

Making Science and Technology Work for All

Written by Jebamalai Vinanchiarchi

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JEBAMALAI VINANCHIARCHI, JAN 24 2017

We are living in an era of technological marvels. Opinions differ on key facets of the new industrial revolution which is triggered by new advances in science and technology. Leading opinion-makers think that the future pattern of development will be largely influenced by renewable sources of energy. Some attach top-most priority to knowledge as a source and innovation as a force. They are also of the view that in an ideal national innovation system, new knowledge is generated by institutions, exploited by laboratories and commercialized by dynamic corporations.

Such a highly interactive framework is supposed to unlock the development potential of countries. A different school of thought points to the possibility of the digital world ruling future patterns of development, which will largely be influenced by open innovation and value creation, operating in a virtual network. Eventually, traditional companies may disappear as most production will be in the virtual world. Perhaps, such advances in science and technology may make real Mahatma Gandhi's dream to shift from mass production to production by the mass.

New sources of growth stemming from technological upgrading will undoubtedly trigger growth. But, if we are not able to spread the benefits of technology-driven growth among people and get them empowered in the development process, there will be growth without development. Given the critical skills to use modern technology and to commercialize new knowledge, anybody can participate in the global value chain. There are many examples of ordinary people making tiny components for transnational corporations, while also complying with international standards and precision norms. It is essentially a matter of enhancing the functional literacy rate. This entails a higher percentage of literates imbued with the enhanced adaptive capabilities and skills needed to use modern technology and to commercialize new knowledge. The lack of such skills and capabilities could push many into states of joblessness despite 100 per cent literacy.

The current transformative shift is underpinned by the need to foster fast-growing, job-creating green industries. Research, development and innovation tend to play a key role in fostering the transformative shift from quantity to quality. If science and technology fail to create an enabling environment for the poor to be part of the developmental process, inequality would become the root cause of many evils amidst technology-induced prosperity. Let science and technology give jobs for the jobless, homes for the homeless and hope for the hopeless.

Growing grains, fruits and vegetables in space is the new agricultural reality. Fresh food grown in the micro-gravity environment of space is now officially on the menu for the first time for NASA astronauts while on board their space stations. Crew members are ready to sample the fruits of their labor after harvesting crops which grow very fast in space. Soon, global population explosion will encompass the Earth, perhaps with no space for horizontal agricultural development and we may be conditioned to opt for vertical agriculture, using the techniques used by astronauts. These are potentially quicker, more productive and environmentally friendly. Perhaps, a day will come to treat Earth as a space station, with future generations conditioned to astronauts' best practices.

Science and technological marvels may eventually enable mankind in the long run to bring required resources from other planets. This is certainly not a utopian aspiration. Perhaps, nature was well aware of the fact the resources of planet Earth would one day evaporate. Hence, so many planets and their resources are needed to foster sustainable development for ever. The scientific and technological efforts of mankind may be directed towards exploiting the resources of other planets in order for the developmental process to be infinite and to benefit all, using human

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ingenuity as the infinite source of wealth creation for all.

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Jebamalai Vinanchiarachi is Chair of the Experience Foundation and Director of the Stella Maris Institute of Development Studies. He was a Principal Adviser to the Director General of the United Nations Industrial Development Organisation in Vienna. With over thirty years' experience in sustainable development, he has also written extensively on economic efficiency, ecological compliance and social inclusion.