

Pakistan Getting Isolated on Terror

Global tolerance of terror has plummeted

Pakistan's ambassador to the US, Aizaz Ahmad Chaudhry was greeted with laughter when he told his audience at a US think tank that there were no terror havens in Pakistan. Former US ambassador to Afghanistan, Iraq and the United Nations, Zalmay Khalilzad, refuted this bluntly, citing the evidence the US had about the whereabouts of Mullah Omar in Pakistan. The Pak ambassador reportedly lost his cool at the dismissive laughter that his stout denials elicited from his informed audience. Islamabad has to understand that the time is past when the world was willing to overlook its sins in the hope of persuading it to behave better.

In the 1980s, the US adopted the Pressler amendment to grant Pakistan huge aid, to win its cooperation in combating Soviet forces in Afghanistan. The US president had to certify that Pakistan did not have nuclear weapons, every year, to qualify for that aid. Since getting the Soviets out of Afghanistan was a bigger priority for the US than keeping Pakistan nuclear-free, that certificate was liberally given. China passed on nuclear and missile technology to Pakistan, violating its own obligations under the Nuclear Non-Proliferation Treaty and the Missile Technology Control Regime, via North Korea. After India and Pakistan tested nuclear weapons in 1998, the US could have stopped closing its eyes to Pakistan's misconduct, but after the 2001 September attacks on the US, Pakistan's cooperation was deemed necessary to keep Afghanistan free of terror training camps. So, the US continued to close its eyes to Pakistan's increasing reliance on terror as a tool of strategic depth beyond its military capability. But the rise of the Islamic State as an active breeder of self-motivated terrorists around the world, especially in Europe and the US, has changed things, permanently.

Pakistan would do well to appreciate that the world's appetite for overlooking covert and overt support for terror had dropped, drastically. Unless it changes its strategic choice, Islamabad will face increasing isolation. Of course, India would not complain particularly bitterly about such a development.

An Energy-Efficient Business Model

India's drive to encourage the use of efficient LED light bulbs has till now been restricted, for the most part, to households. The government leveraged its buying power to make LEDs available at discounted prices. Lighting takes up about 15% of the total power consumption. That can be reduced to about 2%, if LEDs are adopted across the board. Commerce and industry, which will grow exponentially as India grows and urbanises, must come on board. The Indiabulls group's offer to deploy energy-efficient lighting equipment for zero upfront cost, with the payment to be made from energy savings realised over two years, is an attractive model that other suppliers of energy-efficient equipment, not limited to lighting, can and should adopt, to improve the economy's energy efficiency while making profits for the equipment makers, financiers and, eventually, users of the equipment.

Such a business model would also align with broader goals of improving energy efficiency, lowering emission intensity and avoiding a spike in emissions. Much of India's infrastructure is yet to be built. Growth of towns will mean a rise in the lighting requirements of offices, shopping malls, hotels, restaurants, warehouses, showrooms, roads, streets, schools, signage and displays. A cost-effective pathway for this growing segment to transition to LEDs makes smart business and economic sense, given the energy and cost savings and smaller carbon footprint, the switch would yield. Rooftop solar deployments already follow this model.

The Indian market is big enough for multiple players, and has the benefit of scale. It can also provide the leverage to enter other new markets. Such efforts will help reduce peak electricity demand, drive down costs and result in millions of tonnes of avoided carbon dioxide emissions.

 External affairs minister is pushing the boundaries of her jurisdiction

Even Mars No Bar for Desi Diplomats!

Barely three or four officers were inducted into the Indian Foreign Service (IFS) in the initial years after Independence. With periodic increases, this year the figure stands at 45. And the recent tweet by external affairs minister Sushma Swaraj reveals a possible reason why: she has reassured a man supposedly on Mars awaiting supplies from Mangalyan II that "even if you are stuck on the (sic) Mars, Indian Embassy there will help you". The implication is that a vanguard of doughty Indian diplomats will be stationed on the red planet by the time it becomes a regular — if inhospitable — destination for intrepid earthlings. Diplomats readily vouch that there are equally desolate places right on this planet that has Indian embassies, so Mars would not be that much of a stretch.

