



ORSAM WATER BULLETIN

Weekly Bulletin by ORSAM Water Research Programme

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



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❖ **Iran: Thousands of Ahwaz residents hold human chain to protest river diversion**

NCRI - Thousands of residents the southern city of Ahwaz once again formed a human chain along Karoon River on Thursday afternoon to protest the Iranian regime plans to divert this river's water that threatens to dry the river.

The residents said that with this destructive project, Khuzestan will soon face a drought and turn into a desert. Fearing spread of this popular protest, the suppressive security forces attacked protesters battering people and arresting a number of them.

According to the regime's plan, 1200 million cubic meters of water from Karoon will be diverted to the central provinces. This plan will sharply reduce the water of rivers leading to Khuzestan plain and the Persian Gulf.

This plan that serves the interests of the revolutionary guards on the pretext to bring water to other sections of the country will turn Iran's most fertile lands into dry and barren lands.

Even now, with some diversion of Karoon's water, the average depth of this river in and around Ahwaz has dropped to less than one meter and the water has turned quite salty. Many fertile lands of this province are no longer cultivatable and many peasants have lost their jobs and moved to cities.

This plan is so destructive that regime's parliamentarians fearing an uprising by people of Khuzestan, have warned that "transfer of Karoon's water to other provinces will destroy Khuzestan Province".

"Iran: Thousands of Ahwaz residents hold human chain to protest river diversion", 29/11/2013, online at:
<http://www.ncr-iran.org/en/news/iran-protests/15380-iran-thousands-of-ahwaz-residents-hold-human-chain-to-protest-river-diversion>

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❖ ‘Water Cooperation for a Secure World -- Focus on the Middle East’

As we might remember, the “Blue Peace in the Middle East: International Media Conference,” was held in İstanbul on March 18-19, 2013. The event was co-hosted by the journal Turkish Review and Mumbai-based think tank Strategic Foresight Group (SFG) in partnership with the Swedish International Development Cooperation Agency (Sida). The Swiss Agency for Development and Cooperation (SDC) also cooperated in hosting the event. As a follow-up to this conference, the same group held another titled “Water Cooperation for a Secure World -- Focus on the Middle East” in Amman, the Jordanian capital, on Nov. 27-28, 2013.

During the two-day conference, the issue of trust between countries was said to be the greatest obstacle to water cooperation in the Middle East. The media, which have a major effect in molding public opinion, play a significant role in this process of water security. The role of media in raising public awareness about water was highlighted particularly.

During the conference taking place in İstanbul, the Danube and the Rhine came to the fore as models of cooperation. These rivers run through 19 and nine riparian countries, respectively. Moreover, these rivers, which are also used for navigational purposes, have severe quality and flooding problems. The process of cooperation in both basins has been going on for almost a century. The pollution and flooding problems are trans-boundary problems that affect all riparian countries, and cooperation is an unavoidable fact in both basins. This situation facilitates cooperation when compared with basins where the quantity of water is a problem. These two models of cooperation held up at the conference were hailed as an inspiration for the Middle East.

However, the Middle East is a region in which a semi-arid and arid climate prevails and water shortage is a major problem. The process of preparing agreements on the allocation of water in trans-boundary basins where water shortages are experienced is not so easy. The issue of trust among countries in regions such as the Middle East, where many conflicts take place and where water is associated with food safety, national interest and security, presents obstacles to cooperation on trans-boundary watercourses. Experiences related to the management of trans-boundary watercourses in Jordan, where water shortage is the norm and which ranks fourth for water-poor countries of the world, cooperation on trans-boundary watercourses in the Okavango and Mekong basins, Asia and

South Asia, the models of Iraq and Turkey and the relevant experiences of Europe and UN were discussed during the conference in Amman.

At the conference, predominantly attended by specialists, academics, politicians and journalists from Turkey and Middle Eastern countries, participants stated they do not associate water with war, but rather focus on water as a means of finding peace. It was envisaged that this project was created by the Middle East, where a semi-arid and arid climate prevails and water shortage is common, and the problem could be solved by the countries in the region. Looking through the literature and news, it can be seen that water is often mentioned within the context of conflicts and crises. That is the reason behind the creation of “Blue Peace,” which is also an Internet platform that brings water-related news, research, specialists and journalists together.

The SFG prepared a report titled “Water Cooperation for a Secure World -- Focus on the Middle East” in relation to the conference. The report classifies countries and basins based on their level of water cooperation. According to this classification, 37 out of 148 countries that are directly connected to 263 river basins have not signed any agreement regarding water cooperation. According to the report, it is highly likely that water-related conflicts could break out in these 37 countries.

Accordingly, the political will of these countries is of great importance, if they are to be included in the cooperation process. Political will should be reinforced by building trust and cooperation. The steps that must be taken before cooperation can be listed as follows: establishing river basin organizations, the structure of the organization, levels of adherence, functions, decision making, regular talks, legal arrangements, the agreements, content, principles, rights and obligations of states, the solution mechanisms of conflicts, finance, measures related to amendment and revision, unprecedented provisions in the agreement, sharing and utilization, sharing methods, successful methods and guidelines, data management, data collection and monitoring, data exchange, data collection types, monitoring stations, monitoring frequency and the methods and processes to be pursued. In addition to these, climate change and the environment, which are important factors related to water resources, are essential for cooperation.

Above all, climate change strategies occupy an important place in our adaptation to new climate conditions. Navigation is a significant factor in the cooperation process, even if it is not present in

every river basin. Lastly, conflict resolution mechanisms are the most important and final step. Past and current conflicts, types of conflict, notification, consultation, negotiation and types of conflict resolution mechanisms are noted as major factors for water peace in the report.

“Water Cooperation for a Secure World -- Focus on the Middle East”, 01/12/2013, Tuğba Evrim Maden, online at: <http://www.todayszaman.com/news-332797-water-cooperation-for-a-secure-world-focus-on-the-middle-east.html>

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❖ **Water cooperation for a secure world**

U.N. Secretary General Ban Ki Moon has repeatedly emphasized the need to explore the linkage between water, peace and security. Now, new research by Strategic Foresight Group demonstrates that he has been right to do so. Empirical evidence in 148 countries and 205 shared river basins indicates that any two nations that are engaged in active water cooperation do not go to war.

Of the 148 countries covered by the report, Water Cooperation for a Secure World, 37 are at the risk of going to war over issues other than water, including land, religion, history and ideology. These also happen to be precisely the 37 countries which do not engage in active water cooperation with their neighbours.

The good news is that more than 100 of those countries which promote water cooperation in both letter and practice also enjoy peaceful and secure relationships with their neighbouring countries. Water and peace are interdependent.

Nonetheless, and despite the growing international consensus in the international community on the significance of water as an instrument of cooperation (as reflected in the U.N.'s designation of 2013 as the Year of Water Cooperation), many analysts continue to project water as a source of potential conflict. It is true that lakes, rivers and glaciers around the world are shrinking. Growing pressures of population, economic growth, urbanisation, climate change and deforestation can further deplete water resources, thus causing social and economic upheavals, but this need not be so.

Active water cooperation can help overcome environmental challenges and usher in a new era of peace, trust and security. Beyond the essential legal agreements, active cooperation also requires sustained institutions of trans-boundary cooperation; joint investment programmes; collective management of water related infrastructure; a system for regularly and jointly monitoring water flows together with a shared vision of the best allocation of water resources between agriculture and other sectors; and, a forum for frequent interaction between top decision makers. An institutional infrastructure should enable political leaders to discuss exchanges between water and other public goods such as transit, national security or large public works. The underlying emphasis must be

placed on harnessing the benefits of a river, rather than on squabbling about the shares of depleting flows.

The new Strategic Foresight Group report introduces the Water Cooperation Quotient (WCQ) which measures the effectiveness and intensity of trans-boundary cooperation in water using the parameters mentioned above. The 37 countries that face the risk of war happen to have a WCQ below 33.33 in value.

Many parts of the world witness active water cooperation between riparian countries. In the Senegal River basin in West Africa, an autonomous body which is independent from any state owns the dams. In Latin America, the waters of Lake Titicaca are considered joint and indivisible by Peru and Bolivia. In the Mekong basin, flow data is harmonized among the lower riparian countries, while the upper riparian countries, China and Myanmar, are dialogue partners. The Rhine, Danube and Sava River basins, as well as Lake Constance in Europe and the Colorado River between the United States and Mexico are all jointly managed on a daily basis. These countries all enjoy peaceful and stable relations.

The benefits of active water cooperation, both in terms of economic growth and in previously unknown levels of peace, as evidenced in both the developed and parts of the developing world such as Central America, West Africa, and Southeast Asia should not be denied to West Asia or other regions. Such cooperation however is premised on an intellectual framework for cooperation, rather than confrontation, or the “Blue Peace way of thinking” where water is seen as an instrument of collaboration rather than a cause of crisis.

We have together developed the Blue Peace approach, in a process supported by the Swiss and Swedish governments over the last three and half years. It entails the development of a community of political leaders, parliamentarians, government officials, media leaders, and experts from regions facing political discord, to encourage the use of water to promote peace and the protection and enhancement of the human environment. Such a community can pave the way in establishing regional cooperation councils for the sustainable management of trans-boundary waters to facilitate joint monitoring of water flows; to harmonise standards to measure water and climate indicators; to

negotiate joint investment plans in water related large projects; and, to discuss exchanges between water and other public goods. This can result in the improvement of the WCQ to a level higher than 33.33 in Asia and Africa. Indeed we urge all countries to use the WCQ to assess their own performance with regards to their cooperation with neighbours and thereby to enhance the prospects of peace and security for themselves.

It is our profound hope that together we can begin the process of implementing the Blue Peace framework across the world by crafting institutional instruments, globally acceptable legal regimes, dialogue mechanisms and a worldwide Blue Peace network. If we take a few steps in this direction this year, the proclamation of 2013 as the International Year of Water Cooperation will prove to be meaningful.

HRH Prince Hassan bin Talal is the chair of the U.N. Secretary General's Advisory Board on Water and Sanitation. Sundeep Waslekar is the president of Strategic Foresight Group.

“Water cooperation for a secure world”, El Hassan bin Talal, Sundeep Waslekar 26/11/2013, ONLINE AT:
<http://www.yementimes.com/en/1732/opinion/3159/Water-cooperation-for-a-secure-world.htm>

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❖ Arab Water Crisis to affect human development: UNDP report

London, *Asharq Al-Awsat*—The Arab world is facing an escalating water crisis that demands quick answers in order to avoid major humanitarian consequences, a United Nations Development Program (UNDP) report warned this week.

The report, entitled *Water Governance in the Arab Region: Managing Scarcity and Securing the Future*, revealed that out of a total of 22 countries, 15 regional states fall into the “water poor” category, while the situation in seven other states is described as “deteriorating.”

The Middle East and North Africa accounts for 10 percent of the world’s landmass and is home to 5 percent of the world’s population, but has less than one percent of global water resources. An average Arab citizen has eight times less access to renewable water than citizens of other parts of the world, the report said.

“Urbanization and population growth are straining already scarce resources. The population of Arab countries, estimated at 360 million, is expected to reach around 634 million by 2050,” the report warned.

“The gap between water supply and demand, estimated at more than 43 cubic kilometers a year in 2009, is expected to reach 127 cubic kilometers a year by 2020–2050,” the report added.

“Water challenges can and must be addressed if the Arab region is to achieve the Millennium Development Goals, attain shared prosperity, and reach a future of sustainable human development. Addressing water challenges now can also help strengthen resilience by managing the risk of potential crises that could result from inaction: such as unplanned migration, economic collapse or regional conflict,” Sima Bahous, the assistant administrator of the UNDP, said in the report’s foreword.

