade prior to statehood, the Mekorot national water company was created.

In the following decades, as part of Israel's efforts to address its water needs, Israeli companies have become world leaders in irrigation technology, water management and treatment, and desalination.

Today, the Israeli Ministry of Industry, Trade and Labor lists some 166 water tech enterprises, including 91 companies offering water efficiency solutions, 50 companies specializing in wastewater reuse and desalination, and another 25 offering water control and command systems.

In addition to serving the local market, Israel's water technologies can also be found throughout the world: Israeli water tech exports now total about \$1.5 billion annually and the government is seeking to boost this number to \$2.5 billion in 2011.

### Smart irrigation solutions

Centuries ago, Middle East farmers planted unglazed pots adjacent to trees and periodically filled the pots with water, which gradually dripped through the pots to irrigate

the trees.

Modern advances in plastics and micro-tubing led to a drip irrigation revolution spearheaded by Netafim, founded at Kibbutz Hatzerim in 1965. Modern drip irrigation systems offer 70 percent to 80% water efficiency, compared with 40% efficiency achieved with open irrigation.

Netafim is now a global company operating in more than 100 countries, with annual sales of more than \$500 million. Another Israeli firm, Plastro Irrigation Systems, an early Netafim competitor, was acquired by John Deere in 2008. Israeli R&D also contributed to subsequent improvements in irrigation technology, including sub-surface irrigation (delivering water directly to the plant's roots, thus further reducing evaporation), "fertigation" (distributing fertilizers through drip irrigation systems), methods to prevent salt accumulation at the plant's roots, and a new generation of drippers for hydroponics.

NaanDanJain Irrigation, for example, offers a smart irrigation management system that measures the crop root environment, calculates the crop's needs and automatically activates irrigation and fertilization in real time.

Other Israeli firms offering advanced irrigation solutions include:

- Galcon, established by Kibbutz Kfar Blum, is a leading manufacturer of computerized irrigation controllers and timers for a range of applications - from home gardens to agriculture and municipalities. Galcon's CityGal online smart irrigation system is installed in the new Olympic village under construction in London.
- Sadot Irrigation Systems offers the Shibolet irrigation and fertigation platforms for greenhouse applications. The company's résumé includes projects in Asia, Australia and Africa.
- Queengil has developed an advanced type of drip irrigation tape and connectors, special absorbent mulch film and other micro-irrigation products.



Israeli-developed products now account for about 50% of the global market for drip irrigation.

### *Water resource management*

Israel has invested great efforts in managing its own limited water resources and Israeli companies have parlayed this experience to develop state-of-the-art water management systems for use throughout the world.

In 1953, the nascent state initiated an ambitious project - the National Water Carrier - to create a national water network. The project was designed by the Tahal engineering firm (then a government entity and now a private company) and was built and managed by Mekorot, the government-owned water company. Since its completion in 1964, this national pipeline has transported water from northern Israel, which enjoys relatively abundant rainfall and water sources, to the arid southern region, enabling the development of agriculture in the desert.

The National Water Carrier, which incorporates a network of aqueducts, tunnels, reservoirs and pumping stations, transports about 400 million cubic meters of water every year.

Tahal - the Hebrew acronym for "Water Planning for Israel" - continues to advise the government on water resource management, while also working in developing countries in Africa, Asia and Latin America. The group's expertise includes the planning and development of regional and national water supply systems, water treatment and desalination plants, wastewater treatment and system optimization.

In addition to the National Water Carrier, Mekorot's flagship projects include the Central Filtration Plant - one of the largest and most complex in the world, with an annual capacity of more than 500 million cubic meters; and the Dan Region Wastewater Treatment Plant (Shafdan) - the largest and most advanced in the Middle East, processing about 130 million cubic meters of wastewater annually. Mekorot has commercialized

some of the water technologies it has developed over the years and exports about \$500 million in water systems annually.

### *Combating leaky infrastructure*

Once a water distribution system is in place, continual monitoring is critical to detect leaks and other faults. On a global basis, more than a third of the drinking water in municipal distribution systems (and up to 60% in some countries) is lost before it reaches the consumer. This translates into a loss of an estimated \$15 billion in potential water revenues each year due to leaky infrastructure.

