

India Can Light the Way

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Prime Minister Narendra Modi's meeting with US President Donald Trump last week was a display of what the two leaders called "true friendship" reaffirming India-US relations. Against the backdrop of recent tensions and strong differences in position, not least on climate change, the visit demonstrated Prime Minister Modi's diplomatic skills and his stature as a global leader. Modi must now use this goodwill to assert his vision in driving the international community toward a low-carbon world. Indeed, with the US' retreat from the Paris Climate Agreement, it may be Modi — with his bold renewable energy agenda, 'power for all' commitment, and push for widespread adoption of LED (light-emitting diode) light bulbs — who steps up to the plate. His leadership in energy will be even

more critical as India flexes its economic muscles.

Energy access will be the cornerstone of India's economic development. It is an often-repeated fact that nearly 230 million Indians have little to no access to electricity, hampering their ability to join the modern economy. The World Bank estimates that globally, delivering electricity to the energy poor could create 1.5 trillion additional productive hours, save \$38 billion in energy expenditures, and enable nearly 300 million school-age children to study longer under better conditions. India can only truly rise if these 230 million rise as well. And it starts with reliable energy access. Modi's government in New Delhi understands this well. Under its stewardship, India is growing into a laboratory not only for the development of clean technology but also for new models of power distribution, particularly of decentralised renewable energy. Today, India's largest cluster of renewable energy mini-grids, developed under the Rockefeller Foundation's innovative Smart Power for Rural Development programme, has powered more than 110 villages and illuminated the lives of 40,000 people.

These results are significant not only in scale but also in human impact. With tools and machines powered by reliable electricity, carpenters, tailors and small entrepreneurs have more than doubled their productivity. Cold storage facilities are being built, keeping fresh farm produce from spoiling, so farmers can sell more and at better market prices. Entrepreneurs have opened car washes, water purification and delivery systems, and computer training centres. Essential health services are now within reach. Looking at the transformation of these villages, it's clear that access to sufficient and reliable energy is the missing link that can unleash their people's potential, empowering rural Indians to lift themselves out of poverty. In villages touched by the Smart Power for Rural Development programme, energy access has enabled enterprising Indians to raise their local economy by \$18.50 per capita — accounting for an increase in economic productivity and the value of benefits to health, environment and social well-being.

Micro-enterprises have reported a 13% average increase in monthly revenues, and there is evidence that business is growing: 11% of businesses reported some form of expansion, and 7% of them are entirely new, established as a result of gaining access to energy. Other countries can benefit from what India has achieved so far. Many emerging economies hunger for power that can help their citizens lift themselves out of poverty and reach their full potential. Because they know what India's government knows: if you provide reliable and sufficient electricity, social and economic development will follow.

This is where India can truly lead. Modi should leverage India's achievements to rally the world around a renewable energy revolution that uplifts people from poverty while driving forward the Paris agreement commitments. It's already clear that large-scale programmes on solar, wind and hydropower will redefine India's emerging role as a leader in clean energy and climate change, and our work together on behalf of the poorest Indian families will change the lives of tens of millions of people. If Modi stays committed to energy access for all Indians, India's renewable energy leadership will be an incredible legacy for the world.

नई दुनिया

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चीन के खतरनाक मंसूबों से खबरदार

ब्रह्मा चेलानी लेखक सामरिक विशेषज्ञ व सेंटर फॉर पॉलिसी रिसर्च में फेलो हैं। ये उनके निजी विचार हैं

भूटान दुनिया के सबसे छोटे देशों में से एक है। वहीं चीन एशिया का सबसे बड़ा मुल्क है। हाल में भूटान ने शिकायत की है कि चीन उसकी जमीन पर नीयत खराब कर रहा है और इस मंशा को पूरा करने के लिए हिमालयीन क्षेत्र में तिब्बत-भारत-भूटान मार्ग पर एक सामरिक सड़क बना रहा है। इसने इलाके में तनाव पैदा कर दिया है। इसकी वजह से निर्माण स्थल पर तैनात हजारों भारतीय और चीनी सैनिकों के बीच टकराव की स्थिति पैदा हो गई। अगर हालात जल्द नहीं सुधरे तो सर्दियों तक सीमा पर तल्खी और बढ़ती जाएगी तथा हिंसक झड़पों की आशंका से भी इनकार नहीं किया जा सकता।

