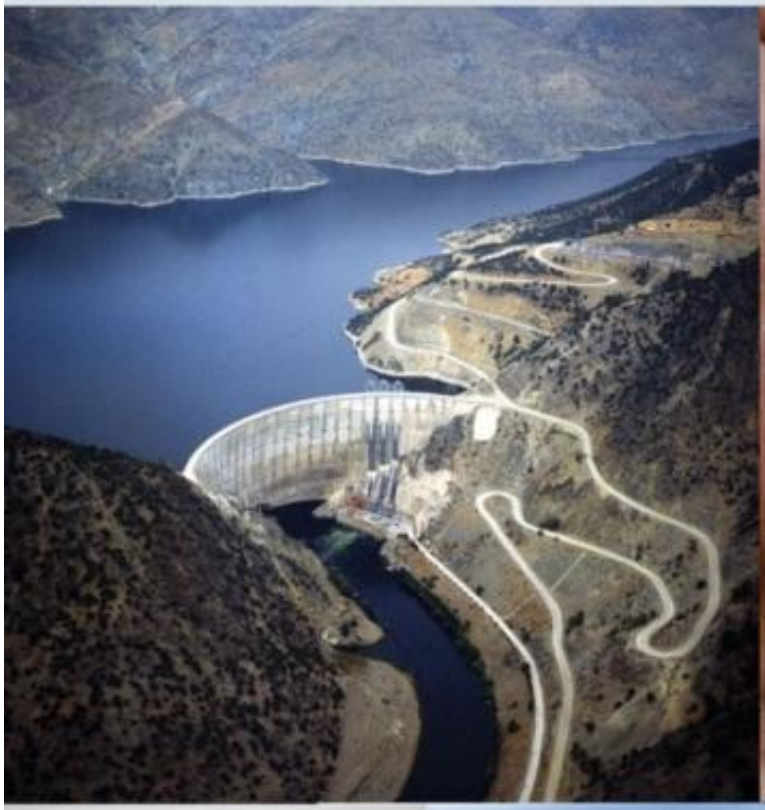


ORSAM WATER BULLETIN

Weekly Bulletin by ORSAM Water Research Programme

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





Issue 108

ORSAM WATER BULLETIN

24 December – 30 December 2012

- Iraq calls for Arab action on climate change
- Water level in Lake Urmia rises by 25 centimeters
- Protest in Baghdad on poor services
- The Jordan Valley of occupied state of Palestine
- Court rejects petitions against drilling regulations
- Haifa Bay environment association negligent'
- It's the environment, stupid
- Hatnua presents green platform
- Israeli Delegation Brings Water Management Expertise to India
- Israeli Urban water experts tours India
- A Trip to the Banias
- 7,000 Trees: Development Association takes Green Initiative to the Streets
- Centre has no intention to encroach states' rights on water: Manmohan Singh
- Making urbanisation potable
- Sustainability and financial viability of urban water supply and sanitation in dryland areas in India - Case study of Indore city
- Bubble Burst?
- Policy can lead to privatisation of water supply'
- Jharkhand opposed to Centre's new water policy
- States adopt latest National Water Policy
- China unveils plan to boost seawater desalination
- Climate change may have driven evolution, scientists believe
- Three Megafish Species Imperiled by Lao's Mekong River Dam

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

- **In Search of a Groundwater Policy on Behalf of Rivers**
- **Brazil plans US$681mn drought prevention, water supply works**
- **Cuba to review water policy**

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

❖ Iraq calls for Arab action on climate change

BAGHDAD: Iraq's most senior energy official called for coordinated Arab action on climate change while Egypt's environment minister proposed a regional green fund at a conference in Baghdad on Monday.

Deputy Prime Minister for Energy Affairs Hussein al-Shahristani warned of the risk of flooding, and also pointed to desertification and sandstorms affecting Iraq in his call for regional efforts to combat climate change.

The two-day conference comes after the World Bank warned in a report this month that global warming will have dire consequences for the Middle East and north Africa, with even hotter and drier conditions devastating everything from agriculture to tourism.

"All Arab countries must work under the Arab League to confront climate change," Shahristani said in opening remarks to the conference in Baghdad's heavily-fortified Green Zone.

"The danger now is the threat of flooding in many areas, in addition to the phenomena of desertification and sandstorms that we suffer from here in Iraq."

Iraq's environment ministry estimated in 2009 that 39 percent of the country's surface was affected by desertification, while a further 54 percent was under threat.

It also estimated that Iraq loses around 250 square kilometres (96 square miles) of arable land annually due to degradation of various kinds.

Also at the conference, Egypt's Minister of State for the Environment Mostapha Hussein Kamel called for the establishment of an Arab fund to back environmental projects in the region.

Of the Arab League's 22 members, 18 sent representatives to the conference — Saudi Arabia, Qatar, Tunisia and Syria were absent.

"Iraq calls for Arab action on climate change", Daily Star, 26/12/2012, online at:
http://mideastenvironment.apps01.yorku.ca/?p=6610

BACK TO TOP

❖ Water level in Lake Urmia rises by 25 centimeters

The water level in Lake Urmia has risen by about 25 centimeters, the director of Western Azarbaijan province Basic Studies of Water Resources' regional office, Mehrang Dusti Rezaei said, Mehr reported.

"Due to recent rains, the overall water level in Lake Urmia has risen by 25 cm, compared to November," he said.

He went on to say that the water level of 1270.86 cm was recorded in the Urmia lake, which is approximately a 25 cm increase.

Rezaei added though, that the water level is still 15 cm lower if compared to last year.

He expressed gratitude for the continued support and participation of farmers during rainfalls, and restoration projects that help keep Lake Urmia from drying.

The area of Lake Urmia is about 6000 square kilometers. The lake drying up has an impact on the flora and fauna of the region.

Illegal use of water flowing into the lake for watering by the rural population, construction of dams and illegal objects on its banks, is also among the problems of the lake.

Head of the Iranian West Azerbaijan Province's Environment Organization Hassan Abbasnejad said on Dec. 16 that Urmia Lake needs 3.1 billion cubic meters of water per year to survive.

Each liter of water in Lake Urmia contains 330 grams of salt. Previously, the figure stood at 160-170 grams per liter.

The Iranian government approved $900 million finance bill to save the lake from drought, but the

process is being carried out slowly.

The United Nations Development Program (UNDP) has allocated $135 million to Iran to resolve its environmental problems with shoaling at Lake Urmia. The Iranian government allocated $900 million for this purpose in September 2011.

A project to direct 600 million cubic meters of water from the River Araz into Lake Urmia was launched during a visit by Iranian President Mahmoud Ahmadinejad and members of the government to Tabriz in 2010.

"Water level in Lake Urmia rises by 25 centimeters", 25/12/2012, online at: http://en.trend.az/regions/iran/2102758.html

BACK TO TOP

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

❖ Protest in Baghdad on poor services

26 Dec. 2012 - Hundreds of residents of Huria and Shulla areas from Karkh district of Baghdad came out on Wednesday, in demonstrations to protest on poor services as rain flooded its alleys and entered the houses.

"Shafaq News" reporter said that "hundreds of residents of Huria and Shulla areas from Karkh district of Baghdad came out on Wednesday to protest against poor services as rain flooded its alleys and entered the houses".

The reporter added that, "the demonstrators expressed their concern in the light of poor services and the water that has become threatening their homes."

Baghdad witnessed since Tuesday morning heavy rain due to the old sewage pipes as water flooded many areas of the capital.

The General Secretariat of the Council of Ministers announced, on Tuesday evening, delaying the official work day today in Baghdad because of the rain.

"Protest in Baghdad on poor services (Shafaq News)", 26/12/2012, online at: http://www.shafaaq.com/en/news/4520-protest-in-baghdad-on-poor-services.html

BACK TO TOP

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

❖ The Jordan Valley of occupied state of Palestine

Palestine, (Pal Telegraph) - Jordan Valley covers around 28.5% of the West Bank and is rich in land and water resources, making it conducive for agriculture and animal husbandry. Even though there are 56,000 Palestinians and about 9,400 Israeli settlers living in the area, only around 5% of the Jordan Valley is under full or civilian Palestinian control. The rest, 95% of the Valley is designated Area C, which under the Oslo agreement is under full Israeli control. What this means is that agricultural and grazing land is not accessible to Palestinians, the result of which is that 60% of the Palestinians in the Jordan Valley live under the poverty line (2009).

While the 9,400 Israeli settlers in the Jordan Valley cultivate 33,000 dunams of land with intense government assistance and turn in around $133 million in revenue, 98.3% of Palestinian farmers have lost production capacity due to Israeli restrictions in the Jordan Valley. Further, limited access to Area C (most of which is in the Jordan Valley) costs the Palestinian economy around $480 million per year and is responsible for the unemployment of 110,000 Palestinians.

Expansion of Jewish Settlements and demolition of Palestinian villages

The Jordan Valley fell in the hands of Israel as a result of the 1967 war. After its occupation in 1967 for "security" reasons, providing an eastern security buffer zone, Israel started encouraging young couples to off-start agricultural and tourism industries in the area. In the process of doing so illegally under international law, it also evicted around 70,000 – 300,000 Palestinians to other areas in the West Bank to make way for the agricultural settlers.

Despite its significance for Palestinians who would depend on the Jordan Valley for its land and water resources, as well as access to the wider world though Jordan, if a Palestinian state is to come into effect, Israel would take control of much of the land and consider it "priority area" as a result of which Israeli settlements are entitled to government subsidies. When the first settlement in the Jordan Valley – Mehola - was constructed in 1968, it was to implement the "Alon" plan which aimed at altering the Arab – Jewish demographic dynamics by encouraging Jewish settlements in sparsely populated Palestinian areas.

Currently, there are around 36 settlements and outposts with a population of 9,400 settlers. As part of the incentives to encourage people to move to these "priority areas", settlers in the Jordan Valley are offered 70 dunams of land, have extended tax breaks, receive housing subsidies and mortgage plans, and get discount on water, electricity and other utilities.

While this is the life of Israeli settlers in the Jordan Valley, thousands of Palestinians of the Jordan valley live in a dire situation. Those who live in Area C of the Jordan Valley – which covers 95% of the Jordan Valley are unable to cultivate their land, drill wells, build permanent structures including health centers and schools, do not have access to water or electricity and are under constant threat of being evicted from their land. 90% of all demolitions in the occupied West Bank were in the Jordan Valley (2012). Data from Save the Children in 2009 indicated that 31 of the surveyed households in the Jordan Valley had been temporarily or permanently displaced at least once since 2000 as a result of Israeli military orders and house demolitions. According to UNRWA, 2,033 of the 4,175 Palestinians who were displaced in 2011 were children.

While Israel demolishes houses and structures "built without a permit", it refuses to issue permits to Palestinians who apply for them. From 2000 – 2007, only six percent of permit applications were granted. During the same period, Israel demolished 1,663 Palestinian structures including schools and clinics in the Jordan Valley have been demolished.

Water

The Jordan Valley has the richest water resources in the whole of the West Bank. Though the Dead Sea, Jordan River and other springs would have provided sufficient water for Palestinians in the Jordan Valley and other parts of the West Bank, Israel controls most of the water resources in the area and Palestinians in the Jordan Valley, especially those in Area C of the Valley suffer from water inaccessibility.

From 1967 onwards, Palestinians are only allowed 40% of the water in the Eastern Water Basin in which the Jordan Valley is situated, and they do not get any water from the Jordan River from which they demand 200 million m3.. Further, Israeli, Syrian and Jordanian water installations have reduced the water flow of the Jordan River by 98% compared to its potential in the 40s. The water level in the Dead Sea is also dropping by one meter a year.

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

The 44million m3 of water/year Israel allocates to its Jordan Valley and Northern Dead settlers of about 9,400 is one-third of the total amount of water that is accessible to the 2.5 million Palestinians in the West Bank. While settlements consume 487 liters/person/day, most Palestinians in the Jordan Valley get 40% less than the WHO recommended minimum of 100 liters/day. This figure is alarmingly small in some Bedouin communities in the area which get less than 20 liters/day which is only comparable to the water situation in disaster areas such as refugee camps in Darfur and Haiti after the earthquake.

Since 1967, Israel has strictly prevented drilling of Palestinian wells and has destroyed 140 Palestinian water pumps while confiscating another 162 agricultural water projects. As a result, only 37% of Palestinians in the Jordan Valley are connected to water while the rest need to buy their water in tanks from an Israeli water company, Mekerot. They have to buy their water in tanks that cost from 14 – 37.5NIS/m3 while the normal price for water from a water network runs at 2.6 NIS/m3. This has resulted in some households spending around 40% of their income on water.

The Bedouins

Most affected by the Israeli policy of segregation, deprivation and limit on freedom of movement are the Bedouins of the Jordan Valley who number around 15,000. The Bedouins are mostly cattle herders and semi cattle herders who move from place to place looking for pasture and water for their herd. The abundance of such resources in the Jordan Valley made it an attractive place for them to reside. Most are refugees from the 1948 war from what is now southern Israel. Before being displaced to the Jordan Valley, some of these communities had settled in southern Hebron hills, in the West Bank, from which they were displaced for "security reasons" following the 1967 war. Since most of these people are refugees and don't have deeds to the land they live on, they are under constant threat of being evicted. Most live in Area C of the Valley where they are not allowed to build permanent structures including homes and schools. As a result they live in tents and tent like structures herding their cattle in very limited plots of land that are accessible to them.

