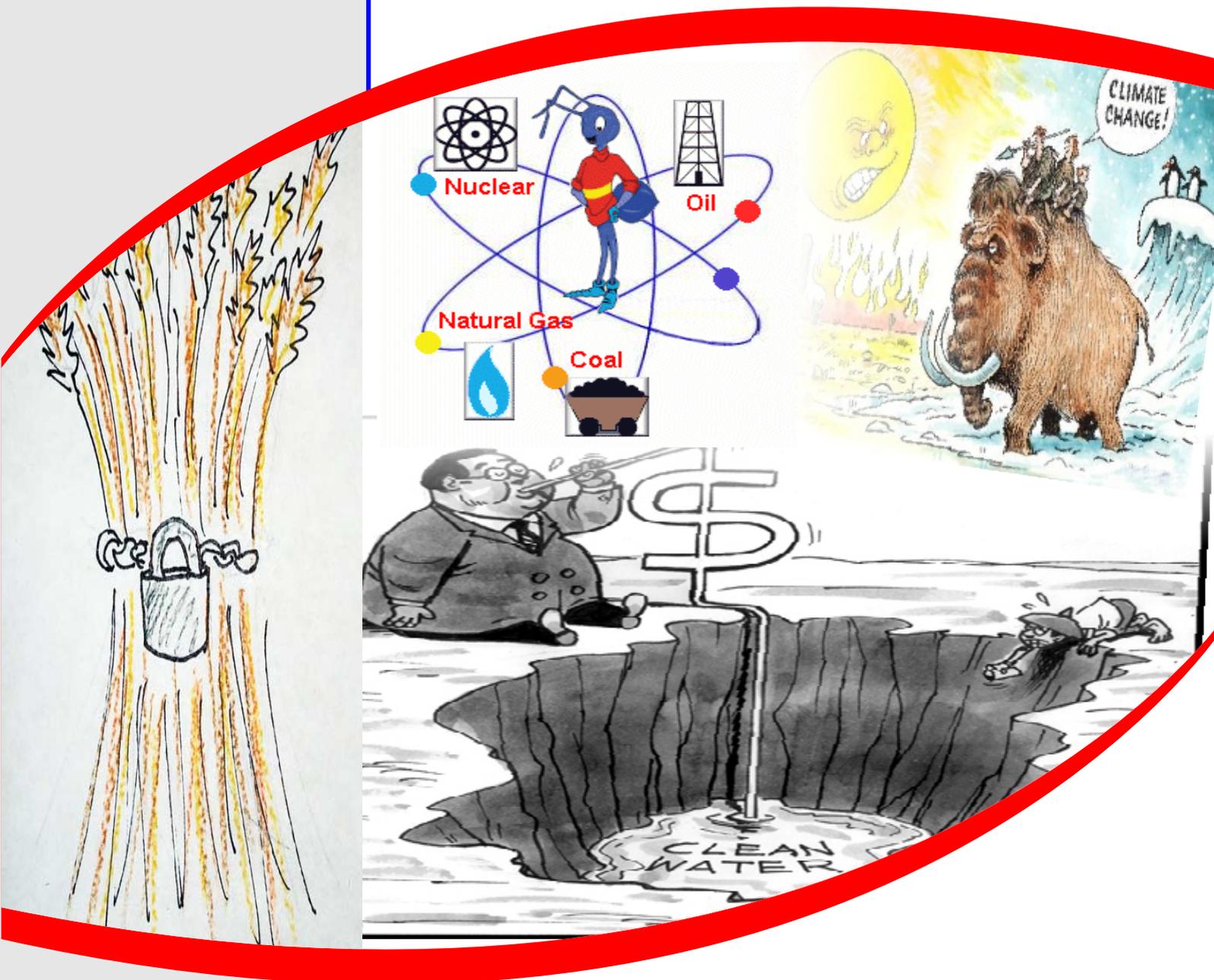


NTS

Newsletter

Non Traditional Security



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EDITOR'S NOTE

Recently the US and India have witnessed renewed debate as the US sought formal deliberation with India at the WTO over local-content requirements (LCR's) and subsidy for the manufacturing of solar panels.

The LCR was one of the central promotion schemes of the Ministry of New and Renewable Energy (MNRE) in phase II of Jawaharlal Nehru National Solar Mission (JNNSM). The main aim was to keep China and US imports at bay since both these countries have cheaper loans to Indian projects to buy their equipment's. Throughout the world such schemes are used to nurture the growth of domestic and infant manufacturing units and to create local employment. Since India's solar power industry is still in nonage state, it has been given state support and protection.

India, on the other hand, has asked Washington to justify its own incentives offered to the US companies that use local labour and products in renewable energy and water projects and has maintained that the LCR clause in the FDI policy on retail trade does not violate any WTO agreement (neither the TRIMs nor GATS), as India has never undertaken any commitment in retail services under the GATS' framework.

It will be interesting to see how WTO reacts to the current allegations against India, keeping in mind that many developing countries like Brazil, Nigeria, and Indonesia are currently facing indignation over imposition of LCR, the decision may come as either a good news or a wake-up call for many developing nations and their intention of reducing imports and achieving self-dependence, albeit this development will mean great loss to the developed countries, who in the pretext of "developing" the less developed nations churn out millions of dollars in return.

This issue of the NTS Newsletter revolves around the recent India US trade disputes and its impact on the bi-lateral relations.

Eshita Mukherjee

ENERGY SECURITY

News Analyses

National

Renewable Energy

U.S. launches new trade action against India over solar program

The United States on Monday said it would take India to the World Trade Organization to gain a bigger foothold for U.S. manufacturers in its fast-growing solar products market, adding another irritant to an already strained relationship.

The Obama administration said it was filing its second case at the WTO over the domestic content requirements in India's massive solar program, which aims to ease chronic energy shortages in Asia's third-largest economy.

U.S. Trade Representative Michael Froman said making Indian solar developers use locally made equipment discriminated against U.S. producers and could hinder the spread of solar power.

"Domestic content requirements detract from successful cooperation on clean energy and actually impede India's deployment of solar energy by raising its cost," Froman said.

It is the second time in a year that Washington has sought a consultation at the WTO - the first stage in a dispute process that can lead to sanctions - over India's Jawaharlal Nehru National Solar Mission.

The ongoing trade spat between the two allies follows the recent arrest and strip search of a female Indian diplomat in New York in connection with visa fraud charges.

The arrest sparked fury in India, prompted retaliatory measures against U.S. diplomats there and plunged U.S.-India relations to their lowest point since India tested a nuclear device in 1998.

The USTR issued its first challenge to India's solar program last February when it formally requested consultations over its first stage. The program aims to double India's renewable energy capacity by 2017.

U.S. officials had hoped a second phase of the program would address Washington's concerns, but now fear the harm to American producers would likely be even greater because the rules were expanded in October to cover so-called thin film technology that comprises the majority of U.S. solar product exports to India.

India hit back at the initial U.S. accusations in April, asking Washington to justify its own incentives offered to U.S. companies that use local labor and products in renewable energy and water projects. The Indian embassy in Washington was not immediately available for comment on the latest trade action.

India has argued its solar policies are legal under WTO government procurement rules that permit countries to exempt projects from non-discrimination obligations.

YEARS IN THE MAKING

Froman said the action did not undermine the value that the United States placed on its relationship with India, saying: "Today's action addresses a specific issue of concern and in no way detracts from the importance we attach to this relationship." Attorneys for the USTR said later such cases took months to prepare.

U.S. solar trade groups cheered the move and said the United States had been patient in its discussions with India.

"The U.S. government spent two years talking with India trying to encourage them to move away from the local content requirement before initiating the first action roughly a year ago," said John Smirnow, vice president of trade and competitiveness for the Solar Energy Industries Association.

"We are almost three years in the making of the U.S. trying to get India to move back from this local content requirement."

U.S. environmental groups have urged the Obama administration to back off any WTO action, arguing that building up India's solar power industry will help it cut high greenhouse gas emissions.

But the administration has come under growing pressure from lawmakers and business groups to take a tougher stance on perceived Indian protectionist measures and intellectual property rights abuses by Indian drug companies.

India is widely perceived in Washington as a serial trade offender, with U.S. companies unhappy about imports of everything from shrimp to steel pipes they say threaten jobs.

The U.S. International Trade Commission is scheduled to hold a hearing into complaints of trade barriers erected by India on Wednesday and Thursday.

There are 14 past or current World Trade Organization cases between India and the United States, whose bilateral trade in goods measured \$63.7 billion last year, not including the latest case.

<http://www.reuters.com/article/2014/02/10/us-usa-trade-india-idUSBREA161W220140210>

Global

Hydrocarbon

The Pros and Cons of Exporting US Crude Oil

Senator Lisa Murkowski (R-AK), the ranking member of the Senate Energy & Natural Resources Committee, issued a white paper earlier this month calling for an end to the current ban on US crude oil exports. Her characterization of existing regulations in this area as "antiquated" is spot on; the policy is a legacy of the 1970s Arab Oil Embargo. However, not everyone sees it the same way, either in Congress or the energy industry.

This isn't just a matter of politics, or of self-interest on the part of those benefiting from the current rules. Questions of economics and energy security must also be considered. The main reason these restrictions are still in place is that for much of the last three decades US oil production was declining. The main challenges for the US oil industry were slowing that decline while ensuring that US refineries were equipped to receive and process the increasingly heavy and "sour" (high sulfur) crudes available in the global market. The shale revolution has sharply reversed these trends in just a few years.

No one would suggest that the US has more oil than it needs. Despite the recent revival of production, the US still imported around 48% of its net crude oil requirements last year. Even when production reaches its previous high of 9.6 million barrels per day (MBD) as the Energy Information Agency now projects to occur by 2017, the country is still expected to import a net 38% of refinery inputs, or 25% of total liquid fuel supply. The US is a long way from becoming a net oil exporter.

The driving force behind the current interest in exporting US crude oil is quality, not quantity, coupled with logistics. If the shale deposits of North Dakota and Texas yielded oil of similar quality to what most US refineries have been configured to process optimally, exports would be unnecessary; US refiners would be willing to pay as much for the new production as any non-US buyer might. Instead, the new production is mainly what Senator Murkowski's report refers to as "LTO"—light tight oil. It's too good for the hardware in many US refineries to handle in large quantities, and for most that can process it, its better yield of transportation fuels doesn't justify as large a price premium as for international refineries with less complex equipment.

As a result, and with exports to most non-US destinations other than Canada or a few special exceptions effectively barred, US producers of LTO must discount it to sell it to domestic refiners. Based on recent oil prices and market differentials, producers might be able to earn as much as \$5-10 per barrel more by exporting it. Meanwhile the refiners currently processing this oil are enjoying something of a buyer's market and are able to expand their margins. The export issue thus pits shale oil producers and large, integrated companies (those with both production and refining) such as ExxonMobil against independent refiners like Valero.

Producers are justified in claiming that these regulations penalize them and threaten their growth as available domestic refining capacity for LTO becomes saturated. Additional production is forced to compete mainly with other LTO production, rather than with imports and OPEC.

I believe producers are also largely correct that claims that crude exports would raise US refined product prices are mistaken. The US markets for gasoline, diesel fuel, jet fuel and other refined petroleum products have long been linked to global markets, with prices especially near the coasts generally moving in sync with global product prices, plus or minus freight costs. I participated in that trade myself in the 1980s and '90s. What's at stake here isn't so much pump prices for consumers as US refinery margins and utilization rates.

Petroleum product exports have become a major factor in US refining profitability, and refiners are reportedly investing and reconfiguring to enhance their export capabilities. This provides a hedge

against tepid domestic demand. Nationally, refined products have become the largest US export sector and contributed to shrinking the US trade deficit to its lowest level in four years. If prices for light tight oil rose to world levels US refineries might be unable to sustain their current export pace. It's up to policymakers to assess whether that risk is merely of concern to the shareholders of refining companies or a potential threat to US GDP and employment.

The quest to capture the "value added"—the difference between the value of manufactured products and raw materials—from petroleum production is not new. It helped motivate the creation of the integrated US oil companies more than a century ago and impelled national oil companies such as Saudi Aramco, Kuwait Petroleum Company, and Venezuela's PdVSA to purchase or buy into refineries in Europe, North America and Asia in the 1980s and '90s.

On the whole, OPEC's producers probably would have been better off investing in T-bills or the stock market, because the return on capital employed in refining has frequently averaged at or below the cost of capital over the last several decades. It's no accident most of the major oil companies have reduced their exposure to this sector. When today's US refiners argue that it is in the national interest to preserve the advantage that discounted LTO gives them they are swimming against the tide of oil industry history.

The energy security case for crude exports looks harder to make. An excellent article from the Associated Press quoted Michael Levi of the Council on Foreign Relations as saying, "It runs against the conventional wisdom about what oil security means. Something seems upside-down when we say energy security means producing oil and sending it somewhere else." The argument hinges on whether allowing US crude exports would simultaneously promote more production and increase the pressure on global oil prices. That makes sense to me as a former crude oil and refined products trader, but it will be a harder sell to Senators, Members of Congress, and their constituencies back home.