If planets are also to have Indian diplomats, it means larger batches every year, as Earth itself is getting more independent countries. And Indian embassies can no longer be absent from any of them as Indian citizens are present practically everywhere and there's no telling who will tweet the next SOS from some remote place. Of course, in the case of Mars and other planetary postings, who the diplomats would deal with as part of their quotidian work is also moot, as bailing out Indians in distress is only one aspect of their responsibilities.

No long-term plan for polity or economy can ignore the well-being of farmers and farm labourers

In the Madhya of Darkness



Anirban Bandyopadhyay

On December 16, 2016, Radheshyam Prajapati, a 45-year-old farmer, attempted suicide in front of a bank near Mandsaur town in Madhya Pradesh. He was deep in debt, and the bank had taken three weeks to credit a cheque to his account. Prajapati comes to mind again in the context of the current stand-off between farmers and the government in Madhya Pradesh, in Mandsaur in particular. Mandsaur is not a particularly prosperous district. Only three hospitals and 10 cinema houses cater to a population of over 12 lakh, according to the official website of the district. The major crops are wheat and jwar (sorghum). Those, and some pulses are all that farmers here get to cultivate, besides garlic and onion, which is playing a key role in the current crisis.

However, mining is lucrative and some 110 slate pencil enterprises do business in this town. Incidentally, state pencil industry workers have a history of death by silicosis, the lung disease caused by regular inhalation of silica dust. The other notable crop is poppy, though the opium trade now is controlled by the government. This general backdrop of scarcity was made worse by Mandsaur having been officially declared as one of the 23 drought-hit districts in Madhya Pradesh. At least six tehsils in the districts were among the worst hit in the whole state.

Policy issues, including the recent

government push to growing onion, added to the misery. Production overflowed and prices fell compared to input costs. In April 2016, onions fetched as little as 50 paise per kilogram when it had been selling for ₹15 only a fortnight ago. This year, the government agreed to raise the minimum support price for onion.

According to government data, a total of 1,982 farmers or farm labourers in Madhya Pradesh committed suicide between February 2016 and February 2017. There had been the drought and the promised support price for onion farmers was yet to arrive. Meanwhile, demonetisation dried up the cash supply, at least temporarily, in an economy led by the informal sector. More recently, Uttar Pradesh chief minister Yogi Adityanath had waived farm loans to the tune of ₹36,359 crore in that state. By May this year, therefore, the farmers in neighbouring Madhya Pradesh had reached the end of their tether.

Fire and (Brim)Stone
Hundreds of farmers had gathered around Pipliya Mandi town on June 1, with a plan for a 10-day demonstration. They demanded a procurement price high enough to cover their input costs, farm loan waiver and a compensation package to recover from the ravages of drought. Pipliya Mandi, located about 15 km from Mandsaur, and about 350 km from the state capital Bhopal, also hosts one of the nine mandis (wholesale markets) in the district. Incidentally, a major arterial road passes by the area.

The farmers now agitated with undisguised aggression. The targets were right at hand: vehicles carrying essentials to the wholesale market area. Vehicles laden with milk and vegetables were turned over. The vegetables on the road were left to rot. On June 5, they led a march to the mandi and tried to close traders' shops by



The world turned upside down

force. They also vandalised quite a few shops at the slightest hint of resistance. Traders reportedly retaliated, beating up a few protesting farmers after a majority of them had left. One farmer received a major injury and was shifted to a hospital in neighbouring Rajasthan.

A no-holds-barred riot broke out subsequently. The agitating farmers burned down some traders' houses and went over to the police, demanding that the police find and hand over the offending traders to them. When the police refused, the farmers started throwing stones at them. The force retaliated and fired gunshots at the assaulting farmers.

Five farmers died. The state home minister said the police fired in self-defence when they had been attacked. In another incident, the police reportedly fired when they were fired at. Subsequently, the farmers torched vehicles without discrimination, while the police stood and watched. Peace has not returned to the area since. It has become a site of national controversy and senior administrative officials have been transferred. Monetary compensation for the family of

the dead has been announced. The episode embodies a long-term structural crisis accentuated by governance deficit. Why it took so much time to organise relief is hard to see. Harder still is to understand why the authorities waited for four days to start negotiations with the farmers.

A Molotov Breadbasket
Even more intriguing is how initial talks were held with a particular union of farmers, indirectly daring the others to turn to desperate measures. Violently fluctuating crop prices, moody monsoons and lethal working conditions call for some breakthrough thinking.

