

The Barriers to Progress and Development in India

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The purpose of the site is to highlight systemic fail points that are roadblocks to progress and development with a hope that the nation and the government will work on solutions to surmount these issues.

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1. Overpopulation

Overpopulation is a serious threat to our own existence. The whole world needs to address this issue and not just a few countries. The world's population is increasing mainly due to medical advancements and increases in agricultural productivity. Countries like Brazil, China and India add more to their woes by neglecting substantial increases in their populations.

India is now the home to 1.2 billion. Furthermore India's population is expected to grow to 1.8 billion before stabilizing around the middle of this century, if sufficient measures are taken. Today India is stretched to its limit due to overpopulation. 57 billionaires control 70 percent of India's wealth. This economic inequality leads to poverty, lack of free medical assistance, lack of social security and bad living conditions. The issues are even more critical due to the advancements in Artificial Intelligence and Automation. Automation threatens 69 percent job losses with millions of job losses already occurring in the IT and production sectors. E-commerce has failed to pick up so far due to job cuts and prices that are not as competitive as in the local marketplace.

Excessive population leads to working institutions dysfunctionality and makes all plans to improve a country's infrastructure, medical assistance facilities and social welfare initiatives ineffective. This includes the Indian Government which has struggled to enact reforms over the past 69 years since independence.

The consequences of population growth are a problem that the whole world will soon face sooner or later. Drinking water, sewage treatment, inadequate rainfall, rapid depletion of natural resources, extinction of many plant and animal species due to deforestation and loss of eco-systems, increased level of life-threatening air and water pollution, high infant and child mortality rate and hunger due to extreme poverty are some of the results of over-population.

Many people are already aware of the social and environmental problems due to overpopulation, but only a few are aware of its adverse effects on health. Most Indian cities are badly polluted and have little fresh air. This leads to countless airborne diseases and skin infections.

It's not just India's struggle, Brazil and China are also coping with the ramifications of overpopulation. It's time for all global forums to provide effective solutions in order to resolve this problem. Overpopulation can only be solved by spreading awareness of and implementing measures like birth control and access to birth control devices. Let us help the world prepare for a better tomorrow.

2. Lack of Originality and Innovation

Lack of originality and innovation: This is how India's perpetual habit of 'Jugaad' is anchoring the nation down.

Indians are well capable of arranging makeshifts options instead of innovating new ones. And that's one of the major reasons why we are famous for our 'Jugaad'.

According to a Global Innovation Index report, Indians lack originality and rely on techniques which have been lying there for ages.

Not only this, India stands last in the list when it comes to full-time researchers. When it comes to investing in new ideas and researches, India only spent 0.82% on R&D from 2005 to 2014.

When it comes to education, we might have the brightest of minds, but our universities and schools lack infrastructure and innovation. While schools around the world are moving ahead with E-classrooms, Indian educational system still follows the traditional way of teaching the majority.

Sure, makeshift arrangements can help us for a shorter span of time, but when it comes to a safe and 'developed' future, India is in dire need of a change.

A large proportion of Indian companies just don't have the policy or human resource capabilities to invest in innovation though the country fares favourably in terms of research and development (R&D) spending when compared with its peers, according to a top World Bank official.

"If you look at how much India invests in R&D as a share of GDP compared to other countries at its level of income per capita, it actually doesn't do badly," said William Maloney, chief economist for equitable, growth, finance and institutions in the World Bank.

Indian IT industrialist and co-founder of Infosys, Narayana Murthy, recently mentioned that there is no 'earth shaking' idea that India has given to the world in last 60 years. It's a grave observation especially coming from a doyen of the IT industry and an eminent entrepreneur. But Narayana is not wrong. The data strongly corroborates his findings. India fares poorly in all innovation indexes.

India has one of the most hostile environments in the world for driving innovation.

Asia's third-largest economy stood 54th in a recent ranking of 56 countries on the basis of how their domestic policies support global innovation. The report (pdf) by the Information Technology and Innovation Foundation (ITIF), a technology policy think tank, includes countries that make up close to 90% of the world's economy. This is the first time ITIF has compiled such a report.

"Thailand, China, India, Argentina, and Russia field policies that detract the most from the global innovation system. These countries make the most extensive use of trade barriers and other distortions while providing weaker environments for intellectual property protection," the report said.

It examined 14 factors that favour domestic innovation and have a global impact, such as supportive tax systems and investment in research and development (R&D) and human capital. It also assessed 13 other factors—like forced localisation and weak intellectual property protection—that have negative effects on global innovation.

1. Taxes

India is on top of the list of countries ranked on the basis of its generous R&D-related tax incentives. However, it lacks innovation because it lags in other areas such as collaborative R&D tax credits (offered on expenditures made to support research at universities, national labs, and research consortia), and encouragement to commercialise innovation, rather than just for the research.

2. Human capital

A key reason why India lags in innovation is because the country spends the least compared to other countries on primary and secondary education. The Indian government spends just \$1,248 (Rs84,978) per student on primary and secondary education, lower than even Vietnam, Indonesia, or Peru.