चीन लगातार ताकतवर होता जा रहा है। वह दक्षिण चीन सागर में यथास्थिति बदलने के लिए तमाम तिकड़में कर रहा है। अपने विशाल भौगोलिक दायरे के विस्तार के लिए गुपचुप तरीके से दूसरे देशों की सीमाओं में अतिक्रमण भी कर रहा है। उसकी निगाह खासतौर से ऐसे इलाकों पर नियंत्रण की है, जिससे उसे दूसरे पक्ष पर सैन्य बढ़त हासिल हो जाए। अगर जमीन हड़पने के उसके अभियान को चुनौती दी जाए तो वह खुद को पीड़ित के तौर पर पेश करने लगता है। इसमें दूसरे पक्ष पर उकसाने का आरोप लगाने जैसी चालें भी शामिल हैं। वहीं असल मुद्दे को दरकिनार करते हुए वह उग्र प्रचार युद्ध छेड़ देता है। चुंबा घाटी में जारी मौजूदा टकराव में ये दोनों ही पहलू नजर आते हैं। यह चीन के नियंत्रण वाला इलाका है, जिसका सिरा भारतीय राज्य सिक्किम और भूटान के बीच लगता है। भारतीय क्षेत्र में यह एक पतली-सी पट्टी है जिसे 'चिक्स नेक के नाम से जाना जाता है जो पूर्वोत्तर को शेष भारत से जोड़ती है। चीन अपने सैन्य बुनियादी ढांचे को बहुत मजबूत बना रहा है और सामरिक लिहाज से बेहद अहम इस इलाके में उसकी तैनाती भी कर रहा है ताकि युद्ध की स्थिति में अपनी सैन्य बाजीगरी से भारत का अपने पूर्वोत्तर इलाके से संपर्क काट सके। चीन के ऐसे आक्रमण से भूटान पूरी तरह घिरकर चीन के रहमोकरम पर निर्भर होकर रह जाएगा। महज साढ़े सात लाख की आबादी वाले भूटान की सुरक्षा का कुछ जिम्मा भारत के पास भी है। मसलन, चीन के साथ सटी भूटान की संवेदनशील सीमा की सुरक्षा में भारतीय सैन्य बल भूटान की शाही सेना का सहयोग करते हैं।

वर्ष 2007 की भारत-भूटान मैत्री संधि में यह स्पष्ट उल्लेख है कि 'दोनों पड़ोसी एक-दूसरे के राष्ट्रीय हितों में बेहद निकटता के साथ सहयोग करेंगे। वर्ष 2007 की यह संधि भूटान में हुए व्यापक राजनीतिक सुधारों के बाद हुई थी। उन सुधारों ने भूटान में लोकतंत्र की नींव रखी। इसने 1949 की उस संधि का स्थान लिया, जिसमें भूटान एक तरह से भारत का संरक्षित राज्य था जिसमें यह प्रावधान भी था कि भारत भूटान को उसकी विदेश नीति में 'मार्गदर्शन देगा। भूटान के डोकलाम पठार में चीन द्वारा बनाई जा रही सड़क को लेकर जून के पहले हफ्ते में भारतीय

सैन्य बलों ने चीनी सेना के अभियान में दखल दिया। चीन इस इलाके पर अपना दावा करता आया है और उसने इसे डोंगलॉग का नाम भी दिया है। भारत के इस हस्तक्षेप ने टकराव का रूप ले लिया जिसके बाद चीनी सेना ने भारतीय सुरक्षा बलों के दो बंकर ध्वस्त कर दिए।

