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***** Turkey, Turkmenistan to cooperate in agriculture

Turkish and Turkmen delegations agreed to focus on a draft agreement for technical cooperation in agriculture.

Turkey and Turkmenistan will soon sign an agreement to make technical cooperation in agriculture.

Turkish and Turkmen delegations agreed to begin working on a draft agreement as of April 29.

Turkish Food, Agriculture & Animal Breeding Minister Mehdi Eker met Turkmen Deputy

Chairperson of the Cabinet of Ministers for Agriculture & Water Resources Annageldi Yazmyradow in Ashkhabad.

Eker said that Turkey was willing to cooperate with Turkmenistan in animal breeding, seed growing, fresh fruit and vegetable production, and greenhouse cultivation areas.

The two countries will record important progress in agriculture when agricultural technical cooperation agreement is signed, Eker added.

"Turkey, Turkmenistan to cooperate in agriculture", 28/04/2013, online at: <u>http://www.worldbulletin.net/?aType=haber&ArticleID=107629</u>

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* The NGOs of Iraq as a Foreign Policy Tool: The Case of the Ilisu Dam

The problem between Iraq, Syria and Turkey related to the utilization of waters of the Euphrates-Tigris basin has been continuing since a long time. This problem has been frequently stated by Iraq in recent periods through different platforms.

In a statement which was made by the Ali Debbag, in 2011 when the relations between Iraq and Turkey deteriorated the approval of the High Level Strategic Cooperation Agreement bound to the condition that an agreement must be signed which set the amount of water releasing from the Euphrates-Tigris rivers. Additionally the aforementioned water agreement must be in the High Level Strategic Cooperation Agreement. Right along with this statement it is observed that when the relations strained between two states, Iraqi authorities made statements like this and accuses Turkey as the only responsible on the water problem in Iraq.

Iraq has also been spent effort to internationalize the transboundary water problem between Turkey, Syria and Iraq. Iraq has succeeded to evoke some countries which are the members of the Arab League regarding this issue since the 1960 when this problem emerged and it has begun to follow a similar policy in 2012. In Baghdad, the capital city, a conference entitled "The Application of International Law in the Protection of Water Rights in Common Waters with Non-Arab Countries" was held on May 31-June 1. In this conference, Iraq called the Arab countries which are not the party to the "1997 United Nations Convention on the Law Non-Navigational Uses of International Watercourses" to become a party of this convention. This indicates that the old policy have been raised again. Furthermore, Iraq has improved its relations regarding water with the United Nations and the European Union and, by doing so Iraq aims to get their support.

In addition to the policies mentioned above, Iraq also tries to use the nongovernmental organizations (NGOs) and their activities. The NGOs have mainly emerged in the Western world and they have been described in a wide range. The NGOs are defined as being outside the government organizations and they have gained power especially after the 1990s and begun to take part in official and legal documents. Gradual increase in the number of NGOs and their work areas is directly related to the idea that NGOs are areas where civil society has power. At some points, however, they are also



seen as tools which can replace the state that the neo-liberal political philosophy wants to weaken. On the other hand, in addition to the government programs, NGOs are also seen among the first institutions to corporate in the formal programs of the financial institutions such as the World Bank. In this context, NGOs should not be seen as independent structures but rather they should be accepted as one of the pieces of a global mechanism. Thus, an approach which recognizes NGOs as taking into account both internal and external relations of the society would be more accurately thought pattern.

From the way of thinking regarding NGOs explained above, the Iraqi NGOs should be evaluated in the context of the new environment created after the American invasion of Iraq in 2003.

NGOs operating in Iraq do not have long history. These organizations have emerged mainly after the US-led coalition forces' invasion of Iraq and the overthrow of Saddam regime. They are in a cover position of the democracy illusion of the new administration. It is a well known fact that these types of organizations are used as instruments of domestic and foreign policy by repressive regimes. In this context, it is not possible to argue that many NGOs operating in Iraq do not occupy a place outside the state's structure.

Although the non-governmental organization (NGO) called the Iraqi Civil Society Solidarity Initiative (ICSSI), appears to be outside of this evaluation, it seems that regarding the transboundary water issue between Turkey and Iraq, ICSSI supports Iraq's views. This organization embodies many NGOs and works on issues such as; freedom of speech, violation of human rights, problems regarding private security companies. ICSSI which works as a network organization also works a campaign called "Save the Tigris and Iraqi Marshes" (1). In the context of this campaign, the last act was to send an open letter to the Andritz, which is a Austrian based firm providing the turbines of the Ilisu Dam, on March 24th 2013. In the letter, it is mentioned that Turkey acted against the international law by building the Ilisu Dam, did not respect the people of downstream countries' social, economical and cultural rights and that the Dam does not have the environmental impact assessment report. It is also demanded that the firm should put pressure on Turkish government in order to make a deal with the fair "sharing" of the waters with the other riparian countries. Especially since this final allegation is Iraq's one of the most important demands, corresponding with Iraq's transboundary water politics and hence holds a potential of strengthen Iraq's hand on this matter. The



evaluations regarding to the accuracy of those allegations are outside the scope of this analysis.

The mentioned network organization is active in the context of "Save the Tigris and Iraqi Marshes" campaign since March 2012. In the context of this campaign, there has been a workshop organised at University of Basrah. Moreover, an open letter of a four article has been sent to the Iraqi authorities including the president Talabani and Prime Minister Nuri el-Maliki. These demands are as follows: to start negotiations with Turkey in order to stop the construction of Ilisu Dam, to lay out a plan in order to take legal and economical actions regarding the firms working in construction, to apply UNESCO before June 2013 in order to get marshes recognized as world heritage and to share this with the Iraqi public and that Iraqi government to support "Save the Tigris and Iraqi Marshes" campaign.

The works of the Iraqi Civil Society Solidarity Initiative have a particular importance in terms of their effects on international community. It should be taken into consideration that these types of campaigns can be effective especially in recent years when the western companies are criticised by public opinion regarding the construction of large dams due to environmental concerns. On the other hand, this kind of civil society campaigns supporting the policies of Iraq regarding transboundary waters leads to a general perception towards "democratization" and, therefore, is more likely to get support from the Western public.

"The NGOs of Iraq as a Foreign Policy Tool: The Case of the Ilisu Dam", 11/04/2013, online at: http://www.orsam.org.tr/en/WaterResources/showAnalysisAgenda.asp?ID=2254

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* Iraq makes contingency plans for Syria dam collapse

Iraq has prepared contingency plans in case a dam in northern Syria that fell under rebel control two months ago collapses, an official told AFP on Monday.

The dam on the Euphrates river in Raqa province fell under the control of rebels fighting to oust President Bashar al-Assad in February. It generates 880 megawatts of power.

"We put plans in place to prevent the major damage that could be caused by such an incident," Ali Hashem, the general director of Iraq's national center for managing water resources, told AFP.

"We have to be ready for these kinds of incidents. When we saw what is happening in Syria, we put our plans in place."

Hashem did not give details on what the plans specifically entailed, or what had sparked Iraqi officials' concerns, as the area surrounding the dam has largely been peaceful since it fell under rebel control in February.

Completed in 1973 after five years of construction, it was dubbed al-Thawra or "revolution" dam for the 1966 military coup that brought Hafez al-Assad, the father and predecessor of the current Syrian president, to power.

According to the Syrian ministry of water resources website, the dam is 4.5 kilometers long, 60 meters high and 512 meters wide at its base.

It holds back Lake Assad, also named for the former ruler, a 14.1 billion cubic meter (500 billion cubic feet) man-made reservoir midway along the 2,800 kilometer Euphrates, which flows from Turkey to the north to Iraq in the east.

"Iraq makes contingency plans for Syria dam collapse", 22/04/2013, online at: <u>http://english.alarabiya.net/en/News/middle-east/2013/04/22/Iraq-makes-contingency-plans-for-Syria-dam-collapse-.html</u>

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We can save Iraq's 'Garden of Eden'

Engineer Azzam Alwash is intent on restoring the fabled Mesopotamian marshes in southern Iraq that Saddam Hussein tried to wreck

Some say the marshes of southern Iraq are the origin of the Garden of Eden story. Why did Saddam Hussein drain them?

He said it was to make dry land for agriculture. He dug canals and diverted the Tigris and Euphrates rivers, causing 90 per cent of the marshes to dry out. But really, he saw the Marsh Arabs who lived there, fishing, cutting reeds and tending water buffalo, as opponents. He couldn't send in heavy tanks to flush them out. Drains worked better.

But drains aren't the only threat?

No. Turkey has been building dams upstream on the two rivers for irrigation and hydroelectricity. The next, the Ilisu dam, will be finished next year. Less water comes to the marshes now, and the timing of the flow is different.

Do you still think you can save the marshes?

Yes. When I was a boy I lived in the city of Nasiriyah right on the edge of the marsh. Ten years ago, as I watched TV pictures of US troops crossing the dried-up marshes to depose Saddam, I recalled how I had gone duck hunting there with my father, who was a government water engineer. So I left California and dedicated my life to bringing them back. But it is not just me. The Marsh Arabs also returned and tore down Saddam's works.

How are you going about your task?

<u>Nature Iraq</u>, the NGO I founded, has done biological surveys and drawn up a master plan. On our advice, the government is constructing new banks and canals to keep parts of the marshes wet all year round and help sustain the local economy. Last winter, 76 per cent of the marshes were flooded. We hope the government will very soon turn the marshes into a national park.

So is it a managed marsh now?

It always has been. The Marsh Arabs have been burning the reeds annually for thousands of years, otherwise the waterways would choke and the marsh would dry up. Now, we are managing the water. Without a strong spring pulse of water down the rivers the biology will change.



Is life changing on the marshes?

Very much. Marsh Arabs used to live isolated lives out among the reed beds. It was primitive and romantic. Today they mostly live in towns on the banks. They have cellphones and satellite dishes. They damage the fisheries with electric fishing. They shoot the birds. We see garbage floating in the marshes. They have to live, but our task will be to help them use the resources more sustainably.

How will you do that?

We hope tourists will provide another source of income, and an incentive to protect the marshes.

Oil is an issue. Will you try to ban drilling there?

No. I would prefer to work with the oil companies if they will be careful how they work. And they too may provide money for the park.

Might you end up destroying the uniqueness of the marshes in order to save them? I don't think so. If they were the Garden of Eden, then we continue to manage them like a garden.

"We can save Iraq's 'Garden of Eden'", 23/04/2013, online at: <u>http://www.newscientist.com/article/mg21829130.200-</u> we-can-save-iraqs-garden-of-eden.html

ВАСК ТО ТОР



Learning from India on Water Resource Management

Climate change and the legacies of war and sanctions have placed an enormous strain on Iraq's water resources. As the availability of fresh water declines and the potential for resource-driven conflict emerges, UNDP is working with Iraqis to incorporate the principles of participation into how limited resources are managed.

"Participatory water and irrigation management will resolve 60 to 70% of Iraq's water challenges, if embraced by the larger farming community," said Hussein Baga, Director-General of the Ministry of Water Resources upon return from a recent tour to India. The visit focused on overseeing water availability, and sought to relay the experiences of the Indian Government in managing water, particularly to mitigate potential conflicts. "Improving how Iraq controls and uses its water resources will have a profound effect on its efforts to reduce poverty and enhance the country's development prospects," said Peter Batchelor, UNDP Iraq's Country Director.

The Iraqi delegation was briefed on how the central and local governments in India manage their water, and consulted with local water committees from the states of Andhra Pradesh and Gujarat, which have a combined population of 140 million people. In India, bodies of water fall under the control of central government. Therefore, the allocation of water and any disputes at the local level are handled by a government forum. When disputes persist, the central government establishes a special tribunal to adjudicate the issue. Each state in India also has its own Water and Irrigation Department that implements broad national policies on water and agriculture.

Experts from Iraq's Ministry of Water Resources and representatives from the governorates of Babil, Diyala and Muthanna, who share part of the Euphrates river basin, attended the study tour.

The two countries are now looking to deepen their engagement and continue exchanging knowledge on their mutual challenges relating to water management. Ahmad Barwari, the Ambassador of Iraq to India, informed the delegation that Iraq's Minister of Water Resources, Mohanad S. al Sadi, will visit India again and said it could lead to future South-South cooperation between the two nations.

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[&]quot;Learning from India on Water Resource Management", 22/04/2013, online at: <u>http://reliefweb.int/report/iraq/learning-india-water-resource-management</u>



Are the taps flowing?

BAGHDAD/DUBAI, 22 April 2013 (IRIN) - For much of the past decade, Iraqis have cursed about two things: 'maya' and 'kahraba' - water and electricity.

These are more than petty complaints; they have become a benchmark by which Iraqis judge progress in their country. A recent <u>survey</u> by the National Democratic Institute (NDI) found that 42 percent of 2,000 Iraqis surveyed considered basic services - like water and electricity - among the top two concerns they want the current government to address.

In 2011, more than one-quarter of the population had access to water from the general network for less than two hours a day, and nearly half the population rated the quality of water services in their area as bad or very bad, according to the Iraq Knowledge Network (<u>IKN</u>), a survey of nearly 30,000 households conducted by the Ministry of Planning's Central Statistics Organization, the Kurdistan Regional Statistics Office and the UN.

According to the UN, most Iraqis have limited access to clean water because of poor infrastructure maintenance and inadequate funding of the water supply system. One-fifth of Iraqis relied on bottled water as their main source of water, and only one-fifth of people had access to water from the general network all day long, the 2011 IKN survey found. The state of disrepair forced significant numbers of people into using river water, despite the health risks, IRIN reported in 2007.

Still, statistics appear to show that access to clean water has improved in the last decade.

In the 1980s, more than 90 percent of Iraqis were estimated to have sustained access to clean water. By 1990, this percentage had dropped to 81 percent, according to the<u>government</u>. Since, then, according to the UN Children's Fund (UNICEF), the percentage of households using an improved water source, including bottled water, has risen from 83 percent in 2000 to 91 percent in 2011, after a drop in 2006. The percentage of Iraqis with access to improved sanitation also rose from a <u>government estimate</u> of 71.5 percent in 1990, to 92.5 percent in 2000 and 93.8 percent in 2011, according to UNICEF.

But experts warn that statistics vary significantly by region, and some Iraqis perceive there to be discrimination by sect. Just as deposed former president Saddam Hussein politicized service delivery, the current Shia-led government is seen, by some, to provide preferential service to Shia communities. In recent months, for example, large-scale protests in Sunni-led provinces have been partly inspired by dissatisfaction over service delivery in Sunnis areas.

For some, like Mustafa Ahmed, a father of two from Baghdad, the change in service provision has been negative. He told IRIN that, before 2003, he could get clean water from the network, but now he



has to buy bottled water.