However, India is somewhere in the middle when it comes to countries with top-ranking universities. At 25, India is ahead of countries such as Argentina, Brazil, Poland, and Kenya, with 17 of the top 800 world-ranked universities, the report said, without naming the institutions.

Still, the number of researchers in the country stands at a paltry 15 per 100,000 people, placing India among the bottom five in this category. India is also among the bottom six countries on the rankings when it comes to total citations—an academic document that is referenced by subsequent academic research—per 1,000 citizens.

Why is it that India, even with its huge demographic dividend, is not able to break the glass ceiling? And more specifically, what socio-cultural barriers hinder innovation in our country?

Here below are five key socio-cultural comparatives that may give us real answers:

A. Salary substitution business versus entrepreneurship

The socialist bias in our post-independence economic policy ensured a sense of skepticism towards private enterprises. Add to this the challenge of large subsistence farming populace, low formal education levels and limited number of government jobs. And so it evolved that commodity trading, repair shops, and retailing became the staple for anyone with an appetite for ‘business’ – lower investment, faster cash flow, no innovation risk and much less government dependence. These were in the true sense merely ‘salary-substitution businesses’ that aimed to create cash flow to maintain the promoter’s lifestyle. The first couple of million in profits from the business went into purchasing a house or car. Subsequent millions went into a second house and car, and so forth.

However, innovative enterprises require reinvestment of earnings into the business. India’s cumbersome government policies and bureaucratic challenges ensured anyone venturing into manufacturing needed a pocketful of ‘chai paani’ (bribes) instead of ideas and an enterprising spirit. Most people gave up. They were happy to have salary-like cash flows under the guise of business. Real entrepreneurship went missing. Today, we continue to be at the lower end of the business value chain, BPO and software services included.

B. Bargain hunters versus premium payers

The genesis of ‘more for less’ attitude of Indian consumers lies more in low per capita income than in our much-celebrated ability to evaluate ‘real value’. Bargain hunting may be a good way to exemplify the boons of capitalism or illustrate demand-supply concepts but deeper down it’s a bane for innovation. Innovation demands long-term investments and to be sustainable it depends on the

market's ability to encourage and pay a premium. If the market isn't ready to pay for that upgraded Intel chip or iPhone, the Moore's Law can never be true.

The markets in India have a bias for 'more for less' and hence the incentive for a small business to invest in new technologies becomes constrained as well. Even at the top of entrepreneurship pyramid, i.e large corporations, the weak culture of innovation ensured there were no role models for MSMEs. These large companies faced a similar market – the bargain hunters – and as a result squeezed the smaller suppliers with lower margins instead of collaborative product developments. They encouraged lower cost over innovation, using the euphemism of improved efficiency. This is true even today in most manufacturing sectors, particularly Indian automobile supply chains.

C. Safe players versus risk takers

The absence of social security, poor insurance penetration, and rudimentary agricultural practices that depend largely on monsoon, have ensured the battle for the family is still about basic necessities and not creation. Innovation demands creativity. Following a path of creativity is risky. This battle for basics leads to a preference for predictable paths and a collective culture that discourages deviation from the known. And for those who did try breaking the mould (and failed) didn't receive a pat on the back of "well tried". They instead got many versions of "I told you so!" Thus we have created a 'safe playing' society – routine education paths, routine jobs and routine businesses. Risk-taking has been a taboo! It still is, for both businesses and individuals. It starts from schools and continues thereafter.

D. Money lenders versus financial enablers

The SME lending models across the formal financing sector give high weightage to vintage, profit and, most importantly, collateral security. There is little to nil importance given to strong ideation and ability to innovate. With this mindset, it's difficult for banks to appreciate or evaluate balance sheet intangibles like goodwill and intellectual property (IP). The financiers have frowned upon diversification and encouraged 'follow the routine'. It is difficult for any small enterprise to find adequate financial backing for a Greenfield project without collateral. The parallel finance system was limited to money lenders, where the interest you paid quickly grew bigger than the principal itself, even before you could say "show me the money". With the advent of angel investors and VCs, access to capital has evolved in last few years, especially for new age tech and IT-enabled startups. For small manufacturing businesses, the situation is no different, even today.

E. Hypocrisy versus democracy

In his recent commentary on section 377 of the Indian Penal Code, MP Shashi Tharoor quoted his father on India being both the largest democracy and largest hypocrisy. It's caustic but has a bitter truth and apt reference for our case on poor innovation. At one point, we ensured the exit of videshi (foreign) companies under the pretext of encouraging swadeshi (indigenous) but continued fancying imported gadgets and imported cosmetics. We desperately needed capital and technology but criticised FDI.

Watercooler discussions often quoted Singapore as an example of cleanliness but we continued to throw garbage, roadside or road middle, as per convenience. Indian businessmen talked about honesty but were okay to grease the system, as long as their substandard products were accepted in government orders. Protectionism from better technology from outside seemed like a birthright. They were against the burden of corruption but 'doctoring' of financial statements to evade tax seemed no burden on conscience! Then there were willful defaulters who under the guise of 'legitimate' businesses took advantage of inefficient laws and judicial processes.