“Resolving the crisis will require enduring progress towards political, social, economic and administrative systems that shape the use, development and management of water resources and water delivery in a more effective, strategic, sustainable and equitable direction,” she added.

The UN report, commissioned by the UNDP’s Regional Bureau for Arab States, affirms that while water scarcity is the primary reason for the crisis, an absence of good governance has only served to

exacerbate the problem. The report confirmed that major challenges include fragmented institutions with unclear and overlapping responsibilities, insufficient funding, centralized decision-making and ineffective enforcement.

The report overview concludes: “To succeed, any long-term vision for water governance requires a solid understanding of the social and cultural changes brought by modernization. As lifestyles evolve with rising education levels, accelerating urbanization and ongoing political and social reform, governance must evolve in tandem. Arab countries must also prepare for the impacts of climate change on water resource planning and augment their adaptive capacity.”

“Arab Water Crisis to affect human development: UNDP report”, 29/11/2013, online at:
<http://www.aawsat.net/2013/11/article55323973>

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❖ Arab Water Crisis at its core, says UNDP

Water challenges must be addressed if the Arab region is to achieve the Millennium Development Goals, attain prosperity, and reach a future of sustainable human development, says a new United Nations Development Programme (UNDP) report launched today in Bahrain. Addressing water challenges now can also help strengthen resilience by managing the risk of potential crises that could result from inaction: such as unplanned migration, economic collapse, or regional conflict, according to the report entitled: “Water Governance in the Arab Region: Managing Scarcity and Securing the Future”.

The Report stresses that the waters scarcity in the region is fast reaching alarming levels, with dire consequences to human development. The statistics are known. **While the region accounts for five percent of the world’s population and 10 percent of its area, it accounts for less than one percent of global water resources**, its share of annual renewable water resources is also less than one percent, and it receives only 2.1 percent of average annual global precipitation. Over 87 percent of the region’s terrain is desert and 14 of the world’s 20 most water-stressed countries are in this region. The average Arab citizen has eight times less access to renewable water than the average global citizen and more than two thirds of surface water resources originate from outside the region.

“While emerging challenges to water quality and quantity, such as climate change, are being experienced in many countries, those in the Arab States region are of particular concern as water scarcity is already acute here,” said UNDP Administrator Helen Clark. “Increased demand for water from expanding populations and economic growth is likely to deepen what is often described as a regional ‘water crisis’.”

Commissioned by UNDP’s Regional Bureau for Arab States, the Report argues that while scarcity is the foundation of the water crisis, the crisis is also one of governance of this under-valued and vulnerable resource. Major challenges for the water sector in the region include: fragmented institutions with unclear and overlapping responsibilities; inadequate capacities; insufficient funding; centralized decision-making; lack of compliance with regulations and ineffective enforcement; and limited public awareness.

“The water crises must be dealt with as a matter of priority and urgency. It deserves increased political attention and commitment even amid the challenging political environment of the region today,” said UN Assistant Secretary-General, UNDP Assistant Administrator and Director of the Regional Bureau for Arab States, Sima Bahous. “Indeed, we must seize the opportunity presented by the current Arab political and economic transformations to advance water governance reform.”

Key elements of good water governance discussed in the report include equity, transparency, accountability, environmental and economic sustainability, stakeholder participation and empowerment, and responsiveness to socio-economic development needs. The report argues that by reorienting policy; reforming institutions, promoting education and awareness; increasing stakeholder participation; establishing international agreements; and linking policy to research and development (R&D), governance can ensure efficient water management practices. It also emphasizes that cost-effectiveness analysis can establish water’s real value and identify the most socially, economically and environmentally cost-effective policy options.

The Report underlines that the complex nexus between water scarcity, food security and energy further emphasizes the social, economic and political implications of the water crisis in the region. Water security is inseparable from social, economic, environmental and health considerations. All sectors—agricultural, industrial and municipal—and users must have equitable, reliable and sustainable access to water, and must use water efficiently. Effective governance must be flexible, able to adapt to climate change and incorporate the social and political changes accompanying modernization.

Main findings of report

Adapting to water scarcity –Water scarcity in the Arab region is an established reality. However, the report argues that the adaptive capacity of any society—a complex function of infrastructure, wealth, economic structure, and physical, human and institutional resources—is what determines how scarcity affects it. Socio-economic scarcity arises from an economic inability to develop additional water resources or a social inability to adapt to conditions of physical scarcity. Forced scarcity arises from occupation and political conflict. To strengthen adaptive capacity, water governance must address all types of scarcity, the report stresses.

Investing in innovative approaches to augment water availability already in use across the region—

To meet steadily rising demands for water, Arab countries have resorted to a host of approaches to bolster water availability and sustainability and reduce the risk of water-related disasters.

Where conventional water resources (surface water and groundwater) are available, countries with highly variable rainfall and trans-boundary waters have invested in water storage and conveyance networks, dam building, and increasingly drawing on shallow and deep groundwater resources, many of which are non-renewable fossil aquifers. Groundwater overexploitation in the region is not only depleting resources but also damaging the environment. Water salinization has dried natural springs and degraded or destroyed surrounding habitats and ecosystems.

Several Arab countries have also expanded their use of nonconventional water resources including desalination; treated wastewater; rainwater harvesting; cloud seeding; and irrigation drainage water.

For example, the **Arab region leads the world in desalination, with more than half of global capacity**. Desalinated water is expected to expand from 1.8% of the region's water supply to an estimated 8.5% by 2025. Most of the increase is expected to concentrate in high-income, energy-exporting countries, particularly the Gulf countries, because desalination is energy- and capital-intensive.

As well, **Arab countries are using more treated municipal wastewater**—currently estimated at 4.7 billion cubic metres a year and rising. All such approaches require long-term policy, regulatory innovation, and greater investments in infrastructure and research and development (R&D), to improve their efficiency, allow scalability and enhance sustainability.

To meet rising demands for food, many Arab countries have been forced to acquire water by importing agricultural commodities requiring large amounts of it. **Because the Middle East and North Africa imports half of its grain, virtual water trade is necessary**. The amount of virtual water imported in the region doubled from 147.93 billion cubic meters in 2000 to 309.89 billion in 2010.

Water governance that focuses on sustainability, energy efficiency, investment and R&D in water technology is essential to maximize water supply. International coordination and agreements in managing shared water resources are also imperative to ensure their sustainability.

Challenges to effective water governance—The report details a number of key challenges that water governance faces in the region including:

- **Balancing multiple water uses:** Currently, agriculture which contributes only minimally to GDP, consumes more water (85%) than industrial (7%) and municipal users (8%). Arab countries will have to increase irrigation efficiency, use more non-conventional water and manage crops better, says the report.
- **Water equity:** The report notes that while access to water has expanded across the region, progress has been slow in many countries. In 2010, about 18% of the Arab population still lacked access to clean water and around 24% lacked access to improved sanitation. Rural areas, women, poor people and other marginalized groups usually top the list of those who lack of access. The report argues for bottom-up approaches to water governance in order to ensure equity, which requires that all stakeholders, especially poor people and women, participate in water management.
- **Water-related conflict:** The report states that inadequate governance of shared water resources continues to threaten the region's stability and impose uncertainty on water resource planning in downstream countries, highlighting that competition over trans-boundary waters is at the heart of regional political conflicts.
- **The water, food security and energy nexus:** Effective water governance, according to the report requires understanding the interdependence of food security, water and energy. On the one hand, to achieve national food security, governments must maximize agricultural productivity, optimize water productivity, increase trade in virtual water by expanding water-intensive food imports, and work towards regional agricultural integration. On the other hand, energy-intensive technologies of using nonconventional water resources, such as desalination, should be linked to investments in the use of renewable energy sources such as wind and solar.
- **Environmental degradation:** The report calls for water governance approaches that balance socio-economic needs and environmental protection. Overexploitation and pollution have led not only to lower water quality and quantity, but also to ecosystem degradation, which has both economic and social costs.
- **Privatization:** The report highlights that due to multiple inefficiencies, the water sector, which is predominantly publicly owned across the region, has amassed large funding gaps. Arab countries may need to invest as much as \$200 billion in water-related infrastructure over the next ten years—an investment beyond the economic means of many Arab countries. Privatization of water management and distribution may contribute to greater efficiency and more effective water

pricing that will constrain waste and optimize consumption. However, privatization may lead to exclusion of vulnerable and poor people from an essential life-sustaining element. Different modalities of public-private partnerships are being explored in the region.

The way forward: Building blocks of effective water governance—The report argues for a multidimensional approach to the Arab water crisis incorporating social (non-exclusionary, equitable access), economic (efficient use and recognition of the economic value/role of water), political (democratic access to decision making to ensure equity) and environmental (sustainable use preserving the ecosystem) concerns. It presents the following guiding principles and recommendations to realize effective water governance in the region:

- **Reorienting policies:** In water-stressed Arab countries, expanding supply while neglecting use and allocation efficiency has led to unsustainable use and has failed to deliver water security. Policies must shift from managing supply to managing sustainable demand and from crisis management to long-term planning. Required policy shifts should be consultative, engaging all stakeholders; avoid politicization of resource competition; link water economy and policies to other economic sectors; make provisions for cooperative management of trans-boundary water resources.
- **Instituting reform:** Most Arab countries have institutional frameworks that can contribute to good water governance but lack the legislative instruments to support implementation. New challenges require innovative tools, such as decentralization; employment of participatory approaches; strengthened local technical and financial capacities; dialogue and consensus; effective enforcement and compliance; and better water institution performance.
- **Addressing inadequate and weakly enforced legislation:** Ensuring compliance and enforcement of water legislation requires updating legislation through a participatory approach; garnering public support through education and awareness raising among the public; providing technical assistance and economic incentives; as well as developing inspection and monitoring capacities to investigate, report and where needed penalize violations.
- **Empowerment:** Social equity should anchor policy choices. Policies should allow meaningful participation of all stakeholders, regardless of social status or power. All social groups should be able to voice their claims and concerns in an open, transparent environment. Incorporating social and gender equity concerns in policy formulation and programmes is a prerequisite for effective water governance. To realize the goal of inclusiveness, countries must go

beyond legislative arrangements and staged participatory processes to work towards cultural change. Civil society engagement; involvement of end users through users' associations; public debate over water issues facilitated by research and academic institutions; and access to relevant and timely information on the water sector, will all be essential tools of empowerment.

- **Sustainability: the companion of success:** To achieve equity and justice essential for social sustainability, active and meaningful engagement of relevant stakeholders should be an established policy at all governance levels. Economic sustainability entails calculating benefits and costs of water policies. Environmental sustainability should account for the need for continued water availability while rationalizing the use of renewable water resources and ensuring ecological preservation of the natural environments. Countering desertification and preserving wetland and oases ecosystems are among the most urgently needed steps.
- **Addressing water-related challenges and nexuses:** Mitigating water scarcity and variability and ensuring that water of adequate quantity and quality is available when and where it is needed, requires broad and sustained efforts of all involved stakeholders, including decision-makers, planners, engineers and the public. A top priority for adaptation in the water sector should be reducing the vulnerabilities of poor and disadvantaged people. Securing environmental and ecological sustainability is another major priority. Coping with water scarcity requires adaptive behaviours and actions. This will allow for better management of challenges such as climate change, water and food security and the water-energy nexus, among others.

“Arab Water Crisis at its core, says UNDP”, 28/11/2013, online at: <http://arabiangazette.com/arab-water-crisis-core-undp-20131128/>

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❖ **Water cooperation needed for secure world**

AMMAN — Most countries in the Middle East are at risk of war because they have avoided regional cooperation in the water and other sectors, according to a new report.