The politics of exports may be easing somewhat, though, as a Senate vacancy in Montana could lead to a new Chair at Energy & Natural Resources who would be a natural partner for Senator Murkowski on this issue. (That shift may incidentally be part of a strategy to help Democrats retain control of the Senate.) Will that be enough to overcome election-year inertia and the populist arguments arrayed against it?

As for logistics, the administration could ease the pressure on producers without opening the export floodgates by exempting the oil output from the Bakken, Eagle Ford and other shale deposits from the Jones Act requirement to use only US-flag tankers between US ports. That could open up new domestic markets for today's light tight oil, while allowing Congress the time necessary to debate the complex and thorny export question.

<http://www.energytribune.com/80002/the-pros-and-cons-of-exporting-us-crude-oil#sthash.TV6MJgho.dpuf>

News Articles

National

CCEA defers approval to Indian Oil stake purchase in gas assets: report

The Cabinet Committee on Economic Affairs (CCEA) today deferred nod to Indian Oil Corp's (IOC) proposal to acquire Malaysian firm Petronas' 10 per cent stake in a shale-gas assets and a liquefied-natural-gas (LNG) project in British Columbia for \$900 million.

The CCEA deferred approval to IOC to buy the stake in Progress Energy Resources Corp for 1 billion Canadian dollars (\$900 million), official sources said.

The acquisition, when approved, will mark IOC's maiden entry into North America.

The Malaysian firm, through its wholly-owned subsidiary Petronas International Corp, had in 2011 bought Canada's Progress Energy Resources Corp in a Canadian Dollar 5.2 billion deal to get the Altares, Lily and Kahta shale gas assets in north-eastern British Columbia.

In March 2013, it sold a 10 per cent stake in its planned liquefied natural gas facility and shale gas project to Japan Petroleum Exploration Co (Japex).

The Malaysian firm is planning to build a liquefied natural gas terminal off Canada's Pacific Coast, aimed at exporting natural gas to Asian markets. Progress Energy has more than 1.9 trillion cubic feet of proved and probable gas reserves in British Columbia.

IOC's 10 per cent will come with an offtake agreement for the Indian energy company. IOC is looking to expand its portfolio of exploration and producing assets while Petronas wants to share some of its costs.

IOC, which had previously ventured into overseas oil and gas exploration and production with state-owned explorer OIL India Ltd, is currently talking to Petronas alone. There has been no decision so far on taking OIL on board for the acquisition.

Shares of IOC closed at Rs. 257.15, down 0.45 per cent on the BSE stock exchange

<http://profit.ndtv.com/news/corporates/article-ccea-defers-approval-to-indian-oil-stake-purchase-in-gas-assets-report-380480>

Align prices with global rates for India's energy security'

Pitching for aligning energy prices in the country with global rates, Planning Commission Deputy Chairman Montek Singh Ahluwalia today said this is necessary for the country's energy security.

“Coal, diesel and kerosene are under-priced. Electricity prices are understated. There is case for moving towards rational energy prices. This is required for energy security,” he said at a conference on sustainable energy.

According to Ahluwalia, energy security means reducing dependence of their imports and that is possible only when the energy is priced at par with global rates which would ultimately improve investments in the country’s energy sector.

Elaborating further, he said state-run ONGC sells crude oil at USD 50 per barrel to state refiners whereas the price in the global market is over USD 100. “Thus, there would under-investment by the ONGC,” he added.

Ahluwalia also said that India gives the subsidies as it first gives sops on energy and then provides incentives for buying energy-efficient equipments.

He was of the view that there is no scope for subsidies as these are already at a high level of 2.3 per cent of the Gross Domestic Product (GDP) and India needs to cut it down by at least one percentage point to 1.3 per cent level.

He said that under Jawaharlal Nehru National Urban Renewal Mission (JNNURM), the local bodies like municipal corporation should have energy efficiency standards for building.

According to Ahluwalia by 2030, around 70 per cent of the total commercial buildings would be newly constructed as the in the process of urbanisation, the population in cities would increase to 600 million from present estimates of 381 million people.

http://www.business-standard.com/article/pti-stories/align-prices-with-global-rates-for-india-s-energy-security-114011601204_1.html

Energy -Tech

Indian scientists in US convert discarded plastic into petroleum products

In a major breakthrough Indian-origin scientists based in US have successfully converted plastic shopping bags into diesel, natural gas and other useful petroleum products.

The conversion produces significantly more energy than it requires and results in transportation fuels like diesel. Other products such as natural gas, naphtha (a solvent), gasoline, waxes and lubricating oils such as engine oil and hydraulic oil also can be obtained from shopping bags.

Brajendra Kumar Sharma, a senior research scientist at the Illinois Sustainable Technology Center led the research. He said it involved a process called pyrolysis which is essentially heating the bags in an oxygen-free chamber.

Sharma said, “Plastic bags make up a sizeable portion of the plastic debris in giant ocean garbage patches that are killing wildlife and littering beaches. Plastic bags have been detected as far north

and south as the poles. Over a period of time, this material starts breaking into tiny pieces and is ingested along with plankton by aquatic animals. Fish, birds, ocean mammals and other creatures have been found with a lot of plastic particles in their guts," Sharma said.

"Turtles, for example, think that the plastic grocery bags are jellyfish and they try to eat them," he added.

"You can get only 50 to 55% fuel from the distillation of petroleum crude oil," Sharma said. "But since this plastic is made from petroleum in the first place we can recover almost 80% fuel from it through distillate ion".

World Watch Institute says factories around the world churned out 4-5 trillion bags in 2002 ranging from large trash bags to thick shopping totes to flimsy grocery sacks.

Previous studies have used pyrolysis to convert plastic bags into crude oil. Sharma's team took the research further by fractionating the crude oil into different petroleum products and testing the diesel fractions to see if they complied with national standards for ultra-low-sulfur diesel and biodiesel fuels.

A mixture of two distillate fractions providing an equivalent of US diesel met all of the specifications required after addition of an antioxidant, Sharma said.

"This diesel mixture had an equivalent energy content, a higher cetane number (a measure of the combustion quality of diesel requiring compression ignition) and better lubricity than ultra-low-sulfur diesel," he said. The researchers were able to blend up to 30% of their plastic-derived diesel into regular diesel and found no compatibility problems with biodiesel.

"It's perfect," Sharma said. "We can just use it as a drop-in fuel in the ultra-low-sulphur diesel without the need for any changes."

The first plastic bags were introduced in the United States in 1957. Plastic trash bags started appearing around the world by the late 1960s.

North America and Western Europe account for nearly 80% percent of plastic bag use— though the bags are increasingly common in developing countries as well.

A quarter of the plastic bags used in wealthy nations are now produced in Asia. Each year Americans throw away some 100 billion polyethylene plastic bags. Only 0.6% of this is recycled. The rest of the bags end up in landfills or escape to the wild, blowing across the landscape and entering waterways.

<http://timesofindia.indiatimes.com/nri/nri-achievers/Indian-scientists-in-US-convert-discarded-plastic-into-petroleum-products/articleshow/30370628.cms>

Global

Pakistan, China Discuss 3-Plant Nuclear Energy Deal

Pakistan and China are currently in talks over a potential deal that could see China sell Pakistan three large nuclear plants for around \$13 billion, the *Wall Street Journal* reported Monday. The new talks come on the heels of China-Pakistan nuclear cooperation on a complex containing two nuclear plants in Karachi – a \$9 billion project – which was ceremonially inducted by Prime Minister Nawaz Sharif in late 2013.

If an agreement is reached and Pakistan is able to acquire the funds to build the reactors, Pakistan's electricity supply problems could be alleviated. Nuclear cooperation between China and Pakistan also highlights a much broader strategic partnership with greater economic, political, and military elements.

According to Ansar Parvez, chairman of the Pakistan Atomic Energy Commission, Pakistan aims to output 8,800 megawatts of nuclear energy by 2030. Currently, 750 megawatts of Pakistan's 12,000-14,000 megawatts of energy output are generated by nuclear plants.

The United States, an important ally for Pakistan, expressed concern at the deal according to the *WSJ* report, on the grounds that international rules prohibit nuclear commerce with countries such as Pakistan that are not signatory to the nuclear non-proliferation treaty (NPT).

The \$9 billion deal for the Karachi complex, which absolutely dwarfs other Chinese involvement in Pakistan's domestic nuclear energy market, marked a new sort of advance in the "all-weather" partnership between China and Pakistan. Sino-Pakistani civil nuclear cooperation is emerging as a "growing counterpoint to [the] nuclear axis between the United States and India in recent years that Pakistani officials have seen as an irritant and Chinese officials have seen as a geopolitical challenge," the *New York Times* noted.

Geopolitics aside, the prime motivator of the deal – at least on the Pakistani side – is a critical deficit in energy infrastructure and capacity. Prior to his election in May 2013, Prime Minister Nawaz Sharif emphasized that his government would tackle Pakistan's chronic energy shortages. Nuclear energy remains somewhat of a long-term vision for Pakistan – coal, gas, and hydroelectric projects are also underway.

Pakistan's energy situation is certainly complicated by geopolitics. In December 2013, Iran canceled a scheduled loan to Pakistan for a gas pipeline between the two countries that would have served as a short-term saving grace for Pakistan's energy needs. The United States has urged Pakistan to resist energy overtures of this sort and instead focus on a land-delivered oil from Turkmenistan.

According to the *Wall Street Journal*, burgeoning nuclear commerce between China and Pakistan could develop into an issue on the U.S.-China diplomatic agenda. One U.S. official notes that the project causes "concerns because of the commitments within the Nuclear Suppliers Group. It is also

a U.S.-China issue." The Nuclear Suppliers Group (NSG) is an international body that regulates the export of nuclear and dual-use technology from nations with nuclear know-how and infrastructure to those without under the legal regime of the NPT. Currently, China maintains that its nuclear commerce with Pakistan began prior to it joining the NSG and is therefore exempt from scrutiny.

<http://thediplomat.com/2014/01/pakistan-china-discuss-3-plant-nuclear-energy-deal/>

Hydrocarbons

China reveals its cards for investing \$20 billion in Pakistan

ISLAMABAD: China is demanding that all mega power projects, including the Bhasha Dam, Gaddani and Lakhra coal plants, the Tarbela Extension project and many transmission lines, be handed over to China without any international bidding process, and Beijing will directly invest \$22 billion in Pakistan.

The Nawaz Sharif government is eager to accept this huge Chinese offer, and a loophole in the PPRA rules is being used to hand over all these mega projects to China.

"Beijing will extend the preferential and medium term soft loans of \$22 billion to Pakistan against the guarantees of the government of Pakistan", a senior official who was part of the recent meeting of the Pak-China Joint Working Group (JWG) held on January 7-8 in Beijing told The News.

"We have carved out a plan to capitalise on the opportunity that Beijing has extended to Pakistan. Under the plan, Chinese companies will be offered the coal and hydropower and huge transmission line projects under a direct contracting regime which is not against the PPRA rules," the official said.

The Ministry of Water and Power has already sent a summary to the Law Division for vetting. The vetted summary allowing the mechanism of adopting the direct contracting regime will then be sent to the Ministry of Finance for a final nod. In case of no objection, the projects will be given to the Chinese companies.

The Chinese companies have, the official said, refused to take part in international competitive bidding (ICB) to get the contracts in Pakistan's power sector arguing if Pakistan wants funding from Beijing for various projects, then it will also have to hand over the projects.

Top officials in the power ministry have found a way out of introducing a direct contracting regime, which is permissible in the PPRA rules, to accommodate the desire of Chinese companies.

In the Joint Working Group meeting held in Beijing an 18-member Pakistan delegation took part. The meeting was co-chaired by Wu Xinxiong, of the Energy Administration (NEA) of China and Khawaja Muhammad Asif, Federal Minister for Water and Power.

Beijing offered the huge credit line based on insurance to promote and sustain the development of Chinese energy projects in Pakistan.

During the recent visit to China, the Three Gorges Corporation extended an offer for 100 percent funding for Pakistan's most strategic project, the Diamer-Bhasha Dam, worth \$11.8 billion that will have a capacity to store 8 million acre feet of water and generate 4,500 MW of electricity. The Chinese company said it will provide the whole funding but the project should be handed over to it without holding any International Competitive Bidding (ICB).

The said company showed its willingness to immediately release \$5 billion to Pakistan for the Diamer-Bhasha Dam so that it could start constructing the dam. China has also offered to install the coal power project of 660 MW in Gaddani and 2x600 MW coal based projects in Thar and 2x600 MW coal based project in Lakhra.

Pakistan needs almost \$16 billion investment to develop the Power Park of 600 MW in Gaddani with jetting and a transmission line. China has also offered to provide \$4 billion for evacuation of 6,600 MW through the transmission line, but it demanded the handing over of the project of transmission lines.

China also offered \$700 million for the Tarbela extension V project which if completed will provide 1,400 MW electricity at cheaper rates. The Tarbela Extension IV project of 1,400 MW is already under way and will be completed by 2017.