While the system was the way it was, the MSMEs have a share in the blame too. The only time they seem to have acted collectively was to protest a levy or imports, and rarely against the unreasonable demands of a corrupt officer. There is hardly any self-regulation that umpteen industrial associations undertake. The beauty of democracy is in responsible collectivism. Imagine if all the MSMEs in an industrial area decide not to cave in to the demands of the corrupt sales tax assessor or the blackmailing of the pollution control board officer! The beauty of hypocrisy is in half-truths and conveniences. It has been a convenient arrangement that encouraged the status quo and, by extension, eliminated the need to innovate.

3. Overspending on Defense and Armaments - caught in US, Europe, Russia trap to buy arms

In February 2018, India quietly passed a milestone. The release of its annual budget showed that defence spending, at \$62bn, has swept past that of its former colonial master, Britain. Only America, China, Saudi Arabia and Russia lavish more on their soldiers. For nearly a decade India has also been the world's top importer of arms. In terms of active manpower and the number of ships and planes, its armed forces are already among the world's top five.

Some of the weakness may be due not to the size of India's forces, but to their shape. Despite numerous expert reports, internal military recommendations and committee findings calling for integrating both India's central and regional commands, its army, navy and air force have maintained rigidly independent structures. Whereas China recently streamlined its operational forces into five broad regional commands, India maintains 17 separate single-service local commands.

Meanwhile the defence ministry, which calls the shots on such vital questions as procurement and promotions, is staffed with career bureaucrats and political appointees who lack not only technical knowledge but also, grumble ex-servicemen, much sympathy for people in uniform.

While India spends billions of dollars on armaments and the military, funds are taken from much needed infrastructure requirements like toilets, sewage and wastewater treatment plants, education, water projects, roads, over-population, etc.

The saddest issue is that every arms manufacturing country in the world would like to supply arms to India, not because they like India, it's purely for profit purposes, they all follow the practice of "War is good for business" shame on them, especially the US, Russia, Britain and other European countries.

4. Toilets

The most popular movie in India this summer is about a toilet. It nearly causes a divorce. It makes a father slap his adult son. It splits a village in half. But, ultimately, it's about a romance.

More than just an ode to the commode, the film, "Toilet, a Love Story," speaks to one of India's most serious public health concerns. Toilets are a big issue in India these days: There aren't enough of them for the country's 1.3 billion people, and the national government is embarking on the biggest toilet-building campaign in the nation's history.

India's prime minister, Narendra Modi, troubled by how many Indians still relieve themselves in the open, has vowed to build a staggering 100 million new toilets.

All across the country, new latrines are going up, sometimes so fast they are not connected to anything, creating toilets to nowhere that are so fly-ridden and stinky that almost no one will use them.

There's even a new mobile phone app that tells people how to find the nearest toilet. "When nature calls," billboards read, "use your phone!" It's ridiculous, people have cell phones but no access to a toilet.

The lack of facilities is not just a matter of public health, as the movie makes clear, but also touches on issues of safety, women's rights and human dignity.

According to Unicef, around 564 million Indians, nearly half the population, still defecate in the open — in fields, forests, next to ponds, along highway medians and on the beach.

Rural women sometimes endure taunts and even sexual assault when they relieve themselves outdoors, so they travel in small groups, often before dawn, for protection. "This is a real problem," said Jagmati Sangwan, a women's rights advocate. "So many women, especially landless women, face a lot of violence when they go to the bathroom outside."

Is anybody really surprised that nearly half of India's 1.2 billion people have no toilet at home? Not really. The India Human Development report has been saying this for a while. The situation is worse in the villages, where two-thirds of the homes don't have toilets. Open defecation is rife, and remains a major impediment in achieving millennium development goals which include reducing by half the proportion of people without access to basic sanitation.

Is the lack of toilets and preference for open defecation a cultural issue in a society where the habit actually perpetuates social oppression, as proved by the reduced but continued existence of low caste human scavengers and sweepers?

India's enduring shame is clearly rooted in cultural attitudes. More than half a century after Independence, many Indians continue to relieve themselves in the open and litter unhesitatingly, but keep their homes spotlessly clean. Yes, the state has failed to extend sanitation facilities, but people must also take the blame.

In the upstart suburb of Gurgaon, educated, upwardly mobile, rich neighbours sent their pet dogs outside with their servants to defecate and refuse to clean up the mess. As long as their condominium is clean, it is all right. These are the same people who believe that the government is at the root of all evil.

The lack of toilets also negatively impacts tourism, when tourists travel through the country, they cannot find any available toilets or the toilets are in a bad condition leaving a bad experience and negative publicity.

We should study toilet systems, construction of toilets, hygiene and cleaning of toilets in other countries to learn how it is done. The progress of the country will be impeded if we ignore the toilet and sewage issue.

Another big unseen problem is toilet facilities for tourists, take any city, town or tourist attraction and it is a nightmare to find a toilet and more so a clean hygienic facility, so most tourists have to partake in bladder control until they return to their hotel or residence place.

