

INDIA AND 'FOURTH INDUSTRIAL REVOLUTION'



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CONTEXT

The globalization policies coupled with ICTs forced all countries across the world to reformat their economic policies and related structures to open up their international economic borders to promote flows of goods, capital, services, and ideas. Consequently, the increased interconnectedness and exchange no doubt created growth opportunities for a large number of countries, but also led to an enhanced international interdependence along with high degree of uncertainty and vulnerability.

In recent years, digital technologies have undergone a rapid change and have become sophisticated and powerful to force structural changes in the global economy and society. The organization of 'global value chains' and 'smart factories', have enabled virtual and physical systems of global manufacturing to be amenable to flexibility and product customization. These have produced new operating models. Klaus Schwab (2016) termed this phase, the "fourth industrial revolution", where in digital technologies with computer hardware, software and networks at their core are highly integrated and further characterized by mobile internet, sensors, artificial intelligence and machine learning. These developments, seen in terms of their scale, speed, and scope will inevitably lead to complex impacts and fuel far-reaching changes in the economic outcomes everywhere across the world.

'FOURTH INDUSTRIAL REVOLUTION' AND GLOBALIZATION
In the 'fourth industrial

revolution', the simultaneous fusion of breakthroughs taking place in areas ranging from gene-sequencing to nanotechnology and from renewables to quantum computing and their rising interactions over the physical, digital and biological spheres is much faster and more wide spread as compared to the earlier three reductions. Schwab explains the first industrial revolution (1760-1840), characterised by the mechanical production was triggered by the construction of railroads and the invention of the steam engine. But it had a limited spread. The second revolution (late 19th to early 20th century) marked by mass production led by the advent of electricity and the assembly-line did not reach about 17% of the world lacking access to electricity. The gains of third industrial revolution characterised by computer and digital transformation facilitated by semi-conductors, mainframe, personal computing (1960s-1980s) and internet (1990s) did not reach to more than half of the world's population lacking internet access.

Interestingly, in first industrial revolution, the spindle took almost 120 years to spread outside Europe, whereas the internet permeated across the globe in less than a decade. This internet connectivity has transformed the human lives physically and mentally by fostering greater interconnectivity and resource monitoring and efficiency. Added to this is the globalisation policies and its widespread adoption. As an economic process, it has affected a wide spectrum of socio-economic-political structures and covered almost all human relationships while creating market integration and virtual connections across communities. The new business models are coming up. How do we work and communicate and express, inform and entertain ourselves are changing. Technology-induced changes in behavioural patterns of humans and interactions with machines are influencing institutional structures related to consumption patterns, production of goods and

services and economics of externalities.

THE CASE OF INDIA

In India, the economic scenario, has no doubt, shown considerable improvements over the period. The average rate of growth during the last few years have remained consistently high around 7 to 8%. The foreign exchange reserves have crossed US\$ 409 billion. India has got the third largest start-up base in the world. FDI inflows have increased. The unified goods and services tax raised the revenue base of the government and demonetisation substantially enlarged the scope of the monetised sector. Human development indicators including income, education and health also show significant improvements over the period.

These statistics related to growth rate and human development do give a ray of hope, but the ground realities are quite different. In the last decade, India's rankings on food, poverty, nutrition and gender issues have either remained stagnant or have worsened. India along with the largest number of billionaires outside the US, is a home to the largest number of hungry and malnourished. The child labour, mass illiteracy, people not having access to safe drinking water and defecating in the open and low women work participation rate continue to haunt us. Some of the issues are the real challenges and deserve a little elaboration:

Economic contradictions within the growth process and dynamics of development are serious. Indian Agriculture, contributing about 24% of the GDP, and employing 60% of the population, is in distress with farmer community across the country agitating. The top 5% taxpayers paying 90% of income tax, and the top 0.01% contributing 50% of the income tax collections, are serious imbalances. Economic inequalities during 1980-2015 have reached intolerable levels. Lucas Chancel & Thomas Piketty (2017) show that the top 1% receiving a higher share of total growth than the middle 40% (29% vs 23%) of population.