[http://www.thenews.com.pk/Todays-News-13-28050-China-reveals-its-cards-for-investing-\\$20-billion-in-Pakistan](http://www.thenews.com.pk/Todays-News-13-28050-China-reveals-its-cards-for-investing-$20-billion-in-Pakistan)

Nawaz, Zardari launch Thar coal power project

THAR: Prime Minister Nawaz Sharif and former president Asif Ali Zardari Friday jointly performed ground-breaking of the US 1.6 billion dollar Thar coal power project to help the country meet its energy needs.

The project, scheduled to complete in 2017, will initially provide 660 MW of power for Pakistan's energy starved industrial units.

The project will be carried out by Sindh Engro Coal Mining Company (SECMC) — a joint venture between EngroPowergen and Government of Sindh.

Prime Minister Sharif, in his address, said the launch of the project along with Zardari, had sent a message across that the political leadership should be united when it comes to the development of the country.

Prime Minister Sharif termed the Thar coal project a big national development project and suggested that the coal for all projects in Gaddani should be supplied from Thar.

He said the government was working on several power generation projects including hydel and nuclear generation.

The prime minister also said the recently launched nuclear power project in Karachi would generate 2200 MW, while the Dasu, Diamir and Bunji dams on Indus River would generate 15000 MW electricity. He said the Thar coal project would eventually produce 6600 MW of power.

The prime minister said three power projects would complete in 2017, including the Jhimpir Wind Power project in Thatta, CASA 1000 and Tarbela Dam upgradation.

He said efforts were afoot to import Liquefied Natural Gas (LNG) and pledged that in a year and a half, the country's gas shortage problem would be addressed.

Prime Minister Sharif said the project will usher in an era of prosperity and development for the people of Tharparkar.

He also seconded former president Zardari's suggestion for setting up an industrial park in Thar that would generate employment for the people. He said the federal government would contribute in its development.

Zardari said the day's event would convey a message to the next generations of the country that the politicians need to sit together to work for the development of the country.

He said the project, initiated by Benazir Bhutto and later pursued during his government, had finally seen the light of day.

Chief Minister Sindh Qaim Ali Shah said the project would bring about a big change in the lives of the people of Tharparkar, Sindh and the entire country.

He termed the coal as gold for Pakistan and said the electricity generated would be used to help run the industrial units of the country and generate employment.

The project in Block-II of Tharparkar District is spread over an area of 79.6 square kilometres. According to a feasibility study, the project is commercially viable and has no significant environmental threats and social implications.

In its first phase, the project will develop a coal mining and power project with a capacity of 3.8 million tonnes per annum and 660 MW.

Subsequently, the mine will be expanded to a coal capacity of 6.5 million tonnes per annum to support a 1300 MW power plant.

In the second phase, it is planned to expand mining project to 13.5 million tonnes and 19.5 million tonnes, with a power generation capacity of 2400 MW and 3600 MW.

The Thar coal field has an estimated lignite reserves of 175 billion tonnes, equivalent to the total oil reserves of Saudi Arabia and Iran combined and can be used to produce 100,000 MW for 200 years, according to the data available by SECMC.

<http://www.dawn.com/news/1084003/nawaz-sharif-zardari-launch-thar-coal-power-project>

Coal Markets Hit Hard as Emerging Economies Begin to Wobble

Slowing growth in developing countries has started to affect the commodities market, especially for coal, as orders are slashed and prices have fallen as much as 10 percent in a month. Commodities are often closely linked to the success of developing economies, whose demand for energy increases as wealth increases and infrastructure is improved.

Thermal coal, as the cheapest fuel for electricity generation, is vital for the industrialisation of emerging economies, and has therefore been the hardest hit by the recent slowdown in growth. Currencies, such as the Indian rupee and the Turkish lira, have also fallen, making coal imports much more expensive.

South African coal producers have been badly affected by the weakening of demand from India, forcing coal prices in the region down 8% in the last 10 days. George Cheveley, a portfolio manager at Investec Asset Management, warned that *"people might see India cutting back on coal purchases and thermal coal prices might come down further."*

Reuters adds that European coal markets have also suffered, with prices falling more than 6% over the past two weeks thanks to a reduction in demand from Turkey, and Australian coal prices are down 10% since the start of the year, currently at \$78.75 per tonne.

Other commodities, such as iron ore, have also been hit by the fall in demand from struggling developing economies, however Reuters notes that this is more closely linked to the situation in China than other developing countries.

Colin Hamilton, the head of commodities research at Australian bank Macquarie, stated that *"iron ore is purely a China story whereas coal is more leveraged on emerging markets, particularly India."*

Last year Chinese coal consumption rose just 2.6%, one of the lowest rates of growth for years. This was fuelled by a slowdown in the country's economic growth, along with new environmental policies that promote the use of natural gas in favour of coal.

<http://oilprice.com/Latest-Energy-News/World-News/Coal-Markets-Hit-Hard-as-Emerging-Economies-Begin-to-Wobble.html>

This Week in Energy: At the Crossroads of Japan's Energy Future

Japan's 9 February gubernatorial elections are being billed largely as a referendum on the fate of the country's nuclear energy future—an election that will shape the debate on whether Japan should continue its reliance on nuclear energy, at least for the next two decades.

The gubernatorial elections come as Abe administration is hoping to restart some nuclear power plants once the Nuclear Regulation Authority confirms that they are safe. Challenging this plan is an alliance between former prime minister Morihiro Hosokawa and former prime minister Junichiro Koizumi, who are pushing an influential zero nuclear platform.

As such, and in this post-Fukushima environment, the nuclear issue has almost entirely hijacked the campaign, particularly for the Tokyo gubernatorial race, and the Abe administration is struggling to restore balance. As the administration would point out, other issues ranging from social welfare, employment, earthquake preparedness and the 2020 Olympic Games require much more campaign attention than they are getting at present.

The zero-nuclear position attributed to some 40% of Japan's population is certainly understandable after Fukushima; nonetheless, the timing is simply not right. While great strides towards alternative energy resources are being made in Japan perhaps more than anywhere else in the world, just building the necessary infrastructure to supply a zero-nuclear power grid will take years, if not decades.

We have closely and with great interest followed Japan's progress at nuclear alternatives, from the hungry momentum for expensive LNG imports to exploration for "fire ice", among myriad renewable energy resources.

Liquefied natural gas has in the interim replaced nuclear energy as Japan's primary source of power, driving up prices and inflating the country's fuel bill significantly.

Japan purchased a record 87.3 million metric tons of LNG in 2012 for a whopping \$57.5 billion, which is double what it paid in 2011, Bloomberg reports, citing Japanese customs data. The news agency also notes that Japan's current-account deficit in November was the biggest in comparable data back to 1985.

"There is no doubt the nuclear shutdown is damaging the Japanese economy," said Akira Yanagisawa, a Tokyo-based researcher at the Institute of Energy Economics, Japan, who predicts 16 units will restart. "Japan's national wealth has been outflowing to countries that produce oil and natural gas."

This, too, should be a key election issue as we near 9 February.

It is also important to note that while the Abe administration seems to be portrayed in the media in a black-and-white manner of pro-nuclear, there is more to this story below the surface. The intent is not to see that Japan is reliant on nuclear power in the long term, or even in the medium term. What the administration recognizes is that in the immediate- and short-term, Japan still needs nuclear; its economy needs nuclear, and the next time around it will be safer and more secure.

As reported by The Japan Times, the Abe administration is now considering revising its draft energy policy to avoid potential misunderstandings about the country's nuclear future. The draft energy policy is not intended to suggest that Japan will rely heavily on nuclear power in the medium to long term. In fact, the draft policy explicitly calls for reducing nuclear dependence as much as possible.

The administration is presently putting the final touches on this draft energy policy—the first since the Fukushima disaster of 2011.

<http://oilprice.com/Geopolitics/Asia/This-Week-in-Energy-At-the-Crossroads-of-Japans-Energy-Future.html>

CLIMATE SECURITY

News Analyses

National

Climate change alters land map of India

The adverse effects of climate change are being felt on more than a fourth of India's landmass over the last four decades. While some parts of the country have turned arid, others have witnessed more rainfall.

A study by the Central Research Institute for Dryland Agriculture (CRIDA) at Hyderabad has revealed that about 27% of the country's geographical area has been directly impacted by climate change, a result of increase in mean surface temperatures coupled with changes in rainfall pattern between 1971 and 2005.

The study said the changes in weather have implications on agriculture, water availability, drought preparedness, and could be a possible trigger for climate-change driven disease.

Scientists working on climate-resilient agriculture said the impact of climate change on crops in states is a reality. "Demarcation of climate zones helps in adaptation methods such as identifying new technologies and carrying out research to bring out new seed varieties. But, the analysis must be studied further and should take a longer time period into account," said a senior agriculture scientist, requesting anonymity, as he is not authorised to talk to the media.

An 11-member team from CRIDA used temperature and rainfall data from 144 weather stations and 6,000 rain gauge stations to compute the moisture index (MI) (see box 2), which is a fundamental variable on the basis of which climate was classified across India.

Their analysis found substantial increase in arid areas in Gujarat and a decrease of arid regions in Haryana. While Madhya Pradesh, Tamil Nadu and Uttar Pradesh have witnessed a shift from medium rainfall (dry sub-humid) to semi-arid, states of Chhattisgarh, Orissa, Jharkhand, Madhya Pradesh and Maharashtra have changed from being high rainfall (moist sub-humid) to dry sub-humid.

Areas that have seen maximum decrease in rainfall are Orissa, Chhattisgarh, Jharkhand and Madhya Pradesh, where 28 districts have changed from high rainfall (moist sub-humid) to medium rainfall (dry sub-humid). Meanwhile, Ladakh district in Jammu and Kashmir, which was earlier classified as a dry and cold region, is now an area with medium rainfall.

"While we cannot say that India is moving towards aridity, extremities are certainly increasing. Therefore, it was pertinent to revisit climatic classifications that will aid better planning and help in allocating funds to various government mega projects," said B Venkateswarlu, director, CRIDA.

The changes in the climate zones listed in the present study as compared to the previous one are stark. The maximum shift from high rainfall (moist sub-humid) to medium rainfall (dry sub-humid), comprising 7.23% of the geographical area, was observed in Orissa (12 districts), Chhattisgarh (7 districts), Jharkhand (4 districts) and Madhya Pradesh (5 districts).

The earlier humid districts of Jammu and Kashmir, Uttarakhand and Himachal Pradesh are now moist sub-humid. It's become per humid (continuous rain and therefore the wettest) in Mizoram and Tripura from being just humid. While Andhra Pradesh and Maharashtra has seen a marginal reduction in its semi-arid zone, about half of the districts with high rainfall in eastern India (other than West Bengal, which has shifted to being humid) received medium rainfall.

The study states that some regions, which now receive more rainfall, may no longer need that much irrigation, while regions that are showing declining rainfall, like Orissa and Chhattisgarh, may need more irrigation.

Stating that climate classification must be revisited every 30 years, Venkateswarlu said: "Many districts such as dry regions of Punjab and Haryana that once needed large funds are well irrigated and may not need that kind of allocation anymore. On the other hand, areas such as Orissa and Jharkhand are turning arid and hence may now be eligible for funds for water-shed programmes."

The first climatic classification for Indian districts was given in 1988 based on temperature and monsoon data in the 1960s. "Back then, there were fewer weather observatories, rain gauges and even districts as compared to today. The last 30-40 years have seen changes in temperature and rainfall, as well as irrigation across the country," added Venkateswarlu.

According to climate studies, the rate of warming in India has increased after 1970s, with mean annual surface air temperature of 0.21 degrees Celsius every decade as against 0.51 degrees Celsius every 100 years during the past century.

Scientists attribute global warming to an increase in carbon emissions from manmade factors such as vehicular emissions and biomass burning. A rise in temperature affects evapotranspiration, thereby increasing aridity. Evapotranspiration means the loss of water from the soil, both naturally and through vegetation.

<http://www.hindustantimes.com/india-news/climate-change-alters-land-map-of-india/article1-1174475.aspx>

Global

Climate change policy at risk because of denial and fear, Ed Davey warns

Britain's climate change policy is under threat from a "diabolical cocktail" of nimbyism, denial of science and fear of Europe from politicians on the right, the energy secretary will say on Thursday.

Amid growing warnings about a potential link between global warming and extreme UK weather, Ed Davey will raise concerns that the political consensus about the need to tackle climate change is in danger of breaking down as some in the Conservative and Ukip parties try to discredit the science.

He will say that the actions of climate deniers are "undermining public trust in the scientific evidence for climate change" and that "we can see around us today the possible consequences of a world in which extreme weather events are much more likely".

In his speech at the IPPR thinktank on Thursday, Davey will criticise those who seize on “any anomaly in the climate data to attempt to discredit the whole”.

Taking aim at “climate change denying Conservatism”, which he calls wilfully ignorant, he warns that it could create a diabolical cocktail that threatens the whole long-term structure of UK climate change and energy policy.

The chief scientist at the Met Office, Dame Julia Slingo, said on Sunday that evidence suggests there is a link between the extreme weather gripping Britain and climate change. David Cameron has also said he suspects there is a connection.

However, the environment secretary, Owen Paterson, has repeatedly downplayed the risks of climate change, leading to calls from the Green party and environmental groups for him to be sacked.

On Wednesday, Lord Lawson a former Conservative chancellor who regularly casts doubt on climate science, also criticised suggestions of a link between the floods and global warming as absurd.