Most of the Bedouins in the Jordan Valley live without infrastructure and services such as water, electricity, transportation, health services etc. They are the ones who suffer the most from water scarcity in the area due to their low income and demand for grazing land and water for their herds.

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

Because they cannot drill water wells and the Israeli agricultural settlements take water away from the available natural springs they counted on for years, they don't have water for most of the year and have to buy it. They buy their water in tanks from an Israeli company at a rate of 20-38 NIS/cubic meter and bring it in a tractor. Due to the expenses as well as the limited access involved in getting water, most villages have only 30-36 liters of water per person per day. This is 30% less than what is recommended but the World Health Organization.

Lack of access to land and water being the primary reasons, 79% of the Bedouins in Area C are food insecure. 93% of the children consume less than the recommended number of meals, 15% are underweight and nearly one third have stunted growth. Such severe economic situation and lack of educational facilities has forced Palestinians even children to seek employment in Israeli settlements.

Agriculture and unemployment

What makes settlements in the Jordan Valley different from settlements elsewhere in the West Bank is that they are mostly agricultural or economic related. Most of the settlers own farms or related factories and are there for economic incentives the place and the Israeli government offer rather than for Ideological reasons. Even though the Jordan Valley constitutes much of the agricultural wealth of Palestinians, 60,000 dunams of agricultural land is unavailable to Palestinians in the Jordan Valley.

42% of the Jordan Valley Palestinian population depends on agriculture or animal husbandry. However, Israeli control over land and water has severely limited the production capacity of the Palestinian economy and has led to food insufficiency in the Jordan Valley. Many farmers in the Jordan Valley now rely on weather conditions and risk high loss during dry seasons while Israeli settlers enjoy a sustainable water supply and have over 13 times more irrigated land. According to the World Bank, better access to water can improve Palestinian agricultural revenue by 10%. .

Further, about 98.3% of Palestinian farmers in the area have lost their production capacity due to Israeli restrictions including restrictions on movement. Since 2006, Israel has placed 17 roadblocks and checkpoints in the Jordan Valley area, limiting access only to those who reside in the area. The checkpoints also limit the Palestinian agricultural produce that can reach Palestinian markets and add costs to transporting Palestinian goods to Israeli or Palestinian markets. Considering the nature of the

goods (agricultural), delays in the checkpoints and back-to back operations where goods are moved from one truck to another affects the quality and amount that can finally reach its destination.

Currently, agriculture in the Jordan Valley contributes 15% to the formal work force of the West Bank. Unable to farm or raise their own cattle, and out of other economic options, about 10,000 – 20,000 Palestinians work in agricultural settlements in the Jordan Valley. Even if civilian Israeli law is applicable in Israeli settlements in the occupied West Bank, it's not enforced when it comes to Palestinian laborers in these settlements. Often times, Palestinian workers are not paid the Israeli minimum wage and are not formally registered hence do not benefit from Israeli labor laws or rights. The daily wage for Palestinians runs as low as 60-100 NIS/day, which is two or three times less than the daily wage in Israel proper, while Thai and other foreign laborers receive the standard Israeli wage of around 200 – 250 NIS and are entitled to Israeli labor rights and benefits.

Moreover, about 5.5% of the Palestinian workers in the farms are children as young as 13 years old. The Palestinian children who work in these agricultural settlements work in secret and are not formally registered hence are not insured and their work environment may not comply with international or Israeli health and safety regulations.

For the eight hour work they do usually from 6am – 2pm, they get about 40-60 NIS/day. But for most of these children, going to school is not a viable option due to the expenses, distance, hassle (checkpoints) and lack of facilities (school infrastructure, lack of teachers), that are associated with it. In addition, most carry the burden of supporting their families who are in dire economic circumstances. Employing child labor is prohibited not only in international labor law but is also illegal under Israeli law. But the greater crime is probably the poverty under which these children live and which has forced them to work instead of going to school. As the occupying entity, Israel is fully responsible for ensuring the well being of the population it occupies and for enforcing international human rights and relevant treaties.

Sources:

Maan Development Center:
http://www.maan-ctr.org/pdfs/FSReport/spotlight/Spotlight6.pdf
http://www.maan-ctr.org/pdfs/FSReport/Settlement/content.pdf
http://www.maan-ctr.org/pdfs/FSReport/spotlight/Spotlight12.pdf
http://www.maan-ctr.org/pdfs/FSReport/spotlight/Spotlight10.pdf
http://www.maan-ctr.org/pdfs/FSReport/spotlight/Spotlight8.pdf

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

http://www.maan-ctr.org/pdfs/FSReport/spotlight/Spotlight5.pdf
http://www.maan-ctr.org/pdfs/FSReport/MiniFS/WRest.pdf

B'tselem:
http://www.btselem.org/publications/summaries/dispossession-and-exploitation-israels-policy-jordan-valley-northern-dead-sea
http://www.btselem.org/jordan_valley/water
http://www.mecaforpeace.org/news/palestinian-child-labour-illegal-israeli-settlements

"The Jordan Valley of occupied state of Palestine", 27/12/2012, online at: http://www.paltelegraph.com/palestine/west-bank/10706-the-jordan-valley-of-occupied-state-of-palestine.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 rejects petitions against drilling regulations

Adam Teva V'Din-Israel Union for Environmental Defense had deemed government's new oil, gas drilling standards insufficient.

The High Court of Justice rejected on Monday morning a petition from environmental activism group Adam Teva V'Din-Israel Union for Environmental Defense that had deemed the government's new oil and gas drilling standards insufficient.

After the Energy and Water Ministry initiated a new legal framework of environmental standards for exploratory oil and gas drilling, Adam Teva V'Din had filed a petition arguing that these regulations allowed for shortcuts that could bypass certain planning and building procedures.

The High Court decided it would not intervene in these regulations, and ruled that the standards would be deployed in accordance with the government's official position, the ministry said.

In response to the decision, the Energy and Water Ministry stressed that it would continue to regulate the planning process for gas and oil explorations, with the goal of strengthening the industry and promoting sustainability according to the highest standards in the world.

While Adam Teva V'Din representatives acknowledged that the court did reject the organization's petition, they said they were pleased to hear the court emphasize certain environmental guidelines to which the state must continue to adhere. All oil and gas exploration will be subject to the instructions of the attorney-general, and there will be no automatic passage from the exploratory stage to the commercial stage in drilling, according to Adam Teva V'Din.

Meanwhile, the court stressed that there should always be an environmental representative in the planning committee, and the period for reviewing environmental issues surrounding the drilling projects should be long and thorough, the organization said.

In response to the court ruling against their petition, Adam Teva V'Din executive director Amit Bracha said that "now the struggle against the dangerous consequences of gas and oil drilling, and oil shale in particular, passes on to the planning committee."

"We are at the beginning of a new struggle that starts today and aims to prevent possible harm to public health and irreversible damage to the environment," Bracha added.

"Court rejects petitions against drilling regulations", Jerusalem Post, 26/12/2012, online at: http://mideastenvironment.apps01.yorku.ca/?p=6606

BACK TO TOP

❖ 'Haifa Bay environment association negligent'

State comptroller finds area of half-million people 'has hazardous materials in air, water, land and sea.'

The Haifa Bay Municipal Association for Environmental Protection has done an insufficient job in managing a region that is filled with explosive, flammable and radioactive toxins, State Comptroller Joseph Shapira argued in a report released Tuesday.

One section in an overall report examining the affairs of various municipalities took a close look at the conduct of the Haifa Bay Municipal Association for Environmental Protection. Established in 1983, the association serves more than half a million people in nine local authorities: Haifa, Kiryat Ata, Kiryat Yam, Kiryat Bialik, Kiryat Motzkin, Nesher, Kiryat Tivon, Zvulun Regional Council and the Rahasim Local Council.

The association is responsible for overseeing air quality control and monitoring, hazardous materials supervision, noise prevention, environmental planning, industrial control, radiation monitoring, transportation pollution and sustainability education.

"Because of the operations of the factories, the area suffers from problems of concentrated contaminants, including hazardous materials in the air, in the water, on the land and in the sea, as well as problems of non-ionizing radiation, noise nuisances and the effects of dense transportation," the report said. "This pollution is likely to have a detrimental effect on the health of residents of the area and of all areas of the North."

In the months of September 2011 through February 2012, the State Comptroller's Office audited the association, examining issues like supervision of hazardous materials management, improvement of air quality, reduction of air pollution from cars, prevention of noise and local law enforcement. The office worked to fulfill the audit in conjunction with the Environmental Protection Ministry, the Interior Ministry and the company Yefe Nof Transportation, Infrastructure and Construction.

The state comptroller found in the audit that several decades after its establishment, the association still has yet to clearly define its functions and powers. In addition, the association has failed to maintain a complete and current listing of all public inquiries it has received.

Likewise, the report found that the Environmental Protection Ministry was also failing to live up to its requirements in the region. For example, the Clean Air Law of 2008 went into effect in January 2011, making the ministry responsible for preventing air pollution – setting emission standards, monitoring pollution and providing reinforcement against harmful incidents.

Environmental Protection Minister Gilad Erdan, however, rejected a decision to declare areas within the association's jurisdiction as areas affected by air pollution, and the audit concluded before the government approved a widespread national plan for the reduction of air pollution, the state comptroller wrote.

As far as motor vehicle air pollution goes, Shapira determined that this is the source of up to 58 percent of the region's air pollution. The Haifa Bay Municipal Association for Environmental Protection, however, has neither promoted advanced mobile air pollution monitoring nor submitted a proposal for cooperative air monitoring and enforcement activity to the Environmental Protection Ministry.

Meanwhile, although a future Metronit bus rapid transit system will reduce congestion and save travel time, the vehicles driving in these lanes will still be running on diesel engines, which emit hazardous particles into the air, Shapira said.

In addition to the air pollution issues, the report has found the presence of hazardous materials in the Haifa Bay region to be particularly problematic. Regarding the factories in the region specifically, the report noted that the association has not yet set rules for the frequency of site reviews that the facilities must undergo, to examine the pollutants stored their as well as their risk levels.

Likewise, the Environmental Protection Ministry failed to prepare a schedule for regular visits in the years 2009 and 2010, did not receive periodic reports on the factories and did not prepare guidelines as to how the association should handle them, the report continued.

The region contains about 120 factories that require toxin permits and whose chemicals carry a high degree of risk.

The state comptroller specifically looked at a hydrocracking facility, in which the hydrocarbon molecules of heavy petroleum are cracked and broken into simpler, lighter fuels. While for the years 2010 to 2011, the local planning and building committee approved six building permits for the facility, the association never discussed the environmental effects of the hydrocracking to occur there, according to the report.

Particularly distressing to Shapira was the management of ammonia – a toxic and volatile gas that is vital to industry – at Haifa Chemicals. The Haifa Bay storage tank contained 12,000 tons of ammonia, used in more than 100 plants there without a proper business license. Although the storage container had been active for 26 years, by the time of the audit necessary measures had not been taken to prevent the public from danger, the report said, recommending a transfer of the tank to a less populated region.

Stressing that the office had found significant deficiencies in the operations of the Haifa Bay Municipal Association for Environmental Protection, the state comptroller emphasized that the organization must immediately clarify its specific responsibilities and functions. In addition, better coordination must occur among the association and the Environmental Protection Ministry, the local authorities, the area's companies and the Interior Ministry, the report explained. In turn, it is the Environmental Protection Ministry's responsibility to see that the association fulfills its duties.

In response to the report, the association said that most of the state comptroller's notes have already been implemented since the audit.

"Although in the report, there are several points that have no direct relation to association activity, we intend to continue to examine the entire report, in depth, and implement the necessary measures – while striving constantly to improve the manner and quality of our service to the public," the association said in a statement.

"The association's conduct in cooperation with the Environmental Protection Ministry has led to impressive achievements in reducing pollutant emissions and improving air quality in the region," the statement continued, noting that the association will ensure the transfer of all required reports to the ministry, in a transparent manner.

Emphasizing its goal of protecting the environment from hazards, the association said that for decades it has been working to reduce air pollution, noise, radiation and other hazards in the region.

For its part, the Environmental Protection Ministry responded that the body responsible for defining the roles of municipal associations is the Interior Ministry, and that the Environment Ministry has no authority over the association.

In the last two years, however, the Environment Ministry has implemented a multi-year monitoring program for large plants in Haifa Bay, and at the ministry's request, the association is now preparing a municipal program for air pollution reduction, the ministry said.

Regarding the Haifa ammonia storage tank, the Environmental Protection Ministry said the ministry demanded the installation of overhead protection on the tank, but that the Home Front Command deemed this type of shielding unnecessary.

Meanwhile, following a decision collaboratively made by Erdan and Industry, Trade and Labor Minister Shalom Simhon, Haifa Chemicals announced that the ammonia container would be shut down within five years and transferred to a location in the South. Environmental impact studies for a new plant location will be forthcoming, the ministry added.

Maya Jacobs, director of the environmental association Zalul, criticized both Erdan and Simhon for failing to anchor their words in a government decision. The ammonia container must be closed as quickly as possible, she stressed.