TaKaDu is an Israeli company whose mission is to address this problem by applying advanced mathematical algorithms and statistical models to analyze data that already exists in the water network and identify anomalies as early as possible. The company notes that its water-saving monitoring technology also cuts the large energy costs associated with transporting water. TaKaDu's software solution for water infrastructure monitoring has won broad international recognition as a 2010 Global Cleantech 100 Company, a 2010 Artemis Top 50 Water Company, a 2010 Red Herring 100 Europe Winner and a 2011 World Economic Forum Technology Pioneer.

Miya, part of the Arison Group, is also devoted to improving the efficiency of urban water systems in order to save both water and energy. The company has assembled a team of international affiliates and partners to offer comprehensive water efficiency solutions that include an assessment of a city's water system, full project planning, execution and maintenance. Miya is also investing in R&D on next-generation technologies in this field. CEO Booky Oren serves as chairman of Israel's major water tech conference, the biennial WATEC event, which aims to promote Israel as the "Silicon Valley of water." The next WATEC will take place in November 2011.

The Arad Group has developed what may appear to be a "flighty" idea to help detect water leaks. But it is no fly-by-night company - Arad was established in 1941 and sold more than \$100 million of water meters in 2009. Its Arad Technologies subsidiary has

developed wireless systems for managing water, electricity and gas networks, including a drone that receives leak alarms transmitted from water meters. This airborne leak-detection system is already being deployed in the United States and is expected to reduce water loss by up to 20%.

Curapipe has adopted a different approach to tackling the problem of leaky infrastructure. Instead of reacting to detected leaks, the company's proactive solution effectively seals tiny leaks in pipe networks (water, oil or gas) before they become large enough to be detected, and without requiring pipeline shutdown and excavation. According to Curapipe, existing monitoring systems typically detect leaks that release at least 1% of the pipeline flow. If the leak originates as a pinhole leak, as in the case of corrosion-induced leaks, it can be repaired by Curapipe's solution even at leak rates as low as 0.01% of the flow.

Israeli firms have also developed water-saving technology for use in the home. Virtually all homes in Israel are equipped with dual-flush toilets pioneered by Plasson Industries, based in Kibbutz Ma'agan Michael. More recently, SmarTap began manufacturing a digital electro-mechanical faucet system, "e-cartridge," which provides real-time information on flow rates and cumulative water consumption. Faucets equipped with e-cartridge can be programmed by individual family members with their preferred showering settings and maximum flow rate. According to SmarTap, the e-cartridge can reduce water consumption by 30% without noticeable change in the shower experience.

#### *Water treatment*

Israel is the world's leader in wastewater recovery, with a water recycling rate of about 75%, according to Mekorot. (Spain is the next largest water recycler with a rate of only 12%.) The recovered wastewater is used primarily for agriculture. This effort to reuse water has helped to spawn a large number of Israeli companies specializing in water filtration and purification.

Aqwise has developed a scalable wastewater treatment solution using plastic beads and a special aeration technology to accelerate the breakdown of wastes and increase the

capacity of treatment plants. Aqwise was named a Global Cleantech 100 company in 2009 and was also recognized that year as the fastest-growing Israeli technology company. Its most recent technology is a next-generation DANA (dynamic anaerobic and aerobic) solution for wastewater treatment and energy recovery.

Founded in 1962, Amiad Filtration Systems has helped to provide clean water for industrial, municipal and irrigation users in 70 countries around the world. The company's filtration systems employ clean technology - no chemicals or polymers are used, and only a minimal amount of backflush water and energy is required.

Arkal Filtration Systems, based in Kibbutz Beit Zera, has also been providing water filtration solutions for several decades. Its systems feature a specially designed disc filtration technology, with polypropylene discs diagonally grooved on both sides to a specific micron size. Arkal's systems are used worldwide in industrial, municipal, commercial and agricultural applications.

Emefcy was formed in 2008 with the vision of fundamentally changing the economics of wastewater treatment by offering the added value of energy production. The company's innovative Megawatter system, based on microbial fuel cell technology, enables direct electricity generation or hydrogen production from wastewater. It also provides a unique treatment solution for organic wastewater with high salinity. Emefcy was recognized as a 2010 Cleantech 100 company and a 2010 Artemis top 50 water company.

