

Pivot for National Development

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Dystopic Societies

Christopher Lynn Hedges, the Pulitzer Prize winning American journalist and a former Princeton University professor, often questioned the structures of the present day societies, by insisting that we now live in nations where the doctors destroy health, lawyers destroy justice, universities destroy knowledge, governments destroy freedom, religions destroy morals, press destroys information and the banks destroy economy.

As ominous and outlandish as they sound, Hedges' words seem to ring closer to reality especially in our country in the context of the recent happenings cutting across many important facets that constitute the fundamental structures of the society - like education, medicine, media, politics, religion and now even judiciary.

Declining Societal Mores

In the name of democracy and social inequity aversion, new societal inequities are being foisted on helpless and unsuspecting public by vested interests, resulting in additional troubles and vitiating the social environment for peaceful co-existence which is the foundation for a civil society. In the democratic set-up of the day, we are now increasingly facing situations where people in small numbers and fringe groups are holding entire communities and sometimes even the nation to ransom, clamouring more and more for their presumed rights with outright abandonment of their duties as citizens, and the decency and decorum expected by human beings of a civilized society.

As a result, pettiness in social behaviour, intolerance to others and a wanton display of selfishness with total disregard to the fellow citizen's space and fundamental rights is on the rise today.

Petty considerations fuelled by ego-centric motives, peppered with increasingly brazen display of growing intolerance, boorish behaviour by individuals constantly stepping onto the rights and liberties of other citizens, and mindless hooliganism by fringe groups are engendering societal turmoil and affecting our daily lives, the quality of life of citizens and additionally becoming an unnecessary hurdle for economic growth and prosperity of the nation.

Increasing Litigations – Stultifying Effect on National Progress

The contentious attitude of people is naturally pushing the society at large to indulge in disputes and litigations. The more than 3.5 million pending court cases (as per recent reports attributed to the Law Commission) in India is a stark testimony to the present sociological upheaval in our changing world.

The alarmingly growing percentage of aspiring and litigant population coupled with the huge number of pending cases, is thrusting an additional burden on the nation and stultifying whatever little economic growth the nation tries to achieve in these trying times.

For a developing country with an alarming rate of rising population and reeling under the throes of rampant allegations of deceit, deferment, dishonesty and sometimes outright corruption in the dispensation of justice, the adage '*Justice delayed is Justice denied*' attains a more ominous hue with far reaching repercussions threatening to push the nation into an uncivil society where might may become the right.

Added to this pernicious situation, today's print and electronic media are full of stories alluding to the squabbles and altercations even in the highest echelons of judiciary, thus painting a rather grim picture for the common citizen of the country.

Needless to say, the recent news of the bickering judges and the wranglings for power and pelf emanating from the hallowed portals of even the Indian parliament portends a painfully bleak future for a nation, which is at the cusp of a unique demographic dividend and dreaming to encash it for its future growth and prosperity.

Science, Engineering and Technology in Nation Building

For a very long time the public and the economists were firmly of the belief that land, labour and capital were the key drivers of an economy, with intellectual pursuits and scientific knowledge having no role in nation building.

However, scientific and technological revolutions underpinning economic advances, improvements in health systems and the overall lifestyles of people across the world nations have now completely overturned the earlier beliefs and brought in awe and respect to science, engineering and technology. Scientific and technological advances in the fields of biotechnology, computers, electronics, telecommunications, photonics and transportation have ushered far reaching changes in our society and helped create a better quality of life to people.

The role of science and technology for socio-economic development is now well established. Progresses in science, engineering and technology are recognized as the key drivers for nation development. It is now believed that scientific knowledge is more essential for wealth creation of a nation than land or capitol. The mushrooming growth of IT industry over the last decade and its positive impact on the Indian economy is a case in point.

Scientific Solutions for Societal Problems

Be that as it may however essential science and technology are considered, the myriad complexities of societal structures dictate that a sufficient driver for effective implementation is the public discourse, narrative and consensus to use the essential science and technology tools for national growth and development.

For a nation like India where more and more engineers are being churned out every year, it certainly pays rich dividends if we can effectively use the young engineers to solve some of our significant problems threatening to tear the fabric of our civil society.

One such problem is the pending judicial cases because of (a) the domino effect on society at large and its indirect role on its stifling effect on national growth and (b) the multi-pronged difficulties posed to humans to administer justice in traditional ways. Therefore, it pays to look for scientific and technological solutions to this societal problem of delays in the delivery of justice to citizens.

Artificial Intelligence, Machine Learning, and Deep Learning for Delivery of Justice

Today the common public are more conversant with fields of internet, virtual reality and robotics and the many fascinating pathways for progress which they promise. Recent science and technology developments have ushered in new fields like Artificial Intelligence (AI), Machine Learning (ML) and Deep Learning (DL) into the realm of public knowledge.

In simple words, Artificial Intelligence (AI) involves machines that perform tasks, characteristic of human intelligence - like planning, object recognition, sound recognition, understanding language, learning and finally problem solving. While Machine Learning (ML) is a way of achieving Artificial Intelligence, Deep Learning although different from Machine Learning can naively be stated to be one of the many approaches to Machine Learning primarily inspired by the structure and functioning of the human brain, wherein huge amounts of data are processed and analysed to arrive at intelligent solutions.

Common public would be pleasantly surprised to realize that Deep Learning is now responsible for conversation-carrying *chatbots*, Amazon Alexa, Microsoft Cortana, Facebook, Instagram, and more in our daily interactions with computers. On social media, algorithms based on Deep Learning churn out content and page suggestions. Deep learning is even helping companies customize their advertising to individual tastes.

It is against this back drop of huge advances made in AI, ML and DL that we can look forward for solving the problem of pending judgements by *allowing* and *training* machines to arrive at the best judgements objectively by resorting to Deep Learning technologies. This may significantly result in (i) the elimination of bias so commonly alleged in the justice delivery system, and (ii) phenomenal multiplication of the speed of the justice delivery, so much so that in a couple of years the problem of pending judicial cases would cease to exist. Therefore, using appropriate AI, ML and DL tools may result in eliminating and adjusting the associated imbalances in the society so that national progress is unimpaired.

In some countries, basic AI-driven systems already help courts in garnering background literature, reference judgements to allude to the final dispensation of justice, and also to assess various risks posed by defendants - from the likelihood that he or she will skip bail to the likelihood that a potential parolee will re-offend.

As these tools become more sophisticated, they have the uncanny potential to not only deliver justice with high degree of fairness, but also to alleviate the massive congestion facing our state and federal justice systems.

Of course, such developments are not without controversy as there certainly would be issues and concerns regarding privacy and accountability, which deserve serious consideration and in some cases may warrant new laws and regulations.

However, in the interests of solving national problems, the issues and concerns which emanate in the implementation of new tools, techniques and technologies shouldn't deter the development and implementation of trained intelligent systems which do have enormous potential to produce better outcomes for society.

In conclusion, although science and technology may not be the panacea for all the evils of our society, they certainly could serve as a pivot for national development.

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