He said: “You’ll see the Met Office’s own report denies it. It is just this Julia Slingo woman who made this absurd statement, but their own official statement makes it clear there is no proven link whatsoever.

“There’s been bad weather before. And anyhow, climate change is a global phenomenon, and you don’t attribute local things like this necessarily to some global picture.”

He joins the Ukip leader, Nigel Farage, in dismissing warnings of a link. Farage said the cause was “just the weather” when he toured the stricken town of Burrowbridge in Somerset.

The Met Office has said there can be no definitive conclusions that the floods are linked to climate change, but Slingo indicated there are signs of a connection.

On Sunday she said: “All the evidence suggests there is a link to climate change. There is no evidence to counter the basic premise that a warmer world will lead to more intense daily and hourly rain events.”

The government has also been warned by the climate change committee about a £500m shortfall in funding for flood defences as the risk of extreme weather events is likely to increase.

Sunday’s joint report from the Met Office and the Centre for Ecology and Hydrology, entitled *The Recent Storms and Floods in the UK*, points out that the 12cm (4.7in) rise in sea level over the 20th century has exacerbated coastal flooding. It says a further rise of between 11cm and 16cm is expected by 2030, two-thirds of which is attributable to the effects of climate change.

The report says the run of deep depressions from December to February is unusual, adding: “In terms of the storms and floods of winter 2013/14, it is not possible, yet, to give a definitive answer on whether climate change has been a contributor or not.” Attributing specific weather events is painstaking work that requires time significant computing power.

The report states that daily heavy rainfall is now more frequent than in the 1960s and 1970s.

The authors write: "It is worth emphasising that there is no evidence to counter the basic premise that a warmer world will lead to more intense daily and hourly heavy rain events.

"In terms of the impacts of changing weather and climate patterns, the cluster of drought and flood events through the early years of the 21st century, and the recent runoff and recharge patterns, are near to the extreme range of historical variability."

<http://www.theguardian.com/uk-news/2014/feb/13/climate-change-policy-britain-at-risk-ed-davey-environment-secretary>

News Articles

National

India and France jointly building 3rd satellite for climate change studies

BANGALORE: India and France are working on building the third Indo-French satellite designed for climate change studies, a senior French official said today.

"We are preparing the third Indo-third French satellite. We have already launched one (Megha-Tropiques) in 2011 and the second (SARAL-AltiKa) in 2013," Counsellor (Space), Embassy of France in India, Mathieu J Weiss, told PTI after French Ambassador to India Francois Richier and his delegation met ISRO Chairman Dr K Radhakrishnan here..

The new satellite being built jointly by Indian Space Research Organisation and National Centre for Space Studies (CNES) of France would be a state-of-the-art satellite for earth observation for climate change, Weiss said.

Scientists from both countries have been deliberating on the structure of the satellite for more than one year, the French official said.

The final shape to the proposed project is scheduled to be given by next March when Indian and French scientists will hold a "big" meeting in France, Weiss said.

The satellite is expected to give France and India a complete spectrum of data which could be shared with already existing Indian satellites and French satellite like SPOT-7 which will be launched on India's Polar Satellite Launch Vehicle rocket this year, Weiss said.

"India is the one of the most important countries of cooperation for France. Both countries have plenty of things to do together," he added.

http://articles.economictimes.indiatimes.com/2014-01-23/news/46514126_1_climate-change-india-and-france-india-francois-richier

Nations will face big political question in Lima over climate change

President of the Warsaw climate conference (COP19) and Poland's secretary of state, Marcin Korolec, has said the "nature of contributions" from countries to deal with menace of global warming would be the "main political questions" in Peruvian capital Lima where leaders/negotiators from across the globe assemble for the next marathon meeting in December. In first and only interview to Indian media over outcome of the last climate conference (COP19), Korolec told the TOI that the road to Paris for universal climate deal in 2015 may not be easy, but the Warsaw round made the global community confident about the process of negotiations which will certainly lead the nations to a final decision.

Korolec, who visited India to participate in the TERI's 14th Delhi Sustainable Development Summit (DSDS), also emphasized that the rich nations would not be able to dilute the differentiation between developed and developing countries and they will have to contribute to deal with the challenges of climate change under the principle of 'common but differentiated responsibilities' (CBDR) - which puts onus of corrective measures primarily on developed countries.

Elaborating on the CBDR, he said, "I think, we have to go back to the Durban meeting where we had decided that we as a community will negotiate a global agreement applicable to all and the finish of those negotiations should take place in 2015." In the Durban language, there is also a statement that this new agreement applicable to all should be negotiated under the convention. It means that the principles linked to the convention and also with the principle of CBDR and respective capabilities." He said, "I think the outcome of Warsaw (November, 2013) is very positive in that sense because it says all countries will start preparing for contributions. Those contributions will obviously be determined by the countries presenting it. So in that sense, the principle of CBDR is possible to be realized". On the question as to who will decide those contributions from developing countries, the Polish secretary of state and his country's plenipotentiary for climate policy said, "The nature of contribution is another story. We have to discuss this in Lima. It will, in fact, for the individual country to define it. I think that will be the main political question for the Lima meeting". On the fate of the Green Climate Fund, Korolec said, "The GCF will be the cornerstone of the climate finance in the future. The real operationalisation of the fund will take place soon. I hope, there will be a full-fledged functioning fund by the end of the year". He was nominated to the Board of the Fund in December last year.

<http://timesofindia.indiatimes.com/home/environment/global-warming/Nations-will-face-big-political-question-in-Lima-over-climate-change/articleshow/30067574.cms>

Centre okays plan to assess impact of climate change

Amid all-round criticism from environmentalists for ignoring sensitive green issues under new environment minister M Veerappa Moily, the government has approved a pending Rs 290 crore scheme to build capacity at both central and state levels to assess impact of climate change in vulnerable areas and associated risks.

Besides, it also cleared a proposal to set up an institute on climate change studies in the name of former prime minister Rajiv Gandhi.

“Both these proposals were cleared by the Union Cabinet on Monday,” said Moily, seeking to give an impression that his ministry was equally concerned of green cause and climate change.

Moily told TOI that the finance ministry had agreed to release funds for the scheme which is to be implemented beginning next fiscal.

As far as setting up the Rajiv Gandhi Institute for Climate Change Studies and Actions is concerned, the minister said a committee of secretaries (CoS) would soon take a call on structure of the institute and the timeline for its completion.

The CoS will comprise of secretaries in the ministries of environment and forest, finance, renewable energy, agriculture, water resources and earth science.

The Rajiv Gandhi Institute - which is to be set up here as an autonomous body — will have four key functional areas related to environmental-scientific assessments and modeling; economic and legal analysis, monitoring and policy making; training, capacity building and advocacy and database, documentation and inventory management.

The capacity building scheme - which got the Cabinet's nod on Monday - is designed to undertake and augment various activities including Coordination of National Action Plan on Climate Change (NAPCC) and State Action Plan on Climate Change.

The NAPCC, comprising eight government-backed missions, was launched by the Centre in 2008. It includes government's priority area to work in the field of solar energy, enhanced energy efficiency, sustainable habitat, conserving water, sustaining the Himalayan ecosystem, a “Green India” mission, sustainable agriculture and strategic knowledge platform for Climate Change.

<http://timesofindia.indiatimes.com/home/environment/global-warming/Centre-okays-plan-to-assess-impact-of-climate-change/articleshow/29176997.cms>

India's plan for world's largest solar farm may stumble over wetlands

Mega solar power project in Rajasthan may touch on protected Sambhar Lake wetlands,

India has announced plans to build the world's biggest solar-power generating facility on a salt-producing plain in Rajasthan, but experts say the massive project may still face ecological hurdles.

The facility, to be located on 20,000 acres (30 square miles) of land owned by Rajasthan's government and a salt-producing firm, would have a capacity of 4,000 megawatts of electricity, and cost \$1.2 billion in the first phase. India today uses an average of 772,000 gigawatt hours of power annually.

A.N. Srivastava, director of the country's Ministry of New and Renewable Energy, said in an interview the project should have a lifespan of 25 years, and would reduce the country's carbon footprint by

over 4 million tons of carbon dioxide each year. Currently 67% of India's energy requirements are met by rapidly depleting coal deposits, he said, and "to offset this dependency, India needs a clean energy revolution".

Backers say the project will sit on dried-up land no longer required for salt production.

"There is almost 30 square miles of barren land surrounding the (Sambhar Lake) site which could be well-utilised for green energy production," R.K. Tandon, chairman and managing director of Hindustan Salts Limited, one of the partners in the solar plant, said in an interview with Thomson Reuters Foundation. The project fits under India's National Action Plan on Climate Change, which calls for greater use of renewable energy, and would be environmentally friendly, he added.

The project aims to cut prices for solar energy and close a huge gap between power production and power demand in rural areas as per capita consumption of power grows in India, from about 780 kilowatt hours per person in 2009-10 to more than 880 kilowatt hours per person in 2011-12, according to the country's 12th five-year plan.

But the government has not yet announced the project's boundaries, and environmental experts fear it may touch on Sambhar Lake wetlands protected under the international Ramsar Convention, and that it could also affect nearby villages and illegal settlements encroaching on the wetlands.

<http://www.theguardian.com/environment/2014/feb/11/india-worlds-largest-solar-farm-wetlands>

Global

Climate change could cause trillions in damage to world's coastal regions

Washington, Feb 5 (ANI): New research has predicted that coastal regions may face massive increase in damages from storm surge flooding over the course of the 21st century.

According to the study, global average storm surge damages could increase from about 10 to 40 billion dollars per year today to up to 100,000 dollars billion per year by the end of century, if no adaptation action is taken.

The study, led by the Berlin-based think-tank Global Climate Forum (GCF) and involving the University of Southampton, presents, for the first time, comprehensive global simulation results on future flood damages to buildings and infrastructure in coastal flood plains.

Drastic increases in these damages are expected due to both rising sea levels and population and economic growth in the coastal zone.

Asia and Africa may be particularly hard hit because of their rapidly growing coastal mega-cities, such as Shanghai, Manila and Lagos.

"If we ignore this problem, the consequences will be dramatic," Jochen Hinkel from GCF and the study's lead author, said.

In 2100, up to 600 million people (around 5 percent of the global population) could be affected by coastal flooding if no adaptation measures are put in place.

“Countries need to take action and invest in coastal protection measures, such as building or raising dikes, amongst other options,” Hinkel said.

With such protection measures, the projected damages could be reduced to below 80 billion dollars per year during the 21st century.

The researchers found that an investment level of 10 to 70 billion dollars per year could achieve such a reduction.

Prompt action is needed most in Asia and Africa where, today, large parts of the coastal population are already affected by storm surge flooding.

The study is published in the Proceedings of the National Academy of Sciences. (ANI)

<http://www.newstrackindia.com/newsdetails/2014/02/05/107-Climate-change-could-cause-trillions-in-damage-to-world-s-coastal-regions.html>

The ‘pause’ in global warming is not even a thing

The idea that global warming has “paused” or is currently chillaxing in a comfy chair with the words “hiatus” written on it has been getting a good run in the media of late.

Much of this is down to a new study analysing why one single measure of climate change – the temperatures on the surface averaged out across the entire globe – might not have been rising quite so quickly as some thought they might.

But here’s the thing.

There never was a “pause” in global warming or climate change. For practical purposes, the so-called “pause” in global warming is not even a thing.

The study in question was led by Professor Matt England at the University of New South Wales Climate Change Research Centre.

England’s study found that climate models had not been geared to account for the current two decade-long period of strong trade winds in the Pacific.

<http://www.theguardian.com/environment/2014/feb/11/india-worlds-largest-solar-farm-wetlands>

UN climate report urges quicker switch to low-carbon global economy

Delaying action on global warming will only increase the costs and reduce the options for dealing with its worst effects, according to a draft report by UN experts.

The final draft of the report by the Intergovernmental Panel on Climate Change says global warming will continue to increase unless countries shift quickly to clean energy and cut emissions.

A leaked version circulating with media outlets and news agencies says that despite national policies and international efforts emissions of carbon dioxide and other greenhouse gases that are warming the planet grew 2.2% per year on average between 2000 and 2010, compared with 1.3% per year from 1970 to 2000.

The two main drivers were a sharp rise in economic growth and a steady growth in the world's population, the report said. The largest contributor to global emissions was the burning of oil and coal and the draft report says its contribution is expected to rise. Unless "explicit efforts" are made to reduce emissions, the experts warn, increased conservation and efficiency will not be enough.

With increasing demand for energy and the growing use of coal to generate electricity, the experts say emissions from the sector are projected to double or triple by 2050 from the level in 2010 unless improvements in clean energy are "significantly accelerated".

International climate negotiators agreed at the 2009 UN climate change conference in Copenhagen that global warming this century must increase by less than 2C to avoid the worst impacts of climate change.

Scientists say that target requires atmospheric concentration of carbon dioxide, the main greenhouse gas, to stay below 530 parts per million (PPM). The level recently surpassed 400PPM.

The report said the majority of scenarios to stay below 530PPM throughout the 21st century would require reducing greenhouse gas emissions by 40-70% of 2010 levels by 2050. The experts call for new patterns of investment and a transformation into a low-carbon economy.