Nitron, Israel's second largest water company after Mekorot, focuses on developing and implementing energy-efficient and environment-friendly SED (selective electro-dialysis) technology to remove nitrates from drinking water. The company has built 15 SED plants for municipalities and industries in Israel, with a total capacity of more than 2.5 billion gallons a year. Nitron is a subsidiary of Israel's biggest construction company, the Arison Group's Shikun Binui (Housing and Construction).

Desalination



Some 70% of the earth's surface is covered by water, but 97.5% of it is saltwater. The idea of removing the salt from seawater is not new - the proponents of desalination included Aristotle, Francis Bacon and Thomas Jefferson. There is even a biblical precedent for desalination: The book of Exodus tells how Moses was able to turn the "bitter" water at Marah into potable water.

The founding father of the State of Israel, David Ben-Gurion, also recognized the potential of desalination and encouraged R&D investment in this field. By the mid-1950s, desalination was already being used to provide drinking water in Eilat. In the 1960s, Israel began exporting various desalination technologies, including the vacuum freezing vapor compression (VFVC) process devised by Prof. Alexander Zarchin's R&D group. This group of scientists became the nucleus of the government-owned Israel Desalination Engineering (Zarchin Process) company, which is now privately held as IDE Technologies.

IDE Technologies has certainly proved to be worth its salt in the field of desalination: The company has deployed some 400 plants in 40 countries, with a total output of 2 million cubic meters of potable water per day. In Israel, IDE launched the world's largest sea water reverse osmosis (SWRO) plant in Ashkelon in 2005 and inaugurated an even bigger SWRO facility in Hadera in 2010. The company has also won a tender to build a 150 million cubic meter SWRO plant in Soreq. IDE's overseas activity includes a project to build China's largest desalination facility.

Desalitech aims to take SWRO desalination to the next level with its patented hydrostatic closed circuit desalination (CCD) technology. The company says its modular and scalable system can cut water production costs by more than 25% through energy savings and lower outlays for equipment and maintenance. Desalitech completed a successful pilot project in 2010 and is conducting joint research with General Electric, funded by the U.S.-Israel BIRD Foundation. ROTEC (Reverse Osmosis Technologies) is a water treatment company developing novel technologies for improving desalination of brackish groundwater. The company's patented flow reversal (FR) technology is used to prevent

scaling and bio-fouling (unwanted build-up of algae, microorganisms, etc.) in membrane desalination systems. Based on research originally conducted at Ben-Gurion University, the technology was chosen for two pilot desalination plants in Israel and Jordan under a NATO grant.

### *Water Security*

Whitewater Security draws from Israel's expertise in two fields - security and water technologies - to help governments, municipalities, water utilities and high-risk facilities secure their water against accidental and intentional contamination threats.

The company's WaterWall water security management system offers a holistic range of solutions, tailored for each customer. Whitewater Security says its mission "is to become the world's foremost source for water security solutions by combining cutting-edge technologies with unrivalled expertise in water security issues facing the world in the 21st century." The company is playing an active role in formulating new international water security guidelines and serves as a consultant to the United Nations.

According to the UN, some 20% of the planet's population faces water shortages and this scarcity is expected to become even more acute during the coming decades. In fact, water is the world's most rapidly depleting resource and some analysts are calling water the "new oil" of the 21st century: The international water market is estimated at \$450 billion and is growing at 7%-8% annually.

In light of the country's long experience in contending with water scarcity and its broad base of water tech know-how, Israel is well positioned to tap into this global market

"Watering a thirsty planeti" 20.02.2011, Online at: [http://www.mfa.gov.il/MFA/InnovativeIsrael/Water\\_thirsty\\_planet-Feb\\_2011.htm?DisplayMode=print](http://www.mfa.gov.il/MFA/InnovativeIsrael/Water_thirsty_planet-Feb_2011.htm?DisplayMode=print)

## ❖ Canada, Israel to Help India Address Water Issues

India is facing tremendous problems with water management, pollution abatement and infrastructure renewal and it is turning to Canada and Israel for solutions. Henri Rothschild, left, flanked by Indian official Thirumalachari Ramasami, who initially proposed a three-way partnership.

Businessmen, academics and government officials from the three countries are gathering in Toronto this week in what is being called a landmark meeting that will lead to co-operation in tackling India's water quality problems.