The “Water Cooperation for a Secure World, Focus on the Middle East” report by Strategic Foresight Group (SFG) indicated that population growth, depletion of resources, environmental concerns and changes in the climate will worsen water stress in the region in the coming years, thus pushing cooperation further out of reach.

Although many agreements might have been signed amongst Middle East countries to regulate the use of trans-boundary water resources, active cooperation is missing, noted the report, which will be officially launched on Thursday at the Royal Scientific Society.

“There is an evident lack of willingness to seek active cooperation on shared water bodies amongst countries in the Middle East,” the report said.

To quantify the degree of cooperation between neighbouring countries, SFG has developed a water cooperation quotient, which was calculated using 10 parameters ranging from the presence of an agreement and commission, frequency of ministerial meetings, and technical and scientific projects to the actual functioning of the transboundary mechanism.

Countries with a shared water basin that have a high level of political commitment, economic cooperation, joint projects and infrastructure development rated high on the cooperation scale, according to the report.

Countries that only signed treaties or agreements and perhaps had a few technical projects without long-term political commitment were found to be at the bottom of the scale, including the Middle East.

“It was also found that certain countries would rate high on the cooperation quotient with one neighbour, while faring low with other neighbouring countries,” the report indicated.

The water cooperation quotient is a tool that can be employed by countries aiming to achieve or improve active and sustainable water cooperation with their neighbours, the report suggested, adding that the quotient parameters can form a benchmark for transboundary water cooperation that will lead to regional security and cooperation on other fronts.

The report said that neighbours aiming to achieve water cooperation should strive for a quotient of 50 per cent or more, indicating that Syria, Iraq, Lebanon, Jordan, Israel, Turkey and the Palestinian Territories all have cooperation quotients of less than 11 per cent with almost all their neighbours.

“Water cooperation needed for secure world” ,Jordan Times, 25/11/2013, online at:

<http://mideastenvironment.apps01.yorku.ca/2013/11/water-cooperation-needed-for-secure-world-report-jordan-times/>

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❖ Israel should increase Palestinian water quotas

A Highly interesting paper, discussing Israel's water policy with respect to the Palestinians, was presented at the Good Water Neighbors Annual Regional Conference held last week [Nov. 13-14] under the auspices of Friends of the Earth Middle East ([FoEME](#)), an organization that deals with the environmental problems shared by Israel, Jordan, and the Palestinians. The document essentially calls on Israel to increase the water quotas allotted to the Palestinians, and urges the Palestinian Authority to take it upon itself in return to deal with the “sewage Intifada” — the acute problem of wastewater in the West Bank. As matters now stand, close to 90% of the wastewater originating in Palestinian villages and towns flows into Israeli population centers and seriously pollutes the water there.

Israel is well on the way to water surplus

It emerged from the data gathered by the Israel Water Authority that, thanks to the large [desalination plants](#) built in Israel in recent years, Israel is [no longer the drying- up country](#) it used to be in the past. In fact, Israel is currently facing water surplus. Once construction of the two desalination plants near Ashdod in southern Israel is completed — in early 2014, according to the plans — all five desalination facilities in Israel are expected to provide about 50% of the water consumption in the country. The total annual water consumption in Israel in 2011 was 1,347 MCM (million cubic meters), while the desalination plants are projected to provide before long approximately 570 MCM per year. Talking about the domestic consumption alone, the desalination plants will shortly provide about 90% of the household consumption in Israel. Thus, the possibility that at least one of the local desalination plants will be asked to scale back production due to the anticipated water surplus is already under discussion in Israel.

At the same time, the Palestinians are still suffering from an [acute shortage of water](#). One can witness it in every village and town in the West Bank, where there is no steady supply of water through the pipelines, so that the residents are forced to store water as a routine. All this, not to mention the [Gaza Strip](#), where the problem is even more serious. Israel, which controls most of the water sources in the West Bank, allocates the Palestinians only small quotas of water, as stipulated in the Oslo Accords.

Thus, for instance, in the South Hebron Hills, the quota of water per capita is some 20 liters a day, as against some 300 liters a day in Israel. The Israeli-Palestinian Joint Water Committee (JWC), established as part of the Oslo accords with the aim of setting quotas, authorizing drilling and, in general, addressing water-related problems, stopped meeting more than two years ago.

Meanwhile, the Israelis are complaining that the Palestinians are carrying out piratical water drilling, without authorization and without coordination, stealing water from the Israeli water supply pipeline and streaming wastewater into Israel. The Palestinians, for their part, charge that Israel deprives them of water and dries them up.

There is a solution. It just has to be realized

The improvement in Israel's water economy may be attributed not only to the desalination but also to well-run wastewater treatment, which has become much more efficient over the years. However, on the Palestinian side, the water shortage is worsening while wastewater treatment is done on a small scale, and using primitive methods. And as said above, Palestinian wastewater is flowing into Israel. The Palestinians need an additional supply of several dozen million cubic meters per year, as recommended by the paper submitted to the Conference: “This is the called-for move — financially, ecologically, and no less important, politically.” In addition, [wastewater treatment facilities](#) have to be built, and international bodies are willing to help out with the project. Alas, mutual suspicion and the diplomatic impasse are standing in the way of realizing the solution.

“Israel should increase Palestinian water quotas”, 29/11/2013, online at: <http://www.al-monitor.com/pulse/business/2013/11/israel-palestine-wastewater-west-bank-pollution-sewage.html>

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❖ Sustainability Out of Necessity: One Country's Water Solutions

Israelis will be the first to tell you that they look to create opportunity out of adversity. As a developed country with a relatively high standard of living, situated in an arid part of the world, Israel has focused on harnessing and conserving water for years. With water scarcity becoming an increasingly recurring theme in the United States, we would do well to learn to do the same. Here are a few innovative water management sustainability projects that are worth learning from:

Irrigation

Go anywhere in Tel Aviv and you will see drip irrigation. Drip irrigation is a system of valves and pipes that delivers water directly to the root of the plant, with almost no evaporation or surface runoff. The system uses 30 percent to 50 percent less water than conventional sprinkling. In Israel, drip irrigation makes up 95 percent of watering applications. The concept is not new, as it has been in use in one form or another since the first century BCE, and was further developed in the West in the 1860's. However, drip irrigation as we know it was introduced to the world by an Israeli company, [Netafim](#), in 1965. In a recent trip to Israel courtesy of [Kinetis](#), a non-profit organization, we met with Netafim's CSO at Kibbutz Hatzerim, where drip irrigation is being used to grow jojoba plants. There we learned more about Netafim's future plans.

Netafim has already introduced their version of drip irrigation to many countries, and is looking to bring more of this technology to the developing nations, since about 80 percent of the food produced there is produced by poor small land holders. They plan to do this via what they term the 'Family Drip System'. In locations where water is not piped in to a water source, the water is stored in a tank in an elevated tower about 1.5 meters (5 feet) from the ground, and uses gravity to guide the water downstream to the pipes that then distribute it to the plants. They have started doing this in China, with promising results.

Drinking Water

Drinking water is another challenge, which Israel has addressed by focusing on desalination. The [Israeli Water Authority](#) estimates that 80 percent of its water will be desalinated by 2014. Issues with desalination aside, the next challenge is getting Israelis to drink the desalinated water. While I thought the water tasted fine and better than in some states in the US, Israelis seem to prefer their water filtered. [Strauss Water](#), a subsidiary of the Strauss Group focused on purified drinking water,

has developed a [WQA Gold](#) certified countertop filter that is in two thirds of Israeli homes and represents 90 percent of the water filtration market in the country.

A newer and very exciting product that I came across was [Woosh Water](#), an on-demand water filtration device for public areas. The system is currently available in five public areas in Tel Aviv. The system was designed to decrease the number of plastic water bottles being used and to make filtered water easily accessible on the go. Users sign up online or on the spot, or can use their public bike share program fob. They can program the size of the bottle they will be filling and even clean their bottle before filling it. If they misjudged, the system automatically stops when the bottle is removed. Thus far, 12,000 Tel Avivans have signed up, and the system tracks having saved more than 41,000 plastic water bottles. Hoping this comes to the US soon!

Education

Finally, education, as in anything, is key. The Israelis understand the importance of education in promoting a sustainable way of living. At the [David Yellin College's](#) Education for Sustainability Development (ESD) Institute, they consider water "blue gold". One project ESD has undertaken involves storing water from air conditioning condensation in a cistern. This is used in part to water plants, and the rest is sent to a pond downstream.

[Kibbutz Lotan](#) reuses water from the bathroom sinks and composting toilets, also known as black water, via constructed wetlands pools that process the water. The pools work like a septic system but instead of the water going from the leach field into the ground, it is cleaned from organic load then used to water the fig, date and olive trees.

While Israel has done a great job of taking these water management steps for itself, there are social justice issues that also need to be considered. The majority of the existing environmental impacts are the result of consumption patterns from the top 10 percent of the population. In addition, there is the [issue of Israel's collaboration with its neighbors](#), specifically Palestine and Jordan next door around water rights. I will be highlighting ways that some organizations in Israel are collaborating and promoting peaceful solutions through resource management in a future piece.

“Sustainability Out of Necessity: One Country's Water Solutions”, 25/11/2013, online at:
http://www.huffingtonpost.com/anca-novacovici/sustainability-out-of-nec_b_4326026.html

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❖ Israeli Mekorot Group Will Assist Mexico to Improve Water Quality

The Ministry of Environment and Natural Resources of Mexico and Israeli Mekorot Group signed a cooperation agreement for the development of strategies for the protection of groundwater quality in Mexico.

Mekorot Group will assist Mexico to improve water quality, protect its water resources, and restore its aquifers.

The Cooperation agreement between Mekorot Group and CONAGUA (the Mexican national water commission) was signed in presence of the President of Israel, Mr. Shimon Peres and the President of Mexico, Enrique Peña Nieto.

First stage in the cooperation will include review and recommendations for the purification of aquifers, which its estimated cost is NIS 20 million (\$5.55 million) . In the second phase, several pilot projects will be carried out in order to prove the treatment processes. Eventually, treatment facilities themselves will be established in the country.

Mekorot Group and the Water Committee of Mexico chose 10 subterranean water reservoirs that represent a variety of infections and decreases in water quality – salinization, manmade inorganic infections, waste water overloading, pollution in rural areas due to seepage of pesticides and oil pollution or infections in strategic areas of gas utilization.

Mekorot Group will diagnose the causes of infection in the selected groundwater reservoirs, determine if the infections are reversible and will recommend strategies for rehabilitation. Specialists from the group will also be asked to determine whether after the strategies implementation water consumption will be possible or cleansing processes will also be required. Mekorot will also offer CONAGUA several options for chemical and biological rehabilitation of the reservoirs.

Additionally, the agreement will conclude briefing of experts, staff and factors related to CONAGUA by Mekorot in areas related to the groundwater quality. The cooperation agreement was signed by Shimon Ben Hamo, CEO of Mekorot and David Kornfeld, Mexican National Water Commission chairman. The signing took place yesterday in Mexico in presence of the President of Israel, Shimon Peres, and the President of Mexico, Mr. Enrique Peña Nieto, as part of a cooperation agreement signed between the two countries.

Mexico, one of the world's largest oil exporters, has enacted the National Water act in the country only in 2006, and in 2012 authorized by special order The National Water Commission – CONAGUA ,on purposefor monitoring the water resources of the country.

Mekorot also provides 80% of Israel's drinking water and 70% of total water consumption in the country.