*** when constructing a new building, plan to separate the toilet and bathroom for cleanliness, hygienic reasons and not soiling after bath (as per Vastu best practices).

5. Sewage

India generates a staggering 1.7 million tonnes of faecal waste a day, according to "Urban Shit", Down To Earth magazine's latest cover story on sewage disposal in the country. Based on an analysis done by Delhi-based non-profit Centre for Science and Environment (CSE), the news report shows how India is missing the point when it comes to safe waste management, most cities have no clue how to convey the waste or treat it. Official figures show that 78 per cent of the sewage generated remains untreated and is disposed of in rivers, groundwater or lakes.

News headlines such as "Half of homes have phones but no toilets," and the diligent efforts of the government of India and nonprofits to provide toilets to the 48 percent of Indians who don't have one, suggest that enough toilets will solve India's sanitation woes. In reality, while toilets are a necessary part of the solution, an arguably bigger yet often overlooked issue is how to contain and treat India's sewage. Currently, 93 percent of sewage finds its way to ponds, lakes, and rivers without treatment.

- 1). Untreated sewage is the leading polluter of water sources in India, causing a host of diseases including diarrhea (which kills 350,000 Indian children annually)
- 2). agricultural contamination, and environmental degradation. The urban poor often live alongside dirty drains and canals in which mosquitoes and germs breed.

India's largest cities have centralized sewage systems, complete with underground pipes, pumping stations, and treatment plants. However, these systems are expensive to build and to operate, requiring uninterrupted power, skilled operators, and extensive maintenance. As a result, according to India's Central Pollution Control Board, fewer than half of them work effectively.

- 3). What's more, India's smaller towns cannot afford to build such systems.

Experts at the workshop said that a large quantity of water was being used worldwide in carrying human excreta. This is not the best use of water, the current technology—using water to flush down excreta and carry it away—was not sustainable. The solution, was on-site faecal sludge management using modern septic tanks and other technologies so that the excreta does not contaminate water bodies. Current piped sewerage systems do not treat sewage but merely transport it away. They are toxic and extremely polluting for the rivers and lakes where they are dumped.

6. Pollution in Waterways

India's booming population and rapidly expanding urban areas have exacted a huge toll on its rivers, which are badly polluted and choked by development. Water pollution is a major environmental issue in India. The largest source of water pollution in India is untreated sewage. Other sources of pollution include agricultural runoff and unregulated small scale industry. Most rivers, lakes and surface water in India are polluted.

The majority of the government-owned sewage treatment plants remain closed most of the time due to improper design or poor maintenance or lack of reliable electricity supply to operate the plants, together with absentee employees and poor management. The waste water generated in these areas normally percolates into the soil or evaporates. The uncollected waste accumulates in the urban areas causing unhygienic conditions and releasing pollutants that leach into surface and groundwater.

In the technology hub of Hyderabad, activists went to the National Green Tribunal, a quasi-judicial authority, in 2015 to prevent illegal construction near the city's Musi River. In Chennai, in South India, citizens have petitioned the tribunal to stop pollution of the Cooum River, as well as to ensure proper dredging of a large canal to remove silt and improve flow. In New Delhi, activists have been fighting one legal case after another over the years to keep the floodplain and river bed of the Yamuna, a major tributary of the Ganges, free of myriad developments, including a subway depot and road. And the sacred Ganges, which runs through five Indian states, has been at the center of a legal battle by environmentalists and citizens frustrated by the failure of a government plan to clean up the badly contaminated river.

Rivers and streams have borne the brunt of the recent urban explosion in India, a nation whose population has nearly doubled in the last 40 years to 1.35 billion. Unplanned growth has led to the use of water bodies as dumping grounds for sewage and industrial effluent.

The cost of this abuse has mounted over the years. A study last year linked increasing cases of typhoid, hepatitis, and diarrhea in New Delhi to severe pollution in the Yamuna River, which provides much of the city's drinking water. Large stretches of the Yamuna, as well as Chennai's Cooum and Mumbai's Mithi and Ulhas rivers, are considered dead zones, with oxygen levels too low to support most fish life.

7. Monsoon Rains – drainage issue and lack of storing water in lakes and dams

The monsoon is the lifeblood for India's farm-dependent \$2 trillion economy, as at least half the farmlands are rain-fed. The country gets about 70% of annual rainfall in the June-September monsoon season, making it crucial for an estimated 263 million farmers.

About 800 million people live in villages and depend on agriculture, which accounts for about 15% of India's gross domestic product (GDP) and a failed monsoon can have a rippling effect on the country's growth and economy.

The monsoon has a direct impact on the country's agricultural GDP. The planting of key kharif, or summer, crops like rice, sugar cane, pulses and oilseeds begins with the arrival of monsoon rains in June.

Summer crops account for almost half of India's food output and a delayed or poor monsoon means supply issues and acceleration in food inflation, a key metric which influences Reserve Bank of India's decision on interest rates.