Meanwhile, water levels in Iraq's rivers, lakes and reservoirs have decreased to "<u>critical levels</u>", according to the UN, with the two main sources of surface water - the Tigris and Euphrates rivers - down to one-third of their normal capacity. Resulting water shortages have affected Iraq's previously almost self-sufficient<u>agricultural sector</u>, which is now depressed and underproductive, the UN says.

For more, check out this <u>UN fact-sheet</u> on water in Iraq and the Multiple Indicator Cluster Surveys of <u>2000</u>, <u>2006</u> and <u>2011</u>, which measure access to water and sanitation, among other things.

"Are the taps flowing?",22/04/2013, online at: <u>http://www.irinnews.org/Report/97894/Iraq-10-years-on-Are-the-taps-flowing</u>

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* Enki's Gift: How Civilization Bubbled From the Waters of Mesopotamia

This spring, National Geographic Young Explorer Julia Harte is traveling along the Tigris River from Southern Iraq to Southeastern Turkey, documenting ancient sites and modern communities along the river before they are transformed by the Ilisu Dam, an 11 billion-cubic-meter hydroelectric dam that will generate 2 percent of Turkey's power.

"To finish off all living things, that the four-legged creatures of Sakkan should lay no more dung on the ground, that the marshes should be so dry as to be full of cracks and have no new seed, that sickly-headed reeds should grow in the reed-beds, that they should be covered by a stinking morass..."

Those lines are from *The Lament for Sumer and Ur*, written in the 21^{st} century BC as the Sumerian capital city of Ur was falling to an Elamite invasion from the east. Sumerians had inhabited lower Mesopotamia for more than two millennia at that point. Just a century before, a golden age in Sumerian history — the Third Dynasty of Ur — had begun.

During the Third Dynasty period, Sumerian rulers would develop the world's oldest code of law, standardize agriculture and industrial-scale production, and build the Great Ziggurat of Ur, a center of religious and administrative life for many dynasties to come.

The landscape that surrounds the ancient city today is a barren one. An old Iraqi army base, a few factories, and some distant, scattered houses are the only signs of life visible. Aside from the Ziggurat, no ancient monuments remain intact. A maze of meter-high walls is all that's left of the palace of King Shulgi, one of the most celebrated rulers of the Third Dynasty of Ur.

When King Shulgi built his palace, however, the land looked radically different. "At that time, the city was green," says Dhaif Muhsen, the Iraqi Ministry of Antiquities curator of the area.

In those days, the delta between the Tigris and Euphrates River was northwest of its current location, and the system of Mesopotamian marshlands known as the Awhar was centered on Ur. The city had two main harbors, and enough water to grow orchards of date palms and use barley as a barter crop. So abundant was fresh water that wells were never built in Ur, as far as excavators can tell.



"That is the reason civilization started in Ur: because there were many quantities of water, and good land for planting," says Muhsen.

The abundant and reliable freshwater supply enabled Sumerians to develop the world's first known system of agriculture in the al-Ubaid period, 8,000 years ago. Sumerian settlement patterns followed the shifting waters of the Awhar.

Irrigation agriculture, in turn, arose and adapted to best exploit the changing aquatic circumstances in Ur and its environs.

As the delta progressed southeastwards, Sumerian urban centers "could continue to exist by investing in ever more advanced hydrological control, including extending their agricultural irrigation networks along their expanding river levees," according to a 2012 article in the Journal of Field Archeology by Carrie Hritz, assistant professor of Archeological Anthropology at Pennsylvania State University.

Animal remains in the area indicate the specific aquatic conditions in the ancient marsh. From the fossil shells embedded in ancient mud bricks, Hritz's team was able to identify the predominant species of mollusc as a freshwater snail that can adapt to water with a salinity content of up to 30 parts per million.

Daily life in the central Chibayish marsh today doesn't look so different from how it probably did during the first settlements at Ur.

According to Sumerian sources, "they had the buffalo and depended on the marsh in the same style in which now the locals depend on it," says Jassim Al-Asadi, director of Nature Iraq's Chibayish branch.

Even many local names and words in the Chibayish dialect of Iraqi Arabic are borrowed from the language of ancient Sumer, according to Al-Asadi. The Marsh Arab word for mud, for instance, is "barye" – an Akkadian cognate.



The name "Chibayish" itself is derived from Akkadian. In Akkadian, Al-Asadi explains, "it is 'Kapshato'. And Kapshato became, after many years, 'Chapshato'. Chapshato, Chibayish. It means 'island of reeds'."

After the Elamite invasion in the 21st century BC, Ur would continue to flourish for the next 16 centures. But by around 300 BC, the site had been abandoned – most likely because the course of the Euphrates had changed too much for humans to continue living comfortably in Ur. "The most important thing in the Sumerian civilization was the water," explains Muhsen, "because when the water receded back, they abandoned the site." In the pantheon of Sumerian gods, few were higher than Enki, god of water, wisdom, and creation.

From his watery loins – in Sumerian, the word for "semen" is the same as the word for "water" – sprang most of the deities that gave life to the world, and he oversaw the making of the first human. Immanent in the waters Enki controlled was the great life-giving force that animated the world.

No surprise, then, that *The Lament for Sumer and Ur* articulates the fall of the Sumerian civilization in terms of the pollution and desiccation of the marsh ecosystem.

Today, the dominant religion in lower Mesopotamia has changed, but the reverence for water remains the same. "In our holy books, we say, 'We made anything alive from the water,'" says Muhsen. "So it means if not water, not life, not animals, not humans."

The Mesopotamian Marshes are again looking cracked and dry these days, the reeds stunted and often covered by an unhealthy slime, but for a new reason: upstream dams on the Tigris and Euphrates.

Sheikh Sayid Abbas Sayid Sirwit is responsible for overseeing the welfare and settling the disputes of locals in Maysan Province. As water from the Tigris has diminished in quantity and quality, and a terrible drought has afflicted Iraq in the past few years, thousands of farmers have been forced to leave the province and find new work in cities.

As he sees it, the main reason for the shortage of water is "the activity of our neighbor Turkey, building huge dams on the Tigris River."



The effects of the Ilisu Dam, according to Sayid Abbas, will have negative ramifications for half of the Iraqi population.

"About sixty percent of Iraq's population depends on farming, and half of these people depend on the Tigris," explains Sayid Abbas. "So there will be a great loss of jobs. The idea of earning a living will change here in Iraq."

As one who regularly solves conflicts, Sayid Abbas has a few ideas for how to fix this problem.

The Iraqi government, he says, should first call on the international community to get involved in ensuring that Turkey agrees to an equitable water-sharing agreement with its downstream neighbors. Should international intervention fail, Sayid Abbas adds, Iraq can use its oil resources to put more pressure on Turkey, "especially given that we know Turkey has about \$10 billion invested in Iraq."

The ancient Sumerians would have been amazed to see a world in which water from the Tigris and Euphrates had to be bartered. Water has sustained this place and its inhabitants since before the beginning of recorded history, and modern humankind owes much to the waters of Mesopotamia.

As they dry up, so are the local agricultural and settlement traditions that have defined this place for millennia.

"Enki's Gift: How Civilization Bubbled From the Waters of Mesopotamia", 23/04/2013, online at: <u>http://newswatch.nationalgeographic.com/2013/04/23/enkis-gift-how-civilization-bubbled-from-the-waters-of-mesopotamia/</u>

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***** Iran to undertake 20 water supply projects at a cost of \$4.1bn

The Iranian government has announced its plans to implement 20 water supply projects across the country at a total cost of IRR52tn (\$4.1bn).

The projects have been planned to be implemented in the current Iranian year, which started on 21 March 2013, reported Iran Daily.

Iran Energy Minister Majid Namjou was quoted by the publication as saying that the level of precipitation has increased by 15% since the beginning of the Iranian year, compared to the levels in the same period last year, and stressed the importance of efficient water usage.

Praising the implementation of the water transfer project from Dez River to Qomroud River, the Minister said that Iran is an arid nation and valuable resources such as water should be used in the best possible way.

Many vital infrastructure projects in the country have become operational in the current year.

Once such project is the Bakhtiari Dam, which at 325m high is the tallest concrete dam in Iran.

Additionally, the Gotvand-e Olya Dam, inaugurated by President Mahmoud Ahmadinejad, is said to be one of the most important water projects in the country.

The projects are expected to help Iran meet its water supply challenges as the nation received only 203mm of rain since 23 September 2012.

In February 2011, Iran opened the Mamlow Dam on the Jajrood River, 45km east of Tehran. The dam supplies drinking water to Tehran and irrigation water to farms in Varamin and Pakdasht.

In May 2010, Iran inaugurated what it claims to be the country's largest drinking water project with an investment of \$1.3bn in the south-western city of Khorramshahr, in Khuzestan Province.

The project will supply drinking water to 4.7 million residents in 21 towns and 12 villages in the province.

"Iran to undertake 20 water supply projects at a cost of \$4.1bn", 26/04/2013, online at: <u>http://www.water-technology.net/news/newsiran-to-undertake-20-water-supply-projects-for-41bn</u>

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Selgian company ready to try to restore Lake Urmia

TEHRAN - A Belgian company has announced that it is ready to try to restore Iran's Lake Urmia, 70 percent of which has dried up over the past few years.

Trackable Engineering Company has put in a request to Iran's Foreign Ministry in this regard, IRNA reported on Friday. The plan is also being followed up by a member of the Iranian parliament.

The company has estimated the project would cost €1 million and would be completed within three years.

The Belgian company has a track record of restoring the Dead Sea.

Lake Urmia, in the northwest of Iran, is experiencing its worst condition for the past 50 years. The level of the lake's water has been declining since 1995.

In October 2012, Iranian Environment Protection Organization Director Mohammad Javad Mohammadizadeh said during Iranian calendar year 1390 (March 2011- March 2012), about 2 billion cubic meters of water were transferred to the lake.

Lake Urmia is the third largest salt water lake on earth with a surface area of approximately 5,200 square kilometers.

Experts say the construction of dams on rivers feeding the lake and also droughts have significantly decreased the annual amount of water Lake Urmia receives. They also say that the construction of a bridge across the lake has upset its ecological balance.

"Belgian company ready to try to restore Lake Urmia", 26/04/2013, online at: <u>http://www.tehrantimes.com/economy-and-business/107150-belgian-company-ready-to-try-to-restore-lake-urmia</u>

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* Ahmadinejad to Attend 2nd Asia-Pacific Water Summit in Thailand Next Month

TEHRAN (FNA)- Iranian President Mahmoud Ahmadinejad will travel to Southeast Asia next month to attend the 2nd Asia-Pacific Water Summit (APWS) in Thailand.

Iranian Foreign Minister Ali Akbar Salehi and Vice-President and Head of Iran's Department of Environment Mohammad Javad Mohammadizadeh will accompany President Ahmadinejad during his visit to Thailand.

The 2nd Asia-Pacific Water summit is slated to be held in Chiang Mai, Thailand, from May 19 to 20.

The 2nd APWS is organized by the Thai government in collaboration with the Asia-Pacific Water Forum and its international and regional partners.

The primary themes of the 2nd APWS will be water security and water-related disaster challenges.

The summit will also focus on discussions surrounding water security and three priority policy areas of development, shocks and resilience, and human well-being.

"Ahmadinejad to Attend 2nd Asia-Pacific Water Summit in Thailand Next Month", 27/04/2013, online at: http://english.farsnews.com/newstext.php?nn=9107164882

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* 20 water projects on agenda

Some 20 water supply projects worth 52 trillion rials will be implemented across the country in the current Iranian year (started March 21), said the energy minister.

Majid Namjou also said precipitation level has increased by 15 percent since the beginning of the current Iranian year, compared with the corresponding figure of last year, Mehr News Agency reported.

Referring to the implementation of water transfer project from Dez River to Qomroud River, he said Iran is an arid country, hence water should be used in the best possible manner.

He noted that some 203 millimeters of rain have fallen in the country since September 23.

Namjou further said important projects have become operational in the current year named Year of Political Epic, Economic Epic, adding that the ministry has launched executive operations of Bakhtiari Dam, with a height of 325 meters, which is the tallest concrete dam of the country.

The minister referred to Gotvand-e Olya Dam as one of the most important water projects recently inaugurated by President Mahmoud Ahmadinejad.

Namjou said that an 8-percent economic growth rate has been projected for the country, noting that infrastructural projects implemented by the Energy Ministry will go on stream in the shortest period of time.

"20 water projects on agenda", 25/04/2013, online at: http://www.zawya.com/story/Iran_20_water_projects_on_agenda-ZAWYA20130425051809/

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* Palestinian Official Accuses Israel of Controlling West Bank Water Resources

Ramallah, April 26 (QNA) -A senior Palestinian official on Friday accused Israel of seizing and controlling water resources in the Palestinian territories.

Shaddad Attili, head of the Palestinian Water Authority in the West Bank, said, "We are waiting for President Mahmoud Abbas and our leadership's decision to appeal to the UN organizations to discuss Israel's grip on our water resources," he said in remarks relayed by Ma'an news agency.

"I think the decision was postponed to see the fruits of the United States' efforts to revive the stalled Mideast peace process, " Attili added.

Water is one of the most complicated and controversial issues between Israel and the Palestinians, which is not less important than other permanent status issues like Jerusalem, settlement and refugees, according to the Palestinian official.

"At this time, we only call on the international community to pressure on Israel to give permission to the Palestinians to execute water projects in the Palestinian territories," Attili said.

He clarified that since Oslo accords were signed in 1993 between Israel and the Palestinians, "Israel hasn't been permitting the Palestinian side to launch any project related to opening water wells or sewage system."..."All our water developing projects are completely frozen," he noted.

In accordance to the signed transitional peace accords, the Palestinians are only allowed to 100 million cubic meters of water per year. Attili revealed that in 2013, the Palestinian National Authority purchased 50 million cubic meters of waters from the Israeli water company of Mecorot.

"It is really ironic that we buy our waters from Israel simply because we don't have any kind of control on the ground and consequently we are not allowed to dig for water wells or buy water pumps. All what I can say is that we are an occupied state and not a liberated state," said Attili.

According to the World Health Organization, the water share of a human individual must be at least 100 liters per day. However, the Palestinian individual only gains 73 liters per day for drinking, washing and cleaning.

"Around 1.7 million people in the Gaza Strip are drinking polluted waters," Attili said, referring to the water crisis in the Gaza Strip, ruled by Islamic Hamas movement. (QNA)

"Palestinian Official Accuses Israel of Controlling West Bank Water Resources", 26/04/2013, online at: <u>http://www.waterworld.com/news/2013/04/27/palestinian-official-accuses-israel-of-controlling-west-bank-water-resources.html</u>

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Israel aims to bring clean water to the world

Israel last week unveiled at the UN a unique new filtration system that will finally allow people in Africa and South America to access clean drinking water.