The Trilateral Roundtable on Water Technologies is convening at St. Andrews Club and Conference Centre, under the auspices of International Science and Technology Partnerships Canada (ISTPCanada). The agency, in co-operation with the Canada-Israel Industrial Research and Development Foundation (CIIRDF), will provide financial incentives to Canadian and Israeli partners who develop commercially ready solutions for specific Indian projects that can also be applied in a global market, said Henri Rothschild, president and CEO of both agencies.

“The availability of fresh water is one of the most pressing imperatives facing India and many other nations around the world,” he said. “It is an urgent issue that demands focused resources, multidisciplinary expertise and collaborative solutions. Leveraging a powerful platform for trilateral R&D co-operation and the complementary strengths of three countries, we are jump-starting the development of new water technologies that help to preserve and manage this life-giving resource and enable innovators to capitalize on global market opportunity.”

This week's meeting is something of a get acquainted gathering, but plans are to stage a follow up session in India within one year. Rothschild believes there is potential for hundreds of millions of dollars in business in the short term plus the creation of thousands of jobs in Canada and Israel.

Ontario is the prime Canadian player at the moment, as the province already has bilateral trade agreements with both India and Israel, managed by ISTP and CIIRDF respectively, Rothschild said.

“We're blending these programs for a landmark meeting,” he added, pointing to an existing trilateral

arrangement involving Canada, China and Israel as a model.

“But here, the commercial prospects are near term,” he added.

Although it will be up to the participants to determine what projects are priorities, Rothschild offered a hypothetical scenario to illustrate the kind of deal that could benefit all sides. The management of an Indian waste management facility that services millions of users is facing issues of pollution runoff. They would call for solutions within a limited budget that would address water purification issues, given a specific flow.

Israeli and Canadian companies would collaborate on a project to address the Indian case and would apply to ISTP and CIIRDF for grants of up to 50 per cent of the cost of the technology.

“The emerging three-way partnerships will provide Canadian innovators with a competitive advantage in the Indian market, enabling them to seize near-term commercial opportunities and increase the export of Canadian technology to India,” Rothschild said.

This week’s meeting is meant to assist Indian delegates in providing an overview of the country’s water challenges and priorities.

Ontario’s Minister of Research and Innovation Glenn Murray is keynote speaker.

“We aim to create a resilient innovation ecosystem that connects R&D, higher education and policy to foster sustainable wealth creation in India,” said Dr. Rajiv Sharma, head of international co-operation in India’s department of science and technology.

“This trilateral initiative will further strengthen this ecosystem by enabling us to draw on the technological know-how of Canada and Israel, and develop new expertise within India. More importantly, the emerging water technologies will help us to build a more sustainable future and preserve the well-being of our citizens,” Sharma added.

The idea for the three-way partnership was first raised about a year and a half ago at a bilateral Canada-India meeting on scientific co-operation by Thirumalachari Ramasami, secretary to the

government of India, department of science and technology, Rothschild said. “At that meeting he proposed that not only Canada and India be strong partners, but suggested Israel as forming a triumvirate to solve the world’s water problems.”

The delegates picked Israel because “it’s recognized as a world leader in water management and pollution abatement,” he said.

Israel recovers two-thirds of its water for re-use, while the best other countries can manage is only in the 20 per cent range, Rothschild noted.

“As a global leader in multidisciplinary R&D and water management, Israel has developed many technology-based water solutions that have enabled us to overcome fresh water shortages,” said Dan Vilenski, director on the board of the Israel National Nanotechnology Initiative. “Israel-based innovations in desalination, cloud seeding, drip irrigation, ‘fertigation’ [applying fertilizer through an irrigation system] and wastewater re-use already provide valuable tools and techniques for countries around the world. This trilateral R&D collaboration will allow us to build on these achievements, put this expertise into greater practice, and develop novel products that address key water issues in India and other developing nations.”

Canada, Israel to help India address water issues, Lungen, P., 24.02.2011, Online at:  
[http://www.cjnews.com/index.php?option=com\\_content&task=view&id=20878&Itemid=86](http://www.cjnews.com/index.php?option=com_content&task=view&id=20878&Itemid=86)



## ❖ EQUATE Signs the Middle East`s First Plant Based Water Recycle Deal with Aquatech Valued at over \$11 Million USD

Kuwait, EQUATE Petrochemical Company signed the Middle East`s first ever plant based water recycle deal with Aquatech. The deal is part of a comprehensive environmental project by EQUATE valued at over USD 11 million.

