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Innovating out of crises

India is already facing many daunting challenges as it strives to provide an acceptable and equitable quality of life to all its 1.2-billion inhabitants. Unfortunately, for most of the last four decades, it has provided more vote-catching slogans, such as Garibi Hatao of the 1970s and Aam Aadmi in the 2000s, and less action on the ground. As a result, it faces humongous deficits in just about every facet of societal needs that include physical infrastructure, such as roads and public transport, energy, housing, sanitation and clean water, and social infrastructure, such as education (at all levels), health care, security and governance. The ranks of unemployed and underemployed (and unemployable) continue to increase in absolute numbers, and only a statistical sleight which classifies tens of millions as self-employed or as farmers provides some modicum of mitigation of the appalling situation on the ground. Reacting rather late in the day, the recent governments have tried to merely spend their way out of these crises by launching a slew of populist schemes and doles that, at best, can provide some improvement but certainly not enough partly because the quantum of funding needed to reach out to the 800-plus million poor and marginally better off than the poor is beyond the means of the government, and partly because of the well-entrenched, all-pervasive corruption that creates massive leakages, drastically reducing the flow of benefits to the intended recipients.

If there is anything that can give India a realistic glimmer of hope to pull itself out of this crisis of its own making, it is to make an all-out effort to harness the intellectual and entrepreneurial potential of its very large population to come out with innovative solutions for its myriad needs. Fortunately, the 21st century is also seeing an incredible renaissance in scientific and engineering discoveries, and emergence of new technologies that offer an unbelievable potential to solve many of the challenges faced by developing countries in particular at the current stage of their growth.

Of particular interest are the emerging applications of technology in the domain of health care, and when combined with information technology, such applications have the power to make several forms of health care accessible and affordable to hundreds of millions. Fortunately, with private interest rapidly rising in the health-care sector, India should see many innovative and game-changing initiatives, be it in the delivery of health-care service (primary and secondary in particular, and in diagnostics, and in making medical emergency services more quickresponsive) or in payment mechanisms (such as the path-breaking work being done under the Rashtriya Swasthya Bima Yojana, under which over 80 million smart cards have already been issued in the last two years, and at a current rate of 70,000 new cards per day). Education is another area where innovation has the potential to enhance teaching bandwidth by several multiples of the current capacity, thereby alleviating the already acute shortage of teachers and physical infrastructure for educational facilities. Agriculture is yet another area where innovation not only in engineered, genetically modified seeds but also in water resources management, soil conditioning and harvesting can significantly improve the productivity and quality, while actually releasing some agricultural land needed for other uses, including industry, new townships, road and other infrastructure. And finally, innovative deployment of technology can dramatically improve the reach and quality of governance at the smallest block level. Compared to the budgetary allocations now running in hundreds of thousands of crores across different social schemes, and various subsidies, including those for PDS and fertilisers, also totalling to several hundreds of thousands of crores, the mind-share and fiscal support for research and innovation are almost negligible. Further, merely giving corporate tax rebates on R&D expenditure is not enough since most of this R&D may not be directed towards tackling national challenges. The proposed national council on innovation could, alas, go the same way as various councils set up by the PMO in recent years where majority of the members are essentially the same industry and academic icons who already serve on many such councils and other forums and industry bodies (and hence could already be jaded). Instead, the government should identify the top-10 or more national issues that have to be tackled through innovation, and

then provide the requisite financial, policy and other support and incentives that are specifically needed to address each of these national challenges.

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