The presentation of the new system came during the Israeli delegation's celebration of Israel's 65th Independence Day at UN headquarters in New York City. Under the banner of "65 Years of Israeli Innovation," the event was attended by ambassadors from around the world, UN officials, journalists and leaders of the Jewish community in New York.

Israeli Ambassador Ron Prosor told those gathered, "In just six decades, Israel has moved from harvesting apples to designing Apple computers; from planting trees in the desert to putting companies on the NASDAQ stock exchange. We are one of the only countries in the world that puts electric cars on the road, launches satellites into space, and wins Nobel Prizes for its scientists."

"After 65 years, Israel," Prosor continued, "has patented the perfect recipe for success: if you want stability, empower your people. If you want sustainability, engage every member of society. And if you want prosperity, invest in your greatest natural resources – your human resources."

At the height of the event, Prosor unveiled the innovative water technology known as "Woosh," developed by the Israeli company Odis.

For over a decade already Odis has been providing drinking water systems to UN forces deployed in parts of the world without adequate water infrastructure.

The Woosh will enable Odis to get more water to more of those who need it most. "This machine is the first-of its-kind," explained Prosor. "It can connect to the main water supply of any city — regardless of how toxic it is — and provide purified drinking water to anyone on the street."

The presentation of the new system was made in honor of the UN's International Year of Water Cooperation.

"Israel aims to bring clean water to the world", 22/04/2013, online at: http://www.israeltoday.co.il/NewsItem/tabid/178/nid/23802/Default.aspx?hp=readmore

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* Israeli settlers poison Palestinians water well

Villagers in the South Hills of Hebron-Al Khalil were attacked by Israeli settlers from a nearby settlement when they poured a toxic poison into their water well.

A shepherd in the village of Yatta noted a foul smell coming from the local well and called the police to investigate. The police found a toxic substance and advised the villagers against using it for drinking water or for irrigating the farm because it would likely cause serious illness or death.

One famer has explained to Press TV that the local farmers are under constant attacks by the settlers.

Fadel further explained how they noticed the poison in the water.

A local villager explained how they detected and investigated the poisonous substance.

The villagers stated that they are under constant attack by both Israeli soldiers and settlers from Maon settlement as they are attempting to ethnically cleanse the region.

Settlements remain illegal under international law and the fourth Geneva Convention, but Israel defies the law on the pretext that Palestine is not a sovereign state.

Authorities have not yet detected the nature of the poisonous substance. Palestinian villagers also think even if they find it out, it's unlikely for the Israeli Authorities to bring the settlers to justice because it has been Tel Aviv's continuous policy to give settlers impunity for their crimes.

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[&]quot;Israeli settlers poison Palestinians water well", 28/04/2013, online at: http://www.presstv.ir/detail/2013/04/28/300615/israeli-settlers-poison-palestinians-water-well/



Study Looks to Get Drugs Out of Water

Researchers from the Technion and Al Quds University will cooperate to find ways of ridding wastewater of pharmaceutical residues

Why should a Palestinian man care if an Israeli woman is taking birth control pills? A new Israeli peace project focusing on shared water resources answers this question.

Israel is a world leader in wastewater reuse for agriculture, and in developing water- and energysaving technologies locally and abroad. But Israel has new challenges to confront: a growing buildup of pharmaceuticals in its waterways, plus poorly processed wastewater from the Palestinian Authority-administered territories mixed into its water table.

These issues are being addressed in a new cooperative project between Israeli and Palestinian researchers. The French drug company Sanofi is sponsoring the research and will supply the source material, while the Peres Center for Peace will manage the logistics.

Scientists and graduate students from the Technion-Israel Institute of Technology are being matched with peers at Al Quds University in East Jerusalem to study the effect of pharmaceutical residues in water and how compounds from Sanofi might help. Their insights could be applied to local and global water problems.

The heart of the problem is that all the drugs we take end up down the toilet some way or another. And residues from birth control pills, estrogen and water pills, anti-depression medications, even ibuprofen, can remain after the water is treated. When all that water goes back to the farmland to grow tomatoes, or seeps into the water table, it can compound and concentrate — causing considerable biological damage to humans and ecosystems.

Beyond the meat they eat

Hormone-treated beef is recognized as a source of certain health problems in the United States. But though Israelis are not large consumers of red meat, health authorities are seeing a surprising increase in testicular cancer among Israeli men and a decreased age of first menstruation in girls.

Could the problem be in the water?



Researchers worldwide agree that pharmaceutical residues in the water can have striking effects on fish, causing some species to change their gender. Their effects on humans are not as well known.

The new Israel-Palestinian project aims to study samples of local water and find the best ways to filter out or deactivate classes of drugs like these so they do not go back to nature, or us. Some of the pharmaceuticals under study are diazepam, aldactone (a diuretic), ibuprofen, ketoprofen and iopromide.

Israelis do have a leg up on potential new technologies for treating drugs in water, such as **<u>advanced</u>** <u>**filtration membranes**</u>. In their approach, Al Quds University scientists are going to apply activated carbon, or a novel clay-based micelle technology, to see how effective these can be in removing predefined chemical compounds from water. The project is to begin this summer.

How to remove harmful materials?

If the researchers are successful, Sanofi may develop the technologies into a commercial project, says Hanah Bardin, a soil and water expert working for the Peres Center for Peace. She is managing this two-year project from the Jaffa-based center named after Israel's President Shimon Peres, an avid environmentalist.

have experience and an interest in development type projects and how engineering can be used to address social change and underprivileged communities," she tells ISRAEL21c.

In a past joint research project between the two communities, senior scientists looked at salinity in water, while this one will feature the younger generation of master's level students, Bardin says, likening the study to a peace project.

"We are trying to create a community of water researchers working together and visiting each other's facilities. In this framework, we will have on-campus visits and annual meetings where they will present results," Bardin says.

She anticipates that the labs at the Technion and Al Quds will use different techniques. "The idea is that there is very little monitoring. We want to find out how to treat and remove all these materials that end up in the drinking water."



WATER RESEARCH PROGRAMME -Weekly Bulletin-

Meanwhile, in an unrelated project, Ben-Gurion University's Prof. Alon Tal will be working with Israelis and Palestinians to determine what kind of compounds are found in the region's water and waterways from a bottom-up approach, funded with a half a million dollars from USAID's Middle East Regional Cooperation (MERC) Program.

"Israeli Arab Study Looks to Get Drugs Out of Water", 28/04/2013, online at: <u>http://israel21c.org/social-action-2/israeli-arab-study-looks-to-get-drugs-out-of-water/</u>

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*The Polluted Beaches of Discord Between Egypt and Israel

CAIRO - Rafah and other cities on the <u>Sinai peninsula</u>'s north coast have been suffering from pollution of the Mediterranean Sea and its underground water reservoir, which has caused serious environmental and health issues for the local population, experts argue.

<u>Some blame Israel</u> for the pollution, while others attribute it to domestic sources.

The National Commission for the Protection of the Environment in North Sinai, which accuses Israel of disregarding international agreements by dumping sewage water into the Mediterranean and letting harmful heavy metals seep in the groundwater reservoir, tried to file a lawsuit against the country earlier this week.

Abdallah al-Hijawy, head of the commission, says the Egyptian court told him it was not able to file lawsuits between countries, and recommended he contact an international court.

"This is what I'm going to do, and I am going to get international NGOs and environment protection associations on board," Hijawy says.

He accuses Israel of discharging 180,000 cubic meters of raw and treated sewage water into the sea on a daily basis, and says the <u>Gaza Strip</u> disposes another 160,000 cubic meters into the Mediterranean. "Israel is responsible for the service sector in the occupied territories," he says. Since it withdrew from Gaza, explains Hijawi, Israel has removed major water pumps that used to transfer huge amounts of sewage. As a consequence, Palestinians now dispose of their sewage in the Gaza Valley, which pollutes both the underground water reservoir shared by Egypt and Gaza, and the Mediterranean.

According to Hijawy, piles of organic waste now litter Sinai's north coast and large flocks of seagulls feast on the waste. "Even the color of the water has changed and the smell is terrible," he says. Chemical and dye factories located on the Israeli, Palestinian and Egyptian borders all dispose of their industrial waste and drainage by discharging it into the Mediterranean, making the situation even worse.

Organic waste <u>pollutes the seawater</u>, which shows growing rates of biological contamination to marine life, particularly fish and corals. Piles of organic waste cover the beaches on the Egyptian border, ruining this once pristine environment.



The mix of wastewater and industrial drainage discharged into the sea has multiplied pathogens there, which can lead to the spread of serious diseases like typhoid, kidney failure and <u>various types of cancers</u>.

To make matters worse, north Sinai residents are heavily exposed to these infectious diseases, as desalinated seawater is their main source of potable water for drinking and irrigation purposes. "There are two main types of water contamination," explains Al-Khateeb Yousry Jafar, a hydrobiology researcher at Egypt's National Research Center. "The first is microbial and bacterial contamination, which results from the mixing of water with human feces, which can have very serious health implications."

He says the second type, however, caused by heavy metals such as lead, cadmium and mercury, as well as radioactive materials, is even more worrying.

"Seawater is used to cool off Israel's nuclear reactors, which results in nuclear particles being released into the Mediterranean," says Jafar.

These various heavy metal particles accumulate inside the bodies of the living organisms fish feed on, causing cases of secondary poisoning to the fish, which could later be eaten by humans and potentially cause different types of cancers. As humans who have accumulated dangerous levels of particles are buried, these hazardous chemicals return to the ground, accumulate in plants and begin a new life cycle, potentially threatening future generations.

"Over the years, the Mediterranean has become a <u>hub for pollution</u> because most countries located along its borders dump their waste into the sea," adds Jafar.

As a result, the fish population has decreased, which negatively impacts the communities of fishermen who rely on it as their main source of income. Adapting to the pollution, some Egyptian fishermen have decided to avoid these areas and are fishing closer to Yemen – which is illegal.

Drinking sewage water

"The Egyptian state must take a strong stance and issue laws very soon to stop this pollution, as well as find evidence that proves that part of the pollution comes directly from Israel," says Jafar.

The UN Convention on the Law of the Sea, issued in 1982, defines the rights and responsibilities of nations in their use of the world's oceans, establishing guidelines for businesses, the environment and the management of marine natural resources.

As part of this convention, countries bordering the Mediterranean Sea must enact laws to protect the seawater from all contamination sources, such as sewage, industrial waste, ships and harbors.



"Israel is not a signatory of this convention and has not issued any regulations to protect the Mediterranean Sea," says Hijawy.

A new water desalination station is being established in the Egyptian Rafah to provide citizens with fresh drinking water. As the plant would be located 300 meters away from the Palestinian Rafah, Hijawy says this is not a proper location for a desalination plant, as large amounts of sewage and waste pile up in the plant's vicinity.

According to him, desalination plants are not able to perform well when the seawater is polluted with oil and sewage: "Solid molecules insert themselves between the liquid molecules, and the desalination process is not able to efficiently separate them," explains Hijawi.

As a result, he says, Egyptian citizens of Rafah drink the sewage water of the Gaza Strip.

"We intend to file another lawsuit against the Egyptian government asking them to remove the desalination station from this inappropriate place," says Hijawy.

He believes filing a lawsuit is the best way to attract officials' attention.

"When I tried to complain about the situation, an official threatened me, but I'm not afraid and I won't be silent anymore," he says. "I have no political affiliation. I base [my views] solely on scientific evidence."

However, engineer Mohamed Moussa, a geologist at the Water Resources Research Institute in Sinai, rejects Hijawy's accusations.

"The problem has nothing to do with water pollutants coming <u>from Gaza or Israel</u>, as some claim," he says.

According to Moussa, the pollution in Sinai is domestic, and results mainly from the excessive usage of chemical fertilizers, heavy metals and pesticides, which farmers depend on for agriculture. When they are mixed with irrigation water or rain, they seep into underground aquifers, causing serious contamination.

The engineer sees different solutions to this problem: depending more on Nile water, establishing water desalination stations for purifying seawater, or building wells with embedded purification systems located away from the coasts to serve the community.

"Instead of wasting time complaining about Israel, we must focus on internal problems. Our newly established water desalination stations in Rafah and Sheikh Zuwayed have proven their capacity to desalinate seawater according to <u>international standards</u>," Moussa says.



But Gamal Helmy, head of environmental affairs in north Sinai, says the conflict between Egypt and Israel over pollution started during former <u>Israeli Prime Minister's Ariel Sharon</u>'s time. "Samples taken from the Mediterranean before Israel withdrew from Gaza proved that raw sewage was dumped directly into the seawater," claims Helmy. "However, no samples show that Rafah beaches suffer from similar problems today."

The National Commission for the Protection of the Environment in north Sinai says it has found a solution to partially treat the sewage water coming from Gaza. A specific bacterium can decompose organic materials and prevent their anaerobic fermentation.

"The Polluted Beaches of Discord Between Egypt and Israel", 24/04/2013, online at: <u>http://www.worldcrunch.com/world-affairs/the-polluted-beaches-of-discord-between-egypt-and-israel/sinai-pollution-sewage-bacterium/c1s11467/#.UX1tGqJ-kzF</u>

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* CM to visit Israel to study water conservation

JAIPUR: For learning new practices in agriculture, a nine-member delegation headed by chief minister AshokGehlot will leave for Israel on Thusrsday. Ministers and government officials will accompany the CM who will visit agriculture parks and study the latest technological interventions in water conservation and treatment.

As both Israel and Rajasthan have similar climatic conditions and face water scarcity, the state government is seeking support from Israel companies. The visit is aimed at bringing more technological expertise from Israel. "Having the same geographic conditions like Rajasthan, Israel has made developments in the field of agriculture. Its per hectare yield is among the highest in the world. Using minimum water and maximum output is something very much needed in Rajasthan too," said an official who is accompanying the CM.

Some agreements in horticulture sector are also expected to be signed during the visit. The delegation is also scheduled to see water treatment facilities and techniques for water conservation. In Israel, 75% of the water used in agriculture is treated sewage re-cycled. Israel has already shown keen interest in transferring the technology to counter water shortage.

Though approval has been given for nine members, so far the only minister whose name has been confirmed is energy minister Jitendra Singh. None of the two ministers having agriculture portfolio are part of the delegation. Among officials, chief secretary, CK Mathew, principal secretary, agriculture DB Gupta, Purshottam Agarwal from PHED.

Earlier in March, Israeli ambassador Alon Ushpiz visited Rajasthan and extended the invitation to CM. He also laid the foundation stone for an Indo-Israel centre of excellence (CoE) for pomegranate in Bassi. In addition to Bassi, a centre dedicated for citrus is being developed in Kota and in Jaislamer. Israeli experts are working jointly with local counterparts on prototypes of palm trees and for developing a dates growing industry in the state. Some private firms have also ventured in olive plantation.