"It is time that the government ministries hear harsh criticism and do what is required of them – enable the construction of an ammonia production plant in the South, make unnecessary the import of ammonia by ships and close a container that is dangerous and terrifying to the residents of northern Israel," Jacobs said.

"'Haifa Bay environment association negligent'" , Jerusalem Post, 26/12/2012, online at: http://mideastenvironment.apps01.yorku.ca/?p=6608

BACK TO TOP

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

❖ It's the environment, stupid

Hatnuah has absorbed the Green Movement, but only Meretz and Hadash emphasize green issues in their election platforms.

Environmental issues are barely registering in the current election campaign, even though they raise important existential concerns such as energy and water supply, building plans for the coming years, public health and distribution of natural resources. This week several parties started rolling out their environmental platforms and perhaps this will help spark public and political discussion.

Tzipi Livni's Hatnuah is expected on Thursday to present its social-environmental manifesto, prepared by Prof. Alon Tal, number 13 on the party's slate, and represents the Green Movement. Tal's presence is likely to prompt the new party to focus a little on environmental affairs, even if in the past Livni herself rarely showed any interest in them.

The large parties have not until now spoken about environmental issues. It is possible that the Likud is relying on the reputation of Environmental Protection Minister Gilad Erdan as a leading political figure in this area. Erdan used his term as minister to promote himself and improve his position ahead of his party's primaries, and referred to himself in campaign ads as "the minister of Likud protection."

The Greens party, which has failed to win a seat in every Knesset election it ran in, has publicized a long and detailed environmental platform on its website. Among other things, the party proposes expanding coastal no-construction zones and setting a minimum for green space in urban areas (30 percent of a city's area).

Two parties running in the election with extensive experience in campaigning for the environment are Meretz and Hadash, whose Knesset members Nitzan Horowitz and Dov Khenin headed the parliament's social-environmental lobby. Both have formulated an environmental platform that corresponds to the spirit and content of the social protest. It reflects a similar worldview that sees a close connection between social and environmental justice.

"A lack of environmental justice is a result of economic interests seeking to increase the profits of the rich at the expense of our health and quality of life," notes Hadash's platform. "Consequently, air pollution worsened and Israel's waterways turned into channels where waste flows. Public transportation was neglected in favor of building roads and infrastructure that benefit those who can afford their own car and the gas companies that profit from this situation."

The two parties clearly favor Israeli urbanity based on densely populated cities, public transportation and abandoning plans for suburban construction and new communities. Meretz stresses that public transportation networks need to be developed, and a crucial element of their success is their operation on the Sabbath. The two parties want to promote plans to expand public housing and halt the planning and building reforms the government tried to advance, which they believe pose a grave danger as open areas will be handed to real estate developers.

Another environmental issue that recently rose to the fore is the use of Israel's natural resources, primarily potash from the Dead Sea and natural gas from the Mediterranean Sea. This is not just a matter of more equitable distribution of the profits between private entrepreneurs and the public, but also increased supervision of the extraction of natural resources to limit the environmental damage.

Hadash is adhering to its socialist origins and asking to nationalize the gas, mineral and oil reserves. Meretz does not rule out private ownership of natural resources, but argues that the profits should be redistributed and mostly transferred to the public's benefit. The two parties are seeking to promote legislation that would limit the options for exploiting minerals from the Dead Sea.

Meretz and Hadash's position on energy is to reduce the use of pollution-causing fossil fuels and expand the use of renewable energy. Meretz is proposing to designate 2030 as the year by which Israel will produce one fifth of its energy from renewable sources.

Two main issues that will have a decisive impact on the future of Israeli society, beyond the diplomatic issues, are population growth and consumption. It is difficult to address these issues, and in the political parties' election campaign platforms and they receive little mention.

The matter of Israel's rapid population growth and its environmental impact is not mentioned at all in the two parties' platforms. Apparently they accept this growth as a given that cannot be influenced, beyond more careful scrutiny of planning and building.

Meretz is attempting to deal with consumption through a series of steps such as reducing the use of packaging and banning plastic bags. Another step is to convey information to the consumer on the environmental impact of every product he consumes, so that he will be able to decide for himself what to buy and what not to buy.

Even though these are two relatively small parties, the work of their representatives in the last Knesset was highly effective and led to progress in several important environmental initiatives. One of the reasons for this was their broad cooperation with parties in the coalition.

Meretz and Hadash Knesset members take their environmental platforms seriously, and shape it while maintaining ongoing ties with environmental organizations. Their ability to implement the platform will be a measure of Israeli society's overall success in confronting environmental challenges.

"It's the environment, stupid", Haaretz, 26/12/2012, online at: http://mideastenvironment.apps01.yorku.ca/?p=6614

BACK TO TOP

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

❖ Hatnua presents green platform

Tzipi Livni's new party present environmental agenda prompted by party member and Green Movement chair

Tzipi Livni's Hatnua Party presented its environmental platform last week, ahead of the nearing elections.

The party's green platform is promoted by Green Movement Chairman Alon Tal, who is No. 13 on Hatnua's Knesset list.

The party's environmental agenda calls for creating a sustainable, long-term blueprint for Israel's energy market and setting clear environmental goals, as well as promoting the protection and preservation of the country's natural resources.

The party's green platform also supports a public transportation reform, protecting open spaces and public access to beaches; as well as promoting a new cleantech industry development scheme.

"As a professor of environmental policy, I can honestly say this is the most comprehensive, creative and ambitious environmental platform ever introduced by a major political party in Israel," Tal told reporters.

"We are presenting a strategic link between out two movements with aim of making a change in Israel," Livni added.

The change, she added, "Has to do with more that just an additional Knesset seat – it is promoting the issues and values that the two parties believe in.

"Israel lags behind over other developed countries on environmental issues and it's time for us – together with the Green Movement – to change that."

According to Livni and Tal, the party aspires to eventually pass "basic law – environmental protection"; which will joins Israel's other Basic Laws, meant to serve as the country's future constitution.

"Hatnua presents green platform", YNET, 26/12/2012, online at: http://mideastenvironment.apps01.yorku.ca/?p=6616

BACK TO TOP

❖ Israeli Delegation Brings Water Management Expertise to India

A delegation of experts from Israel's government and technology sectors recently visited with high-ranking officials in Raipur and New Delhi. The visit aimed to build cooperation and share water management expertise between the two nations.

As guests of **Taran Prakash Sinha**, commissioner of the Raipur Municipal Corporation, the Israeli group toured the Raipur municipal water system and spoke with city water officials. Afterwards, they traveled to New Dehli to participate in a seminar planned by the Indian Ministry of Urban Planning. After the visit, the Israeli delegation felt they had much insight to offer their Indian peers. "India today is roughly in the situation in which Israel was 10 or so years ago, with 12 different government ministries responsible for urban water," said **Abraham Tenne**, one of the delegates and Vice-President of Desalination at Israel's Water Authority.
Oded Distal, Head of Israel New Tech, agreed, adding that India has yet to embrace the importance of water management and conservation. "India presents huge challenges in urban water planning," Distal noted. "First and foremost, a change in concept is needed, one in which people begin to perceive water as the precious resource that it is."
After meeting with officials, though, Distal believed India was ready for change. "This is a very dramatic change, but the community of Indian urban water professionals appears poised to make it," Distal said.

The Israeli water management experts also left India committed to providing the technical support needed to help India meet its water management goals. "There is an almost uncanny fit between India's needs in the urban water arena, and what Israeli companies are able to offer," Tenne explained.

Indian water officials are also eager for Israel's support and collaboration. "The Indian water community looks to Israel as a sort of guru," Tenne said, "They know the Israeli water industry very well and hold it in very high regard."

"Israeli Delegation Brings Water Management Expertise to India",28/12/2012, online at: http://www.jspace.com/news/articles/israeli-delegation-brings-water-management-expertise-to-india/12250

BACK TO TOP

❖ Israeli Urban water experts tours India

"Israeli water experts visit India, tour water utilities and meet with Indian government representatives and utilities"

The experts from various Water Management companies from Israel visited India during Dec. 3-6, 2012. This visit was a step after an agreement signed in February 2012 between the two nations aimed at fostering cooperation, with a focus on Urban Water Utilities And Management. The delegation was welcomed in India by Mr Yonatan Ben-Zaken, Economic Attaché, Embassy of Israel, New Delhi.

"Israel's greatest innovations in recent years have come in the areas where India is most lacking, notably waste-water treatment", said Mr Oded Distel, head of Israel NewTech, who headed the Israeli Water Delegation to India.

On Dec. 3rd 2012, the experts toured the Raipur water system and were hosted by Mr Taran Prakash Sinha, Commissioner, Municipal Corporation Raipur. The Indian participants in the Raipur visit were very interested in learning from Israel's experience in the management of water systems and urban wastewater.

Following this visit, **On 6th December 2012, Indo- Israel Consultative Workshop on Urban Infrastructure was held at Vigyan Bhawan, New Delhi.** The Workshop was sponsored in association with **the Ministry of Urban Development (MOUD)** and was attended by 50 representatives of urban water utilities from all over India. During the Workshop, the important issues from other state commissioners like fluoride problem, salinity situation, and heavy metals were discussed and answered by the Israeli experts.

The Workshop ended with one on one meetings between the many Indian water professionals, water utility heads and the Israeli water technology companies who participated in the workshop such as Bermad, Ari, Amiad, Mekorot, Tahal, Powercom, LR, Mira Holdings, Aqwise and Arad.

Yoni Ben Zaken, the Israeli Economic Attache in India, concluded, "Raipur is a starting point, but there are 600 more cities in India with a similar urban water situation and needs, so the market potential is very significant."

"Israeli Urban water experts tours India", 26/12/2012, online at: http://itrade.gov.il/india/2012/12/26/visit-of-urban-water-experts-from-israel-to-india/

BACK TO TOP

❖ A Trip to the Banias

The beautiful Banias Nature Reserve includes two main areas: the spring area and the waterfall area. And if it's hard for you to choose which one to visit – choose both. They are equally beautiful and fascinating and a celebration of water and lush flora awaits you.

The giant Mount Hermon acts like a sponge absorbing the generous rain that falls in the area. The water then percolates and emerges as three springs at the foot of the mountain. These springs create three streams – the Dan, Hermon (Banias) and Snir (Hazbani) – which are the headwaters of the Jordan River.

The streams rush with great force through a canyon-like channel, losing 190 meters in altitude and forming the Banias waterfall, one of the most beautiful in Israel. After nine kilometers, the Hermon River meets the Dan River near kibbutz Sde Nechemia and the two flow into the Jordan River. The Hermon accounts for one-quarter of the Jordan's waters.

All winter Mount Hermon is covered with snow. When the snow melts, it becomes a forceful river, which, as we said, feeds the Jordan River and the Kinneret. Thus, the snow-capped Hermon is the water source of the Land of Israel.

The volume of the Banias Springs is dependent on how snowy and rainy the winter season was. The stream flows into tranquil still pools that are part of the magnificent Hermon National Park.

The nature reserve was established in 1977 and contains sites of natural and historical interest. Excavations have unearthed an impressive Greco-Roman city that was later a Byzantine one. A colonnaded street – the Cardo Maximus – connected both ends of the city. A large public structure, believed to be the Palace of Agrippa II was discovered there, as well as streets, aqueducts, courtyards, a synagogue, a church, and a bathhouse.

There are four trails one can take within the reserve, three are 45-minutes long and one is 90-minutes long.

The name Banias is actually an Arabic corruption of the word *Panias* or*Paneus* – from the name of the Greek god Pan, god of the forests and shepherds whose temple cave can be seen in the ascending hillside.

It is interesting to note that Banias is associated with idols – Micah's (Israelite period), Pan (Hellenistic period), and the Bleeding Woman (Byzantine period).

The springs of the Banias were probably, even during the Canaanite period, a sacred sacrifice site serving the nearby city of Leshem or Laish. Mivzar Dan (Dan-Fort) was the original city that lay at the source of the Banias. The springs were one of the city's most important assets.

It is believed that the Biblical Beth Rehov (the house of the Road) may have been in the Banias. The Danits stole the Pesel Micah which they then erected in their new city, perhaps in a cave of the Banias *(Judges* 18 – 27, 30).

When the Greeks invaded the area, they discovered this beautiful place and the cave of Pan became a center of their pagan activity. In 36 BCE, Panias was given to Cleopatra. At the end of the first century B.C.E., the Romans annexed it to Herod`s kingdom and he constructed a temple there in honor of Augustus. After Herod`s death, his son, Philip the Tetrarch, inherited northern *Eretz Yisrael* and established the capital of his kingdom near the springs, calling it Caesarea Philippi. The city had a mixed population of pagans and Jews.

In the days of Agrippa II, the grandson of Philip II (53 – 94 CE), the city expanded, and luxurious buildings as well as a large opulent palace were built. Its name was changed to Neronias Caesarea Sebastia (Neronlas) in honor of the Emperor Nero. Jews referred to the city as "Caesarion" ("little Caesar"). At the time of the great rebellion (67-73C.E.), both Vespasian and Titus were guests in Agrippa II's palace and camped nearby (*Josephus Wars*).