On this occasion, EQUATE VP Technical Services Mohammad Al-Benali said, “We are very pleased to have concluded the deal with Aquatech. This project, which is part of EQUATE Green Initiative, presents numerous benefits as it aims to reduce water consumption, as well as decrease the carbon emission associated with purifying water today. In fact, EQUATE signed the Gulf`s first ever carbon reduction and capture deal in 2008.”

Al-Benali added, “In addition, this project will set pioneering standards for environmental preservation and industrial practices throughout the Middle East. Such a step stems from EQUATE`s continuous drive for overall sustainability through applying the principles of corporate social responsibility which considers environmental excellence a major priority. This project involves EQUATE identifying opportunities, finding solutions and managing all relevant issues, including the deal signed with Aquatech.”

On his part, Aquatech`s Managing Director Devesh Sharma said, “We are honored that EQUATE has shown full confidence in Aquatech`s innovative technical capabilities and has selected us as partners towards this critical initiative. We want to be at the forefront in helping industries with their approach towards the environment, especially in conserving water through increased efficiency in consumption and maximization of recycling.”

Established in 1995, EQUATE is an international joint venture between Petrochemical Industries Company (PIC), The Dow Chemical Company (Dow), Boubyan Petrochemical Company (BPC) and Qurain Petrochemical Industries Company (QPIC). Commencing production in 1997, EQUATE is the single operator of a fully integrated world-scale manufacturing facility producing over 5 million tons annually of high-quality petrochemical products which are marketed throughout the Middle East, Asia, Africa and Europe.

Aquatech International is a global leader in water purification technology for industrial and infrastructure markets with a focus on desalination, water reuse, and zero liquid discharge. The company is headquartered in the United States, has offices throughout North America, and significant presence worldwide through subsidiaries in Europe, the Middle East, India, and China. Aquatech strives to provide Technology Leadership and Performance Excellence to the Global Water Industry and aims to support its clients with cutting edge Sustainable Solutions, minimizing their Life Cycle Cost, as well as their Carbon and Water Footprint.

“EQUATE signs the Middle East’s first plant based water recycle deal with Aquatech valued at over \$11 million USD”, *Aquatech International Corporation*, 24 Feb 2011, Online at: <http://www.environmental-expert.com/resultEachPressRelease.aspx?cid=22888&codi=225953&lr=1>

### ❖ Israel Targets Water Wells and 8 Tents Near Hebron

West Bank, (Pal Telegraph)-Israeli occupation forces (IOF) demolished Tuesday eight tents and two water wells leaving great devastation in the area of Swasia, eastern Yatta town in the south of Hebron city.

Local sources confirmed that Israeli soldiers came from Swasia settlement surrounded the area and harassed teachers of a school near the place of demolitions.

The general secretary of the popular committees, Azmi Shyoukhi, said “ Israeli bulldozers accompanied with soldiers and border guards started demolishing water wells, homes, and tents in addition to uprooting newly planted trees and shrubs in the east of Yatta town.”

The demolition came in the wake of the US veto which allowed the expansion and construction of more settlements as well as the evacuation of Palestinian residents out of their own lands.

Dozens of residents expressed their fear due to Israeli ongoing violations against poor and innocent people live near Israeli settlements. Those occupational irregular activities illustrated in demolishing civilians’ homes, confiscating lands, razing farms, uprooting trees, etc in order to serve political aims.

“Israel targets water wells and 8 tents near Hebron” , *Mohaisen, S.*, 22 Feb 2011, Online at: <http://www.paltelegraph.com/palestine/west-bank/8536-israel-targets-water-wells-and-tents-near-hebron.html>

### ❖ **OPT: Demolitions, Drought and Displacement in West Bank Area C**

Demolition of livelihood structures and drought are hitting already impoverished Palestinian communities living in Area C of the West Bank hard this year, according to UN agencies and international aid organizations working in the occupied Palestinian territory (oPt).

Demolition of livelihood structures - including commercial structures, educational facilities, wells, water cisterns, water storage tanks, farmland and animal pens - by Israeli authorities in the West Bank and East Jerusalem increased by about 85 percent in 2010 and so far in 2011, the UN Office for the Coordination of Humanitarian Affairs (OCHA) told IRIN.