The chief minister will also meet the industrialists who are willing to invest in Rajasthan. <u>Solar energy</u>, diamond and gems industry are among the sectors where the government will seek investment from Israel. Israel is also looking forward to Rajasthan's cooperation in developing their dairy industry.

"CM to visit Israel to study water conservation", 25/04/2013, online at: <u>http://articles.timesofindia.indiatimes.com/2013-04-25/jaipur/38816242_1_water-conservation-energy-minister-jitendra-singh-ushpiz</u>

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Slow retreat of monsoon floods in Pakistan hinders recovery

SUKKUR, 23 April 2013 (IRIN) - It is seven months since the monsoon rains fell on Mohammed Qayyum's village in the Taib area of Shikarpur District in Pakistan's southern province of Sindh.

The third straight year of devastating monsoon flooding in Pakistan destroyed his home and flooded his fields. He knocked together a temporary shelter for his family and tried to wait patiently for the waters to disappear.

But months after September's rains, the water was still there.

"I waited and waited, and then I ran out of money. The help from the government and the NGOs was not enough, and the water just won't drain," Qayyum, 42, told IRIN.

By December, Qayyum had used up all his savings, and left his wife and three children behind and travelled to nearby Sukkur, where he set up a small fruit stall with money he borrowed from a cousin.

"I couldn't grow anything, and the land from where the water has drained is in really bad shape. [Selling fruit] is the only way I can buy some food for my family."

Qayyum is among the 1.2 million people in Pakistan still affected by the 2012 monsoon floods, and unable to return to their homes. They are living either in makeshift shelters next to their damaged houses, or in <u>temporary settlements</u>.

Since the floods

Most of those affected by the floods in Sindh, the worst hit province, are farmers and the months the water took to dissipate meant they lost what would have been their main source of food and income in 2013, and diminished hopes of a quick recovery.

Some <u>485,000 hectares of cropland</u> was affected by the 2012 floods across Pakistan, where agriculture is the backbone of the economy.

Savings can help them survive for a short time, but the length of time the floodwaters took to recede means such reserves often run-out - and when land does become available again, they lack the capital to invest in planting crops.

They were unable to plant crops for the winter season and with water still standing over swathes of



cropland, the next season may be affected as well.

By January - four months after the flooding - <u>374sqkm</u> of land remained under water in Sindh's Jacobabad, Qambar Shadhad Kot and Dadu districts, according to analysis of satellite imagery by the UN Food and Agriculture Organization (FAO).

The UN estimates that nearly 170,000 families need agricultural materials like seeds and fertilizer in the flood-affected areas of Pakistan, and over 100,000 need feed for livestock. Extensive damage to critical infrastructure, like roads and irrigation channels, compounds the crisis.

East of Shikarpur, in the village of Mir Sikander in Sindh's Jacobabad District, 35-year-old rice farmer Mohammed Hayat leaves home soon after dawn to look for work as a labourer.

His fields have been under water since September and without the agricultural income he had anticipated, he has little chance of rebuilding his life.

"The water has not drained and I don't know what it will leave behind," Hayat said. "It has been months now, and I don't know when it will drain. I have to forget about the rice and find work elsewhere."

Sindh is almost entirely flat - one reason why water from the last three <u>monsoon floods</u> drained very slowly.

"The gentle slope of the land in Sindh makes natural drainage more difficult," said Saifullah Bullo, deputy director at the Sindh Provincial Disaster Management Authority.

"Other factors compound the problem too. The irrigation and man-made drainage systems are not in proper shape, not properly maintained. The soil in some areas is also the type that tends to hold water."

It is not just the crops that have suffered because of standing water.

The pools of stagnant water are ideal breeding grounds for mosquitos, a constant threat to the health of the villagers.

"My kids are feverish very often, which really worries me," Hayat said. "I try to make sure that they drink the cleanest water we can get, but there are so many mosquitos."

Fearful



Having suffered from floods three years in a row, Pakistan's authorities and humanitarian organizations are worried about the prospects of another flood, with the rainy season expected to begin in July.

Some preparations are under way, including training local officials to respond more quickly and better to a disaster situation.

In villages like Mir Sikander, where the water from the last rainy season is still standing, villagers are acutely aware of the fact that things will get far worse with another flood.

"We don't talk about it all the time, but you can tell that everyone is thinking about July, when the rains will come," said Shah Nawaz, 32, another rice farmer from Mir Sikander.

"Everyone is scared; old people, young people, little children."

Pakistan's government and aid workers consider the economic rehabilitation of the flood-hit areas to be a key medium-to-long-term priority, but any future development work will have to wait in areas like Jacobabad and Shikarpur where large tracts of farmland remain under water.

In Sukkur, farmer-turned-fruit seller Qayyum cannot stop thinking about the monsoon floods.

"They now come every year," he said. "If there is another flood this year, I will not be able to grow anything for another year. The land will die."

Reviving agriculture recovery in the flood-hit districts of northern Sindh will prove to be a significant challenge, with humanitarian organizations struggling to fund their recovery plan and key areas like food, health, sanitation and shelter still needing attention.

Only 32 percent of the US\$169 million needed for the Monsoon Humanitarian Operation Plan has been <u>funded</u>.

"Slow retreat of monsoon floods in Pakistan hinders recovery", 23/04/2013, online at: http://www.irinnews.org/Report/97904/Slow-retreat-of-monsoon-floods-in-Pakistan-hindersrecovery?utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=7642f86868-RSS_EMAIL_CAMPAIGN&utm_medium=email

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* Tata Faces Crisis as \$20 Billion Spent on Water: Corporate India

<u>India</u>, the world's second-most populous nation, is doubling spending on water management to a record as conglomerates from the Tatas to Adani face shortages that the <u>United Nations</u> calls an impending crisis.

The federal and state governments have set aside 1.1 trillion rupees (\$20 billion) for sewage treatment, irrigation and recycling for the five-year period ending March 2017, G. Mohan Kumar, special secretary in the Ministry of Water Resources, said in an interview. The nation with 1.2 billion people, which treats only 20 percent of its sewage, is pouring more money as inadequate clean water is threatening to stunt growth in industrial and farm output.

Disputes with farmers demanding rights to their irrigated land have stalled about \$80 billion of investment by companies including <u>Posco (005490)</u> and <u>ArcelorMittal (MT)</u> as Prime Minister <u>Manmohan Singh</u> seeks to revive an economy growing at the slowest pace in a decade. <u>Tata Steel Ltd. (TATA)</u>, India's biggest maker of the alloy, is setting annual targets to cut water usage as two-thirds of the country faces a scarcity, H.M. Nerurkar, managing director said in an April 11 interview.

"Water availability is a very big issue and in the coming days this will be a far bigger issue," A.P. Choudhary, chairman of <u>Rashtriya Ispat Nigam Ltd. (RINL)</u>, India's second-biggest state-run steelmaker, said in an interview. "Water is critical for the steel industry's growth and no company is comfortably placed."

Industrial Demand

India has 18 percent of the world's population and four percent of the globe's water resources, President <u>Pranab Mukherjee</u> said at an April 8 conference in New Delhi. About 80 percent of the water available is used for farming and less than 10 percent by factories, water ministry's Kumar said.

Industrial water demand in India may surge 57 percent by 2025, with the Asian country being the most water-stressed among the Group of 20 nations, which also includes <u>China</u>, according to estimates by HSBC Holdings Plc. Water availability in India per person dropped by 15 percent to 1,545 cubic liters in a decade, according to a 2011 census.

India's demand for clean water by 2030 may exceed supply by 50 percent while pollution is making what's available unfit for human consumption, industrial or farm use, according to McKinsey & Co. forecasts and a government report.

"This five-year plan devotes far more space to water and it is clear that there is more political agreement on India's water crisis," said Srinivasan Iyer, assistant country director at the <u>United</u> <u>Nations Development Program</u>.

'Extremely Rich'

Still, the planned spending on water projects accounts for just 2 percent of the \$1 trillion Prime Minister Singh says is needed to build infrastructure in the five years ending March 2017 to revive


economic growth that slowed to an estimated 5 percent in the year ended March 31, the least since 2003.

<u>Jim Rogers</u>, the investor who foresaw the start of a commodity rally in 1999, said he is "extremely optimistic" about investing in water amid scarce supply in countries from India to the U.S.

"If you can find ways to invest in water, you will be extremely rich because we do have a serious water problem in many parts of the world like India, China, the southwestern part of the U.S., and west of the <u>Red Sea</u>," Rogers, chairman of Rogers Holdings, told reporters in <u>Singapore</u> on April 15.

Beating Gold

Shares of water-treatment companies are beating those of gold and oil explorers as governments from China to India boost spending on basic infrastructure to avert shortages threatening economic growth and political stability.

The <u>S&P Global Water Index (SPGTAQD)</u> of 50 companies has surged 162 percent since Nov. 30, 2001, when Bloomberg began compiling the measure. In comparison, the <u>S&P Global Oil Index</u> (<u>SPGOGUP</u>) has risen 137 percent in the same period and the <u>S&P/TSX Global Gold Sector Index</u> (<u>SPTSGD</u>) has climbed about 40 percent.

Suez Environment, <u>Europe</u>'s third-largest water company by market value, won 41 million euros (\$54 million) of contracts to build and operate water-treatment units in <u>New Delhi</u>, a city of 17 million people, and Bangalore, according to a March 13 statement. <u>Thermax Ltd. (TMX)</u>, a Punebased company that produces water-recycling equipment, has climbed 31 percent in the past year, compared with the benchmark S&P BSE Sensex's 10 percent advance. <u>VA Tech Wabag Ltd.</u> (<u>VATW</u>), the nation's biggest builder of water-treatment plants, has risen 12 percent in the same period.

Work including sewage treatment and waste water management will help boost revenue as much as four-fold for VA Tech and double it for Thermax in five years, according to the companies' chief executive officers.

Acquisition Plan

"We will participate in projects where there's need for technology to treat water," M.S. Unnikrishnan, CEO of Thermax, said in an April 9 interview. "Sewage treatment is getting increasing importance from the government."

VA Tech plans to spend as much as 50 million euros to buy two companies in Europe to help it gain access to new markets and technology, Managing Director Rajiv Mittal said in an interview on April 17.

Thermax's revenue from its environment business, which includes water, rose to a record 11.7 billion rupees in the year ended March 31, 2012. VA Tech Wabag's <u>net income</u> climbed 36 percent to 751.2 million rupees in the 12 months and sales rose to 10 billion rupees, both an all-time high. Pretax profit margin in the quarter ended Dec. 31 was 11.18 percent compared with 10.24 percent a year earlier.



Farmer Suicides

Parts of Maharashtra and Karnataka, states that together account for 45 percent of India's sugar production, have faced drought in the past two years. Output in India, the world's top producer after <u>Brazil</u>, is set to decline for a second year, according to a survey compiled by Bloomberg.

Nearly a 1,000 farmers, unable to repay their debt after dry weather cut their incomes, committed suicide in one region of Maharashtra in 2012, <u>India Today</u> said in an article dated Jan. 21, a number the local administration disputes.

Plans by <u>Posco (005490)</u>, the world's biggest steelmaker by value, to build a \$12 billion mill in the eastern state of Odisha have stalled for eight years as the South Korean company failed to persuade farmers to move. <u>ArcelorMittal (MT)</u>, the world's largest steelmaker by output, faces delays for a \$10 billion plant in Odisha and in Jharkhand state.

"We don't have the luxury to use water the way we want," said Devendra Amin, vice-president and spokesman for Adani Group, which is controlled by billionaire Gautam Adani. "Water cannot be taken for granted the way industries set up in the decades gone by used to." Adani has businesses in mining, power and ports.

"Tata Faces Crisis as \$20 Billion Spent on Water: Corporate India", 22/04/2013, online at: http://www.bloomberg.com/news/2013-04-21/tata-faces-crisis-as-20-billion-spent-on-water-corporateindia.html?utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=1a3afc2849-RSS_EMAIL_CAMPAIGN&utm_medium=email

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China's new war front: Natural resource as a political tool

Prime Minister <u>Manmohan Singh</u>, during his recent meeting with Chinese President Xi Jinping, asked for more openness on Chinese dam building. Singh said Xi assured him that he would have his proposal for a joint monitoring mechanism "looked into". Beijing has now conveyed its response rebuffing the transparency idea.

This snub is no surprise: China, the world's most dammed nation, does not have a single rivercollaborative or transparency mechanism with any of its 12 riparian neighbours. Unlike India $\hat{a} \in$ " which has water-sharing treaties with both its downstream neighbours, Pakistan and Bangladesh, with each pact establishing a distinctively unique principle in international water law $\hat{a} \in$ " China rejects the very concept of water-sharing and is assertively seeking to make water a political weapon. Indeed, as if to proclaim itself as the world's unrivalled hydro-hegemon, China recently unveiled 11 additional dam projects on the Salween, the Mekong and the Brahmaputra.

As with territorial and maritime disputes, China is seeking to disrupt the status quo on internationalriver flows. Just as it has quietly encroached on disputed territory in the past to present a fait accompli $\hat{a} \in$ " for example, Aksai Chin (1950s), Paracel Islands (1974), Johnson Reef (1988), Mischief Reef (1995) and Scarborough Shoal (2012) $\hat{a} \in$ " China is seeking to manipulate cross-border river flows by pursuing dam projects furtively until they can no longer be kept hidden.

Although China is the source of trans-boundary river flows to countries ranging from Russia to <u>Vietnam</u>, no nation is more vulnerable to China's re-engineering of trans-boundary flows than India. The reason? India alone receives nearly half of all river waters that leave China. According to UN figures, a total of 718 billion cubic metres of surface water flows out of Chinese territory yearly, of which 48.33% runs directly into India.

For Chinese dam builders, the major Tibetan rivers flowing to India directly or via Nepal are a magnet for another striking reason: Their run-off volume totals 21.5% of the aggregate river flows within China, yet these rivers support just 1.6% of China's population and sustain only 1.8% of its arable land, according to official Chinese statistics. The main beneficiary of their flows is rival India. When Beijing has shown little regard for the interests of China-friendly downriver states like Laos, Cambodia, Thailand and Kazakhstan, why would it be considerate towards India?



India should be under no illusion that diplomacy alone can deter China from significantly altering cross-border flows. In fact, at a time when China's cartographic aggression and its efforts to nibble at Indian land through stealthy incursions persist, it seems intent on opening a major new front through hydrological aggression. There are warning signs of this.