The city was spared the tragic destiny of other cities, since Agrippa II sided with the Romans. Although its Jewish citizens were protected by Agrippa, they were subject to harsh times. After the war there was a Jewish community in the city, but most of the citizens were pagan.

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

In the 7th Century, the Arabs conquered the land, renaming it Banias (Arabs pronounce "p" as "b"), and the city continued as the capital city of the Golan area. From documents in the Cairo Geniza we know that there were two Jewish communities residing in the Banias — one Babylonian and one Jerusalemite. Their synagogue was excavated in the vicinity of the palace of Agrippa. In 1120 CE, Banias became the headquarters for a messianic sect of Karaites, led by the false Messiah Shlomo HaCohen. Apparently in the year 1126, the community was forced to desert the city, when the extreme Shi'ite sect of Isma'ili Hashishim took over.

Arriving in the Galilee in 1099 and in Banias at 1129, the Crusaders realized the strategic asset of Banias as a frontier city, located on the trade route to Damascus. They built a large wall and gate around it and fortified the Arab fortress of Kil'at Subeiba (Large Cliff), located 6 km above the city, calling it by the Biblical name Nimrod Fortress. The Crusaders controlled the city and fortress until 1164 when it was conquered by the Syrian ruler Nur al-Din.

During the Mamluk Period, in the 13th and 14th centuries CE, the city prospered. However, during the Ottoman Period, Banias was a small village of no special importance.

After World War I, the 1920 treaty between the British and the French placed Banias in the French Mandate. On June 10, 1967, Banias was captured by the IDF and restored to *Eretz Yisrael*.

After years of planning, the hanging bridge was inaugurated at the Hermon Stream in March 2010. 80 meters long, the bridge stretches over the strongly flowing clear, almost white stream, while surrounding it are majestic black/brown basalt and travertine canyon cliffs covered in abundant vegetation.

Those who opposed the building of bridge asserted that it would make the nature reserve into an amusement park. However, this didn't happen, and the bridge trail blends right into the surroundings and has become an inseparable part of the reserve. A visitor who stands on the bridge can observe stunning views that were not accessible before its construction. The views are especially dramatic since visitors are walking in the opposite direction to the water current.

Climbing the steps at the end of the hanging bridge trail, you enter a picturesque rain forest. This more "natural trail," leads to the Banias Waterfall which falls from a height of about ten meters. The lovely viewing-balcony provides the perfect place to observe the waterfall and relish its cool spray.

If you bring children with you, show them how to enjoy nature by instructing them to do some or all of the following things. Ask them to touch an exposed tree root and feel the texture of different leaves. (Only beware they don't touch Oleander with its dark green spear-shaped leaves and beautiful fragrant white or rouse-pink tufty flowers since it's highly poisonous.) Tell them to watch how the leaves or branches sway in the breeze. Suggest they listen to the sounds of the birds and the leaves. Instruct them in making a *bracha* on smelling trees or hardy woody stems (*boray atzei b'somim*), on plants with soft stems (*boray isvay b'somim*), a mixture of both (*boray minay b'somim*), or if you are not sure what it is (*boray minay b'somim*). Or just ask them to close their eyes and concentrate on the sound of flowing water and chirping birds.

The thick foliage of the woods along the trail contains many species of trees. Among them you'll find Common Oaks, Oriental Plane Trees (easy to recognize, due to their large leaves shaped like the palm of a hand that are shed in the winter and its ball shaped long haired fruit), Syrian ash (can be spotted by its dentate leaflets), Poplar Trees, Willows, Figs, True Laurel (Bay Leaves), Carobs, Almonds, Storax, and many, many more. Among the vine and plant species are grapes and rough bindweed, blackberries, reeds, ferns and heart shaped ivy. Adding to the great profusion of trees near the streams and stream bank flora are orchard trees such as walnut, lemon, and other fruit trees.

The nature reserve is full of wildlife. From *Shir HaShirim*'s praises of the area (4:8), we learn that lions and leopards once inhabited the region. Lions are now extinct but leopards can still be found. Jackals and wild boars are active during the night, and in the day many Hyraxes frolic along the shores of the stream since they love the sunlight. There are swamp lynxes and porcupines, Mt. Hermon field mice, rodents, and bats.

Falcons are seen flying high above, and on the ground flocks of rock doves congregate. Cetti's Warblers, Sardinian Warblers, blackbirds, woodpeckers, Winter Wrens, and Graceful Prinias are also found. Various types of fish can be seen in the stream, among them haffaf, hillstream loach,

acanthobrama, tilapia, Damascus barbell and longhead barbels. Other aquatic life includes black-shell melanopis, freshwater gastropod, crescent shaped mollusks, and snails.

Directions: Drive on Road 90 and turn east on Road 99. The entrance to the Banias waterfall area is located about two kilometers east of Kibbutz Snir, and the Banias Nature Reserve with its springs is located about three kilometers east of the Kibbutz.

"A Trip To The Banias", 27/12/2012, online at: http://www.jewishpress.com/sections/travel/a-trip-to-the-banias/2012/12/27/3/

BACK TO TOP

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

❖ 7,000 Trees: Development Association takes Green Initiative to the Streets

Giza is getting a bit more green as part of the "A million roses and 10,000 trees initiative." Al-Amal Association for Development launched the project several months ago and has so far planted 7,000 trees in squares and on streets around Giza, in cooperation with governorate officials. The green initiative is also targeting Cairo, Alexandria and Matrouh governorates.

The association's goal is to encourage citizens to make a positive change by beautifying their environment and planting trees in public, says Al-Amal chairman Samy al-Qurainy.

Increasing green spaces may also help reduce the accumulation of litter and waste if residents become more invested in caring for their neighborhoods.

"We don't have enough green areas in governorates and cities, especially in the highly populated ones and those with high pollution rates such as Cairo and Alexandria," says Ahmed Younis, the national coordinator of the Arab Youth Climate Movement, an international environmental group of young activists. "Planting trees can help eliminate the increasing carbon dioxide emissions which, in turn, help mitigate the effects of climate change."

Giza Governor Ali Abdel Rahman says that popular public places, tourist and archaeological sites and impoverished neighborhoods were earmarked for the tree plantings. The General Authority for Cleanliness and Beautification in Giza also assigned groups of workers to plant the trees on main streets and in front of the governmental buildings, and to care for them.

Younis says the governorate must connect appropriate irrigation systems to the planted trees to avoid wasting water. He suggested using treated wastewater rather than fresh water.

"This can be effective in a country like Egypt where many places suffer from water scarcity," he says. "As a climate change movement, we are ready to support any reforestation project."

"7,000 Trees: Development Association takes Green Initiative to the Streets", Egypt Independent, 26/12/2012, online at: http://mideastenvironment.apps01.yorku.ca/?p=6602

BACK TO TOP

❖ Centre has no intention to encroach states' rights on water: Manmohan Singh

NEW DELHI: In the wake of apprehensions expressed by the states over proposed national legal framework on water resources, Prime Minister Manmohan Singh today sought to allay fears by saying the Centre has no intention to encroach their rights on water management.
"I would like to emphasise the need to see the proposed national legal framework in proper perspective. The framework would be an umbrella statement of general principles governing the exercise of legislative, executive or devolved powers by the Centre, the states and the local governing bodies.

"The Central Government does not wish to encroach, in any manner, upon the Constitutionally guaranteed rights of states or to centralise water management," he said.

Singh was addressing the sixth meeting of the national water resources council which is likely to adopt the latest national water policy.
The policy proposes to have a national legal framework on water issues which the state government have been opposing since the draft was put in public domain in January, this year.
Referring to the issue of depleting groundwater, the Prime Minister said inspite of its "vital importance" there is no regulation for its extraction and coordination among competing uses.

"We need to initiate steps to minimise misuse of groundwater by regulating the use of electricity for its extraction," he said.
Singh said rapid economic growth and urbanisation were widening the demand supply gap and worsening the country's water-stress index.

"The situation calls for judicious management of our limited water resources and the paradigm shift in our approach. ...we therefore need to rise above political, ideological and regional differences and also move away from a narrow project-centric approach to a broader holistic approach to water management," he said.

The Prime Minister said integrated water resources planning at the basin level, conservation of water, preservation of river corridors, recharging of the aquifers and their sustainable management and improvement of water use efficiency are among the broad areas that need "our urgent attention."

"Our irrigation systems need to shift from a narrow engineering-construction-centric approach to a more multi-disciplinary and participatory approach. Incentives need to be provided to narrow the gap between irrigation capacities created and those being utilized," he said.

Singh also stressed the need to move towards transparent and participatory mechanisms of pricing of water by the primary stakeholders themselves.

"The local communities have to be involved actively in the management of water resources," he said.

Noting that outlays for the water sector have been increased substantially, the Prime Minister said these outlays will deliver only if they are matched and supported by better management and good governance.

“Centre has no intention to encroach states' rights on water: Manmohan Singh”, 28/12/2012, online at: http://articles.economictimes.indiatimes.com/2012-12-28/news/36036412_1_water-resources-national-water-water-management

BACK TO TOP

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

❖ Making urbanisation potable

Maharashtra's Sujal Nirmal Abhiyan, a state-led integrated water and sanitation programme, covers all 250 cities except Mumbai and already has 152 urban bodies engaged in a stringent reforms schedule

Water and sanitation are core, basic needs of any society. No amount of spending on healthcare facilities will suffice if we do not have clean drinking water and adequate arrangements for safe disposal of waste. The state of water and sanitation in Indian cities is abysmal, more so when there is increasing evidence that it does not take a great deal to transform the situation.

Thanks to the Jawaharlal Nehru National Urban Renewal Mission (JNNURM) launched by the Government of India in December 2005, the poor state of service delivery in Indian cities has been a subject of much discussion and some action. The mission used project-oriented fund transfers as a driver of change for reforms at the state and the urban local body (ULB) level, to improve the condition of Indian cities. JNNURM has been an experience in learning by doing for all concerned. A full appraisal of the mission will come as the projects are completed and the outcomes assessed, but the mission has certainly raised the ambition of Indian cities.

The most important contribution of JNNURM has been to inject a new dynamism in the much-neglected urban sector and establish credibility that service delivery in Indian cities can be transformed. The good news is that some local and state level responses are emerging, and are worthy of adaptation and emulation. This column has presented a number of case studies of urban transformation.

Maharashtra Sujal Nirmal Abhiyan (MSNA) is a good example of a state-led programme of integrated management of water and sanitation in the era of JNNURM. It covers all ULBs (a total of 250 cities), except Mumbai, for delivering water (24x7) and sanitation in a sustainable manner. Mumbai's problems and challenges are to be addressed separately. Maharashtra used the occasion of its golden jubilee celebrations in 2010 to launch the MSNA. The programme is being implemented by the Maharashtra department of drinking water supply and sanitation with support from Maharashtra Jeevan Pradhikaran (MJP).

Three sets of reforms in three sequential phases have been identified as ULBs prepare for the sustainable provision of water and sanitation in the cities and towns of Maharashtra. It is the first statewide programme for sustainable water and sanitation in India.

Phase I focuses on water audits, energy audits and provisions for operation and maintenance. The requirement of a water audit is a major reform for the success of the programme. The reduction of non-revenue water is the core part of the strategy as distribution leaks are plugged and a system for effective billing and collection with differentiated tariff is put in place. Financial protection is provided by ensuring that separate accounts are maintained for water and sanitation in ULBs.

For effective billing and collection from consumers, work begins with a house-to-house survey of consumers to gather information on water requirement and illegal connections, and to provide a system for regularising connections on payment. Information collected on requirements for different consumer categories, for example domestic or commercial, helps in designing a differential tariff. It is used to put in place a system of computerised billing with emphasis on monitoring the collection ratios. The survey typically takes about six months for a city of population size of one million. It has the added benefit of creating awareness amongst consumers about the necessary reforms in water management, and creating conditions for greater community participation.

To monitor the efficiency of supply, bulk meters are required to be installed at the outlets where treated water is released and at locations where treated water is let out into the distribution system. Maharashtra's home-grown hydraulic modelling system plays a very important role in the water audit. District Metering Areas are created in the distribution network, with connections ranging from 500 to 2000. A bulk meter is installed at the entrance of each DMA, which cuts off the area from adjoining areas' water flow and makes each DMA hydraulically isolated. Non-revenue water is defined as the difference between the measured flow through the bulk meter and the aggregation of the flow of consumer meters. The energy audit helps in optimising the electrical equipment for the lowest possible power consumption. Completion of reforms under Phase I is a precondition for getting funding from the state government for any investment in water and sanitation.

Once the building blocks are in place in Phase I, the ULBs can move to Phase II, with pilot experiments for delivery of water 24x7. The Phase II reforms include benchmarks for individual metering and collection at 80 per cent each, tariff framing, provision for sewerage and solid waste

management. Phase III is the culmination of the reforms with 24x7 systems of water delivery, 100 per cent efficiency in metering and collection, and a sewerage system which includes sewage treatment plants.

Change Management Units play a crucial role in developing the resolve of engineers, draftsmen, field operating staff such as valve operators, and meter readers, to allow the new technology of GIS (creation of base maps with the existing pipe network), satellite images and hydraulic modelling to work towards water audit.