A deficit monsoon could also lead to a drought-like situation, thereby affecting the rural household incomes, consumption and economic growth. A poor monsoon not only leads to weak demand for fast-moving consumer goods, two-wheelers, tractors and rural housing sectors but also increases the imports of essential food staples and forces the government to take measures like farm loan waivers, thereby putting pressure on finances. Whereas a normal monsoon results in a good harvest, which in turn lifts rural incomes and boosts spending on consumer goods. It also has a positive impact on hydro power projects.

To rely less on the vagaries of the monsoon rains, India, say experts, needs to ramp up its still scanty water conservation efforts. Too much water gets wasted during the monsoon rains by run-off into the sea and rivers, building small lakes and dams may be the answer? There is also a need to develop early drought warning systems and improve meteorological tools to provide sharper forecasts. India also needs to manage its huge food stocks - over 60 million tonnes at the start of this year - much better. Too much food gets destroyed and damaged. That, many say, is a bigger tragedy than an imprecise monsoon forecast.

8. Bribery and Corruption including at Universities and Panchats

Corruption is an issue that adversely affects India's economy of central, state and local government agencies. Not only has it held the economy back from reaching new heights, but rampant corruption has stunted the country's development. Transparency International reported that about 50% of Indians had first hand experience of paying bribes or using contacts to get services performed by public offices.

The largest contributors to corruption are entitlement programs and social spending schemes enacted by the Indian government. Other areas of corruption include India's trucking industry which is forced to pay billions of rupees in bribes annually to numerous regulatory and police stops on interstate highways. The media has widely published allegations of corrupt Indian citizens stashing millions of rupees in Swiss banks. Swiss authorities denied these allegations, which were later proven in 2015–2016.

The Indian media is largely controlled by extremely corrupt politicians and industrialists who play a major role by misleading the public with incorrect information and use the media for mud-slinging at political and business opponents.

Land and property - Officials are alleged to steal state property. In cities and villages throughout India, groups of municipal and other government officials, elected politicians, judicial officers, real estate developers and law enforcement officials, acquire, develop and sell land in illegal ways.

Government Contracts - Problems caused by corruption in government funded projects happens throughout the country. According to The World Bank, aid programmes are beset by corruption, bad administration and under-payments. As an example, the report cites that only 40% of grain handed out for the poor reaches its intended target.

In Government Hospitals, corruption is associated with non-availability/duplication of medicines, obtaining admission, consultations with doctors and receiving diagnostic services.

Universities and Schools – Bribery and corruption is rampant education institutions whereby wealthier parents pay bribery for entrance to schools, once again, sadly, poor people are left out.

9. Trash and Cleanliness

'The subcontinent of garbage' – this is how the Indian subcontinent is often referred to in the local press. And it's no wonder: Waste can be seen everywhere in Indian cities, especially in poor neighborhoods – in alleys, streets, and squares, there are plastic boxes and plastic bags, brightly colored packaging and food waste, old newspapers and cardboard boxes.

But waste does not just accumulate in the cities. Local roadsides will one day allow the archaeologists of the future to easily get to the bottom of how the eating habits of the residents of the 'biggest democracy in the world' have evolved.

All kinds of packages from different varieties of cookies, the ubiquitous plastic bottles, rustling plastic bags that once contained a cornucopia of sweets, chewing gum, and chips – all such things are often thrown out on the go, 'decorating' roadside ditches and railway embankments.

However, waste is still disposed of in the so-called good districts. It is done by representatives of the traditional caste occupations, waste collectors, rag-pickers, and cleaners, for whom the mountains of waste are a source of income, and one that is quite substantial by local standards.

Garbage is sorted and laid out: waste paper, ferrous and non-ferrous metals, glass, and rags and old clothes that are washed and mended. Anything that can be reused is resold. But whatever cannot be reused, even by the waste collectors, is often thrown out again on the streets of poor neighborhoods, where it lies in the hot southern sun for years, condensing into a homogeneous gray-brown mush.

The attack of the waste

New Delhi, the country's capital, is particularly affected by 'aggressive waste.' One of the sanitation workers' colonies is located in the middle of the diplomatic quarter, with hills of sorted wastepaper packs and pyramids of bags full of rags visible from afar, greatly surprising the guests of diplomatic missions and embassy villas. The caste of rag-pickers settled here a long time ago – long before the sprawling diplomatic quarter surrounded it on all sides. City authorities have tried several times to resettle such 'non-diplomatic' neighbors, but the residents of the 'waste quarter' stubbornly resist and do not wish to leave.

The statistics are startling: The official and the unauthorized city dumps add up to 10,000 tons of waste every day. Journalists estimate that it means 2,300 trucks daily. However, the volume of waste is growing along with the population, and it is expected that by 2025, the daily waste volume will have reached 4,700 truckloads.