“Israeli Mekorot Group Will Assist Mexico To Improve Water Quality”, 29/11/2013, online at:
<http://jewishbusinessnews.com/2013/11/29/israeli-mekorot-group-will-assist-mexico-to-improve-water-quality/>

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❖ Israeli companies interested in improving water efficiency in Bulgaria

Dobrich. At a working visit at the invitation of the Dobrich water company head Julian Ivanov, Israeli Ambassador to Bulgaria Shaul Raz Khamis declared that Israeli companies would be interested in helping Bulgarian cities to improve their water efficiency.

"Bulgaria is a country rich in water and the Dobrich region has to improve its water efficiency in order to be rich as an area as well" HE Raz stated. He described as unacceptable the region's 83% losses and added that after the introduction of effective systems of control, water loss was reduced to just 5% in Israel.

"This should be done here as well and Israel is ready to direct its best companies to help the water company in Dobrich and Bulgaria as a whole".

Israeli companies already have such fruitful contacts between with the water company of Vratsa, he added.

"Israeli companies interested in improving water efficiency in Bulgaria", 30/11/2013, online at:

http://www.standartnews.com/english/read/israeli_companies_interested_in_improving_water_efficiency_in_bulgaria-1745.html

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❖ **PM, Palestinian counterpart discuss closer ties**

Amman, Nov. 24 (Petra) -- Prime Minister Abdullah Ensour met on Sunday with his Palestinian counterpart Rami Al Hamdallah to discuss bilateral ties as well as political and economic issues of mutual interest.

The Palestinian minister conveyed a message from Palestinian President Mahmoud Abbas to His Majesty King Abdullah II that included appreciation for the King's supportive stance towards the Palestinian people and their cause.

Enosur highlighted the strong ties between the two peoples as well as Jordan's keenness to further boost these in various fields, noting that the Palestinian issue and the issue of Jerusalem, as well as preserving the holy Islamic and Christian sites, will remain of importance to Jordan.

The Palestinian prime minister also conveyed the support of the Palestinian president to a Jordanian project to desalinate the Red Sea water which will provide 100 million cubic metres of potable water in the first stage.

The two prime ministers also agreed to hold meetings of the Joint Jordanian-Palestinian Higher Committee in Palestine over the next few weeks.

Al Hamdallah voiced appreciation of King's Abdullah's support to the Palestinian issue as well as the King's interest in the Al Aqsa Mosque. He also appreciated Ensour and the Jordanian government for their continued support to the Palestinians at all levels.

“PM, Palestinian counterpart discuss closer ties”, 24/11/2013, online at:

http://www.petra.gov.jo/Public_News/Nws_NewsDetails.aspx?Site_Id=1&lang=2&NewsID=131115&CatID=13&Type=Home>ype=1

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❖ **Water more important than oil for the future of the Arab world**

UNDP report calls for transformation of water governance in the region and additional financing

Across the Arab world, consensus is emerging that Arab people are facing a new transformation in their relation with the natural world. If the last 70 years can be considered the era of oil in the Arab world, the years to come will be shaped to a much greater extent by how we make use of an even more precious resource: water.

Yesterday the Regional Bureau for Arab States of the United Nations Development Programme (UNDP) launched a new report on the future of water in the Arab region. Entitled the ‘Arab Water Governance Report’, the publication argues that the future will depend on whether the Arab countries can vastly improve the way water is managed.

Oil and gas have allowed for significant modernisation over recent decades including unprecedented improvement in human development, but continuing our progress requires us to treat our water with as much reverence as we have our energy resources — or even more.

The report argues that the water challenges facing the Arab region are part-and-parcel of a much broader set of issues that are of paramount importance today.

From agricultural decline, to youth unemployment and indeed in many cases to civil unrest, most of the difficult dynamics facing the Arab region today are linked in different ways to water issues.

And while this is a truth that faces all societies in the world, it is here in the Arab region that the critical importance of water is felt most deeply. Indeed as our report shows, the Arab region may have the largest stockpiles of oil in the world, but we have the lowest levels of water.

The statistics are striking: Seven of the 10 most water-scarce countries in the world are here; the average Arab citizen has access to approximately one-16th — or around 6 per cent — the amount of renewable fresh water that the average global citizen enjoys; a full two-thirds of the water the Arab countries access comes from rivers which originate outside the region. Already the crisis has become acute. Some Arab countries have nearly run out of renewable fresh water and several others are on course to run near zero in the decades to come.

However underlying scarcity is only part of the story. Our report, authored by Arab scholars and water practitioners, shows that the larger tragedy is that too often this precious resource is used with a

lack of foresight and solid planning: in many Arab countries groundwater resources are currently being used beyond their natural replenishment rates, and higher levels of water are used by the average person in the Arab countries that have the smallest supplies of the resource.

The result is that our water levels, which are naturally low given our arid climate, are being lowered still more by the decisions that we make as societies.

Demographic challenge

Demographic factors exacerbate the challenge. The population of the Arab world tripled from 128 million people in 1970 to over 360 million today. And United Nations projections show that the region's population may nearly double again, to 634 million by the 2050. What's more, whereas today nearly half of the region's population lives in rural areas, by 2050 three of every four people in the Arab region will live in cities.

Climate change is also taking a toll on the water sector, reflected in increasing floods and droughts which too often overwhelm national and local water systems and need to be accounted for in policy and planning.

Addressing the water scarcity challenge in a comprehensive manner is urgent. The Arab world is rich in scientists, officials, business people and civil society representatives who are working on many of the solutions needed to mitigate the water crisis and begin to set water use on a more strategic, equitable, efficient and sustainable manner.

However what is missing in the Arab region is the combination of political will to make water a priority, and institutional capacity to ensure water's most effective use.

Our report argues that the key to the water future of the Arab region is a transformation of water governance. This means that addressing the current water crisis requires strengthening technical capacities and national institutions and developing mechanisms to increase the transparency and accountability of public water services. It also requires additional financing — a recent report by the Islamic Development Bank showed that the Arab countries need to invest \$200 billion (Dh734.6 billion) in infrastructure in the coming years in order to meet rising demand.

Progress requires integrated approaches to the water crisis that address the links between water and health, education, poverty alleviation, environmental protection, job creation, and food and energy security.

It requires increased political attention and commitment even amid the challenging political environment of the region today. And it requires increased cooperation both within the region and with neighbouring countries so that water is shared in accordance with the needs of each country for the benefit of all.

That's why UNDP is working in 18 Arab countries to make progress towards improved water governance — sharing knowledge, developing capacity and connecting stakeholders to resources to secure a better water future as part of a broader push towards sustainable human development across the Arab world.

In many countries our programmes have already contributed to results, but much more work is needed and the UNDP Regional Bureau for Arab States stands ready to redouble our efforts in this regard. The drive to improve water governance cannot be separated from the broader governance challenges currently facing the Arab world. People around the Arab region are demanding fuller enjoyment of justice and equity, increasing accountability with respect to public resources, and a brighter future for their children, their communities, their countries and the region as a whole. There are many components to these broad dynamics across the Arab world, but they are all connected: Improving water governance is essential if the Arab region is to achieve its aspirations—both now and in the future.

The time has come for all stakeholders in the Arab region to make water governance a key priority. Relying on oil will not be enough.

Sima Bahous is Assistant Administrator of the United Nations Development Programme (UNDP) and Director of UNDP's Regional Bureau for Arab States.

“Water more important than oil for the future of the Arab world”, 27/11/2013, online at:

<http://gulfnnews.com/opinions/columnists/water-more-important-than-oil-for-the-future-of-the-arab-world-1.1260661>

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❖ **‘Zarqa water situation to improve within three years’**

Fifty per cent of expansion work on the Samra Wastewater Treatment Plant has been completed, according to the Millennium Challenge Account-Jordan (File photo)

AMMAN — Weekly water supply hours in Zarqa Governorate will almost double within three years while water per capita will increase by 30 per cent, according to officials at the Millennium Challenge Account-Jordan (MCA).

Water and wastewater projects in Zarqa are progressing according to schedule and will be completed early in 2015, MCA-Jordan CEO Kamal Zoubi said at a press conference on Tuesday.

MCA-Jordan, a government-owned company, is implementing three main projects under a \$275-million grant from the Millennium Challenge Corporation (MCC). The projects include the rehabilitation and expansion of the wastewater network, the rehabilitation and restructuring of water networks and the expansion of the Samra Wastewater Treatment Plant.

“Progress on the rehabilitation and expansion of the wastewater network project reached 37 per cent,” Zoubi told reporters.

MCA-Jordan awarded five tenders to local contractors and one foreign company for the rehabilitation and restructuring of the water network, which comprises 800 kilometres of pipes.

“Work on the water network project is expected to commence early next year and be completed in March 2016,” Zoubi noted.

Once completed, water loss will drop from the current 50 per cent to less than 35 per cent and water supply will increase from 36 to 70 hours per week, he added.

Meanwhile, 50 per cent of the expansion work on the Samra Wastewater Treatment Plant has been completed, according to Zoubi, who noted that it will be ready in July 2015.

“The plant will become one of the largest wastewater treatment plants in the Middle East and North Africa region. It will treat over 70 per cent of wastewater generated in the country,” Zoubi said.

The plant currently treats 60 million cubic metres (mcm) of wastewater, he said, underscoring that after the expansion of the facility the capacity will more than double to 133mcm.

MCC Resident Country Director Alex Russin said the water generated from the treatment plant constitutes 10 per cent of Jordan's total water resources.

The three projects constitute a “closed water cycle”, Russin said, noting that the new water pipes will reduce leakage and save precious water, while the wastewater networks will collect the sewage and the Samra plant will treat water which will be used for irrigation.

“Zarqa water situation to improve within three years” “Jordan Times, 27/11/2013, online at:

<http://mideastenvironment.apps01.yorku.ca/2013/11/zarqa-water-situation-to-improve-within-three-years-jordan-times/>

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❖ Israel prevents construction of Palestinian wells near Yabad

JENIN (Ma'an) — Israeli forces on Tuesday confiscated two pieces of digging equipment from a Palestinian village in the northern West Bank district of Jenin in order to prevent the construction of sewage wells, locals said.

Israeli forces raided the village of Bartaa al-Sharqiya while locals were drilling sewage wells at the entrance to the village and confiscated two backhoes during the process, locals said.

The two backhoes belong to two brothers named Ibrahim and Mohammad Abed al-Latif Qabha.

The Israeli forces claimed that the two brothers were working in a military zone, and both were subsequently taken to a military camp near Bartaa gate.

Bartaa al-Sharqiya is tightly surrounded by areas under Israeli control on all sides, and is cut off from the rest of the West Bank by Jewish-only settlement areas.

The internationally recognized Palestinian territories of which the West Bank and East Jerusalem form a part have been occupied by the Israeli military since 1967.

“Israel prevents construction of Palestinian wells near Yabad”, Ma'an, 27/11/2013, online at:

<http://mideastenvironment.apps01.yorku.ca/2013/11/israel-prevents-construction-of-palestinian-wells-near-yabad-maan/>

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❖ South Sudan: Congo Nile Canal Project Will Save Egypt, Avert War, Make Juba Hub of Africa

Juba, South Sudan -- (SBWIRE) -- 11/30/2013 -- The South Sudan News (SSN) reports that the leading South Sudanese think-tank, The Fashoda Institute of Strategic and Regional Studies has published a strategic analysis of why and how the Egyptian Government is reviving a three-decade-old old idea — one going back to the Anwar as-Sadat Administration — to resolve the country's acute water crisis.