As of December 2012, 152 ULBs (including the 25 ULBs for which MJP has direct responsibility for delivery) are engaged in Phase I reforms. Of these, 11 ULBs have completed Phase I and have submitted their detailed project reports for funding from the state government for 24x7 water delivery projects under Phase II. Another 100 ULBs are in an advanced stage of completing Phase I reforms. In my earlier columns, I have written in detail about the achievements of Malkapur and Amravati towns under MSNA. Ambernath-Badlapur is another town with population of close to 4,50,000, which has achieved average water delivery of 15-20 hours in eight out of its 34 wards, bringing its non-revenue water down to 33 per cent, from over 50 per cent.

As many more cities and towns of Maharashtra strive towards sustainable delivery of water and sanitation under MSNA, there are many challenges along the way, not least of them the challenge of building mutual trust between the community and the ULB as the service-level benchmarks are attained and consumers are willing to pay. There is also the challenge of building capacity at the ULB level for preparing individual projects as the institutional reforms take shape and technologies such as GIS and hydraulic modelling are deployed. Maharashtra has chosen the long and sustainable route to delivering water and sanitation.

The High Powered Expert Committee on Urban Infrastructure and Services which I had the privilege to chair had estimated that Rs 8,00,000 crore will have to be spent on water and sanitation over a 20-year period beginning in 2012-13 to eliminate the urban infrastructure investment deficit in these sectors. At an average of Rs 40,000 crore a year, this spending will have to come from the Government of India, the state governments, the ULBs, and the private sector. The amounts involved for the government are not large when compared with the annual spending on petroleum subsidy/under-recovery of Rs 1,60,000 crore, fertiliser subsidy of Rs 70,000 crore and power

distribution losses of Rs 60,000 crore. The greater challenge is to create capacity for planning, finance and management, so that the money is spent within a framework of integrated planning. The period between now and 2014 should be used for building capacity to prepare an integrated system of water and sanitation in each state. State governments will have to come up with programmes such as MSNA. The Government of India will have to come up with a new JNNURM, with priority for water and sanitation and emphasising reforms.

The writer is chairperson of ICRIER and former chairperson of the high-powered expert committee on urban infrastructure services

"Making urbanisation potable", 27/12/2012, online at: http://www.indianexpress.com/news/making-urbanisation-potable/1050676/0

BACK TO TOP

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

❖ Sustainability and financial viability of urban water supply and sanitation in dryland areas in India - Case study of Indore city

The simultaneous attainment of financial, environmental and social sustainability of urban services is an important requirement of development. Given the huge investments that are being made in the improvement of urban infrastructure and services in India, it is of the utmost importance that these investments are made in a manner that brings about the greatest good of the greatest number in a sustainable manner. Within urban infrastructure the supply of water and its disposal after use in cities has become one of the most problematic aspects of planning and management.

This is because water has to be brought from distant sources and the wastewater needs to be treated before being discharged into natural water bodies or rivers. Urban planning cannot be undertaken unless the water supply and wastewater disposal is first accounted for. In dryland areas which are physically water scarce and constitute some 70 per cent of the country, the problem becomes even more acute as the costs associated with setting up and running Water Supply and Sanitation (WSS) services go up exponentially.

The situation is particularly problematical in this regard in Indore which is the largest city of Madhya Pradesh. The city is situated on the dry Malwa Plateau which is naturally water scarce similar to most parts of western, northwestern, central and peninsular India. The city also has a fairly long history of urban planning from the early twentieth century providing rich material for a critical study.

This study by Rahul Banerjee critically reviews the financial, environmental and social sustainability of urban water supply and sanitation infrastructure and services in the city based on a secondary review of the documents of the Indore Municipal Corporation and other sources and suggests remedial measures. The research questions were -

- How viable are the proposed developments of WSS under the Asian Development Bank (ADB) plan and the JNNURM in the context of current natural and financial resource endowment of the Indore Municipal Corporation and the economic situation of the population in general and the poor in particular.
- What are the possible improvements in WSS provisioning and governance in the city.

The study recommends that -

- A Geographical Information System (GIS) must be used to map all the properties within the municipal limits and then grade them according to zones and building quality for determination of adequate property tax rates. The share of property taxes must increase substantially to at least 30 per cent of revenue receipts and the per capita tax realisation too should reach Rs. 700. The tax collection system must be improved drastically and penal measures taken against defaulters.
- A proper inventory of the WSS systems in the city has to be prepared including both surface and ground water and the storm and waste water disposal systems. Currently there are radio frequency sensor based instruments and computer softwares to accomplish this quite easily. Only then can an authentic water demand and waste water and storm water generation scenario be chalked out for planning of services. Despite clear directions from the ADB and the Central Ground Water Authority in this regard no progress has been made so far.
- The use of Water Sensitive Urban Design (WSUD) principles, which have now been recommended by the National Mission for Sustainable Habitat also, should be used to design a hybrid ground cum surface water system of water supply. This should be augmented by storm water recharge and waste water treatment, reuse and recharge done in a decentralised manner. This hybrid system will be much more sustainable in financial, social and environmental terms than the wholly centralised system being used at present. The centralised systems should be used only where necessary to provide services to the congested poverty pockets where there might not be space available for decentralised solutions.
- Instead of relying on taxes, user charges and grants to fund hugely expensive centralised systems, this alternative system would put the onus on the more affluent citizens, corporations, private commercial establishments and government institutions who are in possession of a considerable portion of urban land to tackle their water supply and waste water disposal needs in a decentralised manner from their own resources. This would then free the Indore Municipal Corporation resources for provision of free or subsidised WSS services to the poor and the lower middle class who are not in a position to pay for them wholly.

- Detailed surveys and design should be carried out to determine the actual benefit/cost ratio and EIRR and FIRR of such an alternative plan and then compare it with the surface water only alternative that has been implemented so far. Most probably the former will turn out to be more suitable for Indore. If so then this alternative plan should be implemented forthwith.
- The detailed plan for artificial recharge in the Gambhir and Shipra River Basins drawn up the Central Ground Water Board should be implemented without any delay so as to improve the overall availability of water in the catchment of Indore city.
- Solar power should be used for the Narmada water supply.

"Sustainability and financial viability of urban water supply and sanitation in dryland areas in India - Case study of Indore city", 22/12/2012, online at: http://www.indiawaterportal.org/post/33891

BACK TO TOP

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

❖ Bubble Burst?

This could have been a lifeline. It's turning into a major crisis. Akshai Jain reports on the dangers of private players rushing to tap the rural water market

A MINOR MAGIC SHOW is going on in the mud-paved courtyard of Satvir Singh's house in Kureb, a small village set in the middle of sugarcane fields, in Gautam Budh Nagar district of Uttar Pradesh. His wife Dharamwati and their children, six girls and one boy, stand under the shade of the large neem tree that dominates the courtyard, clustered around Shanker Batra, project manager of the NGO Safe Water Network (SWN).

Batra holds two glasses of clear water in his hand, one filled with water drawn from the hand-pump in the courtyard, and the other with 'iJal', water generated by SWN's reverse osmosis (RO) plant in the village. A ripple of excitement goes through the children as he pulls out a pair of electrodes, dips them into the glass containing hand-pump water and flicks the electric switch. The water, which till a moment ago was transparent, turns a startling, turbid green. "This," exclaims Batra, holding up the glass triumphantly, "is what you have been drinking till now — it's full of chemicals." He then repeats the process with 'iJal'. The water remains clear. Dharamwati nods in appreciation, reaffirming her loyalty.

Over the past few years, as India's water crisis has worsened, a slew of Indian and multinational companies, and foundations funded by them (SWN is funded largely by PepsiCo) have started setting up ROwater purification plants across the country.

On paper, this is part business, creating a market for water in rural India, and part 'social enterprise', providing clean drinking water where there is none. However, in practice, there are severe drawbacks — unregulated groundwater use, the discharge of large quantities of untreated effluent and the exclusion of those who cannot afford the water.

Just how large the business opportunity in the developing world is, was highlighted by SWN in a conference report. "A sizeable market for water services exists," it stated, "estimated at $20 billion annually for the 3.96 billion people in the economically challenged Base of the Pyramid market."

Converts like Dharamwati are hard won. "People don't believe us when we tell them that the water they are drinking is impure," explains Shiv Kumar, the operator of an SWN plant in Charauli village,

also in Gautam Budh Nagar district. "They need to see this (the electrolysis 'test'). It's won us more than 50 new customers in Khajpur village last month."

What neither he nor Batra mentions, but any chemistry student will be able to tell you, is that even a small amount of kitchen salt dissolved in the purest water will produce the same effect. It's no indication of whether the water is potable. It's a sleight-of-hand that the children have obviously seen earlier, but like all good magic, it does not seem to lose its charm. And it's working wonders for the marketing efforts of these companies.

SWN, an international NGO established with the 'help' of a $3 million grant from PepsiCo, is just one of them. Its India operations are nascent, with 20 plants in Andhra Pradesh and three in western Uttar Pradesh. Most of its staff are former PepsiCo employees, from Ravindra Sewak, India Country Manager, to Batra, and Vinod Baghel, Community Mobiliser in Kureb.

One of the biggest groups trying to cash in on the opportunity is WaterHealth International, owned by Dow Chemical Company, Acumen Fund, International Finance Corporation, Sail Venture Partners, Plebys International (a venture capital fund) and Tata Capital Innovations Fund; and a corporate partner of Coca Cola and Diageo. With 430 'DrWater' stations, India is WaterHealth's largest market, and Dow, which owns 30 percent stake in the company, has given it a $30 million loan guarantee to finance another 2,000 stations across India.

Of the bigger Indian companies, Waterlife, funded by venture capital funds Matrix Partners and Aavishkar, started out in West Bengal and Uttar Pradesh, but has now expanded to Andhra Pradesh, Maharashtra, Karnataka and Bihar. Piramal Water (part of the Piramal Group), a manufacturer of RO equipment, has established a network of 156 franchisees in Gujarat and Rajasthan.

These companies follow largely similar models. Their target areas are either villages or urban slums where water quality is poor and government infrastructure for potable water is either non-existent or has collapsed. According to National Sample Survey (2009) data, 54.7 percent of rural India depends on either tubewells or handpumps for water. The water quality from these varies widely, and is often suspect, even though it's supposed to be monitored.

The companies collaborate with either village panchayats or local entrepreneurs to set up RO plants, which typically generate between 500 and 1,000 litres of water an hour. The panchayat or

entrepreneur provides the land and pays for the building, electricity and the borewell, while the company provides the RO equipment.

In some cases, the company takes a security deposit for the equipment and charges a fixed rate per litre of water generated. While in others, the bulk of the equipment cost (60-100 percent) is paid up-front by the community or entrepreneur. In which case, the company gets a share of the plant's monthly turnover as payment for the capital costs borne by them and the maintenance of the plant (usually a 10-year contract). The RO water is sold at Rs 6-10 for a 20-litre can.

It sounds straightforward, almost philanthropic. That is exactly what the companies would have you believe. It is what has allowed them to evade scrutiny. But behind the façade lies a complex web of business interests, government collusion and sheer disregard for rules governing groundwater use and disposal of effluents.

THE SWN station in Charauli is housed in a large asbestos-roofed shed that sits at the entrance to the village on a dusty mud track down which motorcycles zig-zag and tractors and bullock carts lumber on. The walls are plastered with slogans extolling the benefits of 'iJal'. Inside the shed sit two large 5,000-litre water tanks and the elaborate array of filters of the RO equipment, which is manufactured by Pentair, a global manufacturer of water solutions, with which SWN has a tie-up through the Pentair Foundation. It has a similar tie-up with Tata Projects, an engineering and construction company of the Tata Group, through the Sir Ratan Tata Trust. A wireless device links the plant to an IBM-operated platform that allows real-time tracking.
Bhanu Pratap, the Ahmedabad-based entrepreneur-owner of the plant, is candid about the business: "SWN are in it because they want to sell the products of companies they work with, and I have taken their brand name so that no one complains."

The water in Charauli, like that in Kureb, has a higher than desirable (but below maximum acceptable) concentrations of total dissolved solids (TDS). There are no other major contaminants in the village water.

While RO is the only technology that can treat high TDS levels, it's expensive (the plants cost 3-15 lakh) and generates vast quantities of brine or mineral-laden rejectwater that, according to Central Pollution Control Board regulations, needs to be treated before being disposed off. According to

Batra, the plant generates as much brine as clean water, which means an efficiency of 50 percent, far below the 70-85 percent industry standard for water with this level of TDS.

In Charauli and Kureb, as is the situation at nearly all RO plants across the country, the brine is let out into open sewers to find its way into the village pond. In Charauli, that translates into 4,000 litres of brine a day, contaminating surface water, usually the best source of drinking water. "Nobody uses the pond water anymore," says Harihar, an elderly man sitting on a charpoy beside the pond, pointing to an assortment of plastic waste that floats on its surface. Do people use the RO water? "No, it's too expensive for the farmers."

The situation is even starker at the Sarvajal plant in Alwar district of Rajasthan. Sandwiched between two parallel strands of the Aravalli range, the water table in this parched area is down to nearly 300 ft. And it's retreating by "10-12 ft every year", according to Satish Kumar Chhichholiya of the NGOHumana People to People, which has been working with farmers in the area to build check dams.