Agriculture provides livelihood to a gigantic number of Indian voters. Also, growing urban India cannot bear the burden of a shrinking rural India. No long-term plan for India's polity or economy can ignore the well-being of farmers and farm labourers. Governance deficits have a way of springing unpleasant surprises for regimes everywhere.

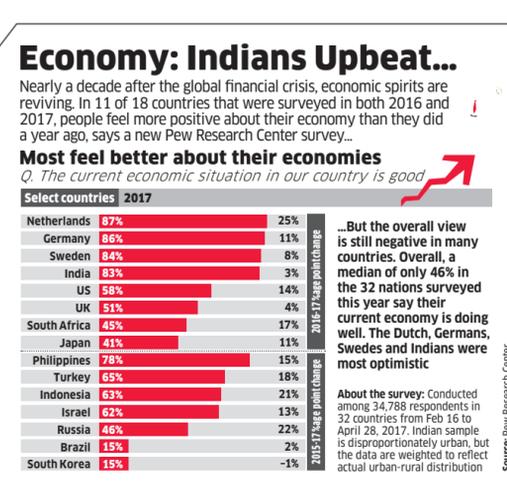
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The mess in Pipliya Mandi embodies a long-term structural crisis accentuated by governance deficit. Why it took so long to organise relief is hard to see

WIT & WISDOM

"When in doubt, tell the truth."

Mark Twain
Writer



SMART ENERGY MANAGEMENT

LED There be Light in Your Life



Krithi Ramamritham

A home owner's electricity bill is typically just a small fraction of her monthly expenses. It is unlikely to drop by more than the cost of a meal in a mid-scale restaurant even when she diligently turns off unnecessary appliances. But given its multiplicative effect on the required power generation capacity, such small efforts can positively impact power-deficient countries like India. Experience suggests that there is a need for smart, automated energy management systems that can realise the energy savings.

Let us consider heating, ventilation and air conditioning (HVAC) systems, which are huge energy consumers — being responsible for 30-50% of energy consumed by buildings. Easily available/sensed information can be used to control HVACs and other devices, like fans and lights, without compromising on the thermal comfort.

Energy consumption of buildings is correlated to occupancy, number of appliances, temperature and other environmental factors. Along with temperature sensors and smart energy meters, motion and pressure sensors, cameras, etc, can be designed to enable automated central administration to reduce and optimise power consumption. The resulting Building Energy Management Systems (BEMS) can also remotely monitor the health of appliances, maintain quality of the environment, and even track occupants.

Prototypes and proof of concept deployments of BEMS exist in research labs around the world, including at IIT-Bombay. Startups in this

space employ business models including software as a service (SaaS), whereby the hardware cost is borne by the solution provider and monthly fee is charged, benefiting users from day one. These Internet of Things (IoT)-based automated BEMSs achieve significant reductions in energy bills by:

- ▶ reducing the dependence on unsustainable energy sources.
- ▶ increasing the dependence on sustainable energy sources — by exploiting renewables and finding ways to store excess energy from the sun or wind during periods of low consumption.

Whereas simple rule-based automated control suffices to decide when some appliance should be turned on or off, sophisticated approaches are needed to ensure energy conservation when it comes to large-scale and distributed environments. Complex control logic is often needed for the coordinated scheduling of multiple HVAC units in a building. Data collected during the operation of the BEMS can be analysed and mined to develop the necessary logic and

extract energy savings. Depending on a building's usage, its energy consumption peaks during specific, often predictable, time intervals. Unusually high peak demands, such as on hot summer days, are tackled using standby power generators that add to the capital costs, increase per-unit generation cost and are polluting. To counter these problems, BEMSs incorporate Demand-Response (DR) techniques for peak demand management.

The replicability of these solutions in institutional buildings makes them very attractive due to the enormous multiplicative effect. Yes, many challenges remain.

DEMAND-RESPONSE TECHNIQUES

- ▶ Avoid/reduce consumption (for instance, by turning off appliances when not needed). Simple motion sensors are often deployed in places like restrooms to turn off lights when they are unoccupied.
- ▶ Optimise/balance demand and supply (for instance, by setting optimal comfort levels and scheduling appliances). For example, home en-

ergy needs can be managed by better scheduling of appliances such as washing machines and dishwashers.

