

## Science and Technology for What ?

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This question has been hanging on in my mind sometimes actively and other times quietly since I got a job in a private-sector research laboratory after my doctoral degree in materials science and some post-doc experience. It was when so-called 'high tech' was about to emerge, *i.e.* 1970s. In 1980s I was teaching in a university in Canada and often asked at local professional meetings, "Why is high tech there only in the States and Japan?" High tech sounded like a novel tool which the humankind just had acquired for reaching a brighter future. Indeed it seems to have spread to date to a wider area of the globe [Wiki, Feb., 2012], making 'the world flatter' [T. L. Friedman, 2005]. On the other hand, there has been an influential group of 'high-level' persons of the world, *i.e.* the Club of Rome (since 1968), predicting not-so-bright future (though with their prescriptions for better ones) through their series of publications starting with 'The Limits to Growth' [D. H. Meadows, *et al.*, 1972].

Last 12 months the Japanese has been in a sort of mental block facing the harsh reality both visible and invisible, having found no (new) path for brighter future yet. Some has pointed out accumulated 'dissonance between science and human being' especially in relation to the unheard-of calamity of the Fukushima case [S. Ikeuchi, 2012]. Nonetheless it is the time when the Japanese, particularly both scientists and technologists, need to start breaking their mental blocks down to utilize and further develop their 'high tech' to find out new path to a brighter future for their next generation. That is, required now is science-and-technology for the *future generation of humankind* (but neither pure science as a culture, nor science-and-technology for innovation). This will eventually lead the next generation of humankind to a new paradigm in order to reach a sustainable (but not equilibrium) global society [D. H. Meadows, *et al.*, 1992 & 2004] to induce the fourth major revolution of mankind, following the tool-manufacturing (more than 2 million years ago), agricultural (~ 10 thousand years ago), and scientific-and-industrial (3-4 hundred years ago) revolutions.

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