An Indian journalist once told the author of this article that, traditionally, garbage in India was thrown out onto the street (as it once was in many European cities), and the hot Indian sun would then dry it into dust. But, with the advent of modern plastics, packaging, and cardboard, this 'garbage disposal system' no longer works. Yet the tradition remains. To this day, in many Indian cities, it is not considered reprehensible to throw garbage right where you stand or to relieve yourself right then and there without any shame of passersby. Waste is often dumped into rivers. For instance, Delhi is situated on the Yamuna River, considered sacred by the Hindus, but even approaching the riverbank is an unpleasant experience – the 'sacred waters' smell like an old gutter. Nothing, except bacteria, has lived in this river for a long time.

The problem is not simply the prosperity of a particular family or its education level. Many residents of wealthy neighborhoods do not even want to wait for garbage collectors to pick up garbage bins or bags with trash from their front door. Wealthy citizens would rather send a servant to throw out garbage in the backstreets.

However, the problem, clearly, is not only with the habits of Indians themselves, but with the outdated system of cleaning the country's waste, based on the traditional caste system. Most Indian cities do not have a modern centralized system of waste collection and disposal from every household. In Delhi, for example, garbage is fully collected only from about 25% of the area. Dragging packages to

the authorized landfill is a long trip. So, it is no surprise then that any vacant lot or abandoned courtyard is turned into a landfill by residents of the neighboring districts.

Still, a problem exists even with the waste that is being collected. Three of the four major landfills near the capital have already gone over capacity and need to be closed. But there is no space for new landfills in India, which is already overpopulated.

The problem is not unique to New Delhi. In Mumbai, for example, the mountains of waste are so large that littered suburbs are now frequented by leopards from the Sanjay Gandhi Reserve next door – the predatory cats wander around in search of food and pose a threat to people living nearby. In addition, the air in the ‘economic capital of India’ is quite polluted, not least because of the incineration of rubbish.

‘The capital of new technologies,’ the city of Bangalore in the south of the country (sometimes called the Indian Silicon Valley), along with its computer software, electronics, and Internet technology, also produces 3,000-4,000 tons of waste daily. The problem of space for storing waste in this booming city is so acute that the government even thought at one time to requisition territory situated on the outskirts of the Tataguni estate founded by artist Nicholas Roerich’s son, Svetoslav Roerich, and his wife and Indian movie star, Devika Rani. Svetoslav Roerich intended to establish a museum on the estate, but some local politicians decided to use the 450-acre manor park as a landfill. Thanks to the efforts of the Russian Embassy and the Indian public, the museum managed to fight off this attempt.

Experts say that every citizen of the ‘largest democracy in the world,’ depending on their age and affluence, ‘produces’ from 200 to 600 grams of garbage every day. This waste material is gathered in overflowing landfills, discharged to blind alleys, urban backstreets, and along roads and railway lines, causing complaints from municipalities about the impossibility of collecting and cleaning up all the garbage scattered in and around the city.

While officials complain that the environmentalists are sending an SOS signal, degradable waste will not help improve the already difficult sanitary and epidemiological situation in the Indian cities. And if this goes on, garbage will begin to displace people.

Stars with brooms

“This is no exaggeration. According to various sources, the cities of India produce 100,000 tons of solid waste daily. The government spends from 500 to 1,500 rupees per ton of waste: 60-70 percent of this amount is spent on garbage collection, up to 30 percent more on transportation, and only the remaining approximately five percent is spent on recycling,” said Vladimir Ivashin, expert at the Center for Indological Studies at Moscow State University, in an interview with BRICS Business Magazine.

Most of the waste is burned or buried, said Ivashin. It is, therefore, not surprising that the need to find space for landfill sites in this populous country is so acute. In addition, a large-scale campaign against garbage would require a radical change in the attitude of Indians towards waste and clean streets.

10. Plastics Pollution

There is a bit of plastic everywhere, in our wallets, on our dining tables and kitchens, in our cars and buses and in our phones and offices. It is nearly impossible to imagine a world without plastics

We almost always take the suffocation warning on plastic bags and packages seriously, keeping plastic packaging out of reach of babies and children. But we have not been as mindful with the planet. Of the 8.3 billion tonnes of plastic produced, 6.3 billion tonnes have been discarded. Every year, nearly 13 million tonnes of plastic waste are added to oceans. Given their durability, plastics do not decompose.

"A plastic bottle takes between 450-1000 years to decompose," explained Environment Minister Harsh Vardhan.

Much of the growth in plastic production is driven by single use or disposable applications. Nearly 50 % of plastics used are single use products such as bottles, plastic bags, packaging, straws, stirrers, spoons and forks. Around the world, 1 million plastic drinking bottles are purchased every minute. Every year we use up to 5 trillion disposable plastic bags.

In India, 80 % of total plastic consumption is discarded as waste and official statistics say the country generates 25, 940 tonnes of plastic waste daily. At least 40% of this waste is uncollected.

There is a concerted effort to increase recycling of rigid plastic packaging by companies as well. But other single use plastics such as bags, candy wrappers, tobacco and pan masala sachets, soap wrappers and shampoo sachets are either too difficult or not lucrative enough to collect. These plastic items then find their way into landfills, unauthorised garbage dumps, or simply remain uncollected on road kerbs.