China is damming not just the Brahmaputra, on which it has already completed several dams, but it has also built a dam each on the Indus and the Sutlej and unveiled plans to erect a cascade of large dams on the Arun (Kosi) river, which helps augment downstream Ganges flows and is thus critical to India's ability to meet its treaty obligations vis-A -vis Bangladesh. The flashfloods that ravaged Himachal and Arunachal states between 2000 and 2005 were linked to the unannounced releases from rain-swollen Chinese dams and barrages.

The Brahmaputra is a huge attraction for China's dam programme because this river's cross-border annual discharge of 165.4 billion cubic metres is greater than the combined trans-boundary flows of three key rivers running from the Tibetan plateau to <u>Southeast Asia</u> \hat{a} ^C" the Mekong, the Salween and the Irrawaddy. As China gradually moves its dam building towards the Brahmaputra's water-rich Great Bend area, it is likely to embark on Mekong-style mega-dams.

"China's new war front: Natural resource as a political tool", 23/04/2013, online at:

http://articles.timesofindia.indiatimes.com/2013-04-23/edit-page/38762395_1_aksai-chin-paracel-islands-chinese-president-xi-jinping

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* Tools and policies for understanding water risks in China

[Editor's note: This is the second in a two-part series that examines the water risks and solutions facing Chinese supply chains.]

In my <u>last article</u>, I summarized the enormous water challenges facing the Chinese economy and what it means for companies that source from Chinese manufacturers.

Let's now look at the brighter side -- the enlightened regulatory efforts and new tools and resources available to help companies understand and address water risk facing their Chinese suppliers.

On the policy side, the Chinese government finally appears to giving much more than lip service to calls for protecting freshwater through improved regulation and enforcement.

A significant step forward was the government's <u>12th five-year plan</u> released in 2011, which set a target to improve industrial water efficiency by 30 percent by the end of 2015. It also set goals for water quality improvements, including a 15 percent reduction in heavy metals discharged and an 8 percent reduction in organic water pollution.

The Ministry of Water Resources since has released an even more aggressive long-term vision for water management in the country, called the "Three Red Lines" policy. Essentially, this policy sets absolute limits for national water use and ambient water quality, in addition to targets for efficiency through 2030. These targets are then to be subdivided to the provincial and local levels, and tied to the performance objectives for officials.

Despite these efforts, it's clear that uncertainty and poor enforcement still lie at the heart of China's water policies. For one, China's water governance system is sprawling and fragmented. At least five ministries are responsible for managing water resources in some way, creating coordination issues and redundancies that are inefficient, not to mention confusing for the operations manager who needs to engage with the government.

Amid the uncertainty, a few broad trends are still evident. Companies should expect increased regulation, stricter enforcement, more stringent water use caps and higher fees for non-compliance. Water tariffs certainly will rise, affecting operating costs and margins. Shanghai is a case in point: In October 2012, it unveiled a <u>strict water management system</u> that will increase monitoring of companies and will require industry to use 30 percent less water compared to a 2010 baseline.

Water prices for industry may increase substantially for two main reasons. Increasing residential prices is politically unattractive and ethically dubious from a human rights perspective. At the same time, research shows water demand decreases only after a relatively high price threshold is breached.



While analyses of potential rate impacts are hard to find, some experts are warning that the <u>textile</u> <u>industry</u> should expect hikes in water tariffs of 300 to 500 percent.

High polluting sectors also will face more incentive to invest in reducing their discharges. Right now, just <u>six sectors</u> -- pulp and paper, food, chemicals, textiles, tanning and mining -- collectively account for nearly 90 percent of industrial chemical oxygen demand but only 30 percent of gross industrial output.

Tools and resources

For companies seeking to better understand their water risks in China, growing data resources are available. The World Resources Institute's<u>Aqueduct project</u> has released high-resolution water risk maps for the Yellow and Yangtze river basins, which can provide insight on the relative water stress facing a company's operations or supplier facilities. The Institute of Public Environmental Affairs, a leading Chinese NGO, supports an open source <u>online database</u> of water, air and hazardous waste pollution records that can be used by Western companies to identify poorly performing suppliers.

Collaborative efforts to support improved supplier performance are also growing. The <u>Green Choice</u> <u>Alliance</u>, a Beijing-based coalition of NGOs, is working to promote a global green supply chain by helping large corporations identify problem supplier factories, while also supporting interventions and audits to improve performance. <u>NRDC's Clean by Design</u> program is working with the suppliers of major textile brands to improve water management in fabric mills. Separately, a group of major apparel and footwear brands and retailers including Adidas, Nike and H&M are working collectively towards a goal of <u>eliminating total industry discharge of hazardous chemicals by 2020</u>.

At Ceres, our goal is to accelerate this response with tools and resources that build better accountability into corporate supply chains. The <u>Ceres Aqua Gauge</u>, a roadmap for helping companies build effective water risk management strategies, provides guidance on best practices in dealing with water risks in supply chain. We've also developed an open source supplier <u>self-assessment questionnaire</u> for companies with industrial supply chains, aimed at increasing competitiveness and resiliency by helping suppliers assess and manage sustainability (and water) risks.

More data, transparency, and corporate leadership are welcome and needed. Leveraging supply chain data for improved performance will be a big theme at the <u>Ceres Conference</u> this year in San



WATER RESEARCH PROGRAMME -Weekly Bulletin-

Francisco. Join us to share what your company is doing to increase supply chain transparency, support supplier improvements and mitigate water and other sustainability risks.

"Tools and policies for understanding water risks in China", 23/04/2013, online at: http://www.greenbiz.com/blog/2013/04/23/tool-and-policies-understanding-water-risks-china

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✤ Impact of climatic change : Synchronised efforts needed to practice research

ISLAMABAD: Speakers at the launch of the policy brief on Water Management in the Central Karakorum National Park (CKNP) emphasised on the collaborative and synchronised efforts to practice the research on the impact of climatic changes in the highlands.

They said only the integrated and collaborative approach would help conserve the large glaciers for smooth and steady provision of water not only for the human life and livelihood in the mountainous region but for the downstream as well.

The policy brief on Water Management in the CKNP was launched by the Socio Economic Environmental Development (SEED) project of the EVK2CNR in collaboration with the Karakorum International University (KIU) and other partners.

Muhammad Javed Malik member Agriculture and Food, Planning Commission of Pakistan said our glaciers contribute volume of water to the Indus River runs across the country and agriculture and ecology of Pakistan depends on the smooth flow of water in all seasons.

We need to take immediate bold steps to conserve our water towers by conserving the natural habitats and indiscriminate use of water resources besides protecting the rivers and lakes from the untreated waste water, he said.

Malik while appreciating the SEED research asked for incorporating the valuable data into planning of countrywide development initiatives.

Dr Najma Najam Vice Chancellor KIU said the KIU was one of the major partners in the implementation of the SEED project.

As many as 20 students have enrolled for the PhD programmes on variety of nature conservation and social development while 40 research projects are being run. The students spend their weekends in the fields and she believed that on the completion of the researches we would have original and realistic data to combat the challenges of the climate change in Pakistan.

Raffaele Del Cima Project Director SEED said, "The key objectives of this policy on water are to draw on the knowledge body generated by the researches that have been carried out since 2009 through the SEED project for the CKNP in Gilgit-Baltistan.

Specifically the document highlights water issues and defines some priority actions based on the research findings.



The recommendations provide support to the Pakistan National Drinking Water Policy (2009) that states the need to 'provide access to safe and sustainable drinking water supply to the entire population of Pakistan by 2025'. 'Safe Water' refers to the water complying with National Drinking Water Quality Standards.

Raffaele said the policy brief urge for improving communication of research findings from the scientific community to the policy makers and to promote awareness of local communities on water protection and treatment and hygienic behaviour by avoiding animals near water sources and to reduce risks of water pollution through the establishment of water safety plans at communal level and to sensitise all the stakeholders in the public and private sector for water quality supply and protection.

Dr Daniela Giardina SEED Scientific Coordinator said the CKNP stretched to about 11,000 square kilometers has the largest glacial deposits on the globe out of polar region.

About 38 percent of the total area of the CKNP consists on glaciers. This huge body of ice-fed streams and lakes represent the resource of freshwater for both the CKNP ecosystem and communities as well as downstream almost the entire Pakistan. However given that the source of most water is glacial melt, availability falls dramatically during winter and residents, especially women have to walk long distances to fetch water.

Lack of available and reliable data on glacier masses and on water resources in the area and lack of continuous access to safe water for the sparse population in remote areas and lack of population awareness on water management, shortage of governmental funding for the region are the basic one we need to deal with.

"Impact of climatic change : Synchronised efforts needed to practice research", 27/04/2013, online at: http://www.dailytimes.com.pk/default.asp?page=2013%5C04%5C27%5Cstory_27-4-2013_pg5_16

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SEED project policy brief on water management launched

Sunday, April 28, 2013 - Gilgit—Speakers at the launch of the policy brief on Water Management in the Central Karakorum <u>National Park</u> emphasised on the collaborative and synchronised efforts to practice the research on the impact of <u>climatic changes</u> in the highlands. They said only the integrated and collaborative approach would help conserve the large glaciers for smooth and steady provision of water not only for the human life and livelihood in the mountainous region but for the downstream as well.

The policy brief on Water Management in the Central Karakorum <u>National Park</u> (CKNP) waslaunched by the SEED project of the EVK2CNR in collaboration with the Karakorum International <u>University</u> (KIU) and other partners. Muhammad Javed Malik, Member Agriculture and <u>Food</u>, Planning Commission of Pakistan, and Dr Najma Najam, Vice Chancellor KIU, were the chief guests. Domenico Bruzzone, the development head at the Italian embassy in Islamabad, was the guest of honour. The key <u>speakers</u> included Raffaele Del Cima, Poject Director SEED, Dr Daniela Giardina, SEED Scientific Coordinator, Dr Shaheena Tariq, Chairperson Metrology department at the Comsats <u>University</u>, Raina Saeed Khan, the environmental writer and columnist, and Munir Ahmed, Climate Chang Advocacy expert.

Javed Malik said our glaciers contribute volume of water to the Indus River that runs across the country and agriculture and ecology of Pakistan depends on the smooth flow of water in all seasons. We need to take immediate bold steps to conserve our water towers by conserving the natural habitats and indiscriminate use of water resources besides protecting the rivers and lakes from the untreated waste water, he said.

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body generated by the researches that have been carried out since 2009 through the Socio Economic Environmental Development (SEED) project for the Central Karakorum <u>National Park</u>(CKNP) in Gilgit-Baltistan. Specifically, the document highlights water issues and defines some priority <u>actions</u> based on the research findings.

"SEED project policy brief on water management launched", 28/04/2013, online at: <u>http://pakobserver.net/detailnews.asp?id=205192</u>

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***** Ignored riparian area in the Aral sea basin: Afghanistan

Two important rivers in the Aral Sea basin and the problems of transboundary water between the countries where those rivers flow, are a main focus of hydropolitics literature.

The amount of water reaching the Aral Sea and the fact that the Aral Sea shrank so significantly that it was on the verge of extinction, increased environmental and economic concerns. As in every other field, the Soviet Union was competing against the United States. This time in agricultural production, so it diverted water from Amu Darya and Syr Darya in the 1950s for irrigation purposes and started to irrigate large areas, which brought on environmental problems.

As a result of the Aral Sea's contraction, which is the most important environmental problem in the region, the fact that clouds of saline dust rising from the lake bed dominated large areas and problems such as the salination of agricultural fields, rising groundwater and problems related to water quality were also observed. The fact that water that had accumulated in drainage canals constructed during the Soviet era was drained into rivers without any treatment is the leading factor in diminished water quality. Residue from agricultural pesticides and fertilizers are among other factors leading to soil and water pollution.

Certain problems surrounding the utilization of water emerged among the Central Asian republics following their independence following the collapse of the Soviet Union in 1991. Kazakhstan, Uzbekistan, Kyrgyzstan, Turkmenistan and Tajikistan, which are at different development levels and thus have different needs, engaged in activities to utilize river water for different purposes. During the Soviet period, a holistic approach was applied to the management of basin water, but problems arose among the independent states. In the past, Kyrgyzstan and Tajikistan, which were upstream riparian areas of the rivers, used to hold water using dams during summer months for irrigation needs and then release it during months when there was need for extra water. In return, during the winter months, downstream riparian areas sent natural gas and coal to Kyrgyzstan and Tajikistan, which held water without generating power and thus maximized mutual interests. However, this relationship between the aforesaid countries was ruptured following the independence of the basin countries. Several agreements were signed throughout the 1990s with the aim of making adjustments among



basin countries similar to those of the past period, but the adjustments could not be put into practice due to the fact that each time, different parties did not adhere to the agreement.

First of all, in the agreements signed in 1992, the main subject was to ensure that water was only held during months where there was a high flow of water and was released during the irrigation season. In the agreements, among the liabilities of those downstream, Kyrgyzstan was assured payment for operation and maintenance costs during winter months. But an effective mechanism could not be established among the parties despite the agreements.

As a result of irrigation that has been going on in Kazakhstan, Turkmenistan and Uzbekistan -downstream riparian areas -- since the Soviet period, a certain amount of wealth was created. However, it appears that this wealth was created at the expense of upstream riparian areas. The upstream countries are trying to make better use of the water. The fact that Kyrgyzstan and Tajikistan, which have lands in the Fergana valley where political, ethnic and social tensions prevail, want to carry out activities to improve water resources constitutes a problem for those downstream. The fact that upstream riparians Kyrgyzstan and Tajikistan want to take advantage of those transboundary waters to generate hydro electric power, means less water for downstream riparians during the irrigation season. Nevertheless, as hydro electric power generation is not a waterconsuming activity, it should be considered a problem that might be overcome through making an adjustment as was done during the Soviet era and in the 1990s.

There is another important riparian area that has been neglected in the Amu-Darya River. A total of 17 billion cubic meters of river waters, of which the annual average flow is 79 billion cubic meters, originates in Afghanistan. Some 1,400 kilometers of the river's 2400 kilometer length flows through Afghanistan or determines the Afghanistan-Tajikistan border. A total of 15 percent of the surface of the Amu-Darya river basin and 17 percent of the nearby population is located within the borders of Afghanistan. On the other hand, Afghanistan's utilization of river waters is rather limited. Only 5 billion cubic meters of water is used for irrigation and hydro electric power is not generated, although Afghanistan does have plans for hydro electric power plants to be established on the Kunduz and Kokcha Rivers, which are tributaries of the Amu-Darya River, that could help reduce the energy deficit in the country. It can be foreseen that Afghanistan's putting these plans into practice would decrease the quantity of water accessible downstream during irrigation season. It should be taken into



consideration that Afghanistan's plan can only be put into practice if a deal is reached with other countries in the Aral Sea Basin.