The global total annual investment in the energy system is presently about US\$1.2tn. The experts estimate that in order to stabilise the atmospheric concentration of CO₂ between 430 and 530ppm investment in fossil fuels would have to decline by \$30bn a year between 2010 and 2029, while investment in non-carbon producing energy sources would have to rise by \$147bn a year.

The report argues many renewable energy technologies are increasingly efficient and cost-effective but need support if their market share is to increase.

<http://www.theguardian.com/environment/2014/jan/17/un-climate-report-carbon-economy>

Bangladesh moves to clean up dirty climate spending

DHAKA, Bangladesh (Thomson Reuters Foundation) – Amid allegations of misuse of climate funds, Bangladesh is formulating a plan to coordinate expenditures across agencies and ensure greater transparency and accountability in climate change-related activities.

Officials said the move is part of efforts to ensure appropriate and effective use of funds in offsetting the impacts of climate change on Bangladesh, one of the most vulnerable nations to the global warming.

“In the fiscal budget, funds are being allocated for climate change-related projects for almost all the ministries. But the spending lacks coordination thus (it is) sometimes being misused which now we are trying to bring under strict regulations,” Rafiqul Islam, the joint chief of the Planning Commission, told Thomson Reuters Foundation.

He said huge amounts of money are being spent in a scattered way which causes frequent repetition and duplication of projects. “Several organisations embark on the same types of projects, while many areas remain unattended,” he noted.

Islam said if a “climate fiscal framework” is formulated and properly followed, agencies would have a clearer idea what projects are in place and how much money is involved with each of them.

DEVELOPMENT SPENDING

The government has already changed the format of development project proposals (DPP) to include climate change issues.

“From now on, while preparing a DPP for a project, it has to be mentioned if any climate change-related components are there or not. That will help in keeping track of how much money is being spent in what types of climate change-related projects,” Islam said.

He said countries like Indonesia and Cambodia already have in place climate fiscal frameworks that help them more easily tracking spending on climate change programmes.

The Bangladesh framework is being formulated under a project on “Poverty, Environment and Climate Mainstreaming”, funded by the United Nations Development Programme.

Currently, Bangladesh spends money on climate change projects from two major government and donor-sponsored funds.

The Bangladesh Climate Change Resilience Fund (BCCRF) is a fund operated by the Bangladesh government, development partners and the World Bank. A separate Bangladesh Climate Change Trust Fund (BCCTF) is financed solely by the government from public funds.

Alongside the two major funds, there is spending to reduce climate change impacts by various non-government organisations, foreign sources, and even private households.

As of June 2013, developed nations had made climate finance pledges of \$594 million to Bangladesh, although much of the money has yet to be delivered. In addition, the South Asian nation had received \$147 million out of \$149 million promised by a group of wealthy states through BCCRF, the multi-donor fund administered by the World Bank.

NO CLEAR SPENDING PICTURE

Rezai Karim Khondker, a professor at the Dhaka School of Economics and head of the team building the climate fiscal framework, said so far there has been no clear calculation of how much money was being spent on climate change and from which sources.

“The framework aims at bringing coordination in climate change-related spending,” he said.

Khondker said a large amount of money was needed to combat the impacts of climate change on low-lying Bangladesh. The framework will help keep a tally of the sources of funds and also of where those are being spent, and for what purpose.

Experts and various civil society organisations have raised questions about transparency in climate fund spending and produced evidence of mismanagement of money. The Bangladesh chapter of Transparency International (TIB) last October released a study on climate fund governance which revealed political influence, nepotism and corruption in the selection of non-governmental organisations (NGOs) to carry out work on the ground.

It said some groups paid 20 percent of their allocation as “commission” in order to be chosen for adaptation projects.

Transparency International Bangladesh Executive Director Iftekharuzzaman told Thomson Reuters Foundation that civil society organisations have been demanding transparency and accountability in climate fund spending from the very beginning.

“There should be policy directives for spending funds in need-based projects. Transparency has to be ensured at the implementation level so that people who are in need benefit,” he said.

<http://www.trust.org/item/20140212121932-k421x/?source=hptop>

News Analyses

Global

Does Climate Change Affect Water War Scenarios in the Middle East?

Increasing human activities have created a great pressure on water resources in terms of both quality and quantity. Another pressure is caused by climate change and changes in precipitation patterns as a result of the climate change. According to the scientific studies, climate change was also observed before the industrial revolution. However, the aforesaid change was not as rapid as it has been today, and could be explained by natural causes such as volcanic eruptions, changes in solar energy and greenhouse gas (GHG) concentrations. Increasing human activities with the beginning of industrial revolution as from 1700s have accelerated the pace of climate change. The Fifth Assessment Report of Intergovernmental Panel on Climate Change (IPCC) titled, the Physical Science Basis published in October 2013 states that warming of the climate system is unequivocal since 1950s, and accordingly, it is extremely likely that human influence has been the dominant cause of observed warming since then. The report also asserts that water shortage and population negatively affected by the water shortage due to the new climate conditions will increase. The rising water demand observed in the regions especially in semi-arid and arid climate zone should be met through storing information regarding the vulnerabilities caused by the current climate change, and through adapting the management of water resources to new conditions. As mentioned in the report, water shortage which currently prevails in semi-arid and arid climate zone will become a chronic problem. Using the words semi-arid and arid climate zone and water shortage in the same sentence, one focuses the attention on the Middle East which also covers Turkey.

It is an unequivocal fact that there is a water shortage in the world and the problem will affect lives of billions of people in the upcoming years. Especially transboundary water basins should be held under the microscope. When it comes to transboundary basins, water is no more an internal matter of a state. Water supply of a riparian country depends on another riparian country. This situation makes water resources a national priority issue in the regions especially such as the Middle East where water is a limited resource. Since water resources are likely to entail conflicts in the recent years, global water problems are considered in the status of "priority policy".

Water resources might serve as a driving force for both peace and war especially in the Middle East. Policies to be pursued by states could lead to a cooperation or a conflict. If there is no present agreement on basin, it is seen that use of water resources is directly proportional to power balances in the basin. Even though water is not a direct cause of war, it is observed that it has lost its technical feature and is directly affected by political balances. Water might serve as a cause of either cooperation or a conflict depending on the interests of states.

The first and only water war in the history took place between the states of Lagash and Umma in 2500 BC for water usage in the Tigris River basin, and both states ended the war by signing an agreement.

Conflicts broke out between Israel, Syria and Jordan to divert flows of Jordan and Yarmouk rivers in recent history between the years 1950-1960. Another cause of the 1967 Arab-Israeli war is the derivation of Jordan river waters. In the Euphrates-Tigris river basins to which also Turkey is a riparian country, there were disputes between Turkey, Syria and Iraq especially in 1980s and 1990s due to the water projects and dams built on the basin.

According to the 2012 report of the Arab Forum for Environment and Development (AFED), the Arab region will face an increase of 2.5°C to 5.5°C in the surface temperature by the end of the 21st century. Which is projected to lead to decrease in precipitation in the region by 20%. This shows that the amount of water in the region will be less than the projections which do not take climate change into consideration in the region. Of course, considering the history of water resources of great importance in the relations between the countries in the region, it would both cause to tension in bilateral relations from time to time, and also would be used as a political tool. However, none of the riparian countries could benefit from the tension and conflict so far. The solution is an inter-state cooperation which would make it possible for each riparian state to reach a win-win solution. Above all, it is required to provide a technical and political institutionalization that would also provide a productive use of water resources by considering the new climate conditions during this cooperation process. Water demand of the growing population in the region, food security concerns and ineffective use of water, and especially modern irrigation techniques in agriculture lead to a substantial water loss. While water management structure should be reorganized for productive use of water, especially users of water should be trained to use water economically. In addition to this, climate change would also change operation and functions of current water structures (e.g. hydropower, flood control, drainage and irrigation systems). According to the studies that have been carried out so far, current water management is not efficient enough to overcome the impacts of climate change. Water management also affects energy, environment, health, nature preservation and food policies. Hence, it is required to put forward deficiencies caused by the climate change and to adjust water-related managements into new conditions.

<http://www.orsam.org.tr/en/showArticle.aspx?ID=2580>

News Articles

National

UAE's TAQA eyes investments in water projects in MENA, India

ABU DHABI (Reuters) - Abu Dhabi National Energy Company (TAQA) TAQA.AD plans to grow its water business via new projects and acquisitions across the Middle East and North Africa (MENA) as well as India by creating an independent operation, a company executive said on Tuesday. Currently, the firm's power and water businesses operate together as in many of its markets water desalination and power generation plants are situated in close proximity. The state-owned utility has investments in the energy and power sector from India and the Middle East and Africa to the

United Kingdom and north America. Its desalination assets, however, are all located in the United Arab Emirates (UAE). As it sets up a separate water business within the company later this year, TAQA aims to boost its water output by at least 120 mgpd (million gallons per day) in five years by building new desalination plants or through acquisitions. That would mean about four plants each with a capacity of 30 mgpd. "We are looking at doing some projects in the UAE and some across the MENA region and India where the market is huge," Ahmed bin Abbod al Adawi, head of TAQA's global water operations, told Reuters at an energy conference. TAQA may invest in Ghana's water sector after the African state sought the UAE's expertise in this field, he added. TAQA is among bidders for a 46 mgpd independent water project in Qurrayat, Oman. "There is a local and regional market shift to independent water projects, a decoupling from power generation," al Adawi said. This is in part due to the new Reverse Osmosis (RO) technology, an alternative desalination technique that is cheaper, needs less energy and can be sited anywhere along a country's coast. Also, most countries in the region have huge power capacity serving a highly seasonal demand (mainly in summer) that makes it expensive and wasteful to ensure steady water production using power plant-based thermal technology. TAQA, majority-owned by the Abu Dhabi government, has launched its first RO technology project at its existing Fujairah 1 power and desalination plant, investing \$186 million to add 30 mgpd of water. The project is due for completion in 2015.

http://www.firstpost.com/fwire/uaes-taqa-eyes-investments-in-water-projects-in-mena-india-1352071.html?utm_source=ref_article

Gujarat scientists develop 'nano-film' that prevents water loss by 90%

An innovative attempt is being made by scientists in Gujarat to develop a water-conserving farming technique than can better Israel's drip-irrigation system. Two universities in the state have developed an artificial "molecular-blanket" or a "nano-film" that can prevent water-evaporation from soil by 90 percent.

"By using this molecular blanket, we have been able to prevent evaporation loss by 90 percent and we have also discovered that the plant tends to grow 50 percent faster and taller, said Professor Dinesh O Shah, founding director of Dharmsinh Desai University (DDU), that is collaborating with scientists of the Anand Agricultural University (AAU) on develop this technique.

Shah, a former professor emeritus of Chemical Engineering and Anesthesiology at University of Florida, is currently heading this research on molecular blanket which is a thin "nano-film" of material developed using the same substance used in water-proofing of concrete. This film, which is nothing but a "hydrophobic capillary wall", when applied to the soil prevents large-scale evaporation losses, says Shah who was in the city to deliver the Father Herbert D'Souza Memorial Lecture on 'World of Surface Science and Nanotechnology' at St.Xavier's College on Monday.

"In collaboration with AAU, we grew 'chana' (gram) in beakers containing soil that was covered with this molecular blanket, and we found that plants grew 50 faster and taller than a normal plant. The number of leaves on these plants were also 16 times more compared to a normal plant," said Shah who has contributed to nine patents and 250 research papers.

“This is the next best thing to the drip-irrigation-system popularised by the Israeli’s. Molecular blankets are the future of water conservation, especially when water is becoming more and more expensive,” Shah said adding that the nano-film developed by them is not an expensive one. “It needs more field trials,” he added.

Shah said that the team of scientists working with him were now looking to develop this nano-film from a “bio-degradable material”. “We are now trying to develop a biodegradable molecular blanket which will disintegrate in 6-8 months and will thus allow water to seep in the soil during the monsoon.

<http://www.financialexpress.com/news/gujarat-scientists-develop-nanofilm-that-prevents-water-loss-by-90-/1219353>

Global

MNAs concerned over dams’ construction by India on Pak rivers

Treasury and opposition members of National Assembly on Tuesday urged the government to vigorously defend Pakistan’s water rights at rivers as India continues to build dams.

Taking part in the discussion at the floor of National Assembly on the resolution moved by MNA BeelumHasnain on the construction of dams by India on the waters of Pakistan, the members urged the government to contest the country’s rights for water at international forums.

However, the debate went off the track when some members took up the issue of Kalabagh dam and reminded that three provinces Sindh, Khyber Pakhtunkhwa and Balochistan were opposed to the project.

Pakistan Tehrik-i-Insaf MNA Aisha Gulalai said India had been constructing dams in violation of Indus Water Treaty signed between India and Pakistan in 1960.

PML-N MNA Javed Ali Shah said it was unfortunate that issue of construction of dams was politicised.

AmeerHaiderHoti of Awami National Party (ANP), AftabSherpao of QaumiWatan Party, ShaziaMarri and YousafTalpurof PPP said three provinces passed resolutions opposing construction of Kalabagh dam.