Eventually, these single-use plastic items clog rivers, other water bodies and the ocean. They are consumed by animals, and often find their way into our food systems.

In February this year, veterinarians operating on a bloated and infected six-year old cow brought into the Bihar Veterinary College in Patna removed 80 kilogrammes of plastic from its stomach. Though this was not the first time that doctors had removed polythene from an animal's stomach, 80 kilogrammes of it from a single. Though this was not the first time that doctors had removed polythene from an animal's stomach, 80 kilogrammes of it from a single animal was something of a record.

11. Low productivity nationally because of too many public holidays

India, being a culturally diverse and fervent society, celebrates various holidays and festivals. When it comes to public holidays, India holds two world records, which it could do without from a business perspective. Firstly, it has the most in the world (more than 20 per year), and secondly, each state and union territory has its own local holiday(s). There are only three national public holidays in India, and all the rest are regional.

Excessive public holidays hurt the economy and the financial system. When these holidays exceed the ‘reasonable limit’, the nation’s productivity is likely to be adversely compromised. It is also not often understood that intermittent and unplanned holidays can cause damage to the efforts designed to make the country’s financial and capital markets catch up with global trends. Holidays have an obvious impact on any company doing business in India, whether locally or remotely. These challenges are especially relevant for companies with outsourced IT or business processes who work remotely with their Indian counterparts, or meet face-to-face for international business meetings.

SLAs (Service Level Agreements) might guarantee year-round service, but not for individuals, which means that your key resources might not be available when you think they are. With a reasonable set of holidays and the usual weekends, it might be tolerable to keep pace even if somewhat slowly with modern banking. But in a country with inconsistent and large numbers of public holidays and non-working holidays, the nation’s financial growth could be stifled.

Indian holidays tend to be seen as a hinder to the flow of work. There is little interest in what they are, how they are observed, and what they signify culturally. It’s even rare to find accurate knowledge of Indian holiday calendars and for work with India to be planned around these calendars. The point here is that you have to think regionally. If you deal with four different cities in India, each in a different state, there will be slight differences in the holidays observed. As private companies have considerable latitude in selecting which holidays to observe, you also need to know what the holiday lists of the different companies are.

Having mentioned the negative impact, holidays are a boon too for certain sectors like retail, entertainment and travel & tourism, which thrive on such occasions in India. In other words giving people more time to shop can increase spending and in turn will have a positive impact on growth. Festivals like Dusherra, Id, Diwali and Christmas generate billions of India Rupees in the sales revenue every year.

India is a highly diverse country, and diversity presents many opportunities, from the workplace to the market. However, it also presents challenges. Religion and the workplace are becoming increasingly intertwined. More workers expect their religious beliefs and practices to be accommodated in the workplace, with days off to celebrate holidays and time during the workday to practice religious beliefs. Globally, these accommodations have long been common. Most countries have populations with a dominant religion with practices reflected in many aspects of the country’s life, including the workplace, public holidays, and societal values.

In general, it is clear that holidays are important, but perhaps not as important as the macroeconomic level as they are at the microeconomic level. Reducing the loss of business days can add significantly to the GDP, provide a stable environment for business, and most importantly, can help the poor earn that extra day’s income, which gets a miss on a holiday.

12. Crisis in Education

The CBSE results are out and students would be enrolling in droves for university education. While children find it exciting to embark on the next chapter of their life-journey, it is also a worrying and stressful exercise because of the significant demand-supply mismatch and, further, that none of India's higher educational institutions feature in the top 100 QS rankings. For students with exceptional aptitude, this can be a major disappointment. For a country of India's size and aspiration, this is a major failure.

The reasons behind India's education crisis lie in the seven-decade approach towards the sector. Research was never embedded in our culture and education was essentially equated with teaching. Consequently, our approach tended to be static and bookish and focused only on how many went to school.

At the national level, this is not a bad thing. We would otherwise deny children the right to education and many would be forced to become child labourers. With the enactment of the RTE legislation in 2009, around 260 million children attend school in India today, making it the world's largest school system. There are around 1.5 million schools with over one million run by the government. The education market is currently valued at \$100 billion and is set to double by 2020. This is impressive.

But what India needs is not just the right to education but the right to quality education. According to a disturbing report carried a couple of years ago in a prestigious Indian magazine, only seven per cent of our engineering graduates are employable.

Unless the education system is substantially rewired and is, in fact, overhauled, we would damage the future prospects of our young population and thereby lose our demographic dividend. This requires changing the very DNA of our education system from inside out. The government recognizes this and over the past several months, a series of initiatives have been under discussion, including the contours of a New Education Policy.

There is credible skepticism, unfortunately, as to how India would achieve what surely must be an ambitious agenda without consistent budgetary allocations and a clear understanding of what ails the system.

To be fair, the sheer magnitude of the problem is intimidating. Over past decades, we have drifted along with ostrich-like self-delusion. We have been risk-averse and blind to the changing educational needs of a knowledge economy. The majority of our schools lack not only basic amenities but also teachers. Where teachers are available, the majority are over-stretched and under-qualified. It is no wonder then that our graduates are not employable.