- ▶ Exploit renewable sources (for instance, rooftop photovoltaic, or PV, and wind energy allow buildings to reduce dependence on grid power).

In a recent study, we showed that the total rooftop PV installation potential for Greater Mumbai is around 1.72 GWp that, if fully harnessed, can reduce the dependence on the grid by more than 10%.

- ▶ Store excess energy (for instance, in batteries, which can also help handle blackouts). Energy storage systems aid in smoothening out cyclical and stochastic power flow. They also enable shifting power consumption to low price periods, thus cutting down the electricity bill.

THE CHALLENGES

- ▶ Stochasticity of renewable sources due to changes in cloud cover and wind speed increase the unpredictability in the load imposed on the electric grid, complicating the scheduling of power generation.
- ▶ Energy has become a commodity, with wholesale markets seeing dynamic real-time prices. Time-of-use pricing is not far off in retail markets. Users may shift loads from high-price hours to low-price hours. Uncoordinated shifts will add to the volatility.
- ▶ In the presence of a large number of sensors, enormous amount of data is generated. Data may have issues like missing values, corrupted values and inconsistencies. These can further complicate the process of energy management and also introduce other problems, such as privacy.
- ▶ Localised heating and cooling systems (that often use community waste as heat sources), commonly found in EU countries, may be useful in India as well. But capital costs may deter their adoption.



It can't be day all day

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Good Morning, Kurukshetra

DARSHNIK VYAS
The role of a newspaper, it is believed, is to inform. But that is only a part of what a modern newspaper is supposed to do. A greater part of its mandate is to act in the manner of an ancient sage, or rishi, to help the reader in contemplation, meditation and, finally, spiritual elevation.

The term Kurukshetra has, for long, symbolised something more than a geographical location. It is a metaphor for the ceaseless tumult and conflict of the material world. In the modern context, it signifies the mode of being of the social, political and economic world. The newspaper presumably has to reflect this. The editors, however, must not delude themselves into believing that they are aiming for, or arriving at, some objective representation of reality. Because reality is simply the name we give to our most cherished ways of looking at the world.

A newspaper has to move away from a problem-posing to a problem-dissolving attitude. A lot of the so-called problems arise because of familiar habits of thought. If you are enabled to see them differently, they will simply disappear. In that sense, the process is similar to the movement from ignorance, or avidya, to spiritual enlightenment. That's why a newspaper should endeavour to present perspectives that transcend our obsessive human-centric view of life.

This is how this newspaper has consistently addressed the question of diaspora or foreign origins, telling the reader that nationalism in this day and age is a liquid phenomenon, with no clearly defined contours.

Citings

Chinese Chequers

FOREST HOU ET AL
China accounts for about 25% of the world's manufacturing activity, more than any other country on earth. Yet, the advantages gained through lower costs of labour and capital, as well as efficiency-driven innovations, are slowly eroding.

China's manufacturing productivity remains only a fifth of that of developed economies. Companies and policymakers are, therefore, looking to upgrade China's digital manufacturing capabilities by embracing Industry 4.0, the shorthand used for automation and data exchange in manufacturing technologies (including cyberphysical systems, the Internet of Things and cloud computing).

The goal is for manufacturers to use real-time data to link product designers, "smart" factories and distribution centres across the value chain. In June 2016, we surveyed 130 companies across sectors to gauge China's readiness. Chinese manufacturers are more optimistic than their counterparts in Germany, Japan and the US on Industry 4.0's potential to transform industry. Chinese manufacturers say they are less prepared than their counterparts to push ahead with Industry 4.0 initiatives. Notably, only 44% of state-owned enterprises report they are prepared... Only 9% of companies have assigned responsibilities for Industry 4.0 initiatives versus more than a third in the US and Germany.

From "A Digital Upgrade for Chinese Manufacturing"

Chat Room

RBI's Relief for Depositors

The RBI decision to not reduce repo rate comes as a relief to depositors. Senior citizens who are dependent on interest income are generally taken for granted by policymakers. Whenever a monetary policy is to be announced, there's a shrill campaign to reduce policy rates, under the premise that this will push down the interest on credit and influence investment. In fact, interest on bank credit can be based only on deposit rates of banks. At the most, repo and reverse repo rates may be indicators for banks to reduce their interest rates on deposits, which can reduce interest rates on credit, and this can happen after a time gap.

SKALYANASUNDARAM
By email