They asserted that only those projects should be taken up on which the provinces have a consensus.

The members urged the federal government to initiate more dam projects and improve irrigation system in the country to stop wastage of millions acre feet of water that drains into the sea every year.

The members criticised the Indus Water Treaty and said India was taking away share of water of Pakistan.

AftabSherpao said the 1991 water accord provides basis for distribution of water among the provinces.

He urged for completion of non-controversial projects like DiamerBhasha dam. He said under the Indus Water Treaty Pakistan handed over three rivers to India, however, according to international law rights of lower riparian like Pakistan are protected.

Independent member Jamshed Ahmed Dasti said the successive governments did not pay attention to developing water resources. "Politics should not be done on the issue of water. Millions of cusecs of water gets wasted in sea and floods wreck havoc in the country and people lose their lives and livelihoods," he added.

He said Kalabagh dam should be built as it would not reduce water for Sindh province. Those who were opposing construction of dams were not favouring in the best interest of the country, Dasti remarked.

PPP MNA Mir Munawar Ali Talpur said more focus should be given to economic issues. He recalled that PPP government took different steps including export of wheat and provision of tractors to farmers for betterment of agriculture sector.

PPP MNA Nawab Muhammad Yousaf Talpur said according to 1991 water accord Sindh should be given 10 million acre feet of water downstream of Kotri and rights of Sindh as a lower riparian should be safeguarded. MNA Naeema Kishwar of JUI-F said half of the water in Khyber Pakhtunkhwa gets wasted so there is need to conserve water.

<http://pakobserver.net/detailnews.asp?id=231789>

52% of global population to live in 'water-stressed areas' by 2050

Around 5 billion – or 52% – of the world's projected 9.7 billion people will live in areas where fresh water supply is under pressure by 2050, the study suggested.

Researchers also expect 1 billion more people to be living in areas where water demand exceeds surface-water supply. Large portions of these regions are already struggling with water resources – most notably India, Northern Africa and the Middle East.

The study tested the effects of climate change and socioeconomic changes separately before combining them. Population and economic growth was found to be the biggest socioeconomic changes contributing to increased water stress.

These changes will lead to an additional 1.8 billion people living in water-stressed regions, when compared to today. Developing nations, which typically have higher population growth and economies that are advancing at a faster pace, will be the most affected by this phenomenon.

Adam Schlosser, assistant director of science research at the Joint Program on Global Change and lead author of the study, said, *"Our research highlights the substantial influence of socioeconomic growth on global water resources, potentially worsened by climate change."*

“Developing nations are expected to face the brunt of these rising water demands, with 80% of this additional 1.8 billion living in developed countries.”

In contrast, the influences of climate change alone would have a larger impact on water resources in developed countries. Researchers said, *“This is because, for instance, changes in precipitation patterns would limit water supplies needed for irrigation.”*

Combining both scenarios leads to a *“more complicated picture”*. For example, India would see a significant increase in precipitations, leading to improved water supplies, but a growing population and economy means water demand will outstrip surface-water supply.

Schlosser added, *“There is a growing need for modelling and analysis like this, which takes a comprehensive approach by studying the influence of both climatic and socioeconomic changes and their effects on both supply and demand projections.”*

The study also noted that adaptive measures, such as water-storage capacity and cultivated land use, would play an important role in preparing and avoiding future risks.

Separate research has previously suggested that climate change is putting 40% more people across the world at risk of water scarcity.

<http://blueandgreentomorrow.com/2014/01/14/52-of-global-population-to-live-in-water-stressed-areas-by-2050/>

South Asia taps into water cooperation

The countries of South Asia are facing increased challenges regarding the availability and quality of water supplies, exacerbated by a lack of cooperation between countries that fuels tensions instead of seeing their shared water resources as an opportunity for joint development and management. Recent developments are more auspicious in this regard with the formation of two sub-regional alliances that may herald greater regional cooperation, though Pakistan is conspicuous by its absence from these new relationships.

Water is of pressing concern for the countries of South Asia. Population growth, rapid urbanization, and the prospect of climate change are placing huge strains on both water accessibility and quality, with household water security classified as “hazardous” by the “Asian Water Development Outlook 2013”, a report from the Asian Development Bank.

Exacerbating these challenges and the inadequacies of existing domestic water policies is South Asia’s trans-boundary hydrological legacy, which fuels tensions between countries and, in turn, has thwarted the potential for joint water management when precisely such is required to judiciously exploit hydropower, better control risks such as flooding, and allay downstream concerns over water availability and contamination.

Epitomizing the state of affairs is that of the friction between India and Pakistan over the Indus, one of the region’s main rivers: the former’s upper riparian position is seen as a threat by Pakistan to the

free flow of water, while India feels constrained by Pakistan, as a downstream user, in developing hydropower.

Although bilateral treaties have been signed between countries - most notably, the 1960 India-Pakistan Indus River Treaty and the 1996 India-Bangladesh Ganges River Treaty - this has not prevented the emergence of disputes: Pakistan took India to the International Court of Arbitration (ICA) in 2010 over the Kishanganga hydropower project in Jammu & Kashmir (the ICA ruled in favor of India in December 2013); while Bangladesh has similarly objected to an Indian hydropower project in Meghalaya, arguing that the dams could affect its water flow.

Relations between countries in South Asia have traditionally been beset by mistrust and rivalry, with water no exception in this regard, coming under their respective national security strategies rather than viewed as a resource for joint management and development. Failure to cooperate thus not only contributes to inter-state tensions, but also decrease the prospects for growth and prosperity in the region.

In spite of this, recent events may signal a much needed shift in focus toward greater regional cooperation. In April 2013, two sub-regional alliances were formed with the aim of cooperating over water resource management and hydropower. One alliance is composed of Nepal, India, and Bangladesh for collaboration over the Ganges. The other alliance, of Bangladesh, India, and Bhutan, is joining forces for electricity production from the trans-boundary waters of the Brahmaputra.

Despite the conspicuous absence of an "alliance" containing both Pakistan and India, these alliances may nonetheless herald a change in thinking on how their shared water resources are managed - with a shift from national policies or bilateral agreements to a more integrated regional policy on water resource sharing.

The countries of South Asia stand to benefit from common development strategies in regard to trans-boundary waters, rather than seeing them only as a security challenge. Such a "win-win" development-focused approach would not only lead to enhanced cooperation and improve trust-building, but also contribute to greater economic and human development.

While it is not yet clear to what extent the recently formed alliances are symptomatic of a change in how water resources are viewed, most significantly in India, evidence from the latest studies on global water resources and the Asian Water Development Outlooks shows that South Asia has few policy options for the future of its water resources.

The countries of the region bear many similarities in terms of environment, social conditions, and development needs. Cooperation and sharing of data could lead to early flood warnings and improved drought resilience; hydropower for electricity can be utilized by all states which would have a positive impact on economic growth and improving people's livelihoods; and monitoring water quality and availability will improve sanitation and better meet downstream demands.

Trans-boundary waters are often considered in terms of conflict, but such waters also necessitate cooperation and harbor potential for mutual development. Indeed, reframing the issue of water in a

more development-focused context would have the positive effect of easing cooperation between South Asian states - so lowering the risk of becoming gridlocked by highly sensitive security issues - and help them focus on their shared priorities.

The newly formed alliance between India, Bangladesh and Nepal could be a sign that South Asia is moving in the right direction, with the initial sub-regional steps that go beyond the usual bilateral agreements.

Although Pakistan's absence from such agreements makes it impossible to talk of a real regional development, such alliances are nevertheless to be welcomed. Indeed if these alliances will be at least partially successful, they will raise hopes for the involvement of Pakistan in more effective regional cooperation over water resources in the future.

http://www.atimes.com/atimes/South_Asia/SOU-02-160114.html

Mekong's Future Remains Uncertain as MRC Reaches Stalemate Over Don Sahong Dam

Bangkok, Thailand: Regional cooperation was placed on hold yesterday, as Mekong River Commission (MRC) member countries reached a stalemate at a special session held over procedural deliberations regarding whether or not the Don Sahong Dam is required to undergo regional decision-making. According to a press release by the MRC, whilst Laos claims only notification is required for the project, Thailand, Cambodia and Vietnam have expressed concerns over the project's transboundary impacts and have stated that the project should undergo the 'prior consultation' process, to allow for a regional decision over whether to build the dam. As the MRC's Joint Committee was unable to reach an agreement, they elevated the decision to the ministerial level, in order to determine how to proceed with the proposal.

"This stalemate over the Don Sahong Dam illustrates the precarious state of future cooperation in the Mekong," said Ms. AmeTrandem, Southeast Asia Program Director for International Rivers. "The 1995 Mekong Agreement requires each country to make a good faith effort to reach agreement in order to sustainably manage the Mekong River. Nevertheless, the spirit of the Agreement has been violated once again by Laos' stubborn insistence on disregarding its neighbors concerns over the Don Sahong Dam."

In September 2013, Laos announced to the MRC and neighboring countries its plan to build the Don Sahong Dam. By simply notifying neighboring countries of its intentions to build the Don Sahong Dam, Laos bypassed its responsibility under the 1995 Mekong Agreement to submit the project through the MRC's 'prior consultation' process. As a result, Thailand, Cambodia and Vietnam each officially sent letters to the Lao government requesting that the project undergo prior consultation. International donors to the MRC, as well as the MRC Secretariat itself, have also advised that the project be subject to prior consultation.

”As yesterday’s special meeting was unable to resolve the procedural dispute between the four countries, the Don Sahong Dam risks facing the same fate as the Xayaburi Dam - where the ministerial level was tasked with solving the problem and then faced political gridlock as Laos repeatedly refused to allow discussions to advance,” said Ms. Pianporn Deetes, Thailand Campaign Coordinator for International Rivers. “Because the 1995 Mekong Agreement and its procedures are riddled with ambiguities and lack teeth, the Mekong River faces a dangerous trajectory, in which unilateral interests are hijacking regional cooperation and well-being.”

Due to problems that arose during the Xayaburi Dam’s prior consultation process, donors to the MRC issued a Joint Statement in January 2013 that called for “all ambiguities regarding the application of the PNPCA [prior consultation] be resolved before any further mainstream project proceeds.” Some of the problems included ambiguities over how to extend the consultation process, whether one country had the right to close the process, and how to ensure that concerns raised are adequately addressed.

In April, the MRC will hold its Second MRC Summit, in which the four governments are expected to reaffirm their political commitment and address challenges faced in regional cooperation and the sustainable management of the Mekong River Basin. Should the MRC’s ministers fail to immediately resolve the issues that have arisen with the Don Sahong and Xayaburi dams, it’s unlikely the Summit will reach its objectives.

<http://www.internationalrivers.org/resources/mekong%E2%80%99s-future-remains-uncertain-as-mrc-reaches-stalemate-over-don-sahong-dam-8206>

China’s water squeeze worsens as wetlands shrink 9 pct

(Reuters) - China’s wetlands have shrunk nearly 9 percent since 2003, forestry officials said on Monday, aggravating water scarcity in a country where food production, energy output and industrial activity are already under pressure from water shortages.

China has more than a fifth of the world’s population but only 6 percent of its freshwater resources, and large swathes of the nation, especially in the north, face severe water distress.

Since 2003, wetlands sprawling across 340,000 sq. km. - an area larger than the Netherlands - have disappeared, officials of China’s State Forestry Administration (SFA) told reporters.

“The investigation shows that China is facing various problems with wetlands protections,” Zhang Yongli, vice director of the forestry body, told a news conference, adding that loopholes in protection laws imperil the shrinking wetlands.

The lost wetland areas have been converted to agricultural lands, swallowed by large infrastructure projects or degraded by climate change, the forestry administration said.

Wetlands lost to infrastructure projects have increased tenfold since the government’s last survey in 2003, Zhang added.

Water has emerged as a major issue in China. Its scarcity endangers economic growth and social stability, and China has set aside \$660 billion for projects to boost supply this decade.

Wetlands store a large amount of China's freshwater resources, and receding wetlands will leave less water available in the long term, Debra Tan, director of Hong Kong-based non-profit China Water Risk, told Reuters.

"This will add to the pressure and increase competition for water going forward," she said. "China will be looking to grow more food, and more food in wetlands, as urbanization continues."

Nearly 70 percent of China's energy production depends on water-intensive coal power. Despite pursuing alternatives, its coal use is expected to grow between 2 and 3 percent a year for the next five years, an analyst at UOB Kay Hian said.

A study by the World Resources Institute last October showed 51 percent of planned coal-power plants in China were in regions with severe water shortages, potentially pitting energy production against agriculture and basic needs for clean water.

Although 9 billion yuan (\$1.5 billion) was earmarked to protect wetlands during 2005 to 2010, just 38 percent of those funds were actually allocated, said forestry official Zhang.

For 2011 to 2015, China plans to use 12.9 billion yuan to protect its wetlands.

http://www.reuters.com/article/2014/01/13/us-china-water-idUSBREA0C08220140113?utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=7a8b00c91f-RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_c1265b6ed7-7a8b00c91f-250657169

UNDP to construct six sand dams in the country

MEANS are being made to ensure that the country is water secure and resilient to the predicted draught for 2030 as six sand dams are to be constructed in drylands around the country this year.