"Over 12,500 Palestinians were affected by the demolition of livelihood structures in the West Bank and East Jerusalem in 2010," Ramesh Rajasingham, head of OCHA in Jerusalem, told IRIN, and "the majority of people effected, were impacted by the demolition of water cisterns in Area C."

During 2010, 21 cisterns were demolished by the Israeli army, of which 9 were built thanks to funding from international donors. Of those demolished, 20 were in Hebron and one in Bethlehem, and two were built before 1948, OCHA says.

Cisterns - used to collect rainwater - are the only water source for livestock in these herding communities and the demolitions create economic hardship for thousands of people. During summer cisterns are also a domestic water source.

Forced to buy costly fodder, water

The West Bank is facing a rainfall shortage this season (September-March), which decreases grazing pastures and water levels in cisterns, forcing herders to purchase costly fodder and water from private tanks to sustain their animals, said the Palestinian Authority (PA) agricultural ministry.

About 150,000 Palestinians and 300,000 Israeli settlers - out of the West Bank's 2.5 million people - live in Area C, according to UN estimates, while a total of 500,000 settlers live in occupied Palestinian land in the West Bank.

"My cistern was bulldozed by Israeli authorities without warning in December," said goat herder Saleem Hadaleen, 32, from Khashem ad-Daraj in south Hebron. About 1,200 people live in his herding community.

"The Israelis claim they tacked a demolition order to the cistern, but I did not receive it," he said, "and now the animals have to walk twice as far to reach a water source."

Saleem and his flock have been forced to return home, struggling to support his family of eight.

Saleem and many community members say their proximity to the construction of the "barrier" to the southeast and the expansion of the Israeli settlement Karmel to the northwest account for the demolitions which are forcing them to relocate.

#### Livelihood structures demolished

Two hundred and ninety-four livelihood and services structures in the West Bank were demolished by Israeli authorities in 2010, including 240 in Area C and 54 in Jerusalem, said OCHA.

UN Humanitarian Coordinator for oPt Max Gaylord told IRIN some 3,000 outstanding demolition orders remain for various residential and livelihood structures across the West Bank and East Jerusalem.

"Israel is trying to prevent economic and infrastructure development in these areas to reduce the Palestinian presence on the land" "There is a clear increase in the demolition of livelihood structures in 2010 and 2011. This is happening mostly in the Jordan Valley, Area C, and in areas adjacent to settlements and the `barrier' and in occupied East Jerusalem," said Ghassan Al-Khatib, an official from PA prime minister Salam Fayyad's office in Ramallah.

"Israel is trying to prevent economic and infrastructure development in these areas to reduce the Palestinian presence on the land to allow for further settlement expansion, and construction of the barrier," said Al-Khatib.

Maj Guy Inbar, the Coordinator for [Israeli] Government Activities in the Territories, told IRIN: "In



2010, 172 warrants for the dismantling of structures [including houses] belonging to Palestinians were issued in Area C, an almost identical figure to the number of structures belonging to Israelis that were dismantled in the same time period."

Another 150 such structures were removed from firing (closed military) zones, said Inbar.

"The legal standing of the firing zones is exactly the same for both Israelis and Palestinians," he said.

Areas A, B and C

The 1995 Israeli-Palestinian Interim Agreement on the West Bank and Gaza Strip (also known as Oslo II) categorized land in the West Bank into areas A, B and C.

According to the agreement, Area A is under the control of the PA, and Area B under the joint control of Israel and the PA. About 95 percent of the Palestinian population live in these two areas, though they make up only 40 percent of the land area.

Photo: OCHA Hebron closure map (See larger version of map) In Area C, Israel retains military authority and full control over the building and planning sphere, while responsibility for the provision of services falls to the PA.

About 70 percent of Area C is classified as a firing zone, settlement areas, or nature reserves, and is inaccessible to Palestinians, said OCHA's Rajasingham.

Yousef Hadaleen, 'mukhtar' (community leader) of Khashem ad-Daraj in south Hebron since 1979, said only two families and the elementary school are connected to a water network in his community located 3-4km from where the "barrier" will be constructed.

"The movement of our community is restricted within a master-plan given to us by the Israeli authorities in 2008," he said.