हालांकि इस गतिरोध को 26 जून तक सार्वजनिक नहीं किया गया। तब चीन ने भारत से इसकी शिकायत की। उसी समय प्रधानमंत्री नरेंद्र मोदी ट्वाइट हाउस में अमेरिकी राष्ट्रपति डोनाल्ड ट्रंप के साथ वार्ता कर रहे थे। चीन का बयान मोदी-ट्रंप मुलाकात पर सुर्खियां बनाने की मंशा से भरा था। साथ ही मोदी को यह भी याद दिलाना था कि भारत का झुकाव अमेरिका की तरफ कुछ ज्यादा हुआ तो उसे चीन से कैसा झटका मिल सकता है। वहीं खुद को पीड़ित पेश करते हुए चीन ने भारत पर उसके डोंगलॉग क्षेत्र में दखल देने का आरोप मढ़ते हुए सड़क निर्माण में गतिरोध का दोषी ठहराया। शुरुआती बयान में यही कहा गया कि सड़क निर्माण डोकलाम के किनारे 269 वर्गकिमी इलाके में हो रहा है। यह भूटान प्रशासित क्षेत्र है। इसके बाद चीन ने भारत के खिलाफ कुत्सित उग्र प्रचार अभियान छेड़ते हुए भूटान के क्षेत्र में चीनी सेना के अतिक्रमण के असल मुद्दे को किनारे कर दिया। फिर भारत में भूटान के राजदूत ने 28 जून को सार्वजनिक रूप से कहा कि उनके देश ने चीन द्वारा उसकी क्षेत्रीय संप्रभुता के उल्लंघन पर आपत्ति जताई है और यथास्थिति की मांग की है जिसके बाद बीजिंग ने आखिरकार इस विवाद में तीसरे पक्ष को स्वीकार किया। तथ्य यही है कि असुरक्षित और भयाक्रांत भूटान ने अपनी आपत्ति जताने में भी आठ दिन लगा दिए, जबकि भूटान के चीन से कूटनयिक संबंध भी नहीं हैं। इस देरी ने चीन को अपना दुष्प्रचार करने की गुंजाइश दे दी।

इस बीच सड़क निर्माण में गतिरोध पैदा करने पर चीन लगातार भारत पर हमलावर बना हुआ है। चीनी रक्षा मंत्रालय के प्रवक्ता ने 1962 का हवाला देते हुए भारत को नसीहत दी कि वह इतिहास से सबक लेकर युद्ध सरीखे हालात न बनाए। चीनी सरकार के प्रचार को परोसने वाले अखबार ग्लोबल टाइम्स ने कड़े शब्दों में लिखे अपने संपादकीय में कहा कि भारत की पुरानी गलतियों पर उसे हल्के में छोड़ दिया गया, लेकिन अब उसे कड़ा सबक सिखाने की जरूरत है। मौजूदा टकराव भी उसी हिमालयी क्षेत्र में जारी है जहां 1962 की लड़ाई के पांच साल बाद चीन ने भारतीय चौकियों को निशाना बनाया था। तब नाथूला व चोला में टकराव का नया दौर शुरू किया जिसमें चीन को बहुत नुकसान उठाना पड़ा था। भारत पर दबाव बनाने के लिए चीन ने अब भारतीय तीर्थयात्रियों को तिब्बत में स्थित कैलाश पर्वत और मानसरोवर झील की यात्रा की अनुमति देने से इनकार कर दिया। समुद्र तल से 4,557 मीटर की ऊंचाई पर स्थित मानसरोवर दुनिया में ताजे पानी की सबसे ऊंची झील है। वहीं कैलाश पर्वत भगवान शिव और उमा का निवास के अलावा वही स्थान माना जाता है जहां भगवान बुद्ध ने अपना पूर्ण दैवीय रूप दिखाया था। सिंधु और ब्रह्मपुत्र जैसी एशिया की चार महत्वपूर्ण नदियों का उद्गम भी यहीं से होता है। कैलाश मानसरोवर तीर्थयात्रियों को मनमाने तरीके से रोककर चीन भारत को अपनी तिब्बत नीति की समीक्षा करने पर विवश कर रहा है। चीनी दबाव से निपटने के लिए भारत को तिब्बत के मुद्दे को नए सिरे से उठाने की जरूरत है। चीन तिब्बत में हान राजवंश की ऐतिहासिक जड़ों के आधार पर ही भारत व भूटान के क्षेत्रों पर अपना दावा कर रहा है। इस पर भारत को तिब्बत पर चीन के ऐतिहासिक दावे पर ही सवाल उठाने शुरू कर देने चाहिए। अपने सियासी और सैन्य लक्ष्य को हासिल करने हेतु तिकड़में भिड़ाने वाला चीन एशिया में सामरिक अस्थिरता का जरिया बन गया है। कितनी बड़ी विडंबना है कि रूस, कनाडा और अमेरिका के बाद दुनिया का चौथा सबसे बड़ा देश अपने आक्रामक विस्तार के लिए एक छोटे-से मुल्क की जमीन हड़पने के लिए भी अपनी नीयत खराब कर रहा है।

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Irrigation tips from an arid country

Prime Minister Modi's visit to Israel should build on the partnership between the two countries in water management

Written by Ashok Gulati , Gayathri Mohan Gulati is Infosys Chair Professor for Agriculture and Mohan is consultant at ICRIER