Egypt is reconsidering the idea of a canal diverting waters from the Congo River into the White Nile near Juba, South Sudan, and thus markedly increasing the quantities of water which would eventually reach Lake Nasser behind the Aswan Dam. According to the Egyptian calculations, the quantities of water required to revolutionize the state of the Nile water reaching Egypt would be a minuscule amount of the Congo's flow.

The SSN states that ultimately, the country which would be most affected by the Congo-Nile Canal project — if it could ever be implemented — would be the Republic of South Sudan.

The South Sudan News quotes the Fashoda Institute saying that Egypt's Nile water crisis has been markedly aggravated, politically, in recent years as Ethiopia continues building the Grand Ethiopian Renaissance Dam (GERD) on the Blue Nile, which many Egyptians have claimed would reduce the flow of Blue Nile waters to Egypt: "The Ethiopian Government has said that all studies point to the reality that the impact on water flow would be minimal. The former Egyptian Government of Mohammed Morsi, however, used the charge against Ethiopia as a political distraction from the turmoil in the months leading to Morsi's removal".

Think-tank asserts that from Egypt's standpoint, Ethiopia's concurrent Nile policy goes beyond potentially affecting the quantities of Nile water available for Egypt. In 2010, Ethiopia launched the Nile Basin States Initiative and challenged Egypt's long-held posture as the dominant authority over the use and distribution of the Nile waters. Presently, the Nile Basin Upstream States have a decisive say over the use of water in their territories. This is a national trauma for Egypt; both the Government and the people.

Initially, Cairo started preparing for a major confrontation and even war with Ethiopia over the GERD project. Both the Hosni Mubarak and Morsi administrations pursued the crisis and war options very seriously despite the domestic upheavals since 2010. Still, Cairo could not alter the profound change in the correlation of forces along the Nile. The outcome of the initial phase of the Egyptian-Ethiopian crisis demonstrated to all, in the words of French-Tunisian geographer Habib Ayeb, that “Egypt no longer owns the Nile”.

“The Congo-Nile Canal designs are being undusted as perhaps the only viable solution to Egypt’s impending plight”, writes the Fashoda Institute.

“By conservative calculations, the Canal could provide Egypt with 95-billion cubic meters of water annually, almost doubling the current share of 55.5-billion cubic meters. While such a diversion of water would be dramatic for Egypt, it would represent a minuscule quantity for the Congo River because about 1,000-billion cubic meters of Congo waters pour into the Atlantic Ocean every year.”

Most intriguing is the study, conducted by Professor Gamal al-Kalyouby of the American University of Cairo, completed in September 2013.

Although Professor Kalyouby insists that his study is a pure academic endeavor, senior Egyptian defense officials suggest otherwise. Indeed, the Government’s Egyptian Mineral Resources Authority conducted the comprehensive geological, geographic, and hydrological studies which provided the data used by Professor Kalyouby in his study. Formally, however, senior officials, including Egypt’s Minister of Water Resources and Irrigation Muhammad Abdel Matlab, distance Cairo from the project on the basis of a myriad of legal and financial reasons. But numerous experts concur that these excuses are quite irrelevant if not factually wrong.

According to Professor Kalyouby’s study, the best solution for delivering water from the Congo River to the Nile River is a 600km canal which would feed into the White Nile to the south of Juba, South Sudan. The water would then converge into the Nile Basin to northern Sudan and then to Lake Nasser, behind the Aswan High Dam. The Egyptian Mineral Resources Authority’s data focuses on

the 600km route because there is an altitude differential of only 200 meters between the Congo and the White Nile.

The technical challenge of lifting the huge quantities of water could be implemented via four consecutive water-pumping stations. Moreover, the downstream flow of the added White Nile water could be harnessed to generate 300-trillion watts of electricity per hour: the equivalent of the entire lighting needs of Africa.

The Egyptian Mineral Resources Authority's data also points out that the road and rail infrastructure which would have to be built to facilitate and support the Congo-Nile Canal would effectively fill the gap which currently exists between the transportation infrastructure of northern Africa and that of southern Africa. Consequently, there would emerge a unified road and railway network connecting the entire Africa from Alexandria to Cape Town.

The Egyptian Mineral Resources Authority estimates that the 600km long Congo-Nile Canal could be completed within 24 months, at a price of 8-billion Egyptian Pounds: roughly \$1.16-billion. This estimate includes the digging of the canal, building the four pumping stations, and all transportation and support infrastructure for the project. If correct, this cost estimate is minuscule compared, for example, to the Chinese price-tag of \$25.5-billion for the Lamu mega-port complex in Kenya.

Little wonder that Cairo is quietly testing the water in the Democratic Republic of the Congo (DRC).

Egyptian businessman Ibrahim al-Fayoumi is known to be tacitly pursuing initial steps under the cover of his extensive infrastructure and mining projects in the DRC. Fayoumi is one of the most prominent investors in the country and also has the reputation of being extremely close to the defense and intelligence establishment in Cairo. Congolese senior officials confirmed Fayoumi's assertion that official Kinshasa was most interested in the Congo-Nile Canal idea, given the anticipated flow of cash, as well as in return for international recognition and legitimization.

The Congolese officials added that both President Joseph Kabila and Prime Minister Augustin Matata Ponyo "support in principle the [Congo-Nile Canal] initiative".

While Egypt and the DRC would be the prime beneficiaries of the Congo-Nile Canal project, South Sudan would be the country most affected because of the dramatic increase in the quantities of water carried by the White Nile. South Sudan has the unique Sudd wetlands eco-system which a dramatic increase in the flow of the White Nile would destroy. Therefore, South Sudan would need, at the very least, to complete and expand the Jonglei Canal in order to avoid major damage to the Sudd wetlands.

The digging of the 360km long Jonglei Canal started in 1981 but was brought to a halt in 1984 by the escalating liberation war. By that time, 240km of the canal's total of 360km had already been excavated. Presently, the thick vegetation and land erosion reclaimed much of the completed canal work. As well, South Sudan would require the construction of extensive power and transportation infrastructure in order to sustain the building of the Jonglei Canal.

Significantly, time is uniquely suitable from a security point of view.

In early October 2013, David Yau Yau, the main rebel leader in Jonglei State, responded positively to South Sudan President Salva Kiir Mayardit's recent initiative to invigorate and press for national reconciliation. For the first time, Yau Yau expressed interest in talks with official Juba and did not rule out cessation of hostilities. Yau Yau's revolt was the primary source of the debilitating violence in Jonglei State which made any major projects impossible.

"Juba is active in the various Nile Basin organizations and groups", points out the Juba-based think-tank. "In May 2010, Addis Ababa initiated the formation of the Nile River Basin Commission of the, then, five states of the Nile sources. The states signed the New Nile Cooperative Framework Agreement reorganizing water-management and construction projects. The treaty formed a commission to approve or reject all large-scale hydraulic projects, dams, canals, and anything else which would have an impact on the course, volume, or quality of the Nile's waters. South Sudan was admitted as the member on July 5, 2012. On June 19, 2013, South Sudan took over the rotating leadership for 2013-14. The NILE-COM agenda for the year includes providing strategic guidance for improved efficiency and effectiveness, as well as formulate long-term work plans and complete a number of strategy and policy documents".

South Sudan also assumed membership in the traditional Nile Basin Initiative which is comprised of all the nations along the Nile River from the Equator to the shores of the Mediterranean. On August 16, 2013, South Sudan's Council of Ministers unanimously passed a resolution endorsing Juba's bid to join the Nile Basin Initiative. This was the first act of the new Cabinet appointed by President Salva Kiir on July 31, 2013.

The Cabinet discussed and approved the framework document regarding the Nile Basin Initiative. The mere focusing on the Nile Basin Initiative in the first meeting of the new Government is a manifestation of the great importance of Nile Basin policy for Kiir's Juba.

"Ultimately, geography plays the winning hand for Juba", concludes the Fashoda Institute.

The South Sudan News adds that South Sudan could become Africa's continental hub. A juncture of the emerging trans-African West-East route between Cameroon on the Gulf of Guinea and Kenya on the Indian Ocean which is expected to emerge in the wake of the new energy and minerals export routes, and between the possible trans-African north-south route between Egypt on the Mediterranean and South Africa's Cape of Good Hope which would emerge should the Congo-Nile Canal become a reality.

As the current leader of the NILE-COM, President Kiir's South Sudan has a unique opportunity to play an historic role in moving Africa's water, energy, and transportation basin to the future era.

"South Sudan: Congo Nile Canal Project Will Save Egypt, Avert War, Make Juba Hub of Africa", 28/11/2013, online at: <http://www.sbwire.com/press-releases/south-sudan-congo-nile-canal-project-will-save-egypt-avert-war-make-juba-hub-of-africa-397987.htm>

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❖ **South Sudan: Red Cross to Provide Aid to Jonglei Flood Victims**

Bor — The Jonglei state office of the South Sudan Red Cross said on Friday that the plan to conduct a survey to discover the number of vulnerable people affected by the recent floods in Bor.

The move comes weeks after large populations in the state capital were displaced by White Nile River breaking its banks, leading to widespread flooding of residential areas.

According to the Jonglei director of the South Sudan Red Cross, David Gai, the survey is due to begin on Tuesday and will also look at the plight of people living in Malek, an isolated village populated by leprosy sufferers.

"After the survey that will end on Wednesday next week, we will distribute some items to the people, we are targeting 1,000 households, that is 4,000 individuals in this exercise", said Gai.

Displaced people from flood-affected places in Bor will benefit from the exercise by receiving non-food items.

Many people are living next to roads but little assistance has reached them since they were displaced in October.

Peacekeepers from United Nations Mission in South Sudan (UNMISS), especially the South Korean engineering unit have helped to protect the main roads in Bor from being washed away by floods.

Residents in Bor described the second flood that hit earlier last month as the heaviest this year.

About three months back, floods hit Bor, displacing more than 5,000 households according to the state government.

"South Sudan: Red Cross to Provide Aid to Jonglei Flood Victims", 29/11/2013, online at:
<http://allafrica.com/stories/201311300109.html>

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❖ Ethiopia's Farm Investment Plans Falter on Flood Plain

Gleaming [Deere & Co. \(DE\)](#) tractors and harvesters are sitting idle five years after [Karuturi Global Ltd. \(KARG\)](#) opened a farm in Ethiopia that was hailed as the poster child of the country's plan to triple food exports by 2015.

Eighty percent of the Bangalore-based company's land in the southwestern Gambella region is on a flood plain, meaning its 100,000-hectare (247,100-acre) concession is inundated by the Baro River for as much as seven months of the year, according to Managing Director Ramakrishna Karuturi. The company was unaware of the extent of the flooding when it leased the land, he said.

"Karuturi, like many other large-scale investors, underestimated the complexity of opening land for large-scale commercial agriculture," Philipp Baumgartner, a researcher at the Bonn, Germany-based Center for Development Research who wrote a doctoral thesis on agriculture in Gambella, said in a Nov. 20 response to e-mailed questions. "The land leased out wasn't properly assessed by either of the contracting parties."

Karuturi, the world's biggest rose grower, was one of the first companies to take advantage of a government plan to lease 3.3 million hectares (8.2 million acres) of farmland to private investors. Growing food on the unutilized land would help the Horn of [Africa](#) country address shortages that forces it to seek aid from international donors every year, former Prime Minister Meles Zenawi said at the time.

Agriculture investors are targeting African countries such as Ethiopia to meet growing global food requirements. The world's population will increase to 9 billion people by 2050, and agricultural production will need to increase 70 percent by then to feed everyone, according to the World Bank.