"Herders move seasonally, and we are continuously fined 750 NIS [Israeli New Shekels, about US\$200] by Israeli authorities for being in areas near the 'barrier'," he added.

However, even structures within the "master-plan" are not guaranteed security from demolitions, said Rajasingham.

OCHA is monitoring displacement risks for the population in Area C through community profiling exercises with other agencies.

Eight cisterns in Area C recently received verbal demolition orders; six of them were funded by the Canadian Representative Office through the UN Food and Agriculture Organization (FAO).

#### NGO dilemma

International NGOs working in Area C are struggling to find a compromise between meeting the emergency needs of the population, and building within the legal framework outlined by the Israeli Civil Administration, according to a recent study published by Italian NGO GVC.

NGOs want to rebuild livelihood structures, but fear they will be re-demolished.

UN agencies and aid organizations view Area C as one of the biggest humanitarian concerns in the West Bank due the threat of demolitions, lack of access to basic services, particularly water and sanitation infrastructure, and movement restrictions.

An inter-agency assessment in February 2010 found that 79 percent of the herding population in Area C is food insecure, citing the erosion of livelihoods due to a lack of access to land, and water scarcity, as the main contributing factors.

"OPT: Demolitions, drought and displacement in West Bank Area C", 21 .02.2011, Online at:  
<http://www.globalexchange.org/countries/mideast/palestine/7420.html>

## ❖ Large Reservoirs Planned to Meet Future Water Demand

DOHA: Heavily dependent on desalinated water, Qatar hopes to build huge reservoirs to stock the precious utility to ensure supplies for a week during an emergency.

Presently, stocks of desalinated water in the country which is quite expensive to produce are not enough to last a week.

The reservoir plans were disclosed by Essa bin Hilal Al Kuwari, president of Qatar Electricity and Water Corporation (Kahramaa), at the corporation's 'Annual Planning Forum' that began here yesterday.

Al Kuwari said that given the urgent need for strategic water security the country had plans to launch a study to construct huge water reservoirs.

He said plans were also afoot, in cooperation with the environment ministry and the National Food Security Program, to conduct studies to assess the feasibility of groundwater basin feed by desalinated water injection to secure 90-day water storage.

The plans aim at helping Qatar meet any water crisis that might befall it in future.

He also unveiled plans to set up an emergency call centre for water and power supplies. And the proposed remote meter-reading project was very much on the cards, the president said.

"Nuclear energy remains the core of our interest as source of clean energy in the future. So the feasibility of setting nuclear power plants will also to be studied. The plants would produce both electricity and desalinated water.

"Large reservoirs planned to meet future water demand", 24.02.2011, Online at: <http://www.zawya.com/story.cfm/sidZAWYA20110224041437/Qatar%3A%20Large%20reservoirs%20planned%20to%20meet%20future%20water%20demand>

### ❖ **Oman: 50pc Duqm Water Network Completed**

Water network in Al Duqm in Al Wusta region has been completed by 50 per cent since the start of the project in 2010. This was assured by Mohammed al Mahrooqi, the Head of the General Authority for Water and Electricity, who said, "This project comes within the plan of the government aiming to develop the wilayat through the implementation of multiple projects in different sectors.

This plan for comprehensive development for this wilayat is governed by the special attention of His Majesty. His Majesty's directives came to convert the wilayat into a regional centre for heavy industry due to its strategic location."

"The network project is considered one of the prominent development projects that constitute economic dimensions for the wilayat and Al Wusta Region in general. The network will be extended to other projects like Al Duqm Port, Dry Dock, Duqm Airport and others, in addition to the residential areas in the wilayat", Al Mahrooqi said. "The implementation period is 18 months and the total cost is over RO 16 million. The project is divided into different stages: preparation, execution, experimental operation and maintenance. It is connected with Duqm Desalination Plant and water will be supplied to the wilayats using pumps and tanks", Al Mahrooqi added.

The project includes establishing a main tank, water network with a length of 24 km from Duqm tank to Duqm city and a 37 km network from Duqm Port to the Dry Dock. This is in addition to tanks filling plant that includes upper tanks in Tayari Village and Sai Village, SCADA monitoring system, pumping plants and buildings for administrations.