When Prime Minister Narendra Modi visits Israel this week, he will become the first Indian PM to do so. The Indo-Israeli partnership is likely to extend to new areas. Israel is already an important supplier of defence equipment to India; the cooperation is likely to extend to water and agriculture. In the run-up to the PM's visit, ICRIER and the Israeli Embassy in India collaborated on a brainstorming session on a potential partnership between the two countries on water. The meet was attended by several experts from India and Israel. A few takeaways from this meet could result in MoUs between the two countries. It is well-known that India is water stressed: The country's annual per capita availability of water is less than 1,500

cubic meters (cum) and that scenario is likely to worsen. Currently, about 78 per cent of fresh water in India is used for agriculture. But Israel has per capita water availability of less than 200 cum. It is an extremely water scarce region. Yet, the country exports high-value agri-produce to Europe and many other parts of the world. If India has to learn about augmenting water supplies and using water efficiently, there is nothing better than learning from Israel's experience. The country is known as the land of innovations in water management, be it drip irrigation, recycling of urban wastewater for use in agriculture or desalination of seawater for drinking purposes.

The Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) encapsulates the PM's ideas of "Har khet ko paani" and "more crop per drop". Micro-irrigation technologies — drip irrigation and sprinklers — are not alien to India. In fact, Jain Irrigation Systems Limited — a multinational outfit based in Jalgaon, Maharashtra — has done well in this area, and has acquired the highest stakes in the second largest Israeli drip irrigation company, NaanDan. At Jalgaon, the company is innovating on this technology with the simple motto of "Small Ideas, Big Revolutions". India has about nine million hectares under micro-irrigation. It can scale this up several times. But it needs to do so quickly. Israel can offer lessons to India in this respect. Any scaling up of technologies needs the right policy environment. Water is not a free good. It needs to be priced to reflect its scarcity. Can the Modi government usher in reforms to price water and power appropriately for irrigation purposes? That is certainly a tall order and so far the government has not shown much appetite to reform the regime of high subsidies on water and power, which is leading to their inefficient use.

As per Israel's water law, all water in the country is common property resource. The government does accounting for every drop of water, ensuring good water governance. As a result, in 2013, of the total water available in Israel almost 16 per cent came from desalinating seawater and another 22 per cent came from recycling wastewater. Interestingly, almost 62 per cent of the irrigation water used in Israel comes from recycled and brackish water, thus saving potable

water for domestic use. Such recycling endeavours — of course with proper treatment that make wastewater safe — has relevance in India. Can the Modi government make recycling of wastewater for use in peri-urban agriculture an integral part of its smart city initiative? India does have the technology for this purpose. In fact, the municipality-owned sewage treatment plants in Surat and Nagpur supply treated wastewater to textile factories and thermal power stations, respectively. Desalination technology can benefit India which has a long coastline of about 7,500 km. The Nemmeli desalination plant in Tamil Nadu, a source of potable water for people in Chennai, and the Jamnagar desalination plant in Gujarat are some of the joint Indo-Israeli initiatives in desalinating sea waters. Adoption of desalination technologies is at a nascent stage in India, owing to the high capital cost involved. The key issue for India is who bears the cost of such technologies — the government and/or the beneficiaries? This is an issue of public policy that needs to be sorted out

Another area of potential cooperation is cleaning polluted rivers. As per government reports, between 2009 and 2015, the number of polluted rivers and river stretches in India has almost doubled. Almost 63 per cent of the total sewage generated in the country is discharged into water bodies without any treatment resulting in acute river pollution. The Ganga and Yamuna, considered holy, are ironically the two most polluted rivers. Programmes to clean up the Ganges have, over 35 years, failed to achieve significant success. Recently, the Delhi Government has roped in the Israeli firm, Ayala Water and Ecology Limited, to clean up an eight km stretch of the Yamuna. Depending upon the success of this venture, the country can scale up the role of Israeli firms in cleaning up other rivers. An integrated approach to solving India's emerging water crisis, involving government to government, governance to business and business to business interactions between Indians and Israeli agencies has much to offer not only to the two countries but also to several countries in Africa which are starved of water.