'Chaotic Fashion'

The Ethiopian program has got off to a poor start because of transportation and electricity problems, a lack of security and a shortage of funds and farming expertise, said James Keeley, a consultant for the International Institute for Environment and Development. The plots are located mainly in sparsely populated, heavily forested areas such as the western states of Gambella and Benishangul-Gumuz that border South [Sudan](#) and Sudan.

“Land investment in [Ethiopia](#) proceeded initially in a chaotic fashion,” Keeley said. Leases in some regions were awarded without checks on investors, environmental-impact assessments or performance-monitoring plans, he said.

Ethiopia is Africa’s biggest coffee producer and second-biggest exporter of the beans. The country is also sub-Saharan Africa’s largest wheat consumer and third-biggest corn consumer.

\$1 Hectare

The government in Addis Ababa began leasing land for as little as \$1 per hectare annually in 2008. The state owns all land in a nation dominated by subsistence smallholders who mostly farm on less than a hectare.

At the time, the government projected that within five years, commercial farmers would be producing food on about 900,000 hectares of land, according to Bizualem Bekele, an official at the government’s Agricultural Investment Land Administration Agency. As of last month, only about 10,000 hectares of land have been developed, Prime Minister Hailemariam Desalegn said on Oct. 20. “We’ve given more than 400,000 hectares of land to the private sector to engage in this agricultural production, but up to now the progress is very slow,” Hailemariam said.

Karuturi isn’t the only company struggling. [Saudi Star Agricultural Development Plc](#), owned by Ethiopian-born Saudi billionaire Mohamed al-Amoudi, is growing rice on 350 hectares of a 10,000-hectare lease as it completes an irrigation canal started by Ethiopia’s socialist military regime more than two decades ago that will allow it to ramp up cultivation.

Intensive Funding

The company is searching for “intensive funding” for the project and hopes the main canal will be finished before the rainy season in June, Saudi Star Chief Executive Officer Fikru Desalegn said in a phone interview on Nov. 18.

Shapoorji Pallonji and Co., based in [Mumbai, India](#), plans to grow the biofuel-plant pongamia on 50,000 hectares in Benishangul-Gumuz. After signing the lease “several years” ago, it’s farming on 2,500 hectares, said Keeley, who is preparing a report on the land program for the International Institute for Environment and Development based on research done for the Bill & Melinda Gates Foundation.

Ruchi Agri Plc, also based in Mumbai, obtained 25,000 hectares in Gambella. After three years, its growing soybeans on 1,000 hectares and has cleared another 2,000 hectares of scrub at a cost of

\$1,500 a hectare, Technical Manager Rameshsingh Pardesi said in an interview. If all goes to plan, the operation may become profitable by 2020, he said.

China Project

Other major investors such as Hunan Dafengyuan from [China](#), which took a lease to grow sugarcane on 25,000 hectares in Gambella, have had their lease canceled, according to Keeley.

In November 2010, Karuturi said it would have “developed” the 100,000 hectares by June. In the final quarter of last year, it harvested its maiden corn crop from about 4 percent of the concession.

Karuturi’s [stock](#) has slumped to 1.55 Indian rupees on the National Stock Exchange of Mumbai from a peak of 36.30 rupees on Nov. 9, 2010. Plans announced in the past 18 months to raise funds from development banks and sovereign wealth funds have yet to materialize, according to Karuturi.

Most of Karuturi’s farm that runs either side of one of Gambella’s main roads for about 100 kilometers (62 miles) is still covered in a thick scrubland of bushes and trees. A plaque to commemorate its opening now lies in land taken back by the government after confusion over exactly where the company’s lease was.

Renting Tractors

The company was given 300,000 hectares of land by the regional government before officials in Addis Ababa reduced the plot size by two-thirds in 2010. There is a plan to rent out the idle tractors, harvesters and crop-spraying machines to other farmers, Karuturi said.

To encourage faster development of large farms, the government plans to use a “carrot and stick” approach to investors. Companies will be given government support and licenses may be withdrawn from those that fail to develop fast enough, Agriculture Minister Tefera Deribew said in an interview. “If the failure is their failure then we will be obliged to take the measure,” he said. The government is now targeting production on all 3.3 million hectares of land by 2016, Tefera said. “At that time we will definitely have significant production.”

Crop Exports

Ethiopia planned to earn \$6.58 billion a year from agriculture exports in 2015, according to a five-year economic plan published in 2010, when total exports were about a third of that amount. In the 12 months through July 7, the end of the Ethiopian fiscal year, shipments fell 2 percent to \$3.08 billion from a year earlier.

The land-leasing program has also been beset by criticism from advocacy groups including Human Rights Watch, based in New York, that residents have been displaced in a relocation program to make way for the farms.

Karuturi rejects the allegations for the same reason that the farm project has failed to take off: flooding.

“We have been trying to convince people who’ve been making these allegations that these are floodplains where nobody stays, where nobody can reside or graze their cattle because most of the time they are under four or five feet of water,” Karuturi said.

“Ethiopia’s Farm Investment Plans Falter on Flood Plain”, 26/11/2013, online at: http://www.bloomberg.com/news/2013-11-24/ethiopian-drive-to-lure-farm-investment-founders-on-flood-plain.html?utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=b29b110a97-RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_c1265b6ed7-b29b110a97-250657169

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❖ Pollution Threatens China's Ambitious Water-Transfer Project

China's [ambitious](#) South-North Water Transfer Project is in danger of becoming, in effect, a massive sewage transfer project. The vast water diversion scheme—which has been under construction since 2002 and will cost at least \$62 billion—is designed to channel water from southern China to the arid north through three vast canal systems. But the central reservoir is badly polluted.

Danjiangkou Reservoir is located in central China's Hubei province. Construction was completed last year, after 345,000 people living nearby were [moved](#)—the largest forced relocation in China since the completion of Three Gorges Dam. The reservoir has a capacity of 1.7 trillion cubic meters, and in 2014, water from Danjiangkou is scheduled to start flowing to Beijing and nearby Tianjin, northern megacities already facing dire [water shortages](#).

Engineering alone won't solve China's water-scarcity challenges. On Tuesday, China's Ministry of Environmental Protection acknowledged that the five rivers flowing into the Danjiangkou reservoir are all routinely used as dumping grounds for [untreated sewage](#) by local industries. According to state-run Xinhua newswire, the government recently closed some suspected businesses and construction sites near the reservoir.

STORY: To Curb Pollution and Traffic, Beijing Will Further Limit New Car License Plates

In July, Cheng Jiagang, vice mayor of Shiyan city, to which Danjiangkou belongs, estimated that [1.3 million tons](#) of sewage were dumped daily into rivers feeding the reservoir. While China's State Council has set targets for improving water quality in the region by 2015, Cheng expressed skepticism about these goals. "The target is very unlikely to be met, as many pollution-control projects lag behind schedule, due to a fund shortage," he told Xinhua. Cheng's remarkable bluntness—unusual for a Chinese politician—is sobering. Beijingers might want to be wary of what comes out their faucets starting next year.

"Pollution Threatens China's Ambitious Water-Transfer Project", 27/11/2013, online at:
http://www.businessweek.com/articles/2013-11-27/pollution-threatens-china-s-ambitious-water-transfer-project?utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=3d82a21d67-RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_c1265b6ed7-3d82a21d67-250657169

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❖ Lao dam project raises Mekong fear

The Khone Falls on the Mekong river in southern Laos, close to the Cambodian border, is "an ecologically unique area, so rare in nature that every effort should be made to preserve all of Khone Falls from any development", according to a Mekong River Commission consultant in a 1994 report.

A colony of Irrawaddy dolphins draws many visitors and helps to sustain a growing ecotourism in Siphandone, the Four Thousand Islands region, based around the Khone Falls, Asia's largest waterfall. This important area is under imminent threat from the construction of a hydroelectric project, the 240 megawatt Don Sahong dam, only a few kilometers away.

The government of Laos notified the Mekong River Commission (MRC) on September 30 of its plans to start construction of the dam in 2014. It will be the second Lao dam on the Mekong, after Xayaburi, farther upstream.

The decision is facing opposition across the Mekong region. A coalition of 103 Thai non-governmental organizations drawing much of its support from eight Thai provinces bordering the Mekong, have demanded that the Thai government take action to stop the dam.

Chhith Sam Ath, executive director at Cambodian NGO Forum commented: "The Don Sahong dam will only push Cambodia and Vietnam closer to a food crisis. The project is next to Cambodia's border. Have they forgotten that fish are our lifeline and the backbone of our economy? Fish are central to our diet and our main source of protein."

Scientists are warning of grave consequences for food security in the region if fish migration is blocked by a dam across the Sahong channel.

The Hou Sahong channel is the route used by 80-90% of migratory fish coming upstream from Cambodia that need to negotiate the Pha Pheng (Khone) Falls and rapids in the dry season.

It could be considered the most perverse of choices to locate a dam right there, blocking the only

viable channel for large scale fish migration.

UK fisheries expert Terry Warren, a consultant on the first Don Sahong dam environmental impact assessment in 2007 explained: "If these fish can complete this migration, it means Cambodian fisheries will continue to flourish. Stop a migration and within a few years everything will start to collapse and eventually cease to exist. I see disaster looming for the fisheries of Cambodia and southern Laos if this project goes ahead."

The dam-builder, Megafirst has dismissed these scientific concerns as unfounded. The Malaysian company's senior environmental manager, Peter Hawkins, claimed in the Vientiane Times that "environmental impacts can be mitigated by using other natural channels adjacent to the Hou Sahong."

Fisheries experts seriously doubt the possibility of using any other channel, and point out that fish ladder and fish-pass technology \widely practiced in cold climates of North America, Norway and Switzerland cannot be simply transplanted to a totally different fish ecology and environment in tropical climes.

Eric Baran, a fisheries expert working with the World Fish Center in Phnom Penh, Cambodia, has stated that fish mitigation remains "untested" on the Mekong.

Jeremy Bird the former CEO of the MRC, has strongly asserted that in considering dams on the Mekong "the fisheries is the number one issue that has to be solved, and the onus for demonstrating that this can be solved rests with the owner of the project." (2011)

The Don Sahong dam is bound to re-ignite bitter divisions within the MRC over the unilateral damming of the Lower Mekong. Cambodia and Vietnam insist on independent scientific studies of trans-boundary impacts before any dam goes ahead and do not accept the fish mitigation claims coming from Megafirst.

What makes relations even worse between Laos and their riparian neighbors is the shock caused by

the Lao government's bid to reject the accepted definition of the Don Sahong dam as a mainstream dam on the Mekong, which would otherwise require at least six months consultation prior to any decision to go ahead with a hydropower project.

In its September 30 notification to the MRC, Laos gave an interpretation that the Sahong channel did not qualify as a mainstream dam because somehow it had changed from being a "main stream" into a "tributary" during the course of 2013.

In this way, the dam company and the government would escape serious scrutiny by the affected downstream countries and public fora where opposition voices could be heard would not take place.

This is shaping up to be a major test-case for the Mekong River Commission to live up its mandate to promote sustainable development and at the same time garner peaceful international cooperation in the management of water resources. This depends on the Mekong's survival as a healthy river rich in biodiversity, with a wealth of inland fisheries supporting 60 million people.

The Xayaburi dam now under construction further upstream in Laos was subject to a six-month prior consultation process organized by the MRC as required under the 1995 Mekong Treaty.

The Don Sahong dam announcement has prompted a strong response from Cambodia's Sin Niny, the Cambodian deputy chairman of their National Mekong Committee.