Shaikh Sultan al Nuaimi, Wali of Duqm said, "this is an optimistic project. We thank His Majesty for his attention for this project and I hope that it will be a new start for citizens in the wilayat that was once facing drought. This problem will be solved when the implementation is over".

"Oman: 50pc Duqm water network completed", *Oman Daily Observer*, Habsi, H., Online at: <http://www.zawya.com/story.cfm/sidZAWYA20110225074039/Oman:-50pc-Duqm-water-network-completed>

### ❖ **Israel and Poland Sign Agreement on Water, Energy - Summary**

Jerusalem - Israel and Poland signed a joint declaration of cooperation on water supply and sustainable energy technology Thursday, as the two countries held a joint cabinet meeting that Israeli premier Benjamin Netanyahu said would strengthen ties.

"We are promoting, with tangible actions, our deep bilateral cooperation," Netanyahu told the visiting delegation headed by Polish Prime Minister Donald Tusk. Netanyahu said Israel and Poland had a "shared history" and that the joint session had both "practical and symbolic importance."

He earlier told Tusk on his arrival in Jerusalem that "the Jewish people are an indelible part of Polish history, and Poland is an indelible part of Jewish history."

"It is a history of great tragedy and great struggle and great triumph," Netanyahu said.

He was referring to World War II Nazi-occupied Poland, which saw some 88 per cent of its pre-war Jewish population killed, turning the country into what has been called "the biggest Jewish graveyard in the world."

"The Jews suffered in Europe and on the soil of Poland greatly. The Polish people suffered too, greatly, in their quest for freedom, both in the 19th century and in the 20th century. We suffered in the Warsaw Ghetto, you suffered in Warsaw," said Netanyahu. The Polish delegation, which included Foreign Minister Radoslaw Sikorski and Defence Minister Bogdan Klich, arrived in Israel Wednesday

The two premiers also discussed the current turmoil in the Middle East. "We are at a period of great instability, and I know that you and all responsible leaders around the world seek to strengthen stability and work for the expansion of the circle of peace," said Netanyahu. He reiterated that Israel hoped the fast-paced change in the region would be for the best, but that his country had to "prepare for every scenario."

The agreement on water supply and sustainable energy technology deals primarily with promoting investment, exchange of technologies, increasing dialogue and exchange of information, and the



establishment of uniform standardization, the Israeli Foreign Ministry said. The two countries will rotate specialists, conduct reciprocal learning tours, hold joint workshops, training courses and exhibitions, and encourage cooperation in the private sector.

In Warsaw, meanwhile, pro-Palestinian activists hung a huge Palestinian scarf around a famous palm tree sculpture to protest Tusk's meetings in Jerusalem.

“Israel and Poland sign agreement on water, energy – Summary”, *Earth Times*, 24.02.2011, Online at: <http://www.earthtimes.org/articles/news/368993,water-energy-summary.html>

❖ **Big Question: Is Egypt a Risky Investment? Comment from Kristof Bulkai, Co-manager of the Thames River Water & Agriculture Absolute Return Fund**

The increasing power vacuum in Egypt and the possibility that an extremist regime might emerge, does make the country a risky investment in our opinion. Moody's downgrade of the country is worth noting, as Egypt has a debt to GDP of 80%.

It is interesting to note that rising food inflation has contributed to escalating tensions. We have highlighted in the past that food prices are a sizeable component of inflation in many emerging economies. Egypt had an inflation rate of 10% in November, driven by food inflation of 20%. With global grain inventories low, there is always a danger of further price appreciation may cause further political unrest. This issue is not confined to Egypt. China, India and Indonesia are also suffering from elevated inflation. As such, any 'Domino Effect' across the Arab World could add an increment to inflation globally through a rise in the oil price.

On a more positive note, infrastructure in Egypt is well developed, GDP has grown in each of the last three years, education levels are high with literacy at 70% and there are favourable demographics. Taking this into consideration, should a new, stable regime emerge, there could be select investment possibilities.

"Big question: Is Egypt a risky investment? Comment from Kristof Bulkai, co-manager of Thames River Water & Agriculture Absolute Return Fund", *Bollen, B.*, 24.02.2011, Online at: <http://fundamentalsmagazine.com/news/4213/big-question-egypt-risky-investment-comment-kristof-bulkai-co-manager-thames-river-water-a>