There are various reasons why Afghanistan has not been taken into consideration in Aral basin hydropolitics. During the Soviet era, an agreement was signed with Afghanistan in 1958 on bordersetting waters. This 1958 agreement and other adjustments are based on parties consulting with the other relevant parties before carrying out an activity to develop water resources. However, the collapse of the Soviet Union and changing political relations negatively affected the relations between Central Asian countries and Afghanistan. Due to tense relations with the Taliban that seized power in Afghanistan and also due to the fact that the Taliban government did not have control all across Afghanistan, Afghanistan always opted out of the politics on Amu-Darya River. The fact that conflicts have not stopped even once the Taliban was removed from power following the US invasion in 2001 and the lack of an efficient central government has kept this attitude alive. But, the document entitled "Transboundary Water Policy of Afghanistan" issued by Afghanistan in 2007 indicates that this situation will not continue. In this document, certain accusations are made against downstream riparian countries. It is asserted in the document that downstream riparians took advantage of the unstable situation in Afghanistan over the last three decades by increasing the amount of water they divert from transboundary waters and that Afghanistan was deprived of the opportunity to develop and implement projects with these waters during that period. It does, however, still stress that Afghanistan will act in cooperation with its neighbors in the region and that they will strive to draw foreign investors to the region.

The document points out that there will be no change in the short term, but that Afghanistan is a riparian area that should be taken into consideration in terms of the hydropolitics of the Aral Sea basin in the medium and long term. It is obvious that the countries in the region will have to include Afghanistan in the arrangements they make.

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[&]quot;Ignored riparian area in the Aral sea basin: Afghanistan", 28/04/2013, online at: <u>http://www.todayszaman.com/news-313858-ignored-riparian-area-in-the-aral-sea-basin-afghanistan.html</u>



The Nile: There Won't Be Enough for Everybody

Is the post-revolution change in Egyptian leadership bringing about a shift in foreign policy towards the nations of the Nile Basin?

The Nile River is a resource strained to its limits on both sides of the equation – supply and demand. On the supply side, climate change trends and the rising temperatures around the globe are increasing water loss due to evaporation. The demand side, if anything, is less forgiving. The population of the three largest nations through which the Nile River flows is expected to reach 250 million by 2015. This will increase demand for fresh water needed for agriculture, industry and public consumption. These needs are also increasing as economic growth increases prosperity and citizens demand more of everything.

As the supply of water declines and demand increases, the resulting water shortages will exacerbate the region's already dire humanitarian conditions and could lead to conflict, which could adversely affect the flow of oil through the Red Sea and in turn the global economy. One need not look back far to observe how differences of opinion over rights to water may lead to conflict: in 1964, the Israeli army struck an Arab project meant to divert water from the Sea of Galilee when it challenged a similar Israeli project. In fact, tensions over access to water in the region may well have been one of the causes of the 1967 war.

The war machine

The drums of war beat louder as Ethiopia, the source of 85% of the Nile River water, and the other signatories to the new Nile River water sharing agreement are adamant to use the Nile River for economic development. They wish to usher their citizens towards greater prosperity. Meanwhile, Egypt, a nation almost entirely reliant on the Nile River for its fresh water, is determined to protect its historic rights to the bulk of the river water in order to advance its citizens' prosperity.

Egypt has always responded with threats of military intervention if interference with the flow of the Nile affected the amount of water that reached Egyptian borders. In 1980 Egyptian President Anwar Sadat said in response to Ethiopian complaints of Egyptian water exploitation that "if Ethiopia takes



any action to block our right to Nile water, there will be no alternative for us but to use force. Tampering with a nation's rights to water is tampering with its life".

In 1990, Israeli engineers were discovered investigating the feasibility of constructing three dams in Ethiopia. Egypt's deputy prime minister for foreign affairs, Boutros Boutros-Ghali, warned that any obstruction of the flow of water reaching Egypt would be considered an act of war. Mubarak and his successive governments were not in any way more forgiving than their predecessors; as recently as 2010, he demanded veto rights on any projects in Nile Basin countries that might affect Egypt's share of the water.

Ripples of change

Threats of war aside, pre-Arab Spring Egyptian foreign policy towards the Nile Basin nations was always one of neglect when compared to Egypt's generally cooperative relationships with its other neighbours. One look at levels of trade, for example, would show that the value of Egypt's trade with the 11 Nile Basin nations was approximately US\$500 million (£310 million) from 2005 to 2008, compared with almost US\$700 million (£434 million) in trade with Israel and Libya alone, its neighbours to the east and west respectively.

This is surprising given the tremendous opportunities that Nile Basin nations offer as trade partners for Egypt. During the Nasser years, Egypt invested heavily in cultivating strong trade relationships with the nations of the Nile Basin with a view towards increasing its soft power in the region. In the absence of strong trade, Egypt's relationship with the nations with which it shares the Nile has been defined by conflict over sharing the river's water.

However, since the fall of the Mubarak regime in February 2011, Egypt's approach towards Nile Basin nations has taken a turn for the better with the announcement of the resetting of relations with Ethiopia, its leading adversary in the restructuring of the water sharing agreements of the Nile River. Egypt has also been sending representatives on diplomatic missions to all the nations of the Nile Basin the name of cooperation and mutual development. In a public initiative, Egyptian presidential candidates, representatives of political parties and numerous public figures visited Uganda and Ethiopia to discuss the new water sharing agreement. Shortly after, Egypt's interim prime minister took the same journey and managed to gather consensus on the formation of a committee of



Egyptian, Sudanese and Ethiopian experts to assess the effects of Ethiopia's new dam on the flow of water to Egypt and Sudan.

This surge of interest in cultivating stronger relationships with the nations of the Nile Basin is likely the result of Egypt feeling vulnerable in a post-Mubarak world. Mubarak's policy towards the Nile was clear: there was to be no compromise or change. This is not surprising given his domestic policy. However, without Egypt's so-called "paternal" leader to make decisions on its behalf, soft power and cooperation seem to be the way forward. This is a good sign. As water becomes scarcer, mutually beneficial agreements to better manage the Nile's water are necessary: without a shared vision, armed conflict would be inevitable.

"The Nile: There Won't Be Enough for Everybody", 22/04/2013, online at: <u>http://toglobalist.org/2013/04/the-nile-there-wont-be-enough-for-everybody/</u>

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* Ethiopia: Nile Basin Framework Set

The House of People's Representatives discussed the draft proclamation that would ratify the Nile Basin Cooperation Framework Agreement, on Thursday, April 2013.

The House then referred the draft proclamation to the Natural Resource and Environmental Protection Standing Committee of the Parliament for further assessment.

The agreement was signed by Ethiopia, Kenya,Uganda, Rwand aand Tanzaniain May 2010 and by Burundi a year later. The signing of the agreement was kept open for an additional year in order to give time to the Sudan and Egypt.

According to the agreement, ratification by six countries will allow an equitable utilization of Nile River between all the riparian states. The 1959 agreement between the Sudan and Egypt allocated the entire average annual flow of the Nile to be shared between the Sudan and Egypt at 18.5 and 55.5 billion cubic meters respectively, but ignored the rights to water of the remaining eight Nile countries. Ethiopia contributes 80pc of the total flow of the Nile, but according to the 1959 agreement, is entitled to none of its resources.

The agreement enables the establishment of the Nile Basin Commission (NBC) through which member States will act jointly to manage and develop the resources of the famed river.

"Ethiopia: Nile Basin Framework Set", 21/04/2013, online at: http://allafrica.com/stories/201304221613.html

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* With 62 dead, Kenya must end drought-flood cycle - Red Cross

NAIROBI (Thomson Reuters Foundation) - With 62 dead and almost 90,000 displaced by floods, Kenya's new government is coming under pressure to improve its response to natural disasters.

Kenya has been experiencing heavy rains since early March. Rivers have burst their banks and flooded villages, washing away homes, crops and bridges. Buildings have collapsed, vehicles been swept away and children buried alive in landslides.

Military helicopters and motorboats have been deployed to rescue people stranded by floodwaters.

The International Federation of Red Cross and Red Crescent Societies has **<u>appealed</u>** for nearly \$4 million to provide food, shelter, blankets, water, medicines and cash to affected populations.

"The main priority of the Red Cross is to continue emergency search and rescue efforts," Abbas Gullet, secretary general of the <u>Kenya Red Cross Society</u> (KRCS) said in a statement.

LIFE BETWEEN DROUGHT AND FLOOD

Kenya swings between drought and flood virtually every year.

The semi-arid northern lands, where nomads roam with livestock and some half a million Somalis live in the world's largest refugee camp, have been worst hit over the last two months. KRCS says 26,558 people have been displaced in this region, while the coast is the second worst affected, with 24,787 displaced.

"For the farming communities that have lost their livelihoods, they will need assistance for the next three to six months. The pastoralist communities that have lost their animals also would need assistance, so another vicious circle," said Gullet.

He lamented the fact that virtually all of the rainwater has poured into the Indian Ocean and Lake Victoria, rather than being stored. During dry seasons, aid agencies spend millions trucking water to many of the same areas that are currently under floodwaters.



"We have not been able to capture this water," said Gullet. "I hope and pray that with the new government, with the new commitment, water harvesting and water management will become something of a reality and not just rhetoric and talk like we have seen in the past."

On April 18 Kenya's new vice president, <u>William Ruto</u>, said that the government will set up a national disaster management authority and develop a five-year plan to build dykes and dams to curb flooding.

Ruto, who was elected on March 4, said the new government would "eliminate guesswork" in disaster response.

A draft **<u>national policy</u>** for disaster management, published in 2009, promised to set up such a national disaster management agency. However, it stated that that "lack of political will has slowed down the process of putting in place an effective disaster management system".

"With 62 dead, Kenya must end drought-flood cycle - Red Cross", 25/04/2013, online at: http://www.trust.org/item/20130425095508-

<u>c7hi9/?source=hptop&utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=7642f86868-RSS_EMAIL_CAMPAIGN&utm_medium=email</u>

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* Egypt Struggles to Reclaim Role in Africa

Egypt's diplomacy has noticeably focused on African affairs during the past month, an unprecedented development in the nine months since President Mohammed Morsi came to power. It represents an exceedingly important turn of events as it relates to two main arteries providing Egypt with life. The first is the Nile river, without which Egypt would not exist, and around the basin of which other countries thrive. The second is the Suez Canal, Egypt's largest source of national income. itself tightly linked to the Bab el-Mandeb strait and Somalia's coast.

The intense diplomatic activity in this regard saw Prime Minister Hesham Kandil visit South Sudan, while Morsi visited the north and Foreign Minister Mohammed Kamel Amr went to Somalia to inaugurate the opening of the Egyptian Embassy in Mogadishu following its move there from the Kenyan capital, Nairobi. In parallel, a delegation of Somalia's Muslim Brotherhood visited the Egyptian Brotherhood's Supreme Guide Mohammed Badie in Cairo.

Dr. Hamdi Abdel Rahman, a professor of political science and African studies, analyzed this shift for *Al-Monitor*, saying that the Egyptian regime's current moves came late, especially considering the ongoing geo-strategic changes that Western nations are striving to impose in East Africa and the Nile Basin. The reasons for these changes have to do with combating so-called Islamic fundamentalist forces in Africa, as well as other issues relating to petroleum and the fight against the ever-increasing Chinese influence in the region.

Furthermore, the secession of South Sudan and other regional arrangements concerning Somalia have posed risks for Egypt while bolstering the strategic importance of non-Arab regional countries such as Ethiopia and Kenya. In this regard, Abdel Rahman cited Ethiopia's insistence on adopting a dambuilding strategy and moving ahead with the construction of the <u>Grand Ethiopian Renaissance Dam</u>, as well as becoming a signatory to the Nile Basin Initiative adopted in Entebbe. Ethiopia signed this initiative despite Egyptian objections to such an agreement, which allows countries upstream of the Nile to build water projects and dams without deference to the downstream countries Egypt and Sudan. This threatens these two countries' historical Nile water quotas as prescribed in the 1959 agreement, which gives Egypt a share estimated to total 55 billion cubic meters of water annually. Dr. Hani Raslan, head of the Sudan and Nile Basin Studies program at the Al-Ahram Center for

Dr. Hani Raslan, head of the Sudan and Nile Basin Studies program at the Al-Ahram Center for Political and Strategic Studies, said that Egypt's crisis in the Nile Basin was caused by an imbalance



of power in the region resulting from Egypt's waning influence in its traditional areas in the Horn of Africa and Sudan. This is especially true considering that Ethiopia, the major player in the Nile Basin region, has been trying to evolve from an important country to one that dominates the Nile Basin and the Horn of Africa.

Raslan considered the latest African moves undertaken by the Egyptian regime to be "doomed to fail," as can be seen in South Sudan's desire to sign the Entebbe Convention despite talk about it signing understandings and entering into cooperative endeavors with Egypt. He also characterized Morsi's visit to Sudan as "meant for mutual political exploitation" between himself and <u>Sudanese</u> <u>President Omar al-Bashir</u>, while the announced results did not reflect the reality on the ground.

A journalist and researcher specializing in African affairs, Aya Aman, told *Al-Monitor* that so far, these visits had not led to any positive developments. She considered Morsi's recent visit to Sudan as having reignited the controversy concerning the disputed Halayeb Triangle border area.

Aman said that none of the committees announced by Bashir have held any meetings until now, and none of the promises made during the visit have been fulfilled. Meanwhile, most commercial endeavors were of a personal and individual nature on the part of certain businessmen.

Aman continued to say that the apparent good relationship with Sudan was not beneficial to Egypt in the Nile Basin affair, and that Egypt's position grew increasingly worse in that regard, as evidenced by the failure of the joint Nile Water Technical Committee to meet for the past year. This signifies the existence of undeclared differences in opinion between Egypt and Sudan.

Aman also indicated that Kandil's visit to South Sudan did not yield the results desired by Egypt. For South Sudan — despite signing three recent agreements with Egypt relating to an Egyptian grant valued at \$26.6 billion first discussed in 2006 — has clearly shown that it intended to sign the Entebbe Convention. Meanwhile, Juba has hinted that not one Egyptian businessman had taken steps to implement any of the projects prescribed in the agreements signed last month.

Aman ruled out the possibility of <u>Egypt resorting to military action against Ethiopia</u>, despite the grave threats posed by the latter in diverting the Blue Nile's waters and moving forward in building the Grand Ethiopian Renaissance Dam. This is because, among other factors, Egypt's internal situation is weak, and Ethiopia has emerged as an African superpower. In addition, the Ethiopian people had rallied in support of the dam project despite the fact that their prime minister and strongman, Meles Zenawi, had passed away. Furthermore, five African nations have endorsed the



agreement which permits the building of the dam, and consider that Egypt's participation in its building would guarantee that it have a say in its use, thus safeguarding Egyptian interests.