The Lao government's construction plans must be suspended, he wrote to the Lao authorities, and neighboring countries - Cambodia, Thailand and Vietnam - must be given the opportunity to review the environmental impacts.

Laos has surprised almost everyone with its unilateral assessment that has reclassified Don Sahong as a dam that is not "mainstream".

The MRC secretariat and its technical experts since a 2007 study have always referred to this project as "mainstream". Hans Guttman, the chief executive of the MRC, told Asia Times Online that "the

Don Sahong is a mainstream dam in the view of the MRC Secretariat as the dam is located on the main stream and since its inflow comes not from a tributary, but rather through the main stream."

Guttman now says his secretariat has "no authority" over the MRC Council - on which sit the environment and water ministers of Cambodia, Laos, Thailand and Vietnam - and appears to be bending over not to upset the Lao government. He stressed that "the MRC is not a regulatory body."

There is growing concern over the MRC Secretariat's passive response to apparent violations of the 1995 Mekong Treaty, which Cambodia has previously highlighted over the Xayaburi dam, and now again with the second dam.

Phil Hirsch, director of the Mekong Resource Centre at the University of Sydney, told Asia Times Online: "It is disingenuous for the MRC leadership to say now that it has no authority to describe the dam as mainstream. By doing so, the MRC is failing in its obligations to facilitate good governance of the Mekong using all the publicly funded science at its disposal."

Ten major international donors to the MRC, including Japan, the United States and the European Union, have also requested the Lao government to submit the dam to prior consultation. This would appear to give Guttman the kind of mandate he needs to persuade the Lao government to accept the need for a detailed riparian review.

The scientists are saying that the Mekong, with its wide biodiversity comprising almost 1,000 fish species, is being put at risk for a small dam with installed capacity that could not even maintain three shopping malls in Bangkok.

Fisheries expert Terry Warren questions that given the such small benefits in energy creation and the huge "potential of the dam to ruin an extremely important SE Asian fishery and the livelihoods of thousands, why risk it?"

Tom Fawthrop is the director of a TV documentary on damming the Mekong Where Have All The

Fish Gone (Eureka Films 2013) and can be contacted as EurekaFilmsdocos@gmail.com. He has covered the Mekong region since 1979 for media published in Australia, Hong Kong and the UK.

“Lao dam project raises Mekong fear”, 27/11/2013, online at: <http://www.atimes.com/atimes/Southeast Asia/SEA-01-271113.html>

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❖ New Film Highlights Hydropower Dams and Food Security Concerns in Cambodia

Scientists and conservation experts are urging the government of Cambodia to put a moratorium on the development of hydropower dams, and now Conservation International has released a new short film, *Hydropower Impacts and Alternatives*, that takes a closer look at the issues surrounding the dam construction in the 3-S basin within the Greater Mekong River System.

There is a clear need for more power generation in Cambodia—according to Bunra Seng, Director of Conservation International’s Greater Mekong program in Cambodia, most people still lack reliable access to electricity and less than 10 percent of Cambodia’s total installed capacity has been developed. But scientists and conservation experts are urging the government to address the issue by developing sustainable, science-based solutions to the energy problems first. (Related: “Moratorium Needed on Mekong River Dams.”)

The 15-minute film explores the role of the Sekong, Srepok, and Sesan (3-S) Rivers as the most critical tributaries feeding into the Lower Mekong River, as well as how hydropower development will affect the ecosystem and the people living in the region. The greatest concern shown in the film is the affect of the dams on Cambodia’s food security.

“This film clearly and visually articulates the critical importance of this river system for its energy provision potential, as well as the fish migration, sediment and water flows that nourish critical ecosystems and feed Cambodia’s people,” said Dr. Tracy Farrell of Conservation International’s Greater Mekong program.

Recent studies have predicted that the dams will eliminate a significant portion of fish migration into the Tonle Sap Lake, one of the most productive inland fisheries on the planet, and block 90 percent of sediment flows needed to deliver nutrients to the lake and maintain fertile soils for agriculture. As a result, this could impact the health, livelihood, and food security of tens of thousands of villagers and millions of people further downstream that depend on the freshwater system. (Related: “Photos: Dams Threaten Mekong River Megafishes.”)

But the film does more than just highlight the problems with the dams; it also suggests potential revisions to minimize damage to the ecosystem including alternate placements of the dams and the design of sediment release mechanisms. Watch the full film below to learn more.

“New Film Highlights Hydropower Dams and Food Security Concerns in Cambodia”, 27/11/2013, online at: <http://newswatch.nationalgeographic.com/2013/11/27/new-film-highlights-food-security-concerns-in-cambodia/>

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❖ **Cambodian hydropower project threatens food security**

Cambodia faces a dilemma: 80% of the population lacks reliable access to electricity, a situation which could be remedied by developing dams for hydropower. However, in developing such dams, the country faces the possibility of threatening its own ecosystems and food security.

A total of 42 dams are slated to be built in the 3-S basin within the Greater Mekong River system. The Sekong, Srepok and Sesan (3-S) Rivers are reportedly the three most critical tributaries feeding into the Lower Mekong River. Collectively, they provide major routes for migrating fish and essential water and sediment flows to the downstream flood plains, including those that nourish the Tonle Sap Lake, one of the most productive inland fisheries on the planet.

While hydropower is a clean energy option, recent studies have predicted that the dams will wipe out a significant portion of fish migration into Tonle Sap and block 90% of sediment flows, which deliver nutrients to Tonle Sap and maintain fertile soils for agriculture.

This could reportedly impact the health, livelihoods and food security of more than 55,000 villagers from 16 ethnic minority groups in Cambodia's Ratanakiri and Stung Treng provinces, and millions of people further downstream that depend on the freshwater system's fish populations and agriculture.

Conservation International has produced a short film entitled 'Hydropower Impacts and Alternatives', the work of filmmaker Allan Michaud, which focuses on the potential harmful effects and unintended consequences of the development.

The scientific community is recommending a moratorium on dams planned in the 3-S basin until a more thorough impact assessment can be made and trade-offs or consequences can be determined.

The film highlights possible revisions to the planned dams, including:

- Alternative placements further upstream and away from fisheries.
- Alternative placement of dams and reservoir operations to minimise disruption or change of natural flows.

- The design of sediment release mechanisms to allow for greater passage of sediment and nutrients.
- The design, testing and monitoring of different types of fish passages around dams to ensure their continued ability to travel up or downstream.

“Conservation International is very enthusiastic about the opportunity to open a dialogue about hydropower and alternative energy planning opportunities that can allow for necessary growth and development, while ensuring food and water security and climate change resilience for Cambodia and its people,” said Dr Tracy Farrell of Conservation International’s Greater Mekong program.

The 15-minute film premiered at a recent screening in the Cambodian capital Phnom Penh attended by decision-makers, representatives from government ministries, local thought leaders, non-government organisations and scientists.

“Cambodian hydropower project threatens food security”, 29/11/2013, online at:
<http://www.foodprocessing.com.au/news/64586-Cambodian-hydropower-project-threatens-food-security>

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❖ WB Supports Better Water Management in Vietnam's Mekong River Delta

ENP Newswire - 28 November 2013 Release date- 27112013 - The World Bank Board of Executive Directors today approved a US\$25 million credit to Vietnam to help Vietnam better manage trans-boundary water resources and climate risks through river basin approaches and improved water resources data collection, analysis, and exchange. The Integrated Water Resources Management Project - Phase 2 will contribute to the overall goal of implementation of integrated water resources management in the Lower Mekong Basin for sustainable economic, social and environmental development by developing the capacity of the Ministry of Natural Resources and Environment , Vietnam National Mekong Committee and relevant agencies. The project is the second part of a 4-phase program, which establishes key examples of integrated water resources management practices in the Lower Mekong basin at the regional, national, and sub-national levels, thus contributing to more sustainable river basin development in the Lower Mekong. The Project will: 1) provide support for the institutional development of integrated water resources management in Vietnam's part of the Sesan-Srepok Basin ; 2) help establish a Water Resources Monitoring Network at the border areas with Cambodia and Lao PDR in the Lower Mekong and a water resources information system for the Vietnam part of the Lower Mekong; and 3) strengthen the hydro-meteorological information network, flood forecasting and warning system in the Central Highlands . The credit of US\$ 25 million comes from the International Development Association (IDA), the World Bank's concessional lending arm for low-income countries.

“WB Supports Better Water Management in Vietnam's Mekong River Delta”, 28/11/2013, online at:
http://www.hispanicbusiness.com/2013/11/28/wb_supports_better_water_management_in.htm

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❖ **WB approves US\$25 million credit to better Vietnam's water resources management**

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The Project will provide support for the institutional development of integrated water resources management in Vietnam's part of the Sesan-Srepok Basin and help establish a Water Resources Monitoring Network at the border areas with Cambodia and Lao PDR in the Lower Mekong and a water resources information system for the Vietnam part of the Lower Mekong.

Moreover, the project will strengthen the hydro-meteorological information network, flood forecasting and warning system in the Central Highlands.

“WB approves US\$25 million credit to better Vietnam's water resources management”, 29/11/2013, online at: <http://www.saigon-gpdaily.com.vn/National/2013/11/107113/>

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❖ **Why a Small Dam in Laos May Wreck the Ecology of the Mekong River; Damning the Mekong?**

The Khone Falls on the Mekong river in southern Laos, close to the Cambodian border, is “an ecologically unique area, so rare in nature that every effort should be made to preserve all of Khone Falls from any development”, according to a Mekong River Commission consultant in a 1994 report.

A colony of Irrawaddy dolphins draws many visitors and helps to sustain a growing ecotourism in Siphandone, the Four Thousand Islands region, based around the Khone Falls, Asia’s largest waterfall. This important area is under imminent threat from the construction of a hydroelectric project, the 240 megawatt Don Sahong dam, only a few kilometers away.

The government of Laos notified the Mekong River Commission (MRC) on September 30 of its plans to start construction of the dam in 2014. It will be the second Lao dam on the Mekong, after Xayaburi, farther upstream.

The decision is facing opposition across the Mekong region. A coalition of 103 Thai non-governmental organizations drawing much of its support from eight Thai provinces bordering the Mekong, have demanded that the Thai government take action to stop the dam.

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Scientists are warning of grave consequences for food security in the region if fish migration is blocked by a dam across the Sahong channel.

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It could be considered the most perverse of choices to locate a dam right there, blocking the only viable channel for large scale fish migration.

UK fisheries expert Terry Warren, a consultant on the first Don Sahong dam environmental impact assessment in 2007 explained: “If these fish can complete this migration, it means Cambodian fisheries will continue to flourish. Stop a migration and within a few years everything will start to collapse and eventually cease to exist. I see disaster looming for the fisheries of Cambodia and southern Laos if this project goes ahead.”

The dam-builder, Megafirst has dismissed these scientific concerns as unfounded. The Malaysian company’s senior environmental manager, Peter Hawkins, claimed in the Vientiane Times that “environmental impacts can be mitigated by using other natural channels adjacent to the Hou Sahong.”

Fisheries experts seriously doubt the possibility of using any other channel, and point out that fish ladder and fish-pass technology \widely practiced in cold climates of North America, Norway and Switzerland cannot be simply transplanted to a totally different fish ecology and environment in tropical climes.

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Jeremy Bird the former CEO of the MRC, has strongly asserted that in considering dams on the Mekong “the fisheries is the number one issue that has to be solved, and the onus for demonstrating that this can be solved rests with the owner of the project.” (2011)

The Don Sahong dam is bound to re-ignite bitter divisions within the MRC over the unilateral damming of the Lower Mekong. Cambodia and Vietnam insist on independent scientific studies of trans-boundary impacts before any dam goes ahead and do not accept the fish mitigation claims coming from Megafirst.