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Written-off in the hinterland

Our education system has failed to integrate the rural into the larger political community, the nation

Krishna Kumar is a former director of NCERT

Rural Mandsaur, where five persons were killed during a demonstration recently, is a prosperous region of western Madhya Pradesh. More than a decade ago, I had the opportunity of spending two days with the children of a private residential school in Mandsaur. At that time, it was the only English-medium residential school. Its vast and opulent campus in the middle of sprawling green fields was a great anomaly. The school had little to do with its milieu. It represented the dream of a philanthropist to export the best human talent of his region to the global market. This dream resonated national policy trends which, since the mid-1980s, had chosen to view education mainly as human resource development. The idea that education can serve a village in ways that allow it to retain its best boys and girls had been discarded long ago. If you carried in your mind any residues of Gandhi's ideas about village education, you would see the residential academy in rural Mandsaur as an incongruity. Here was an institution set up to give its metropolitan counterparts stiff competition on global playgrounds. The school had invested heavily in computers. Its strategy to serve rural children was neither purely commercial nor patronising. It was a professional bid to give rural youth an opportunity to aspire for legitimate heights. Some of them belonged to well-off farming families who could

afford to send them to study in a residential school. But there were quite a few whose parents had small land holdings or minor jobs. For them, the school meant a potential break from the likelihood of a life dependent on shrinking income from agriculture and labour.

A supplier of talent

The impact of education on rural life has remained consistent since colonial days. When a village boy did well at school, he was expected to shift to a nearby town. That is where he could expect his talent to be recognised. Gradually, villages became the supplier of talent to the city. Only those who were dependent on land stayed back. With the passage of time, land got subdivided into smaller pieces, making agriculture unattractive. In recent times, investments made land more productive, but real income declined. Work opportunities in villages in non-agricultural pursuits remained scarce, and, in the recent past, job growth has come to a standstill. The phenomenon of 'waiting' to find work, described by Craig Jeffrey in the context of Uttarakhand and western Uttar Pradesh, is valid elsewhere too. One part of this phenomenon is the struggle to sustain one's aspiration and the other part is living with frustration.

It is quite common these days among parents in all districts of M.P. to send their sons and daughters to towns such as Bhopal and Indore for coaching. As a broad spectrum industry, coaching now represents an acceptable way of spending much of your youth. It fills time and protects you from feeling constantly frustrated. Countless young men and women find themselves in a formidable situation that offers neither a choice nor the hope that something will eventually turn up. Coaching classes provide access to a peer group where everyone is faced with a similar, chronic crisis. Lakhs of students from rural and semi-urban areas spend their youth getting coached indiscriminately for competitive entry into an ever-shrinking opportunity market. Every year, a new army of candidates for coaching is spewed out by rural schools. Many get absorbed in the coaching industry itself, or in its ancillary industry of private tuition.

Rural alienation

Despite better connectivity by road and phone, villages continue to be alienated from the state's imagination. The former Finance Minister, P. Chidambaram, once said that migration from rural areas has a positive side to it because the state's services are more accessible in cities. His belief that change in the rural-urban ratio of population will accelerate development is widely shared. It underpins development planning, especially the project of 'rural development'. In a historical study of the Indian village, Manish Thakur has demonstrated how the term rural development represents an essentially colonial view of the village. This view also enjoys political and academic consensus. According to this view, modernity for the village can only mean its merger in the urban landscape. The legitimacy granted to panchayati raj has not diminished the political isolation of the village. The recent protests in Mandsaur and surrounding areas show that higher productivity and relative prosperity have not given the farming community any political clout or relief from uncertainty.

Education could have been a means of integrating the rural into the larger political community symbolised by the nation. This did not happen for several reasons. To begin with, schools in rural areas remained neglected and attempts to improve them never gained momentum. Policy focus remained on selecting the talented from among rural children through schemes such as Navodaya Vidyalaya. The larger cohort of rural children suffered the consequences of low budgeting and poor staffing. The message that rural children received and absorbed was that they must change their behaviour and values in order to become good citizens. Education of the rural child has failed to depart from the stereotype which associates modernity with city life. Education has, indeed, exacerbated the rural-urban asymmetry, deepening the alienation of the rural citizen.

Farmers or peasants?

An instructive aspect of the media coverage of the recent unrest in rural M.P. and Maharashtra is the disappearance of the distinction between farmers and peasants. Most people involved in agriculture in India are small-scale peasants. The term 'farmer' refers to the minority with substantial landholdings. Those who died in Mandsaur at the hands of the police were in all probability peasants, not farmers. Among the tens of thousands who have committed suicide out of despair, perhaps most were peasants. Their despair must be read and respected in the larger picture of visionless development. The loans they had failed to repay were minor by urban standards. Their distress reminds us that India has become morally blind in its hasty leap into what it believes to be modern.