Regarding Somalia and the Horn of Africa, Abdul Rahman opined that Amr's visit was part of a public-relations campaign, and that Somalia's fate was drawn not by Egypt, but by Western powers with the participation of regional players such as Kenya, Ethiopia and Uganda. He thought that the Egyptian Muslim Brotherhood playing host to members of the Somali Brotherhood "was aimed at establishing popular relations with some of the influential Islamic factions in Somalia."

Raslan, on the other hand, considered the visit to be "intended to give the impression that Egypt was returning to play its role in the Horn of Africa," while pointing out that the Brotherhood in Egypt sees itself as the leader of Islamist movements throughout the world, and as such, communicating with the Somali Brotherhood would give Egypt a certain advantage there.

But he felt that the Brotherhood's attempt to recover its influence through that avenue was "wrong and dangerous, because Somalia is a failed state that lacks a central government, where different factions, including al-Qaeda, vie for power. It therefore was not prudent to open dialogue with one of those factions while ignoring the remaining components of Somali society." He warned that "the proper way for Egypt to recover its influence in Somalia is through national and state relations, as opposed to ideological ones."

For her part, Aman said that Egypt's recognition of a new government in Somalia was an attempt to restore internal security to that country. She felt that the Brotherhood playing a role in African affairs might be feasible in West Africa, but that it would be detrimental to Egyptian interests in East Africa as a result of the prevalence of Islamophobia in countries of a Christian-majority region. The focus of relations in that region must therefore remain diplomatic.

Aman stressed the fact that Egypt's efforts could be successful only if it revives its role in the Arab League by adopting common Arab policies meant to restore security and development to Somalia, especially considering that the latter is an Arab state. She explained that such a role would serve as a counterbalance to Ethiopia, the most influential nation in the <u>African Union</u>, which it exploits to further its influence in Somali affairs.

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[&]quot;Egypt Struggles to Reclaim Role In Africa", 23/04/2013, online at: <u>http://www.al-monitor.com/pulse/originals/2013/04/egypt-africa-role-tensions-ethiopia.html</u>



China extends \$1 billion loan to Ethiopia for the building transmission lines

China yesterday extended a \$1 billion loan to Ethiopia for building of transmission lines linking its capital Addis Ababa with Africa's biggest hydropower dam under construction on the Nile.

The country looks to emerge as one of the world's leading power exporters and has investment plans of \$12 billion to harness energy from the rivers running off its rugged highlands. It has plans for generation of over 40,000 MW of hydropower over the next two decades.

The centrepiece of the projects in the Horn of Africa country is the \$4.1 billion Grand Renaissance Dam in the western Benishangul-Gumuz region, which is designed to generate 6,000 MW upon completion.

China has made heavy investments in African infrastructure and its companies often take up work on the building projects it finances.

The 619-km (385-mile) link from the 6,000-MW Grand Ethiopian Renaissance Dam on the Blue Nile River would be constructed over the next three years by China Electric Power Equipment and Technology, according to deputy prime minister of economy and finance Debretsion Gebremichael who spoke to reporters in Addis Ababa yesterday.

"The construction of this big transmission line will help benefit our economy and ensure our industrial development," Debretsion said. Funding for the two 500-kilovolt cables would come primarily from the Export-Import Bank of China, he added.

According to the World Bank, Ethiopia, had the second-highest hydropower potential in Africa after the Democratic Republic of Congo, and hoped to complete the self-funded \$5-billion Nile dam, which would be the continent's biggest power plant, in 2018.

"China extends \$1 billion loan to Ethiopia for the building transmission lines", 27/04/2013, online at: http://www.domain-b.com/economy/worldeconomy/20130427_transmission.html

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Poor still don't have water access

Cape Town - It is unacceptable that many poor black South Africans are still without equitable access to water, even though some of them live "within spitting distance" of major dams, parliament's portfolio committee on water affairs has told senior Water Affairs Department officials.

The officials were also told that while the review of water policy was necessary, it was taking too long and people had to get access to water now - especially those living close to dams but who still had to draw their drinking water from streams.

And the officials were accused of lacking vision in dealing with a substantial backlog of water-use licence applications.

During a briefing in parliament on Tuesday, portfolio committee chairman Johnny de Lange told the officials establishing equitable access to water and efficient licensing was "the heart and soul of the department".

De Lange could not understand why there was still such a backlog of unprocessed applications - 1 142, of which 213 are from before 2010 - especially as the committee had been told that a dedicated unit of "40-to-50" staff members was being set up to deal with this.

While the department had previously presented "beautiful plans" to his committee, it was clear that it did not have a "slick engine to drive the processing of applications and make it work", De Lange charged, adding, "it makes me sick to the stomach".

Helgard Muller, chief director of water services, told the committee that compulsory water licensing the process whereby all water allocated within a particular catchment was "taken back" by the state and potential users had to reapply in a compulsory licensing process - had been introduced in only three catchments thus far. (South Africa is divided into 19 catchment management areas.)

While some catchments were fully allocated and water-stressed, there was irrigation water available for about 100 000 hectares in other catchments that could be used as "a quick win". "That is a concern for us - why has (this water) not been taken up?" Muller said.

De Lange told the officials to return "very soon" with a list of how much water was still available in what catchments.



The policy review would take a lot of time "and we can't wait", he said.

"Equity (in water provision) is probably the most important thing and I especially want you to concentrate on people living close to dams who don't have access to water...

"We're 20 years into our democracy and black people, and especially poor black people, are not getting the benefit of this absolutely vital water. I'm just not understanding why we're taking so much time."

The committee was told that 4 171 water-use licence applications had been finalised thus far, most of which (40 percent) were in the forestry sector, followed by agriculture (29 percent) and mining (18 percent).

A lack of information provided by the applicants was the reason for most of the 1 142 outstanding applications, the department said.

"Poor still don't have water access", 24/04/2013, online at: <u>http://www.iol.co.za/news/south-africa/poor-still-don-t-have-water-access-1.1505577#.UX1tMqJ-kzE</u>

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Mekong Agreement backs sustainable development in the region

Vientiane (Vientiane Times/ ANN) – The Mekong Agreement, which Laos, Cambodia, Thailand and Vietnam signed in 1995, aims to promote sustainable development in the region, the Lao National Mekong Committee Secretariat has reaffirmed.

The Secretariat held a seminar on the 1995 Mekong Agreement at the International Cooperation and Training Center in Vientiane on Monday.

The event enabled reporters, university lecturers and government officials to study the history and goals of the Mekong cooperation framework.

The seminar also marked the 18th anniversary of the Mekong Agreement, which gives legal back-up to the operations of the Mekong River Commission, an international governmental organization comprised of the Lower Mekong countries.

According to international agreement specialists present at the seminar, the Mekong countries signed the agreement on April 5, 1995, because they realized the need to use the river's resources in sustainable ways, while pursuing socio-economic development in the region.

The Mekong is one of the longest and cleanest rivers in Asia. It not only supplies fish as food for riparian communities but also has huge potential for the production of hydropower.

This is needed to meet the rapidly growing energy demands in the region, the specialists said.

To ensure sustainable development, the Mekong countries have adopted procedures and rules that member countries have to follow when making decisions on the use of the river's resources.

The procedures and rules underscore each member country's sovereign right to use the natural resources within its own territory. However, each country must make sure that it addresses any possible negative impacts of a development project in the river.

Laos is actively complying with the Mekong Agreement in a spirit of neighborly cooperation. One of the best examples of this is the consultation process undertaken by Laos before deciding to begin construction of the Xayaboury hydro-power plant on the Mekong mainstream, the specialists said.



Laos also redesigned the power plant to ensure the effective passage of fish and the release of sediment after neighboring Mekong countries expressed concerns over the negative impact of the massive dam.

The Lao government has said the structure will not significantly impact on water volume as the runof-river dam will not have a large reservoir.

It will not be possible for the dam to cause a water shortage downstream. The government views hydropower as a valuable revenue stream that is essential to finance the country's efforts to relieve poverty.

The government has also committed to develop power plants in sustainable ways. International development partners, including the International Finance Corporation, are providing technical assistance to ensure that Laos develops sustainable dams that both protect the environment and ensure that benefits flow to local communities.

"Mekong Agreement backs sustainable development in the region", 28/04/2013, online at: <u>http://asean-business-news.com/cambodia/uncategorized/mekong-agreement-backs-sustainable-development-in-the-region-10/</u>

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SDC Supports Equitable Development of the Lower Mekong Basin: Interview with MRC CEO Hans Guttman

The Mekong River holds immense economic, social, ecological, and cultural importance. There are about 60 million people living in the Lower Mekong Basin. The majority of them live near river lakes and wetlands and depend on water and related resources for their livelihoods.

In 2011, SDC reinstated <u>our support</u> to the <u>Mekong River Commission (MRC)</u>, an intergovernmental institution serving the needs of its member countries: Cambodia, Lao PDR, Thailand, and Vietnam. We support MRC to contribute to equitable development and environmental protection in the Lower Mekong Basin, so that the environment as well as all water users can continue to benefit from the river's wealth.

We had the opportunity to speak with CEO Hans Guttman about MRC'srole, achievements, and challenges.

Marianne: All of the countries in the Mekong region have identified the development of natural resources, and water in particular, as a key to social and economic development. At the same time, there are all these people, who are currently dependent on the rivers for their livelihoods. Is there a dilemma here, and if there is, what is the solution?

Hans: I think MRC exists partly because there is a recognized, potential dilemma, knowing that people are highly dependent on the river. At the same time, the water resources in the Mekong River, for various reasons, are rather underdeveloped compared to other big rivers globally. So there is a lot of potential.

Of course, big infrastructure will potentially change parts of the river rather drastically. Depending on the level of development, as you can see in big rivers around the world, there are choices to be made about how to reap the benefits of water resources development and what the cost and consequences are. What level of degradation of the environment and certain livelihoods are acceptable in a social context, to be able to reap some of the benefits?

These are the difficult questions we need to deal with, and MRC is one mechanism that the member countries have set up to try to manage this.

Marianne: So what is more specifically the role of MRC and the strengths that MRC brings to this task of trying to balance benefits and costs?



Hans: We work in two ways. Firstly, MRC is a mechanism for the member countries to discuss cooperation on development, management, protection, and on use of the river.

The member countries can discuss things and ideally come to agreement on a basin-wide approach to development. The countries have agreed to a basin development strategy, which aims to try to reap some of the broader benefits of the basin as a whole by working together.

Secondly, the MRC secretariat provides a lot of technical information, studies, monitoring, and information that should underpin the governments' cooperation.

Marianne: SDC <u>supports different MRC programs</u>, one of which is the <u>river basin development plan</u> <u>program</u>. What is the status of basin development planning for the Mekong River and what still needs to be done?

Hans: The 1995 agreement, the treaty that underlines MRC's work, specifically mentions a basin development plan.

Looking back to the 1970s and 80s, when the UN-founded Mekong Committee was working, the committee came up with akind of detailed blue print for, which irrigation schemes and which large infrastructures could be planned on the river.

When MRC started working on a basin development plan in 1996-97, we were still working towards this blue print. In the end, that didn't quite work out that way.

Now, we have an agreed basin development strategy, which does not include any large infrastructure planning for the moment. We hope that for the next period, 2016-2020, we will be able to move a bit more concretely into prioritizing some of the proposed larger initiatives, so the countries can more proactively agree that "yes, these are good initiatives for the basin as a whole".

Marianne: This also speaks to the need to strike a balance between the individual nations and the basin as a whole. What is your feeling about the member countries' level of commitment to MRC and its function?

Hans: I think that, at most levels, there is a strong commitment to MRC.

It is clear that there are tensions now, particularly between Vietnam and Lao PDR, and Cambodia and Lao PDR, over the Xayaburi dam[the first dam in the Lower Mekong Basin to be built on the mainstream of the Mekong River]. It is good that MRC is there, because we do provide an alternative channel for discussions on this issue.



Through our procedures for prior notification, prior consultation and agreement[which are also called "PNPCA" and is the process for member countries to discuss the trans-boundary impacts of mainstream Mekong developments, before any commitment is made to proceed],Cambodia and Vietnam voiced concerns about the Xayaburi dam. The process resulted Lao PDR taking these concerns seriously.

Lao PDR asked for a redesign of the dam in order to reduce the potential problem with sediments, to increase the ability of fish passage, and to deal with navigation. There was an interaction, an exchange, and a response. The result is not to everybody's satisfaction, but the fact is that Lao PDR did actually respond.

Now, Lao PDR didn't follow the process to the letter, so it depends a little bit on what is more important – achieving the objectives or following the steps of the process?

Marianne: In the future, and in your dream world, what would be the ideal outcome of the brokering that MRC does? How will the environment and people in the region ultimately benefit?

Hans: MRC's vision is to have a prosperous, yet equitable, yet environmentally sound basin.

We are able to provide information about, who would be unduly impacted by new development, or who are the real beneficiaries of any particular initiatives. We can help our member countries by providing information and advice on how to make the best choices on future development.

In some cases, negative impact is inevitable, but maybe the positive impacts are outweighing the negative for the population as a whole. We can try to build, over the years, an understanding between decision-makers and the people as a whole of - what are we talking about, when we are talking about acceptable change? I think that is where we can contribute a lot.

MRC can contribute to a knowledge base and to raising awareness. This is a dream world, as you're saying. We're not there yet, but there is certainly potential for that.

"SDC Supports Equitable Development of the Lower Mekong Basin: Interview with MRC CEO Hans Guttman", 23/04/2013, online at: <u>http://www.sdcmekong.org/2013/04/sdc-supports-equitable-development-of-the-lower-mekong-basin-interview-with-mrc-ceo-hans-guttman/</u>

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***** Fish Passages a Poor Match for Mekong Dams' Impacts

The start of construction of the <u>Xayaburi Dam</u> on the Mekong River in Laos sets off a dangerous game of roulette with the world's largest inland fishery.

As the first project in a <u>cascade of 11 hydropower dams</u>to be built on the Lower Mekong River's mainstream, the dam is expected to block the migration route of between 23 and 100 fish species, while adversely impacting the livelihoods and food security of more than 200,000 people. The dam's proponents claim that a state-of-the-art fish ladder, designed by the Finnish and Swiss companies <u>Pöyry</u> and Terraplant, will allow migrating fish to safely pass through the dam.

Yet fishery experts in the Mekong region have challenged this claim, stating that no technology currently exists to effectively mitigate the impacts caused by the mainstream dams due to the wide diversity of migrating fish species and the large numbers of fish that migrate at peak times. A <u>2011 scientific</u> <u>study</u> published in Environmental Management warned that a serious effort to minimize impacts from the mainstream dams would take decades of research on the biological requirements of key migratory species to ensure that specialized fish passage facilities actually meet the needs of this diverse fishery.