The TDS levels in this part of Alwar are far lower than those in UP, well within WHO norms (1,000mg/litre), so the need for RO plants in this area is unclear to start with. The plant of Deen Dayal Sarvajal Supplier, a Sarvajal franchisee, is tucked away behind a restaurant at Dugheda, on the Delhi-Jaipur highway. The efficiencies here are even lower. "For every 500 litres of water we generate, we get 800 litres of waste," says Deen Dayal Yadav, the owner. He sells 8,000 litres of water a day, so generates 12,800 litres of brine that is dumped into the open field behind the plant.

On being asked about why there was no treatment of brine, all that SWN Institutional Development Manager Poonam Sewak had to offer by way of explanation was: "We aren't putting back anything into the earth that we aren't taking from it".

A study of Sarvajal's brine disposal methods by a group of students from the University of Michigan's School of Natural Resources and Environment, which was, ironically, commissioned by the company itself, is damning. "Direct discharge (of brine) is the predominant business-asusual practice for Sarvajal franchisees, as observed during franchise site visits in India throughout Rajasthan in July and August of 2011," it observes. "Although continuing with the business-as-usual

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

appears to be the easiest option with no associated short-term economic costs, there are serious environmental resource considerations and potential consequences."

Sarvajal CEO Anand Shah did not reply to a detailed questionnaire. Instead, he sent a standard issue email response saying, "In many of the villages where Sarvajal franchisees exist, there are numerous people whose health has improved drastically because they now have sustained access to clean water that has never otherwise been available to them."

Bakul Rao of IITMumbai's Centre for Technology Appropriate for Rural Areas says, "The only sustainable way of dealing with high TDS levels is by dilution of surface water using groundwater recharge techniques." The brine generated by RO plants, she says, can be treated in solar evaporation ponds, but that is not something any company seems to have explored.

In states such as Andhra Pradesh, where fluoride contamination (not TDS) is the major problem, there are cheaper, sustainable alternatives like the traditional Nalgonda technique that uses alum and lime to treat water. The Nagpur-based National Environment Engineering Research Institute has even modified the technique to make it more effective. According to Sudhakar Rao of the Indian Institute of Science, Bengaluru, another good alternative is using active alumina.

Instead, in AP, more so than anywhere else in the country, the focus has been emphatically on RO. Helped by an eager microfinance industry — in SWN's case, by the microfinance company Basix — the state has seen a mushrooming of these plants.

COMMERCIAL USE of groundwater requires government permissions, especially in areas like Behror, Rajasthan, which, according to its Sub-Divisional Officer Suresh Yadav, is a designated "dark zone" where no new borewells can be sunk and commercial water use is strictly monitored. However, this does not seem to have been done. Yadav was not even aware of the existence of the Sarvajal franchisees in Dugheda and Jaunicha villages in Behror block.
Batra claimed that SWN had the requisite permissions in UP, but Bachchu Singh, Sub-Divisional Magistrate, Jewar, denied this. Closer scrutiny has also been avoided, confides Deen Dayal Yadav, the Sarvajal franchisee, by not packaging the water since that would involve more licences.

For companies that claim to be 'social enterprises' their financial models are suspiciously opaque to village communities and local entrepreneurs. Batra claims that the equipment at the Charauli plant was provided by SWN as a "revolving grant", and that the RO equipment itself costs Rs 6.5 lakh. This is flatly denied by owner Bhanu Pratap, who says, "SWN's only contribution has been the brand name." He claims that he paid the money up-front: Rs 14 lakh for the RO equipment, which includes Rs 2 lakh for just the water containers.

On the other hand, Sarvajal takes a security guarantee from its franchisees and charges them per litre of RO water they produce. Deen Dayal Yadav pays the company 13 paisa for every litre of water, but Hari Singh Yadav of Kundan Water Station in Jaunicha village pays 20 paisa per litre. He's not sure why he's paying more.

SWN also seems to be moving away from its 'community ownership' model. "It wasn't successful," admits Batra, "there were too many people involved." So the Kureb plant has been handed over to Nijay Choudhary, brother of the former pradhan of the village.

Making every drop count

54.7% *Of rural India depends on tubewells or hand-pumps for potable water. The water quality is often suspect, even though it is supposed to be monitored regularly*

1:1 *The ratio of brine and clean water generated by an RO plant. The brine is let out into open sewers, contaminating surface water in villages*

Rs 250 *The price slum-dwellers pay private players for 1,000 litres of water, while middle-class houses in the same locality get potable municipal drinking water for Rs 8*

Speaking at the inauguration of an SWN plant in AP in December 2011, Anil Sondhi, Chief of Technology Operations and Supply Chains at PepsiCo, announced a $3,00,000 planning grant to the organisation. And then spelt out the goals and expansion plans — overcoming obstacles to deliver safe water, deepening PepsiCo's role in advancing locally owned and managed water systems, and organising and extending India operations to "align with PepsiCo's African priorities".

Sarvajal, on the other hand, does not even put up a pretence. Hari Singh Yadav is one of the biggest private water suppliers in the area, and for him, this is just a business expansion. None of the water

generated by Kundan Water Station or Deen Dayal Supplier is bought by villagers; instead, it's sold to factories and companies in the neighbouring industrial areas.

The spread of these companies has seen a parallel, perhaps not merely coincidental, neglect of the government's drinking water infrastructure in these areas.

A massive 300-kilolitre tank was built two years ago in Charauli and pipes laid to houses in the village, but this has fallen into disrepair. "There's often no water in the pipe," says Sunil Chaudhary, a villager, "and when there is, it's not drinkable."

In Alwar, the government seems to have abdicated its responsibility to 'private suppliers' who have laid entire networks of their own pipes (some of which bring water from 8-10 km away). They charge villagers a fixed sum that ranges between Rs 100-300 per month for one hour of water everyday.

Neither does the government seem to have in place any system to regulate these enterprises. "We don't control their functioning," admits Sujoy Majumdar, Director (Water) in the Union Ministry of Drinking Water and Sanitation, "there's no rule or Act that allows us to do so."

"This is a clear case of unregulated privatisation of water," says Kshithij Urs of Bengaluru-based People's Campaign for Right to Water. "Once you have created a situation where people have gotten used to living in a perpetual state of crisis, it's easy then to let in and justify private firms."

In practice, it is also discriminatory. With the neglect of government infrastructure, people in rural areas who cannot afford RO water are left with no option but to use polluted groundwater that is being further contaminated by these industries. The water is far beyond the means of the lower-caste Jatav community of Charauli. "They don't come here, and we don't go to them," says Shiv Kumar.

The irony is even greater in urban slums, where "middle-class houses on one side of the road get potable municipal drinking water for Rs 8 per 1,000 litres, while slums on the other side pay Rs 5 for Rs 20 litre or Rs 250 for 1,000 litres", Urs points out. He is referring in particular to a Bangalore Municipal Corporation project with WaterHealth, approved in October 2012, to supply ROwater in eight slums in the city.

Increasingly, the government seems to be a willing collaborator with these companies. Sarvajal has been in talks with the Delhi government to try something similar in the capital's slums.

SWN, according to Poonam Sewak, has collaborated with the AP government, and is "currently in discussions with the Rajasthan government".

The draft of the National Water Policy (2012), which was released in June, is vague on the subject. "Water resources projects and services should be managed with community participation. Wherever the state governments or local governing bodies so decide, the private sector can be encouraged to become a service provider in public-private partnership model to meet agreed terms of service delivery, including penalties for failure," it states.

But Mihir Shah, Member (Water Resources) of the Planning Commission and chairman of the Steering Committee on Water Resources and Sanitation for the Twelfth Five Year Plan (2012-17), the focus of which is on providing safe piped drinking water in rural areas, is more categorical. "If such establishments violate the framework of the National Drinking Water Mission (which they do), they need to be brought to the Centre's attention," he says.

On the ground though, Batra of SWN has more immediate worries. A few months ago, he had mentioned that SWN had "big expansion plans, aiming to set up 18-20 Safe Water Stations in Gautam Budh Nagar district within two years".

Now, however, he's worried. "People here don't seem to be willing to pay for water," he says shaking his head.

The despondency is fleeting. "We are looking," he says, enthusiasm back in his voice, "to move further, into Mathura district. The farmers there have made a lot of money off the Yamuna Expressway. They will be willing to pay."

"Bubble Burst?", 21/12/2012, online at: http://tehelka.com/bubble-burst/

BACK TO TOP

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

❖ Policy can lead to privatisation of water supply'

Many civil society organisations working in the water sector have reservations about the National Water Policy treating water as a commodity.

Some other activists are concerned about the possibility that the policy could come into conflict with UN human rights resolutions to which India is signatory. The National Water police was adopted on Friday by the central government and the state governments.
Ami Mankad, coordinator of Pravah, is concerned that the National Water Policy considers water as 'economic goods'. She said treating water as a commodity could lead to privatisation of water supply.
"The national water policy talks about water as economic goods. This may lead to privatization of water under public-private partnership. Once the economic tag is attached to water, it will be seen as a business commodity. This runs counter to the UN resolution which talks about water and sanitation as basic human rights. India is signatory to this resolution," she said.

Mankad further said that water is essential for life and that if it is considered a commodity, it will be very difficult for the poor sections of society to have access to clean drinking water."There is no legal provision in the policy allowing me to challenge its provisions if clean drinking water is not available to me. I would also add that water is a state subject. Hence, this policy is a guideline for the states to frame their own policy. Now we will have to see how Gujarat frames its own water policy," she said.

Himanshu Thakkar, coordinator of South Asia Network on Dams, Rivers and People (SANDRP), dissected the Prime Minister's speech at the 6th National Water Resources Council meeting where the policy was adopted.

"In his opening remarks, the prime minister talked about water security and sustainability for all. He talked about the rights of the states but not about people's rights to water. He also talked about "preservation of river corridors" but not about preservation of rivers," said Thakkar.

SANDRP is an informal network of organizations and individuals working on issues related to water. Thakkar further said that the PM had acknowledged that groundwater has a prominent role in meeting the water requirement for drinking and other purposes and that it remained unregulated.

"However, his only suggestion in this regard is to take "steps to minimize misuse of groundwater by regulating the use of electricity for its extraction. But that is not likely to be of any help, as decades of experience show," Thakkar said.

"Policy can lead to privatisation of water supply"", 29/12/2012, online at: http://www.dnaindia.com/india/report_policy-can-lead-to-privatisation-of-water-supply_1782999

BACK TO TOP

❖ Jharkhand opposed to Centre's new water policy

BJP-ruled Jharkhand on Friday opposed the Centre's new water policy, saying it indicates a design to tamper with the basic structure of the Constitution as water comes under the state subject. Participating in the 6th meeting of the National Water Resource Council in New Delhi, chief minister Arjun Munda said, "There is no need to enact any central law on this subject nor it is in consonance with the provisions of the Constitution".

Raising the issue of inadequate water supply to the tribal state despite major part of the cachment areas of Damodar-Barakar river basin and Mayurakshi river basin falling in Jharkhand, Munda also demanded a review of the provisions that lead to "disproportionate water division" in the state.

The Jharkhand chief minister said that since all the provisions of the National Water Policy-2012 are related to better management "the need is that the Centre should recommend the proposed provisions for better water resources management as envisaged in the new central policy to states so that they can manage the water resources better".

He rued that while on one hand there is a talk about integrated water management, there is no discipline in the current education system to prepare experts for the same.

On the issue of inadequate water division to the state, the Jharkhand chief minister said while 70% of the catchment area of Damodar-Barakar basin and all its five water reservoirs under the Damodar Valley Corporation fall in Jharkhand, it gets only 25% of water for irrigation and other works.

He said a similar situation prevails with regard to the Masanjor Dam in Mayurakshi basin on which Jharkhand has no control. Munda said that despite 100% of its catchment area falling there, the state gets just 25 to 30% of the total irrigation capacity of the dam.

"It is clear that there is need for review by the government of India into the disproportionate water division in Mayurakshi basin and Damodar-Barakar basin. In this context, there is also a need for provisions for time bound redressal of the problems related to inter-state rivers," Munda said.

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

He also demanded a separate curriculum on 'water engineering' in colleges and flagged the issue of delay in environmental clearances for water projects, saying it leads to escalation of costs and puts obstruction in the management of water resources.

"Jharkhand opposed to Centre's new water policy", 28/12/2012, online at: http://www.hindustantimes.com/India-news/NewDelhi/Jharkhand-opposed-to-Centre-s-new-water-policy/Article1-981921.aspx

BACK TO TOP

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

❖ States adopt latest National Water Policy

Earlier the states had expressed apprehensions over the proposed national legal framework on water resources. However, Prime Minister Manmohan Singh sought

to allay fears by saying the Centre has no intention to encroach their rights on water management.

See what the states have to say about the new water policy.

Maha demands planning of basins to deal with water shortages

Maharashtra: Faced with water shortages, Maharashtra today demanded planning of basins or sub-basins on the basis of average annual water availability after factoring in limitations put in by awards of river dispute tribunals.

Addressing the meeting of the National Water Resources Council, chief minister Prithviraj Chavan said almost 80 per cent of Maharashtra was rainfed and the projected irrigation potential was not beyond 30 per cent of the total area.

