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Innovation and self-reliance

A. N. S. Kulasinghe Felicitation Volume, to be launched on May 28, 2001, at the Galle Face Hotel at 6.00 p.m. with Dr. C. G. Weeramantry as Chief Guest, delivering a keynote address on the Social Responsibilities of the Engineer

This book consists of a collection of articles by engineers who had worked under Dr. Kulasinghe in the course of his illustrious career spanning more than half a century. It covers a very wide field of engineering. Sir Arthur Clarke, in his Foreword states that Dr. Kulasinghe's many achievements should be studied to identify where we as a nation have failed to develop adequately indigenous capacity for science and technology.

An Epilogue by the editors of this book attempts to answer this question as follows:

Our vibrant traditional society that was responsible for estounding engineering achievements in the course of history, is now considered to be a sort of poor relation of the emerging modern sector modelled on the western development model. This model has been described as follows, by the Ven. Bhikkhu Bodhi of the Forest Hermitage, Kandy.

The goal of economic and social development currently being pursued by most developing nations is governed by a model represented by the West, particularly by the United States.... A developed country is understood to be one in which the economy is driven by the application of high technology to industrial production and commercial services. The trajectory of development is defined by both vertical and horizontal axes: the vertical axis is innovation in techniques and products, the horizontal axis is expansion in production and distribution. (Facing the Future. Four Essays. Wheel publication, 2000).

It has been shown in all the contributions by engineers in the Felicitation volume that, in the Golden era of engineering in Sri Lanka from 1940 to 1970, we were well advanced on the vertical axis of the trajectory of development, as defined here, in the sense of innovation in techniques and products. And, although A. N. S. Kulasinghe's creative efforts were some of the greatest individual contributions, there were other innovative achievements at the time in the Irrigation Department, the Railway Department, and elsewhere, including the private sector. Since that time, development on the vertical axis has faded, while the horizontal axis, after a period when it was stifled during the closed economy in 1970-77 has fared better. But, in following the western example, we have been using imported manufactured goods, for expanding production and distribution, and not by stimulating local production. The bad side of the social consequences, are described in the following quotations by Bhikkhu Bodhi:

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The social consequences of the industrial growth economy are equally grim. A traditional Buddhists society is characterized by a high degree of social cohesion and a strong sense of community, its members linked in a rich web of relationships, from the family on up, that confer a deep sense of personal anchorage...

Enter the market economy, beginning from the colonial era, and the complex web of sustaining relationships is twisted into a tangle. Small farms are dismantled in favour of large estates used to grow cash crops for sale on the global market. Small industries are driven into extinction by the arrival of the transnational corporation, artisans rendered superfluous by cheap mass-produced goods, the small retailer driven into bankruptcy by the spread of the supermarket and the chain store.

In these quotations it is possible to see and understand the deeper, widespread, long-term adverse social consequences of the general neglect of innovation and self reliance in engineering in Sri Lanka. Also, the impending threat of the multinational corporations is

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mentioned.... Engineers even more than other citizens have to be ever vigilant, and alert, to check the possibility of subtle activities behind the scenes and away from the public gaze, that will bring untold harm to our country and its people. Behind the scenes activities in the water sector is an example, perhaps the most significant example at the present time.

The country is in a grave state of crisis, today, not only because of the on-going armed conflict. The deeper roots of the crisis are social and economic on account of economic growth without adequate innovation in techniques and products in the vertical axis of the trajectory of development, as defined. Stifling creative endeavour and substituting imported products for indigenous production in the horizontal axis of the trajectory of development is further aggravating this crisis. Levels of technology in Sri Lanka have been identified as traditional technology, local empirical technology, local research-based technology, and transferred foreign technology, in ascending order of dominance.

It is suggested that a lasting and permanent solution to the social and economic crisis is for local research-based technology to be given massive support and encouragement; and for traditional technology to be re-invigorated and re-vitalized by creatively grafting on to it modern science and technology.

Such a national economic policy can serve as an effective antidote to the corruption of so-called development described by the Ven. Bhikkhu Bodhi as: .... symptoms of decay so prevalent today, both in the North and the South; homelessness, escalating crime, prostitution and child abuse, juvenile delinquency, suicide, pervasive alcoholism and drug addiction.

In conclusion, attention may also be drawn here to the increasing global disillusionment with the conventional wisdom of laissez-faire economic theory, a-la the World Bank, today. The following extract from an item in the internet from the Parkland Institute, Canada is relevant:

Neo-liberal Globalism and its challengers: sustainability in the semi-periphery. Ironically, challenges to globalism are also coming from business leaders. Sir James Goldsmith, the richest man in Europe, wrote about the free trade doctrine. "What an astounding thing it is to watch a civilization destroy itself because it is unable to re-examine the validity, under totally new circumstances, of an economic ideology" (1994). George Soros, who made billions in currency transactions, wrote that 'untrammelled intensification of laissez-faire capitalism and the spread of market values to all areas of life are endangering our open and democratic society" (1997). World Bank head, James Wolfenson (1997), questions economic growth as the primary measure of a society's progress. Some leaders of the new right are joining left commentators as critics of globalism. "Broken homes, uprooted families, vanished dreams, delinquency, vandalism, crime," writes Pat Buchanan (1998). Reagan's speech writer, "these are the hidden costs of free trade". Leading Thatcherite, John Gray, states that "free markets are creatures of state power, and persist only so long as the state is able to prevent human needs for security and the control of economic risk from finding political expression" (1998).

This volume does provide material for a wide readership, not only engineers, who are concerned with the current state of the country. It is a hard cover edition running to more than 400 pages, and priced at Rs. 1000 pre-publication price and Rs. 1500 normal price. It should find a place in every library in the country.

The Institution of Engineers, *Sri Lanka*.