In its <u>2011 review of Pöyry's work</u>, the Mekong River Commission recommended a less-conservative plan, stating that construction on the Xayaburi Dam be delayed at least two years so that fishery baseline data could be collected, analyzed and incorporated into the final design of the dam.

Instead of heeding the recommendations of these experts, Laos has continued to move forward with construction, with the project's coffer dam expected to be completed as early as May.

Yet if any lessons are to be drawn from the experience of dam building in the Mekong River Basin, it's that fish passages offer false promises. In the nearby Mun River, an important tributary of the Mekong, the <u>Pak Mun Dam</u>'s fish passage has been viewed by experts as a total failure, as less than a quarter of the river's fish species successfully make it through the passage.

In a <u>2001 review of the failures of the Pak Mun Dam</u>'s fish passage, fishery expert Tyson R. Roberts warned that solving the problem of dams creating a barrier to fish migration is only the first step in attempting to mitigate the impacts of dams on fisheries. Roberts cautioned: "What use is a fish ladder ... enabling fish to move from one extremely unfavorable set of environmental conditions downstream (in



the reservoir outflow) to a totally different but also unfavorable set of environmental conditions upstream (in the reservoir)?"

The reality is, there are no successful examples of fish passages in the region to draw from, nor even in another tropical country. With so much at stake for the Mekong River's fisheries and its people, the game of roulette on the Xayaburi Dam must stop. Construction on the project should be halted until proven solutions are put forward to protect the Mekong's abundant fisheries from the impacts of the mainstream dams.

"Fish Passages a Poor Match for Mekong Dams' Impacts", 22/04/2013, online at: http://www.internationalrivers.org/blogs/263/fish-passages-a-poor-match-for-mekong-dams%E2%80%99-impacts

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Swiss Bank Pictet's Water Fund Boosted by Middle East Shortage

Swiss bank Pictet & Cie.'s water fund is profiting from the Middle East's need to buy the technology to make more sea water drinkable as companies like Xylem Inc. (XYL)and Danaher Corp. (DHR) step up business in the region.

"The companies that we are invested in are doing more business in the Middle East," Hans-Peter Portner, manager of the Pictet Asset Management SA's fund, said in an interview in Abu Dhabi. "They're selling pumps, they're selling membranes. The region is definitely a growth market for water companies."

Arid Middle Eastern states including the United Arab Emirates, of which Abu Dhabi is the capital, rely on treatment plants to remove salt from seawater to make it drinkable. The region is estimated to need \$900 billion in water infrastructure investment through to 2030, Portner said, citing a 2004 study by the Organization for Economic Co-operation and Development.

Pictet, the first asset management company to start such a fund in 2000, invests in publicly traded companies in the \$500 billion water industry. U.S. water technology companies Danaher, Xylem and Roper are among the 10 biggest holdings in the 2.3 billion-euro fund, accounting for 6.7 percent of the total. It's gained about 10 percent this year, according to Bloomberg data.

Xylem said in January that it was planning to expand its business in the region by opening an office in Saudi Arabia. Danaher, which makes microscopes in addition to water-treatment systems, opened a regional headquarters in Dubai in 2011.

Desalinate Water

Masdar, the renewable energy company run by Abu Dhabi's government, said in January that it will begin a project to desalinate water using power from renewable sources with the aim of building a full-scale plant by 2020. The U.A.E. opened a 10 billion dirham (\$2.7 billion) power and water plant, the nation's largest, and eight desalination units on April 8.



Saudi Arabia, holder of the world's largest oil reserves, has allocated \$6.4 billion for water and sanitation projects this year, Minister of Water and Electricity Abdullah Al- Hussayen said on April 15.

Still, shortages in the region are forecast to spread to countries like Algeria and Morocco by 2025 as the Middle East still isn't investing enough in water infrastructure, capturing, treatment and recycling, Portner said.

"You have a lot irrigation needs in the Middle East and for that you don't need drinking water, it's a waste," he said. "If you want to play golf in the desert, you need to irrigate. You don't need to use drinking water."

"Swiss Bank Pictet's Water Fund Boosted by Middle East Shortage",28/04/2013, online at: http://www.businessweek.com/news/2013-04-28/swiss-bank-pictet-s-water-fund-boosted-by-middle-east-shortage

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Women and Agricultural Water Resource Management

Women are important stakeholders in agriculture water management—they play a key role in water and land conservation, rainwater harvesting, and watershed management. The Food and Agriculture Organization of the United Nations (FAO) estimates that 925 million people are undernourished and food production would have to increase by 70 per cent to feed a population of 9 billion people by 2050. Of the 1.5 billion hectares of cropland worldwide, a mere 277 million hectares is irrigated land, with the remaining 82 per cent being rain-fed land.¹ Women play an important role in both irrigated and non-irrigated agriculture, and a larger number of women than men are engaged in rain-fed agriculture producing two thirds of the food in most developing countries.² According to the latest FAO estimates,³ women account for an average of 43 per cent of the agricultural labour force in developing countries but in spite of this, water policies related to agriculture continue to wrongly assume that farmers are men, thus marginalizing women in water resource management.

The importance of involving both men and women in the management of water including agricultural water and ensuring equitable access to and control over water resources have been overwhelmingly recognized by the international community. The 1995 Beijing Platform for Action called for governments to promote knowledge and research on the role of women, particularly rural and indigenous women, in irrigation and watershed management and sanitation. The Political Declaration and Agenda 21 of the United Nations Conference on Environment and Development, adopted in Rio de Janeiro in June 1992, highlighted the vital role played by women in environmental management, their equal participation in decision-making related to water resources management and the reduction in women's and girls' workloads. Recently, the Rio+20 outcome document further stressed the commitment to the progressive realization of access to safe and affordable drinking water for all as necessary for poverty eradication, women's empowerment and the protection of human health. The document highlighted the need to significantly improve the implementation of integrated water resource management at all levels as appropriate.

Other key policy processes that have stressed the centrality of women in water resources management include the 1977 United Nations Water Conference at Mar del Plata, the 1981-1990


International Drinking Water and Sanitation Decade, the 1992 International Conference on Water and the Environment in Dublin and the 2002 Johannesburg Plan for Implementation. The resolution establishing the International Decade for Action, Water for Life (2005-2015), also calls for women's participation and involvement in water-related development efforts. The Convention on the Elimination of All Forms of Discrimination against Women ratified by 187 countries emphasized the right of women to enjoy adequate living conditions, particularly in relation to water supply, housing and sanitation. The Platform for Action adopted at the 1994 International Conference on Population and Development also underlined the linkages among women's low status, water deprivation and poverty. The General Assembly resolution, "The improvement of the situation of women in rural areas", adopted in November 2011, urged Member States to promote access to safe and clean drinking water and sanitation to improve the health of rural women and children.

It is generally perceived that the gender gap in agricultural water resource management arises from the gender division of labour and gender norms in society, which allocate many water-related responsibilities to women while conferring most water-related powers and rights to men. Indeed, studies from 45 developing countries show that women and children bear the primary responsibility for water collection in 76 per cent of households. In 12 per cent of households children carry the main responsibility for collecting water, with girls under 15 years of age twice as likely to carry this responsibility as boys under the same age.⁴ Women and girls spend long hours fetching water both for domestic and productive use, while their unpaid work in managing water scarcity is often not adequately recognized and addressed in policies and programmes. The hardship of women and girls associated in the primary careers of the family—as growers and producers of food and as unpaid water collectors—add to their drudgery and deprive them of educational and employment opportunities to break the intergenerational transfer of poverty and disempowerment.

Water governance policies and processes often fail to take into account women's and men's multiple water needs and their gender-specific constraints. For instance, recent data suggest that water allocation mechanisms give priority to agricultural, industrial and power production at the expense of household needs. Current estimates have shown that 70 per cent of the world's water is used for agriculture, 20 per cent for industry, and only 10 per cent for personal use, although these dimensions are interrelated as agricultural and industrial use of water also affect personal and domestic use.

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Macroeconomic and water policies also tend to consider households only as consumption units, while women's coping strategies to lift themselves out of poverty include the cleaning, conservation, storage and preparation of food, all of which require water.

Women and men use water for many different purposes including domestic, agriculture, health and sanitation, whereas men are generally only concerned with water for agriculture and livestock. Other non-agricultural water use includes personal hygiene, care of the sick, cleaning, washing and waste disposal. Recognizing the various purposes for which these local water resources are used by different groups of men and women in the community would help successfully integrate gender considerations in water management.⁵ It is critical to find a balance between agricultural and non-agricultural water use, and to foster more equitable and gender-sensitive water management and service delivery.

Access to irrigation is often strongly linked to land rights and has a detrimental impact on women smallholder farmers' productivity and income as food producers. Global data illustrate that women have equal property ownership rights in 115 countries and equal inheritance rights in 93 countries.⁶ However, gender disparities in land holdings are discernible in all regions, depriving women from accessing irrigated water, belonging to water users associations, benefitting from agricultural extension services and accessing credit as land is often used as collateral. For instance, in rural sub-Saharan Africa, women hold less than 10 per cent of the credit available to smallholder agriculture.⁷ Globally, only 5 per cent of agricultural extension services are pro- vided for women farmers.⁸ For instance, The State of Food and Agriculture 2010-2011 by FAO, suggests that bridging the gender gap in agriculture could increase agricultural yields to potentially reduce the number of hungry people by 100 to 150 million.

Women remain largely excluded from decision-making processes in water resource management. In 2012, women held less than 6 per cent of ministerial positions in the field of environment, natural resources and energy. Decisions about water sharing, allocation and distribution between different users and across regions are most often made at higher levels where economic and political considerations play an important role. Water policies based on broad, generalized perspectives are more likely to omit the local knowledge, and social and gender dimensions and their implications.

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WATER RESEARCH PROGRAMME -Weekly Bulletin-

Social and gender analysis conducted at the lowest possible level to capture the local context, such as the community water source, the sub-basin level or micro-water shed level, can help in understanding the problems and potential impact of the policy on different groups of women and men. Community water sources, whether natural or man-made lakes, ponds and irrigation schemes, serve many purposes in fishing, agriculture, gardening and personal hygiene.

Recent policy initiatives on water privatization have emphasized cost-sharing arrangements as an important part of demand-based approaches; in this sense user payments towards the provision and maintenance of water facilities are conceived to ensure the commitment of users to proper use and to give the users a sense of ownership over the water facilities and resources. Paying for water has gender implications. Poor people generally are disadvantaged by market mechanisms and face high opportunity costs of securing access to water in a market economy. Women may be disproportionately disadvantaged as they command lower wages for paid work including casual work, have less command over productive assets and cash in the household and have restricted access to markets for the sale of their produce.

Tariffs are often based on household income of which women do not necessarily have sole command. If they are responsible for paying for water from their own resources, their multiple disadvantages in income generation make this an additional burden. Recognizing constraints on cash incomes and projects sometimes specify that the community should contribute labour in lieu of cash. It is assumed that labour is a resource available even to the very poorest. Poor rural women face real constraints in paying cash for water supplies, or in providing labour due to their multiple responsibilities in the production and reproduction spheres. The opportunity costs of giving up paid casual work to contribute to the communal water supply is high.⁹

Agricultural water resource management as a pathway towards gender equality requires recognizing the role of women as farmers and irrigators, and addressing their asymmetrical access to productive resources, services and decision-making spheres. It is therefore crucial to ensure that gender issues are mainstreamed in all governance and decision-making processes related to agricultural water resource management. This should:



- Recognize women as independent users of water and enable them to access water rights regardless of land ownership. This involves strengthening women's leadership in water policy and decision-making spheres, supporting their membership in water management institutions such as water user organizations, reducing membership fees and broadening the mandate of irrigation schemes to acknowledge and include multiple water use.
- Increase efficiency in managing water and food resources, supporting women's roles as water resource managers, farmers and irrigators, and ensure that women are empowered along the water and food supply chains.
- Alleviate women's and girls' unpaid work burden associated with water collection, food production and processing, and care work through provision of labour-saving technologies.
- Address the multifaceted gender discriminations in accessing and controlling productive resources such as water and land, assets and services. This involves identifying constraints that prevent different groups of women from accessing water resources such as social and gender constructs and power relations in the community, and to facilitate the removal of these constraints.
- Improve water supply services to cover the needs of the poorer sections of the population by initiating reforms that make water affordable to poor families in rural areas, focusing on households headed by women.
- Provide women with technical training on water management, irrigation, rainwater harvesting, and other smallholder irrigation technologies.
- Establish and enforce accountability measures and indicators to promote women's leadership in agricultural water management, including gender audits.
- Enhance the capacities of relevant stakeholders from government, civil society, and the development partners to understand and address gender issues in agricultural water management and governance.

Notes

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* Colorado River Named "Most Endangered" in U.S.

Persistent drought and outdated water-management policies have placed the Colorado River at the top of a new list of "America's Most Endangered Rivers.

Palisade, Colo -- Persistent drought and outdated water-management policies have placed the Colorado River at the top of a new list of "America's Most Endangered Rivers."

The river irrigates 4 million acres of farmland and affects the livelihood of people such as Brooke Webb, whose Mesa Park Vineyards in Palisade uses water from the Colorado. Not everyone farming in this part of the state has been able to count on Colorado water, Webb said, despite the area's dry climate.

"It's extremely unusual," she said. "We do not get a lot of natural precipitation in this valley. We try to be good stewards so that hopefully, downstream and for generations to come, that there'll still be water."

The group American Rivers releases an annual list of endangered rivers. The new report said 36 million people - from Denver to Los Angeles - also get their drinking water from the Colorado River, and it generates 250,000 jobs from outdoor recreation alone.

The seven Western states that depend on the Colorado for water aren't accustomed to cooperating for a scarce resource, said Matt Niemerski, American Rivers' director of western water policy. Each has its own water-management policies and practices, he said - policies and practices that need to be better aligned.

"It has always been the nature of the resource to pit state against state, to make sure that people get what they need first - and they have not worked together," he said. "That needs to change."

Traditional water-management solutions are no longer practical, Niemerski said, adding that the new focus should be on keeping the river flowing - and keeping more water in it, by using less.

"We can't afford the large infrastructure projects, the things like dams and reservoirs," he said. "We can't afford those anymore, as a country. The most cost-effective way out of this is looking at conservation and efficiency."

Scientists predict the Colorado's flow will decrease by 10 percent to 30 percent by 2050, and blame climate change for much of the drop.

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[&]quot;Colorado River Named "Most Endangered" in U.S.", 22/04/2013, online at: http://www.fowlertribune.com/article/20130422/NEWS/130429998