A nation's future is forged by its education system. A defunct system will usher in a dismal future. We face a similar danger, though to a significantly lesser extent with regard to market share because the bulk of our educational institutions are government-owned and operated. But obsolescence is a genuine and credible threat.

The question we need to ask is what is the purpose of education? In other words, what do we hope to achieve from education. This really means one of two things: either the student or the teacher is central to the education system.

From ancient times, our approach to shiksha, or education, has been the relationship between the teacher, or guru, and the shishya, or disciple. Shiksha was not the imparting of information but of deep knowledge that comes from years of study and experience.

Unfortunately, we appear to believe that this is precisely what our education system imparts! Consequently, most teachers don the mantle of the guru. They are, in fact, disciplinarians, who run classrooms like policemen.

Across the globe, technology has replaced the teacher of yesterday. We can no longer provide modern day education using the earlier century's methodology. The embrace of technology and the disruptive shift in thinking is critical to revamping our education policy.

Put simply, the teacher only sharpens the pencil and allows for the inherent talent in each student to be revealed. It's not that teachers don't know how to teach. Rather they don't really know why they teach. Teachers need to recognize that students are central to the system and they, as teachers, are only facilitators and nothing more.

This requires a fundamental attitudinal shift that is critical to rewiring our education system. It can happen only if we embrace autonomy of thinking. When we do that, we would foster curiosity and thus, creativity. To achieve this, our teachers need to be educated.

World-class education systems do not have an ideological focus but are entirely market driven. Like the market, they anticipate the future and ascertain how best it needs to be navigated. If India's future is to be determined by the quality of education that it offers, mindsets have to dramatically change. As H.G. Wells reminded us: "Civilisation is a race between education and catastrophe." Our choice would determine where we are headed. The problem is we are running out of time.

13. Rural Development

India is emerging as a major power with the economy registering high growth rates and our cities and urban centres beginning to display marks of affluence. Yet, there is no uniform development, the rural hinterland not being able to march in tandem with urban India. More than 70 per cent of our people live in villages 80 per cent of our poor also live in rural areas. The benefits of economic growth are not percolating to more than two-thirds of the people. The visible symbols of development should not make us forget the problems of the rural areas.

The Indian economy is the fourth largest in the world. But the growth pattern is not uniform. While the rate of growth for manufacturing, services, and communications sectors has substantially improved, in vital sectors such as agriculture, infrastructure development, and community and social services, and in rural development as a whole, our performance is not appreciable.

Without the development of rural people, the country can never claim to be developed. In recent years, agricultural growth has fallen and so have investment and profitability of agriculture, net sown area under crops, and the area under irrigation. According to the Economic Survey 2006-2007, low yield per unit area across almost all crops has become a regular feature.

Rural India is in crisis. As Dr. M.S. Swaminathan, the distinguished agricultural economist, said, "The agrarian crisis has its roots in the collapse of the rural economy... Unemployment leading to out-migration of the asset-less is growing. The minimum support price mechanism is not operating for most commodities. At every level of the livelihood security system, there is a tendency to make profit out of poverty. Something is terribly wrong in the countryside... "

Today, finding themselves helpless in the face of adversities of various kinds, the peasantry in parts of the country is resorting to extreme measures. Repeated crop failures due to unpredictable climatic variations, inability to meet the rising cost of cultivation, and the increasing debt burden are among the factors leading to frustration. In such a scenario, meeting the challenges of rural reconstruction becomes a formidable and priority task.

Agriculture being the mainstay of our economy, it is imperative that we have a comprehensive and time-bound programme to extricate the sector from stagnation, if not deceleration. Larger irrigation facilities, better seeds and agri-inputs, and fertilizer at reasonable costs will have to be provided to farmers, along with finance and infrastructural and marketing facilities. Agriculture must become an income generating activity and farmers should not be left to the vicissitudes of weather, financial resources, and markets.

To increase productivity and employment generation in the sector, there is a need to bring about structural changes, primarily based on land reforms, as support prices and provision of cheap credit do not help beyond a point. Experience has shown that providing the poor with access to land is not anti-growth. In the rural growth strategy, the dynamism of small family farms plays an important role.

Problems in Rural Development

As we know the 60-70% of rural population in India lives in primitive conditions. This sorry state exists even after 60 years of independence. So that Rural Development programmes have urgency in the present condition also. There are many obstacles in the rural development programmes which are as under

1. There is no electricity supply in many villages.
2. Many rural peoples using primitive methods of cooking, living and farming and they have trust on these methods.
3. By using primitive cooking stoves, around 300,000 death / year takes place due to pollution.
4. 54% of India's population is below 25 years and most of them live in rural areas with very little employment opportunities.
5. Literacy is the major problem in rural development programme.
6. Everyone wants to go to the cities, so rural people remains ignored.
7. Privatization concept is useful for rural development but, government not paying much attention to this aspect.
10. Policy makers prepare policies, programmes for betterment of rural people but, if these programmes are not implemented they are of no use.

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