And the top 0.01% of earners captured a higher share of total growth than the bottom 50% (12% vs 11%). Indian cities make up more than half of the world's 20 most toxic cities. Our current forest area (21%) falls short of the required 33%. Inter-state variations with respect to socio-economic and demographic variables and policy outcomes pose a serious challenge.

Given the low ranking in HDI at 131, India has to work hard with tangible steps in the field of education, health and growth oriented to job creation. Based on under-nourishment and child wasting, stunting and mortality under 5 years, Global Hunger Index places India at the discouraging level. So is the case with the Inclusive Development Index. About one-third of 132 crore Indians still remain under mass deprivation. The declining poverty (22%) measured with per capita income per month at Rs.1000 in urban areas and Rs 816 in rural areas is not really satisfying, because the money required for the minimum living and survival, is accepted to be around Rs.10,000 per month.

The youth disenchantment particularly at the country side is really high and rising. About 12 million people seek work against 0.13 million generated employment, besides a vast number being under-employment and disguisedly employed. Such a gap between jobs required and available adds serious social, economic and political costs leading to chaotic conditions in the country. Criminality has undergone a serious change while: changing from blue to white and shifting to the youngsters. Their behavioural perversity has also become a serious concern.

Democracy, which we all enjoy is quite expensive and democracy gains for a large number are of no use with the continuation of casteist prejudices, religious hatred, untouchability, bonded labour and sadly scavenging. Thus, the dream of Baba Saheb Bharat Ratan Dr Ambedkar remains unfulfilled.

Black economy is estimated to be at horrifying levels. It is estimated to be parallel to GDP. The Corruption Perceptions Index (CPI) ranks India at 81st position. Scams across all departments have become a common occurrence with the nexus of business, bureaucracy, politics, media and NGOs getting closer.

The pendency, delays and backlog of cases in Judicial Courts, Tribunals, and Tax Departments demoralize litigants and hamper tax collections, stall project investments and discourage economic activity. A substantial litigation related to Tax Departments can be avoided. About 66% of the pending cases (each less than Rs 10 lakhs) account for only 1.8% of the value at stake, whereas only 0.2% cases of accounted for 56% of the value at stake.

The education system - the main foundation of the knowledge society and an instrument of change and growth - is in bad shape. Youth see education as irrelevant. Autonomy on the name of efficiency promoted through privatization is leading to high capitation fee, sub-standard quality and rise in the contractual, casual, part-time and even outsourced teaching staff. The government spending far less than 6% of GDP and apathy to give what is due to teachers, goes hand in hand with the pampering of a few universities and their colleges. There is no any standardized system of institutionalized checks and balances and code of conduct and ethical frameworks to enforce accountability standards and check the rampant apathy, increased indiscipline and widespread non-seriousness, wilful non-performance and absenteeism. Such problems get compounded when there is neither attendance nor transfers nor ACRs nor clearly defined conduct rules and specific regulatory clauses in the contract of employment. The misuse of the social party laws and vote-based-trade bodies working under dictates of political party bosses adds fuel to the fire. It becomes easy-going for the unprincipled activists and in-

regular, mischievous and non-serious staff to use the majoritarian nuisance and their 'consensus conspiracies' to terrorise Administrators enforcing the rule of law.

CONCLUSION

The globalization policies and 'fourth industrial revolution' focussing on digital technologies have brought serious transformational changes in all spheres of the global society. And, India is not an exception. Trends towards economic exclusion has raised a wide range of emotions affecting social integration, communal harmony, religious tolerance, gender and economic parity, ecological destruction etc. The potential of the fourth industrial revolution to be people-centric will depend on:

(i) The understanding, sincerity and vision of the political leadership to evolve the requisite institutional frameworks required to govern the diffusion of developmental innovations and mitigate globalization-induced disruption and social exclusions; and (ii) the availability of economic opportunities which could empower a diverse set of a vast majority of individuals and communities.

Thus, the political leadership of India has to consciously, honestly and conscientiously work on improving the governance structures through legislative and executive measures backed by an efficient judiciary while strengthening ethical frameworks at all levels. This will improve the policy-making environment and bring potent people-friendly outcomes while reducing gaps between preaching, policy formulation and implementation and final developmental outcomes.

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