A feasibility study has already been done and was presented to stakeholders during a meeting at Happy Valley Hotel yesterday. UNDP engaged a reputable consultant in doing the study. Excellent Development and Africa Sand Dam Foundation (ASDF) has a strategic partnership to promote the global potential of sand dams as a key enabler of land restoration in drylands.

solution

The Foundation has helped in the construction of sand dams in Kenya, a country with 90% of the world's sand dams. Excellent Development Executive Director Simon Maddrell said sand dams were a water solution to drylands. He noted that drylands covered 40% of the world's surface, supported 80% of the world's poorest people and 50% of the world's livestock.

Maddrell said when doing the feasibility study, they visited about 19 areas and spotted six locations for the sand dams. The dams will be constructed at Sidvokodvo River in Luve, Lugulo River at

Kabhudla, Ntshanini River, Matsanjeni River and Upper Stillo River all in Shiselweni and Mpofu River in Hhohho.

engage

He said the next step now would be to engage the government and communities in designing the dams. The construction of the dams will commence next month and is expected to be complete by September. Maddrell said four officers (Public Works, Agriculture, Mineral Resources and Energy water department and UNDP) will be sent to Kenya on a learning trip about the use of sand dams.

The director highlighted that the advantage of sand dams was that there was zero evaporation. He explained that in Kenya where about 400 sand dams had been constructed, people had access to clean water all year round.

“Sand dams are the most cost-effective method of rainwater harvesting in drylands. They store up to 20 million litres of water within sand, where it is protected from evaporation and water disease vectors such as mosquitoes. They have minimal operations and maintenance costs and last for over 50 years,” Maddrell said.

future

UNPD Project Manager noted that in order to adapt as a country, they were piloting the project at different seasonal streams, mainly in the lowveld. He explained that the sand dam technology could be used for a number of things such as a low level bridge and also providing a source of water for the community.

<http://www.observer.org.sz/index.php?news=57841>

China to Boost Spending on Water Conservation Projects in 2014

China's central government will boost spending on projects to conserve water this year as the world's most-populous nation grapples with ways to ensure adequate supply of the vital resource, an official said.

Water conservation investments totaled 439.7 billion yuan (\$73 billion) in 2013, with 140.8 billion yuan coming from the central government and the remainder from local governments, water resources minister Chen Lei said, according to a **transcript** of a Jan. 4 speech posted on the ministry's website.

A rising population and rapid urbanization are pressuring water resources in China and the nation is currently undertaking a plan to move 44.8 billion cubic meters of water a year from the water-rich south to the north. China will make more efforts to promote preliminary work for water diversion projects in the provinces of Shaanxi, Anhui and Yunnan and will continue the work for the South-to-North Water Diversion project, Chen said.

Planning for medium- and large-sized reservoirs, especially in the southwestern, will also be accelerated, Chen said, according to the transcript.

A section of the South-to-North Water Diversion project last month started supplying water through its eastern route.

The route's first phase, designed to ease shortages in China's arid north and costing more than 50 billion yuan, delivers water from the Yangtze River in Jiangsu province to Shandong along the Beijing-Hangzhou Grand Canal, the state-run China Daily said on Dec. 10.

The diversion will benefit as many as 100 million people by supplying as much as 8.77 billion cubic meters of water annually to the eastern provinces of Jiangsu, Anhui and Shandong, the report said. The quantity of water supplied will be adjusted annually based on shortages in the provinces and inflows in the route's upper reaches, according to the report.

http://www.bloomberg.com/news/2014-01-06/china-to-boost-spending-on-water-conservation-projects-in-2014.html?utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=fba7d63632-RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_c1265b6ed7-fba7d63632-250657169

Nile Disputes Threaten Africa's Largest Hydropower Project

The largest Hydropower project in Africa, the 6,000MW Grand Ethiopian Renaissance Dam, is under threat as Ethiopia and Egypt remain unable to come to an agreement over the flow of the River Nile.

The giant dam is being constructed on the Blue Nile River, the largest tributary of the Nile, and Egypt is fearful that it might restrict the flow of the river which provides almost all of the country's water. Historically, as one of the most powerful countries along the length of the Nile, Egypt has benefited from almost complete control, but recent attempts to secure almost all rights in the future have just been rejected by Ethiopia.

Egypt claims that it signed a 1959 agreement with Sudan that granted them the rights to 55.5 billion cubic metres of water from the total 84 billion cubic metres flowing through the river. However, Ethiopia and other upriver countries have rejected the agreement, which they were never a part of, and claim that Egypt's monopolisation of the Nile would deprive them of a vital resource that runs through their country.

In 2010, Ethiopia, along with five other countries based along the river Nile (Kenya, Uganda, Rwanda, Tanzania, and Burundi in 2011) signed a Cooperative Framework Agreement that addressed issues of using the water in ways that do not cause significant harm to other countries reliant on the water. Basically these countries were fed up with always having to ask permission from Egypt before they could attempt to use the river in any development project. The agreement lays the foundations for creating a Nile River Basin Commission that would manage all water rights and development projects along the river.

Ethiopia claims that the \$4.2 billion hydroelectric dam would benefit agriculture and any energy consumers in East Africa, while at the same time not affecting the flow of water downstream; even Sudan has shown its support for the project.

Egypt remains determined to retain its dominance of the River Nile, claiming that it is a matter of national security and that they actually need an even larger share of the water now due to the growing population. Politicians have even suggested the use of force against Ethiopia to prevent the dam from being completed.

Mohamed Abdel-Moteleb, the Egyptian Irrigation Minister, said that the country *"has escalatory steps to assert our historic rights to the Nile waters."*

Egypt suggested that a panel of neutral experts should be appointed to study the dam's impact on the river and the surrounding environment however Ethiopia was quick to reject this proposal. Eventually a committee was created, that included members from Ethiopia, Egypt, and Sudan, on the recommendation of international experts who were worried by the lack of understanding about the dam's downstream impact.

The end of OPEC?

Imagine a company that rents a very specific and valuable piece of machinery for \$41,000... *per hour* (that's almost as much as the average American makes in a year!). And Warren Buffett is so confident in this company's can't-live-without-it business model, he just loaded up on 8.8 million shares. An exclusive, brand-new Motley Fool report reveals the company we're calling OPEC's Worst Nightmare. Just click [HERE](#) to uncover the name of this industry-leading stock... and join Buffett in his quest for a veritable LANDSLIDE of profits!

<http://www.dailyfinance.com/2014/01/10/nile-disputes-threaten-africas-largest-hydropower/>

Pakistan losing 4% of economy to bad sanitation, water supplies

For the poor, water is a primary resource. The availability of water and proper sanitation is a global issue with over 884 million people suffering from poor conditions. Developing countries such as Pakistan suffer severe consequences.

This, according to Muhammad Irfan Tariq, the director of the Climate Change Division in the Pakistani government, means that investing in proper water and sanitation facilities is a crucial element for the social well-being of the country and should be a priority for the government.

Tariq was speaking at the second plenary session for the South Asian Cities Conference being held here over the weekend. It began with an elaborate presentation on the dire conditions of the country's water and sanitation sector. According to a study conducted by the Ministry of Environment, "Pakistan is losing 4% of its economy due to a lack of these facilities." Tariq believed that investment in this sector will have a huge impact on women, as special focus should be given to menstrual hygiene.

For whatever it is worth, the government did adopt a National Drinking Water Policy in 2009 and more recently a National Climate Change Policy in 2012. He stressed that budget constraints on the national and provincial levels have kept the urban water development low.

Highlighting the rapid urbanization in Sindh, Khalid M Siddiqui, who is working with the Sindh government, spoke about the alarming rate of depleting water sources in the province. As Sindh is a lower riparian province it overly depends on the Indus River water which has been gradually declining. "Seventy-nine per cent of the population uses surface water and over 50% of the population has no access to proper sewer systems."

Siddiqui outlined a list of challenges faced by the Sindh urban community and one of the central limitations he pointed was that even though national sanitation policies are in place the authorities are not adhering to them. To add to this, Sindh faces inadequate water treatment, high dependency on surface water and strong political interests that hamper a demand-driven water supply.

According to Siddiqui, a number of measures, such as ensuring strong private sector participation and establishing technically advanced water-testing laboratories, can be adopted.

<http://tribune.com.pk/story/657891/pakistan-losing-4-of-economy-to-bad-sanitation-water-supplies/>

FOOD SECURITY

News Analyses

National

Sustainability and food security

The South Asian population has been growing at the rate of 1.5 per cent per annum, and agricultural production at 2.5 per cent per annum has been keeping pace with the demographic trends, thereby creating the necessary provision for food. Yet, the inherent problems of distribution have loomed large for South Asia.

India's National Food Security Act, 2013, emphasises defining certain target groups and highlights the importance of distribution. Agricultural policies in South Asia, including that of India, have always been vocal about production, marketing, pricing and, to an extent, about natural resource use, and the use of agricultural inputs.

FOOD-ECOSYSTEM LINKAGE

However, in policy implementation, the inextricable linkage between ecosystems and food is often ignored. There is practically no recognition of the fact that, of the entire range of services provided by the ecosystem, food provisioning — either by natural operation or through human intervention — holds utmost importance.

Critical ecosystem services facilitate agricultural production, create income-generating opportunities, and provide energy for cooking.

The production aspect of food is explained by the fundamental dependence of agricultural systems on ecological processes. On the other hand, household-level access to income is facilitated by the production of agricultural goods and raw materials that can be sold. From the utilisation perspective, ecosystem services create provision of safe drinking water and food; provide fuels and energy for hygienic heating, cooking, and storage of food; the materials for sanitation and health care; and the micronutrients necessary for an adequate diet.

ANOTHER PERSPECTIVE

Often, what is perceived as “damage” from a myopic economic perspective turns out to be a boon from the social-ecosystemic perspective and vice-versa. The Bihar floodplain in the Ganges sub-basin of India is a case in point. Apparently perceived as “flood damage”, the floodwater, upon receding, leaves behind rich silt and micronutrients that have helped in the natural creation of the most fertile agricultural land — also known as “rice bowl” of South Asia.

The opposite is also prevalent in the same basin. Further downstream, the Farakka barrage, constructed in 1975 to resuscitate the Calcutta port, has been witnessing ecosystem damages due to stream-flow depletion caused by its natural course. This has, in turn, affected the mangrove forests, fisheries production, fish catch (quantity and quality), and eventually the fishing community.

The traditional engineering paradigm has conveniently been oblivious of these ecosystems-food-livelihood linkages in the planning process. There are many such examples in South Asia. These ecosystem concerns have hardly featured even in the context of the grand plan of river interlinking, or while converting forest land for agriculture or other purposes.

Agricultural expansions during the last century have caused widespread changes in land cover, watercourses, and aquifers; thereby degrading the ecosystems and restricting their ability to support some services, including food provisioning. Some examples of this are the various major river basins such as the Ganges-Brahmaputra-Meghna (GBM) basin, Cauvery basin, Krishna basin, and so on.

FLAWED APPROACH

The management policy of many agro-ecosystems has essentially been based on the premise that they are delinked from the broader landscape. Crossing ecological thresholds leads to a regime change in the ecosystem and its concomitant services. Apart from reducing the ecosystem resilience, this restricts the sustainability of food provisioning.

Threats to the ecological foundation of agriculture arise from resources that are supposedly becoming scarce over time. The drivers of this process are competition over land and water, traditional resource-consuming agricultural practices, deforestation, and unsustainable pesticide use (that reduces the long-term soil productivity, and also contaminates groundwater), and climate change.

The critical knowledge gap here pertains to the relations between water and food. Food security has so far been thought of as a positive and linear function of water availability. While most experiments on the subject in the US and the EU have refuted the direct proportionality between water and food availability, such a knowledge base is yet to emerge in South Asia. The US, the country which started the global trend of building large dams, began decommissioning dams that have caused egregious ecological impacts; thereby affecting livelihoods and the provisioning services of the ecosystem. Nearly 500 dams in the US and elsewhere have already been removed, with an aim to restore the ecosystem.

TOWARDS SUSTAINABILITY

By 2050, food demand in South Asia is going to double. There is no doubt that in many cases, bringing land and water resources under the fold of agriculture will not be a viable option. With ecological thresholds being exceeded, food provisioning services of the ecosystem are being seriously affected; thereby, posing a threat to the nature's capacity to provide food for rural households.

South Asian river basins like the GBM present the most interesting paradox of the development theory — ample water, ample poverty. As has been proposed by Jayanta Bandyopadhyay and Nilanjan Ghosh in an article in *Economic and Political Weekly* in 2009, the prime reason for this paradox is a sheer de-recognition of the ecosystems-livelihoods linkage.

There is no doubt that increased water and land productivity (and not increased use) has to be the core of the solution. On the other hand, from a very regional food security perspective, trade in

“virtual water” (or agricultural imports) can indeed play a crucial role. For serving the long-term needs of food security, a more holistic perspective is needed. This will entail an integrated approach for managing land and water resources and ecosystems, in order to support long-term food production.