"To overcome the natural handicaps in the availability of water, we are proposing the planning of basins/sub-basins on the basis of the average annual water availability – subject of course to limitations put in by the awards of the river water dispute tribunals," he said.

Chavan said it would be helpful if this requirement of water short basins could be covered by appropriate wording in the National Water Policy.

He supported the provisions in the policy to keep aside a portion of river flows to meet the ecological needs ensuring that the low and high flow releases are proportional to the natural flow regime, including base flow contribution in the low flow season through regulated ground water use.

Chavan also sought financial support for urban bodies and public institutions on recycling and reuse of water as also for installation of electronic meters in almost a crore urban households.

"The local bodies or the consumers may not be able to defray such costs on their own. Here again, we request the Government of India to consider an appropriate package to meet such new evolving needs," he said.

Chavan said additional cost of transporting water from distant sources for supply to semi-arid regions need to be supported so that local communities are not burdened.

KTK demands permanent water dispute tribunal

Karnataka: Amid disputes between states over water-sharing, Karnataka today demanded setting up of a permanent water dispute tribunal in the Supreme Court and revisiting the Inter State Water Disputes Act to remove "loose ends" in the legislation.

"Permanent water dispute tribunal should be established in the Apex Court and its benches at all the States' High Courts on the lines of the Green Bench," Chief Minister Jagadish Shettar said in his speech at the sixth meeting of the national water resources council here.

He suggested that it should have a sitting Supreme Court judge as its chairperson with multi-members from technical, environmental, geological, economical and legal fields.

Noting that present laws "create more disputes because of several loose ends" in the existing Acts, Shettar said that Inter State Water Disputes Act should be revisited.

"None of the present laws are able to establish a just water regime to the satisfaction of all the stakeholders," he said.

Without referring to Cauvery water sharing dispute between Karnataka and Tamil Nadu, Shettar said in some cases Government of India stand has delayed the projects which can be otherwise.

"The absence of a water regime had been forcing us to go to the Supreme Court, by which Government of India is trying to absolve its conciliatory role which is prescribed by the Indian Constitution, which is an expected role being the Head of the federal structure, which need to be strongly established," he said.

Shettar said he made this statement because Karnataka "as a mid and upper riparian state suffered in both utilization and construction of projects which resulted in depriving the people of Karnataka their due and legal right of their share of water." **Centre should leave law making to states: Akhilesh on water law**

Uttar Pradesh: Opposing a proposal in the National Water Policy to create an over-arching law on water management, Uttar Pradesh Chief Minister Akhilesh Yadav today said the Centre should restrict itself to deciding on the principles of such a framework and leave law making to states.

"While the UP government agrees to most of the proposals (in the draft Water Policy), the proposal to create a law on water is a sensitive issue. Water is a state subject according to the Constitution and states have a right to formulate policies keeping in mind their special needs," he said.

Yadav's speech was read out in absentia by state PWD Minister Shivpal Singh Yadav.

He said it would be better if the Centre only formulates the basic directive principles for creating such a law.

The Uttar Pradesh Chief Minister also cautioned that any amendment to the Indian Easement Act, 1882 should be made after discussions with various stakeholders keeping in mind the social scenario in the country.

"Existing Acts, such as Indian Easements Act, 1882, Irrigation Acts, may have to be modified accordingly in as much as it appears to give proprietary rights to a land owner on groundwater under his/her land," the draft National Water Policy says.

Yadav lamented the long time taken in approving flood control schemes and said the present one year period should be curtailed.

"The entire amount for flood control projects should be released to the states in one go," he said.

He also demanded intervention of the Centre so that Pancheshwar, Nemure and Karnali dams in neighbouring Nepal could be constructed at the earliest to prevent floods in the state.

Badal opposes water regulatory authority

Punjab: Opposing establishment of a water regulatory authority, Punjab Chief Minister Parkash Singh Badal today said that any revision in the national water policy should be based on the existing constitutional provisions and universally accepted riparian principles.

Participating in the deliberations at the 6th meeting of the National Water Resources Council chaired by the Prime Minister Manmohan Singh here, Badal said water was a state subject under the Constitution and the states have exclusive power of legislation on it.

Expressing strong reservations over the establishment of a water tariff system and a water regulatory authority under the draft National Water Policy-2012, the Chief Minister opposed the move, saying these should be left to the states for taking appropriate decision.

Badal asserted that Punjab being an agrarian state was opposed to the concept of integrated planning and management of river basins and setting up of basin authorities by legislation.

"Without prejudice to our consistent stand on riparian rights, principles of equitable distribution of water should be well-defined," he said, adding that existing usage and future needs of water of a state be protected as otherwise it would directly affect the growth of the state.

The Chief Minister said water was a critical issue and tragic conflicts in the country were a result of mishandling of this sensitive issue.

He lamented that a major part of 'Punjab tragedy', for which the entire country had to pay a big price, was due to the Centre's refusal to address the river waters issue along just and internationally and nationally accepted riparian principle.

"This is one of the many areas where our decision makers in New Delhi must show greater sensitivity, statesmanship and farsightedness in handling critical issues such as water," Badal said.

Badal said the distribution of powers under the federal structure of the Constitution should in no case be tinkered with by making changes in frame work of existing laws, and added that each state has its own consideration in planning, management and use of its water resources.

He said the contribution made by each basin state to the catchment area of a river should be the main criteria for apportionment of water.

Citing the Irrigation Commission Report, 1972, which observed that the drainage area of Punjab in the Indus basin is three times that of Rajasthan and five times that of Haryana, Badal rued that yet Punjab was allocated only about 25 per cent share in Ravi-Beas waters as Rajasthan and Haryana were allocated about 50 per cent and 22 per cent respectively.

Alleging direct infringement on the freedom of states by way of imposing any integrated water resources management for the basin as a whole or sub-basin, Badal said such purported move would

deprive states from their legitimate rights to plan, formulate and execute water supply schemes as per their needs.

Any integrated water management plan would lead to more conflicts among states, he said.

On subsidised irrigation to Punjab farmers, he said it was primarily done to compensate farmers to some extent keeping in view their contribution in making India self-reliant in food production, noting the price of agri produce was fixed in an "arbitrary" manner rendering it "unremunerative".

He said it is known that farming all over the world was subsidised to enable farmers achieve sustainability and survival essential for ensuring national food security.

Badal also stressed on the point that hard work of state's farmers helped in making a major contribution (over 50 per cent) to the National Food Pool.

He regretted that state's water resources were grossly inadequate and with its surface water resources fully utilised, there was great strain on ground water which was over- exploited resulting in its depletion.

Water conservation: Haryana for setting up of national fund

Haryana: Asking National Water Resources Council to deliberate on modalities for resolving inter-state water-related issues, Haryana today advocated setting up of a national fund to promote measures for conservation of water.

Haryana also rejected Punjab's suggestion that neighbouring states sharing river waters should also share the cost of flood management.

At the 6th Council meeting here, Chief Minister Bhupinder Singh Hooda said Haryana has suffered in this regard as it neither got water from Sutlej Yamuna Link (SYL) canal despite Supreme Court orders nor did it get its share in Ravi-Beas waters, as its tribunal's final award has not been published.

On his Punjab counterpart Parkash Singh Badal's suggestion made yesterday that neighbouring states should share flood management expenses and cost of repair of flood damage, Hooda rejected the demand as "absurd" and said each state has to deal with its floods and other calamities.

Hooda lamented that Punjab enacted a law terminating water related agreements and the Centre has allowed the Presidential Reference on it to linger on for more than eight years. "This is unfair to the people of Haryana. The people of Haryana have several other grievances also," he said.

He welcomed the proposal to set up a permanent Water Disputes Tribunal at the centre to resolve disputes, but sought timely implementation of orders/directions of various tribunals and courts in this regard.

Welcoming the proposal to constitute River Basin authorities, Hooda said representation should not be made only from those states which have only nominal area in the basin.

The Haryana Chief Minister also welcomed the setting up of Water Regulatory authorities.

Hooda urged the Prime Minister to intervene in the matter, so that major contributors to the national food basket are not put to any disadvantage on this account.

He also called for convening more such meetings of the Water Resources Council and lamented that important issues pertaining to inter-state disputes had not even been listed for discussion.

Citing international practices on use of sprinkling methods for conserving water, he said the Government should consider giving incentives for adopting efficient water

technologies.

The Haryana Chief Minister also talked about its share in the Ravi and Beas rivers, but lamented that it has been denied its share in power generated from Thein Dam constructed on the Ravi.

"We have been raising this issue at various forums, but there is no resolution yet," he said.

"States adopt latest National Water Policy", 28/12/2012, online at: http://www.indianexpress.com/news/states-adopt-latest-national-water-policy/1051467/

BACK TO TOP

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

❖ China unveils plan to boost seawater desalination

BEIJING, Dec. 26 (Xinhua) -- Authorities have formulated a plan to boost the seawater desalination industry as an alternative to quench the country's thirst for water, China's top economic planner said on Wednesday.

The National Development and Reform Commission (NDRC) said China aims to produce 2.2 million cubic meters of freshwater per day by 2015, compared with 660,000 cubic meters in 2011, according to the 2011-2015 plan, the first of its kind.

The NDRC said it will encourage innovation and upgrade desalination facilities, as well as cultivate a number of desalination facility manufacturers with international competitiveness.

China will also encourage the usage of desalinated seawater. More than half of freshwater channeled to isles and more than 15 percent of water delivered to coastal factories will come from the sea by 2015, according to the plan.

The State Council, or China's Cabinet, released a guideline in mid-February for accelerating the development of the seawater desalination industry to ensure sustainable supplies of freshwater and protect water resources.

"China unveils plan to boost seawater desalination", 26/12/2012, online at:
http://news.xinhuanet.com/english/china/2012-12/26/c_132065380.htm

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 may have driven evolution, scientists believe

Rapid climate change in Africa two million years ago may have driven human evolution, researchers believe.

The early landscape shifted between woodland to grassland half a dozen times over 200,000 years, meaning man had to adapt to survive.

Experts from Penn State university say that this may have set the tone for the rapid evolution which then took place.

Writing in the Proceedings of the National Academy of Sciences, Clayton Magill said: "The landscape early humans were inhabiting transitioned rapidly back and forth between a closed woodland and an open grassland about five to six times during a period of 200,000 years.

"These changes happened very abruptly, with each transition occurring over hundreds to just a few thousand years."

The findings appear to contradict previous theories which suggest evolutionary changes were gradual, and in response to either long and steady climate change or one drastic change.

Professor Katherine Freeman said: "There is a view this time in Africa was the 'Great Drying,' when the environment slowly dried out over 3 million years.

"But our data show that it was not a grand progression towards dry; the environment was highly variable."

This rapid change could have triggered development of the brain, said Magill.

He said: "Early humans went from having trees available to having only grasses available in just 10 to 100 generations, and their diets would have had to change in response.

"Changes in food availability, food type, or the way you get food can trigger evolutionary mechanisms to deal with those changes.

"The result can be increased brain size and cognition, changes in locomotion and even social changes -- how you interact with others in a group. Our data are consistent with these hypotheses.

"We show that the environment changed dramatically over a short time, and this variability coincides with an important period in our human evolution when the genus Homo was first established and when there was first evidence of tool use."

The research was carried out on lake sediments in the Olduvai Gorge in northern Tanzania.

Gas chromatography and mass spectrometry was used to determine the relative abundances of different leaf waxes and the abundance of carbon isotopes for different leaf waxes.

This data enabled the team to reconstruct the types of vegetation present at very specific time intervals.

The results showed that the environment transitioned rapidly back and forth between a closed woodland and an open grassland.

Prof Freeman said a number of factors may have caused this, including changes in the Earth's movement and changes in sea-surface temperatures.

She said: "The orbit of the Earth around the sun slowly changes with time.

"These changes were tied to the local climate at Olduvai Gorge through changes in the monsoon system in Africa.

"Slight changes in the amount of sunshine changed the intensity of atmospheric circulation and the supply of water.

"The rain patterns that drive the plant patterns follow this monsoon circulation. We found a correlation between changes in the environment and planetary movement."

There was also a correlation between changes in the environment and sea-surface temperature in the tropics.

Prof Freeman said: "We find complementary forcing mechanisms: one is the way Earth orbits, and the other is variation in ocean temperatures surrounding Africa."

Magill added: "The research points to the importance of water in an arid landscape like Africa.

"The plants are so intimately tied to the water that if you have water shortages, they usually lead to food insecurity.

"Together, these two papers shine light on human evolution because we now have an adaptive perspective. We understand, at least to a first approximation, what kinds of conditions were prevalent in that area and we show that changes in food and water were linked to major evolutionary changes.

"Climate change may have driven evolution, scientists believe", 26/12/2012, online at: http://www.telegraph.co.uk/earth/environment/climatechange/9766200/Climate-change-may-have-driven-evolution-scientists-believe.html

BACK TO TOP

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

❖ Three Megafish Species Imperiled by Lao's Mekong River Dam

On November 7, 2012, the government of Lao PDR held an official groundbreaking ceremony for the Xayaburi dam, the first mainstream dam on the Lower Mekong River.