What makes relations even worse between Laos and their riparian neighbors is the shock caused by the Lao government’s bid to reject the accepted definition of the Don Sahong dam as a mainstream dam on the Mekong, which would otherwise require at least six months consultation prior to any decision to go ahead with a hydropower project.

In its September 30 notification to the MRC, Laos gave an interpretation that the Sahong channel did not qualify as a mainstream dam because somehow it had changed from being a “main stream” into a “tributary” during the course of 2013.

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Phil Hirsch, director of the Mekong Resource Centre at the University of New South Wales in Sydney, told Asia Times Online: "It is disingenuous for the MRC leadership to say now that it has no authority to describe the dam as mainstream. By doing so, the MRC is failing in its obligations to facilitate good governance of the Mekong using all the publicly funded science at its disposal."

Ten major international donors to the MRC, including Japan, the United States and the European Union, have also requested the Lao government to submit the dam to prior consultation. This would appear to give Guttman the kind of mandate he needs to persuade the Lao government to accept the need for a detailed riparian review.

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"Why a Small Dam in Laos May Wreck the Ecology of the Mekong River; Damning the Mekong?", 28/11/2013, online at: <http://www.counterpunch.org/2013/11/28/damning-the-mekong/>

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❖ Mekong dam threatens to drain lifeblood of region

Laos is ignoring growing concern that its Don Sahong project will bring an ecological calamity that endangers the livelihoods and food security of millions

The 4,000 Island region in southern Laos, named after the myriad islets that poke from the Mekong's murky waters, boasts idyllic, undeveloped villages surrounded by small rice fields and forest swathes. The lack of hustle and bustle is precisely what draws foreign tourists. An estimated 113,684 visited Champasak Province in 2006.

The southernmost tip of the islands offer a refuge for the critically endangered Irrawaddy dolphin, numbered at just 10 in Laos, as well as some famous waterfalls. Yet this area, just two kilometres from Cambodia, is also home to the Hoo Sahong channel, where the controversial Don Sahong Dam will be built starting this month, according to the Laos government. It sees the 260-megawatt structure as a way for this developing country to capitalise on its hydrological energy for export. However, environmental experts warn the region could lose not only its dolphins and tourists, but also the massive fish migrations that feed its people.

The Hoo Sahong is said to be the only viable transit point for large numbers of fish during the low-river phase of the dry season, impacting not just Laos but countries downstream like Cambodia.

Boun Sayavong, a tourism operator on Don Det, a popular island just west of the site, said he is not concerned about losing dolphins or fish. He said the government is preparing for dam construction by banning the use of wooden fish traps known as Ly, which are placed along the numerous channels between the islands to catch fish as they migrate.

When asked how fishermen will survive without their traps, he said they have other ways to catch fish. "Only those people without jobs are unhappy about the dam."

"The government asked people by survey and 60 per cent said [the dam] is a good idea. Only 40 per cent said they didn't like the idea. It is not like Cambodia, where the government decides without asking the people," said Boun.

However, Ian Baird, a US-based Mekong fisheries expert who lived in Laos for several years and is fluent in the language, said he was not aware of any government survey. "Nobody would dare say they don't support the project. I know the villages there well. Of course they can't say anything as they have been warned" by government officials not to.

Ame Trandem of the non-governmental organisation International Rivers agrees. "Most people are careful to say only positive things about the dam in public but once we spend time with them, away from other villagers and once they trust us, they pass their concerns when we tell them won't use their names."

Villagers told Trandem that preliminary work began this summer. A nearby channel has been blasted and villagers' fish traps have been confiscated to create an alternative migration route for fish.

Mega First Corporation, the Malaysian company building the dam, alleges the fish passes it plans to install with the dam will be sufficient to maintain stocks.

Baird, who reviewed the previous Environmental Impact Assessment (EIA) said: "In the EIA, they only ask fishermen the number of kilos they caught, not which species. They are comparing fish in this region, which has 200 species, to migrating salmon in North America. I worked in this region for 15 years and published several academic articles. I can tell they don't have a clue. They are consultants, guessing."

The Diplomat requested comment from Mega First, but got no reply.

Fish migrate up the Mekong from Tonle Sap Lake once the dry season begins in November, which also heralds the beginning of the fishing season. Both Baird and Trandem warn the insufficient fish-channels would not allow for large-scale migrations and threaten food security for the millions of Laotians and Cambodians who rely on fish as their main protein source.

Baird said the sharp reduction of wildlife in the region helps explain why both countries have rates as high as 40 per cent for child malnutrition.

While people in Laos may hold their tongues, in Cambodia they are speaking out. Around the Sesan, Srepok and Sesong tributaries of the Mekong in remote northeast Cambodia, a rights group formed by locals has been protesting against Vietnam's dams since 2001. When Vietnam dammed the Yali Falls upstream of the Sesan River in 1996, initial releases of excess water from the dam without warning caused numerous deaths downstream. The region suffered severely and without compensation from violent and irregular floods that wiped out crops and livestock. Residents along the Sesan River told the Diplomat that there are now hardly any fish in the river. Meach Mean, a local resident and member of the 3SRivers Protection Network, said rivers are the livelihoods of the Khmer, Laotian, Chinese and indigenous tribes living in the watershed. "We need the rivers for farming too," explained Meach. Rivers expand during the wet season, bringing agricultural land to life through irrigation to grow rice, another staple of both Cambodia and Laos.

Trandem, who used to live in Cambodia's Ratanakiri region, said people there didn't even know about the dam upstream, and thought water-release floods were caused by angry river spirits. Vietnam is now required to notify Cambodia prior to releases, but she said sometimes the process takes 14 days, reaching remote villages after they have been flooded.

About 1,000 people in the three rivers' region have also reportedly died from problems with water quality. "Toxicity can result from blue-green algae growing in reservoirs and released downstream. It harms fish, animals and people." Trandem has no doubt that livestock have died from drinking poisoned water. "People rely on the river for everything - fishing, bathing, farming and to water livestock."

According to Trandem, Vietnam has now cancelled 400 hydropower projects, which she hopes will be a lesson for Laos and Cambodia. While the impacts from the upper Sesan Dams are striking, the Mekong is even more vital to the region. But the benefits of hydro-power dams are tempting.

Ironically, Cambodia buys electricity from the very country that will impact its food security as it does not have an electricity grid, as Baird points out, while Laos has a basic grid. Residents in Stung Treng and northeast Cambodia told the Diplomat their electricity was imported from Laos and sold by private companies at prices ranging from 2,000 to 3,500 riel (Bt16-Bt24) per kilowatt per hour. Residents in Banlung, Ratanakiri said Cambodia also buys electricity from Vietnam, as the small Ouchum hydrological dam nearby can't provide enough to meet the city's needs. According to the World Bank, only 26 per cent of Cambodians have access to government-supplied electricity; the rest use private operators, generators or none at all. Electricity does not even reach Ratanakiri's remote indigenous villages, which get no benefit from the dams, Meach added.

Meach said Mega First Corp also has links with Cambodia's popular Angkor Beer, brewed by Cambrew. Cambrew is jointly owned by the Carlsberg Group. He urges local and foreign consumers to support the Mekong's preservation by boycotting Carlsberg and Angkor beer.

While choosing a different beer might take money away from Mega First, in the meantime electricity-starved northern Cambodia will still need to buy from its upstream neighbours. But it seems the Laotian government's efforts to get neighbours on board the project have backfired. Trandem said a visit by Cambodian and Vietnamese government officials last week to the Don Sahong project site left an impression that the environmental impact assessment was not comprehensive. "Since the site visit, Cambodia has sent out a statement demanding dam construction halt and an impact assessment be done."

"Mekong dam threatens to drain lifeblood of region", 20/11/2013, online at:

<http://www.nationmultimedia.com/opinion/Mekong-dam-threatens-to-drain-lifeblood-of-region-30220899.html>

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❖ **S. Korea, Indonesia discuss cooperation in water management**

SEOUL, Nov. 29 (Yonhap) -- South Korea and Indonesia on Friday discussed ways to increase cooperation in the field of environmental protection during a meeting in Seoul between their environmental ministers, the government here said.

South Korea's Minister of Environment Yoon Seong-kyu and his Indonesian counterpart, Balthasar Kambuaya, had an in-depth discussion, the first of its kind between the two countries, about Seoul's participation in the Southeast Asian nation's project to improve the water quality of its rivers and in building a comprehensive state plan to improve its environment.

During the talks, the Indonesian official showed much interest in Seoul's water policy, saying his country experiences difficulty in supplying quality water to its people due to serious water pollution and frequent flooding, the ministry said.

He called for South Korea's active assistance in improving the management of rivers in Indonesia, it added.

“S. Korea, Indonesia discuss cooperation in water management”, 29/11/2013, online at:
<http://english.yonhapnews.co.kr/national/2013/11/29/98/0302000000AEN20131129004600315F.html>

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❖ **Scientists: The Saigon River Is Dying**

Current wastewater management infrastructure can't even begin to treat staggering levels of pollution.

In the battle of perceptions the Mekong River has always held sway as the greatest waterway in Southeast Asia. Novelists have romanticized it, scientists have fawned over it and travelers have made it one of the great tourism destinations in the world.

More importantly it is the bread basket for about 70 million people who depend upon it. Hence when unthinking governments conspire with business to dam, build and dredge the Mekong in the name of profit, the reaction deserves to be as great as the river itself.

This has been the case for the Xayaburi and Don Sahong dams.

Sadly the attention-grabbing Mekong tends to overwhelm the importance of other rivers and the issues they face. The Saigon River will never match the Mekong in the majestic stakes but its place in history, its wildlife, rugged backdrop and strategic importance for Ho Chi Minh City make this an extremely important waterway.

Vietnamese scientists now say the river is dying, declaring in state-sanctioned media, “the pride and sustenance of Ho Chi Minh City is severely contaminated with wastewater and urgent steps have to be taken to save it.”

Tests were conducted between the rainy season of 2011 and the dry season the following year and Nguyen Van Phuoc, director of the Institute of Environment and Natural Resources at the Vietnam National University, said the river had failed to meet national standards.

Predictably, downstream areas had fared worse due to the stronger impact of domestic and industrial wastewater in HCMC and in neighboring Binh Duong province. The numbers are staggering.

Results showed domestic wastewater was the most serious cause of pollution contributing 62.2 percent of total sewage flowing into the river. About 50 industrial parks and clusters along the river were discharging more than 100,000 cubic meters of wastewater a day. Although most have

treatment systems, many directly pumped untreated waste into the river. Animal farms were releasing more than 2,600 cubic meters of waste that contained harmful bacteria.

According to the official press, HCMC has just one treatment plant capable of handling 140,000 cubic meters a day while households alone could pump more than 1.2 million cubic meters of untreated sewage into the river each day.

The 256-kilometer Saigon River is a tributary of the Don Nai, which provides water for about 20 million people and access to the South China Sea – as well as the seaside port and resort at Vung Tau, a former playground for the French colonialists and the local elites.

Government departments, farming institutes and universities say urgent upgrades of wastewater treatment plants alongside improved monitoring, improved use of water discharge to flush out polluted waters and factory relocations are needed to protect what's left of the river's biodiversity.

If they fail then the Saigon River could become an unwanted benchmark for the hundreds of communities that dependent upon nearby rivers imperiled by similar threats. Many of them feed into the Mekong itself.

“Scientists: The Saigon River Is Dying”, 30/11/2013, online at: <http://thediplomat.com/2013/11/scientists-the-saigon-river-is-dying/>

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