There is a need to develop less-resource intensive practices (for example, system of rice intensification) for producing crops that have traditionally been high-resource-consuming. Moreover, policy documents need to look at water and land as an integral part of the global eco-hydrological cycle, and not as a stock of material resource to be used for the satisfaction of human requirements.

<http://www.thehindubusinessline.com/opinion/sustainability-and-food-security/article5593907.ece>

News Articles

National

“Food security scheme launched sans infra setup’

When Union agriculture minister Sharad Pawar and chief minister Prithviraj Chavan launched United Progressive Alliance’s (UPA) flagship food security scheme from Airoli on Friday, the announcement was made without establishing basic infrastructure or a concrete plan of disbursement, said observers. Sources also said that the list of possible beneficiaries from the district had not been prepared.

A day after the scheme was launched, officials said, it is unlikely that the list of supposed beneficiaries will be finished anytime soon. No provisions have been made to rent out temporary godowns or chalk out space to store the grains to be distributed. Highly placed sources in the state cabinet also said that no trucks had been hired to ferry the grains to the rural poor.

“It will take another two or three months for the entire infrastructure to be arranged,” a district official told TOI.

He also said that the government will have to move quickly or their promises will be laid to waste and it may adversely affect the UPA senior district official.

In rural areas, people with an annual income from Rs 15,001 to Rs 45,000 are eligible, while in urban areas, beneficiaries’ income should be between Rs 15,001 and Rs 59,000.

Those already benefiting from the Below Poverty Line (BPL) and Antodaya schemes will also be included.

The figure is said to include 76.32% of the population above poverty line in rural areas and 45.34% in urban areas.

In as many as five of the 13 talukas in the district, the percentage of those above the Line closes in on 76.32%.

But those in the tribal belt who have not been tracked under either scheme will be difficult to categorize, officials said. "We are not sure how to arrive at a count of beneficiaries," he added.

The district will also need 100 more trucks to ferry grains into the hinterland. It will need a supply of 2,056 metric tonne (mt) of wheat and 2,742mt of rice every month.

The scheme will cover 77 million of the total 112.3 million people in the state, doling out wheat at Rs 2 per kg, rice at Rs 3 per kg and coarse grain at Re 1 per kg. Nearly 4 lakh tonne of food grains will be distributed annually. The state plans to construct at least 600 more godowns.

http://articles.timesofindia.indiatimes.com/2014-02-02/navi-mumbai/46922741_1_food-security-scheme-food-grains-urban-areas

WTO to resolve Doha round of talks and food security issue by year-end: Roberto Azevedo

The World Trade Organization will try to conclude the Doha round of talks by the end of this year, including a permanent solution to the food security issue, which has been India's top demand, WTO director-general Roberto Azevedo said on Tuesday.

This comes over a month after the 160 WTO members concluded the first ever multilateral deal after the formation of WTO held in Bali on December 7.

"We have time up to this year-end to work on lowering trade barriers and framing new rules to retain some in the interest of all, as we did recently for the Bali package to address concerns of developing countries, including India for trade facilitation and food security," WTO Director-General Roberto Azevedo at his address at the three-day Confederation of Indian Industry (CII) partnership summit in Bangalore.

The Bali package was the agreement on the low hanging fruits of the Doha round, such as trade facilitation agreement and a peace clause, which will provide respite from punitive action on breaching the subsidy limits to farmers as agreed in the agreement on agriculture.

Commerce and Industry Minister Anand Sharma said India got due recognition for its demands relating to agriculture, non-agricultural market access and services.

"The Bali package demonstrated that the WTO has not collapsed. As India has its commitment towards the trade body, we can do more to take it to the next level," Sharma said.

Noting that the success of Bali ministerial had injected a new life into the Doha round of trade negotiations, he said a renewed hope was generated to conclude the Doha round as per its core development mandate.

http://economictimes.indiatimes.com/articleshow/29521595.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst

States get allocations under national food security act

With the implementation of National Food Security Act in Karnataka and Chhattisgarh also, the National Food Security Act has taken off now in seven states/ UTs- Haryana, Rajasthan, Himachal Pradesh, Delhi, Punjab, Karnataka and Chhattisgarh, stated the government press release. The Government of India has made foodgrain allocations to these States/UTs as per requirements projected by them for the implementation of the Act. Uttrakhand and Chandigarh are also expected to join this group soon.

The people as identified beneficiaries by the state governments will now get foodgrain at highly subsidized prices of Rs 3/2/1 per kg for rice, wheat and coarse grains. Each beneficiary will get five Kg. foodgrain per month. However, existing entitlement of Antyodaya Anna Yojana (AAY) households' which is 35 kg of per household per month will be protected, since AAY constitute poorest of the poor.

The Center has also decided to protect existing allocation of each state in case the allocation under the proposed legislation is lower than its current allocation. It will be protected upto the level of average offtake during last three years, at prices to be determined by the Central government.

With the implementation of the Act now pregnant women and lactating mothers and children in the age group of 6 months to 14 years will be entitled to meals as per prescribed nutritional norms under Integrated Child Development Services (ICDS) and Mid-Day Meal (MDM) schemes. Higher nutritional norms have been prescribed for malnourished children upto 6 years of age. Beside this pregnant women and lactating mothers will also be entitled to receive maternity benefit of not less than Rs. 6,000.

http://articles.timesofindia.indiatimes.com/2014-01-23/india/46513372_1_foodgrain-average-offtake-mid-day-meal

National Food Security Act delayed in Assam, now after polls

The National Food Security Act, which was announced to be rolled out from March this year in Assam, will be delayed and is now likely to be launched only after the Lok Sabha elections, the Assembly was told today.

Replying to a query during the Question Hour, Assam Food and Civil Supplies minister Nazrul Islam said, "It is unlikely that the Food Security Act will be launched from March, which the Chief Minister had earlier announced."

As soon as the Election Commission notifies the Lok Sabha election dates, model code of conduct will be enforced and no scheme can be rolled out, he said.

"Most likely, we will have to start the scheme after the elections," Islam said.

As per the plan, 2.25 crore of rural and 26.5 lakh of urban population in Assam will be benefited by the scheme.

"We are also setting up a Food and Civil Supplies Corporation for effective distribution of food items across the state," he said.

On allegations of black marketing of rice, Islam said he will look into the issue.

While presenting Assam's interim Budget for 2014-15, Chief Minister Tarun Gogoi said "I feel happy to say that an all time high production of 52.33 lakh MT rice along with an overall food grain production of 56 lakh MT has been achieved during 2012-13."

The state is witnessing a positive impact of double cropping, which was launched in FY'13, he said. "Thrust will be given on increasing the production of rice, pulses, oilseed and food grains during 2014-15," Gogoi, who is also the state Finance Minister, said.

http://www.business-standard.com/article/pti-stories/national-food-security-act-delayed-in-assam-now-after-polls-114021301273_1.html

Global

Mix of farming technologies could significantly improve global food security

Global corn yields could jump by as much as 67 percent by 2050, while wheat and rice yields may rise around 20 percent if certain innovations are paired, the International Food Policy Research Institute said in a study titled "Food Security in a World of Natural Resource Scarcity."

A tailored mix of farming technologies could significantly improve global food security by mid-century as the world's population swells to a projected 9 billion and the risk of adverse weather from climate change threatens crops and disrupts trade, according to a study published on Wednesday.

Global corn yields could jump by as much as 67 percent by 2050, while wheat and rice yields may rise around 20 percent if certain innovations are paired, the International Food Policy Research Institute said in a study titled "Food Security in a World of Natural Resource Scarcity."

Widespread adoption of technologies, including biotech seeds, irrigation and no-till farming, could slice world food prices by nearly half and cut food insecurity by as much as 36 percent, IFPRI said.

The study weighed the impacts of 11 different technologies on corn, rice and wheat yields, crop prices, trade and world hunger and found that certain combinations worked better than others. The findings could help identify practices that cash-strapped developing nations should target to combat hunger.

"The reality is that no single agricultural technology or farming practice will provide sufficient food for the world in 2050," said Mark Rosegrant, the study's lead author.

Farmers in the developing world would see the biggest overall yield gains. Drought-tolerant grain should be targeted by producers in the Middle East and parts of Africa, Latin America and the Caribbean, while heat-tolerant varieties offer promising yield results in North America and South Asia, IFPRI said.

Yield gains from specific technologies were higher when combined with irrigation. "We also find that a lot of these technologies can make really large impacts on the environmental side," said Claudia Ringler, co-author of the study.

"We find reductions in harvested area needed to feed the world. We find much better outcomes on calorie availability, the number of malnourished children and generally the population at risk of hunger, and they use less natural resources," she said.

IFPRI parsed the world's arable farmland into 60 by 60 kilometer (37.3 by 37.3 mile) squares and gauged the impact of 11 different technologies and practices on yields of staple grains corn, wheat and rice under two different climate change scenarios.

Positive yield findings were then plugged into an economic model that projected their impact on commodity prices, trade and food security. IFPRI found that no-till farming boosted corn yields by 20 percent. But when combined with irrigation, yields could rise 67 percent. Corn yields in Sub-Saharan Africa could double by 2050 with widespread adoption of irrigation and no-till.

Drought-tolerant corn could bolster yields by 13 percent in the United States and China, the top two corn consumers. Heat-tolerant varieties of wheat could raise grain yields by 17 percent and, when combined with irrigation, yields may jump 23 percent. Precision agriculture technology was found to boost wheat yields by 25 percent. Nutrient-efficient rice varieties could produce 22 percent more grain, the study said.

<http://agri.eu/mix-of-farming-technologies-could-significantly-improve-global-food-security-news5611.html>

New EU Support For Senegal To Strengthen Governance, Food Security

European Commissioner for Development, Andris Piebalgs, will announce EUR 347 million of new EU support to Senegal for the period 2014-2020 during a forthcoming visit to the country, the European bloc announced Wednesday.

"In partnership with the government of Senegal the EU will work to strengthen democratic governance, foster sustainable agricultural development and food security and invest in improved water and sanitation," the statement read.

"Senegal is an important partner for the EU in West Africa. Our financial support for the coming seven years will be aligned to the government's strategic priorities and strengthen the country on its path to sustainable development and growth," Commissioner Piebalgs said ahead of his trip.

“We will help, for instance, with turning the agricultural sector into an engine of economic growth, as well as consolidating political stability, justice and security,” he added.

A sanitation and urban rehabilitation program in the wider area of the capital of Dakar will be launched at the occasion of the Commissioner’s visit. This project will contribute to improving the lives of 44,000 people in communities that are undergoing rapid urbanization, the statement said.

Activities include the rehabilitation of roads and public service infrastructure (such as water and electricity supply), installing storm drainage, sanitation and domestic waste water infrastructure and the organization of a system of solid waste collection.

During his stay in Senegal, Commissioner Piebalgs will meet President MackySall and several Ministers as well as representatives of the private sector and members of the Senegalese civil society. He will also visit a number of successful projects of EU-Senegal cooperation in the areas of fisheries and of water and sanitation.

http://www.rttnews.com/2268553/new-eu-support-for-senegal-to-strengthen-governance-food-security.aspx?type=msgn&utm_source=google&utm_campaign=sitemap

Nigeria: Food Security - Presidency Spends N10.37 Billion in Three Years

The Presidency says it has spent N10.37 billion in three years to boost food security in the country.

In a statement from the Office of the Special Adviser to the President on Millennium Development Goals (MDGs), the Presidency said that N541 million was expended in 2011, N5.1 billion in 2012 and N4.73 billion in 2013.

The statement was signed by Mr Desmond Utomwen, the Media and Communications Consultant to Dr Precious Gbeneol, the Special Assitant to the President on MDGs, and made available to the News Agency of Nigeria (NAN) in Abuja on Tuesday.

It said that the Federal Government was making every effort to ensure improvement in agricultural production to ensure food sufficiency in the country.

“In 2011, the sum of N541 million was provided for agricultural investment targeted at improving food security.

“In 2012, the sum of N5.1 billion was allocated while in 2013, the sum of N4.73 billion was appropriated in the Federal Budget to foster food security,” the statement said.

It explained that the increase in budgetary allocations in 2012 and 2013 was done to support the Federal Government’s Agricultural Transformation Agenda (ATA).

The objective of the ATA, it further said, was to improve production, processing and marketing infrastructure necessary for selected commodity value chains.

“With the support, the office has been able to train 5,000 youths in 10 different value chains and provided start-up packages for 6,000 youths, including access to credit and other inputs through GES.

According to the statement, 2,500 women were trained in poultry production, bull fattening, sheep and goat production, bee keeping, crop value chains and extension.

It also said that 22,500 farmers were trained in agricultural practices to boost food production in the country.

It stated that the Presidency provided loans to trainees to purchase starter packs and to access the Growth Enhancement Support (GES) scheme and other necessary inputs.

It added that the loans would help the trainees to re-invigorate Extension Support Services through the training of farmers.

It said the loans also covered the procurement of 5,000 potable pesticide sprayers, construction of roads to staple crop processing zones and the rehabilitation of rural feeder roads in crop production clusters.

It explained that GES was designed to provide affordable agricultural inputs such as fertiliser and hybrid seeds to farmers, to increase their yield per hectare, making it comparable to world standard.

<http://allafrica.com/stories/201402120850.html>

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