The Xayaburi dam, the first of eleven dams planned for the mainstream of the lower Mekong River, will likely reduce ecosystem service values and undercut livelihoods of people living in Thailand, Lao PDR, Cambodia, and Vietnam. A recent Mekong River Commission study reports that the cumulative impacts of the planned dams in Lao PDR could disrupt the lifecycles of migratory fish, block access or destroy spawning grounds, and reduce catch by 270,000 to 600,000 metric tons.

This is especially significant because the Mekong is one of the most biodiverse and productive rivers on Earth. It is a global hotspot for freshwater fishes: over 1,000 species have been recorded there, second only to the Amazon. The Mekong River is also the most productive inland fishery in the world. The total harvest of approximately 2.5 million metric tons per year is valued at $3,600,000,000 to $6,500,000,000.

The Xayaburi dam also poses a serious threat to several of the largest, and rarest, freshwater fish in the world, including the critically endangered Mekong giant catfish (*Pangasianodon gigas*), the critically endangered giant pangasius (*Pangasius sanitwongsei*), and the endangered seven-striped barb (*Probarbus jullieni).*
Evidence suggests that these species, particularly the Mekong giant catfish and giant pangasius, are vulnerable to threats from Xayaburi dam because of their migratory behavior, requirements for specific water quality and flow, and complex life history, which is dependent on seasonal floods.

The official environmental impact report for the Xayaburi project does not assess the dam's effects on these, and many other migratory and Red Listed, species. Depending on the scale of migrations and location of spawning sites, the Xayaburi could cause the extirpation of the Mekong's giant fishes over a large (hundreds of kilometers) area and put basinwide populations on a steep trajectory of decline.

Several groups, including the Mekong River Commission, have called for a ten-year moratorium on mainstream dams to better assess the long-term social and environmental costs of such

projects. Such large-scale assessments have become common on rivers where managers seek to rebuild migratory fish stocks but are urgently needed at the outset of projects to avoid unnecessary destruction of ecosystem services and costly restoration efforts. The long-term viability of vulnerable fish populations – and people who depend on fish for food – is dependent on the ability to minimize the impacts of any mainstream dams built on the lower Mekong River.

Megafish at Risk

At least five species of giant fish occur in the vicinity of the Xayaburi site and the three largest and most endangered, the Mekong giant catfish, giant pangasius, and seven-striped barb, will suffer the most serious consequences if the dam is built.

The critically endangered Mekong giant catfish, a Mekong endemic, reaches a maximum length of 300 centimeters (118 inches) and a total weight exceeding 300 kilograms (660 pounds). Based on catch data and genetic studies, it is likely that the Mekong giant catfish, though extremely rare, remains widespread throughout the basin. It also appears likely that the behemoth uses the stretch of river of the Xayaburi dam as a migration corridor.

If the Xayaburi dam is built, it could alter Mekong flows and disrupt spawning cues, block spawning migrations, and slow downstream dispersal. Some mortality may also occur if fish pass through dam turbines. Impacts from Mekong mainstream dams could conceivably cause the extinction of the species.

The critically endangered giant pangasius catfish grows to 3 meters (10 feet) and 300 kilograms (660 pounds). It once occurred in both the Chao Phraya and Mekong rivers, but wild self-sustaining populations are now limited to the Mekong. The giant pangasius catfish is a main river species. Adults seem to favor the deep pool areas of Chiang Saen, Chiang Khong, Loei, Xayaburi, Stung Treng, and Kratie, while the young are widespread in the main channel, especially along the Thai-Lao border and in Cambodia downstream of Kratie.

The giant pangasius, like many fish species in the Mekong River, migrates between habitats, requires specific water quality and flow, and has a complex life history dependent on migration and seasonal floods. Mature fish migrate up the Mekong River and spawn in April and May at unknown spawning grounds. Adult fish occur in both Chiang Rai and Loei Provinces in Thailand, and young fish occur

along the Thai-Lao border from Nong Khai to Nakorn Phanom. This suggests not only that giant pangasius occur at the Xayaburi site, but that the Xayaburi site is within the migratory corridor and may be in the vicinity of a spawning area.

More information is needed about the distribution and behavior of giant pangasius, but it appears very likely that the Xayaburi dam site is critical habitat for the species. Construction of the dam could disrupt migratory behavior and spawning. Once the dam is built, it may alter water flows and cues to migration, block upstream spawning migrations, and slow downstream dispersal. Some mortality may also occur if fish pass through dam turbines. Impacts from the dam could conceivably cause the extirpation of the giant pangasius from the Mekong River.

The seven-striped barb occurred historically in Mekong, Chao Phraya, and Meklong basins in Southeast Asia and the Pahang and Perak basins of Malaysia. Adult seven-striped barb appear to prefer main river habitats, whereas juveniles will enter floodplain habitats during the rainy season. As recently as 1989, the seven-striped barb was reported as "extremely abundant" in the Mekong, but subsequent accounts indicate a significant drop.

The seven-striped barb occurs in the area that will be impacted by the Xayaburi dam. The fish is migratory: adults migrate upstream in the dry season and form spawning aggregations. Large fish remain in deep pools during low water. Young fish enter floodplain habitats during the rainy season. The Xayaburi dam could impact spawning sites, upstream migration of adults, and downstream dispersal of young.

Operation of the dam (variable flows) could also impact spawning triggers and dry season habitat. Depending on the exact location of the spawning sites and the distance the species migrates, the Xayaburi dam could impact seven-striped barb populations within several hundred kilometers of the dam site.

"Three Megafish Species Imperiled by Lao's Mekong River Dam", 27/12/2012, online at: http://newswatch.nationalgeographic.com/2012/12/27/three-megafish-species-imperiled-by-laos-mekong-river-dam/

BACK TO TOP

❖ In Search of a Groundwater Policy on Behalf of Rivers

You don't expect to see water in the highest, biggest mountain desert in North America—the San Luis Valley in southern Colorado. But it's there.

Two major aquifers support ephemeral lakes, wetlands, springs, and a broad, dense patchwork of farms—the highest farmland in the U.S. The Rio Grande also winds through the valley and waters some of the oldest irrigated farmland in Colorado. Its dwindling flow, captured by valley wells, has caused half a century of conflict between surface water and groundwater irrigators, not to mention clashes with downstream states. Colorado's water law allows the State Engineer to shut down wells that injure older surface water rights, but such drastic actions can cause significant economic and political turmoil absent a thoughtful policy antidote.

The first ingredient of this antidote is to treat water like a currency. Under an annual planapproved by the state in April 2012, well owners have been allowed to keep pumping provided they "pay back" their "debt" to the river. The owners of almost 3,400 wells will replace the water that they capture from the Rio Grande by buying and leasing water rights..

Fallowing land is the other major ingredient in the policy mix. Some of this fallowing will take place under a September agreement that will see the federal, state, and local governments work together to pay farmers to establish native vegetation rather than irrigate crops with groundwater, restoring water to the Rio Grande, wetlands, and aquifers.

Together, these policies will help local well owners protect streamflow on more flexible terms, reducing the need for the state or federal agencies to step in. Based on the December 4 Drought Monitor, San Luis Valley counties are in severe or extreme drought.

Lessons From Australia

A hemisphere away, the Australian federal government is taking this approach even further. Amanagement plan, which became law last week, will cap pumping volumes across the agriculturally important Murray-Darling Basin. The caps are motivated not only by the need to protect surface water rights, as in the San Luis Valley, but by the need to protect key environmental assets. The government has promised not to shut down the pumps of unwilling farmers. Rather, implementing those caps will be a multi-billion dollar exercise in buying out water rights and installing expensive

on-farm infrastructure to increase water use efficiency. How much to use each of these policy ingredients is hotly debated.

For farmers in the Namoi watershed and other areas of inland New South Wales, it's déjà vu. A decade ago, the government spent $135 million clawing back groundwater rights that had built up to more than double sustainable pumping levels. Farmers in many areas don't want to see any more buy-outs of water from their communities. Others say the infrastructure option is far too expensive. And environmentalists argue that regardless of how you get the water, the new caps don't go far enough in recognizing how pumping—groundwater and surface water—affects ecosystems.

The San Luis Valley and the Namoi show how excessive groundwater pumping can have significant effects on rivers and wetlands and can harm everything from businesses, to communities, to the environment. Despite the fact that many parts of the United States and Australia rely on groundwater for 30% or more of their water supplies, few people recognize its importance or its connections to these other resources. We like to pour water into different mental buckets: one for surface water—rivers and lakes—and one for wells and groundwater.

A USGS report released in November begins to dissolve that separation: it concludes that not only is groundwater connected to rivers and lakes, but excessive pumping of groundwater can dramatically impact people and ecosystems that depend upon them. In June this year, Australia's National Water Commission also published a report on the stream-depleting effects of wells.

Not surprisingly, the authors fail to delve into specific policy recommendations for dealing with these connections. After all, many lawmakers, particularly in the western U.S., have firmly shut their eyes to the connections between groundwater and surface water. Some states—California most prominent among them—still fail to make any effective legal connection. Others pay lip service to the threats that wells pose for streams and ecosystems, but don't effectively structure or enforce their laws to control these impacts. Australian law and policy has also been slow to take up the challenge of dealing with the issue in meaningful and practical ways.

This lack of policy attention is not surprising. Groundwater management raises enough technical, economic, legal, and political questions to give most policy-makers a headache. How should we balance the immediate economic benefits provided by water pumped from wells with the drying of rivers in 5, 20, or 100 years? Should we care when pumping dries up wetlands or damages

ecosystems, or only when it affects rivers that are used by people with water rights? How should we respond to the risk of stream depletion where we lack the scientific information needed to predict exactly how much and when depletion will occur? Should we aim merely to prevent depletion getting worse, or should we also try to reverse historical damage?

Researchers at Stanford University's Water in the West are responding to these questions and the technical findings of the USGS with a research effort to identify, evaluate, and disseminate examples of law and policy innovations like those in San Luis and the Namoi watershed.

Conclusion

New tools are frequently controversial. Farmers have set fire to heaps of glossy water policy documents; environmentalists' online petitions and lawsuits have mushroomed. Change is never easy. For each example where creative law or policy has prevented or resolved groundwater conflicts, there are many more gaps. By understanding, comparing and contrasting the successes and challenges encountered throughout the U.S. and Australia, we can share lessons and develop approaches that lead to more sustainable water management.

"In Search of a Groundwater Policy on Behalf of Rivers", 26/12/2012, online at: http://newswatch.nationalgeographic.com/2012/12/26/in-search-of-a-groundwater-policy-on-behalf-of-rivers/

BACK TO TOP

❖ Brazil plans US$681mn drought prevention, water supply works

Brazil's federal government is planning some 1.48bn reais (US$681mn) in work to combat drought and increase water supply throughout the country, according to a national integration ministry release.

First, a total of 1.4bn reais in financing agreements have been signed with federal savings bank Caixa Econômica Federal (CEF), according to national integration minister Fernando Bezerra Coelho.
The funds will be used to carry out 73 projects in nine states which fall under the country's growth acceleration plan PAC. The states are Alagoas, Bahia, Ceará, Paraíba, Pernambuco, Piauí, Rio Grande do Norte and Sergipe in the northeast as well as Minas Gerais in the southeast.

Works will be carried out by state governments along with Brazil's drought prevention department Dnocs and its state company for the development of the São Francisco and Parnaíba valleys, Codevasf, the release said.
In addition, 84mn reais has been earmarked to support a total of 31,696 families residing in states suffering from drought such as those in the north and northeast of the country as well as Minas Gerais.

To be carried out in partnership with the agrarian development ministry, funding will primarily be used to construct water supply systems in rural areas. These projects fall under the federal government's Água para Todos (water for all) program.

ÁGUA PARA TODOS

Kicking off in 2011, the Água para Todos program has been responsible for the construction of 192,000 cisterns. The federal government's goal is to deploy a total of 750,000 cisterns by 2014 with a total investment of 4.7bn reais.

"Brazil plans US$681mn drought prevention, water supply works", 26/12/2012, online at:
http://www.bnamericas.com/news/waterandwaste/brazil-plans-us681mn-drought-prevention-water-supply-works

BACK TO TOP

❖ Cuba to review water policy

Havana, Dec 24 (IANS/EFE) The Cuban government will study the development of a national water policy with an "economic" focus that will allow its use to be controlled and change the current water rates that are subsidized by the state, state media reported.

The president of the National Institute of Hydraulic Resources, or INRH, Ines Maria Chapman, proposed at a meeting of the Council of Ministers headed Friday by President Raul Castro to develop a "coherent and economically sustainable" national water policy that would encompass all users in the country.

"Currently, the state subsidizes the supply of water, but with this policy and insofar as economic conditions permit, ... each (person or entity) will pay the corresponding tariff and thus develop greater awareness of the savings," Chapman told the official daily Granma.

The severe drought that has affected the country in recent years has raised the alarm about the supply of water on the island, where there are no large rivers and the biggest source of fresh water is rainfall.

INRH studies show that a large percentage of the water that is pumped each year in Cuba is lost without possibility of recovery, partly due to infrastructure problems.

"Cuba to review water policy", 24/12/2012, online at: http://www.newstrackindia.com/newsdetails/2012/12/24/25--Cuba-to-review-water-policy-.html

BACK TO TOP

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