Guest Editorial

Chemistry Towards the Enhancement of Economic Growth & Development

Deepal L. Bataduwa Arachchi

Department of Marketing Studies, Faculty of Management Studies, The Open University of Sri Lanka.

Economic growth, one of the major macro-economic goals, is determined by many factors and among them; the importance of technological advancement is too well known and well documented. Importantly, science and technology go hand in hand and it is believed that technology without science is unsustainable. Varying levels of growth and development achieved by countries around the world to a greater degree, have been determined by the extent of industrial, technological and physical science advancements made by the given country. Lower levels of industrial, technological and scientific advancement make economic progress of a country inadequate, thus making the standard of living of its citizens lower. Progress achieved by the developed countries in the said spheres over the years is too obvious and this has contributed in no small measure to elevate these nations to the higher income bracket with very high standard of living.

Careful and closer analysis of the growth patterns and development statuses of countries around the world would reflect the fact that the higher the relative productivity in basic science, for example Chemistry and Physics, the higher is the economic growth momentum and the level of development achieved. An adequate investment in basic science is necessary in achieving speedy and faster economic growth, thus improving quality of life of people. It is vital, especially for middle-income countries like Sri Lanka to achieve higher scientific productivity as it significantly correlates with current as well as future wealth creation. Strong and closer link exists between scientific development and the wealth of nations. The contribution of scientific productivity in creating economic wealth, thus human development neither can be underestimated nor be overlooked.

The advances in sciences has brought enormous benefits to nations all over the world and advancements in Chemistry in particular have contributed in creating wealth, thus immensely enhancing the human well-being over many centuries. Wealth of constructive ideas could be derived by closely analyzing the role of Chemistry in the process of development, especially in the developed countries over the years, starting from 18th century. Advances made in physical sciences, including Chemistry lead to the growth of world Gross Domestic Product by many folds, notably in advanced industrialized countries.

Chemistry's contribution to the advancement of a diverse and wide array of fields is noteworthy. Not only in the material and product development, quality control, but also in producing electrical energy, chemistry has made a striking contribution. Dramatic advancements have been witnessed in many important fields like agriculture, pharmaceuticals, medicine, biotechnology, information technology & telecommunications etc., over many decades and chemistry has made a vital contribution towards this, especially from the latter part of the 20th century. These advancements have improved the human wellbeing beyond imagination, through the enhancement of health and quality of life. In the global context, the benefits from the developments in chemistry and other physical sciences have not been equally distributed. Nevertheless, it is important for a middle-income country like Sri Lanka to deeply explore the possibilities of utilizing the advances made in science, chemistry in particular to develop many economically vital areas with a view to enhancing the wellbeing and the quality of life of its citizens.

Sri Lanka is well endowed with mineral deposits and the economic significance of the mineral-based

industrial sector is widely acknowledged. Mineral-based industries produce a wide array of items and contribute significantly to the national production. Although the policy of successive governments has been to discourage exports in mineral form and to encourage domestic end product manufacturing, still reasonable number of minerals are exported in mineral form, without any value addition, for example, Graphite, Mica, Quartz and mineral sand like Zircon. Pulmuddai mineral reserve, Apatite rock Phosphate and Copper – Magnetite deposits of this country are of high economic significance and possibilities should be explored and effective actions must be taken to set up related industries, for example, production of fertilizer and rechargeable batteries etc. Achieving a rapid expansion of the economy is vital in improving the living standards, thus lifting people out of poverty and the development of mineral resources and related industries is an important pre- requisite towards this end. Throughout, Sri Lanka has emphasized on export led economic growth, yet this country has a narrow range of products to be exported to narrow range of markets. This could be overcome to some degree by developing mineral resources and related industries, but the main obstacle in achieving this objective has been the lack of research and development in product manufacturing utilizing minerals available in the country. This is an area where the policy makers could effectively and productively utilize the advances made in chemistry. Many important lessons could be drawn from other nations towards this.

Mineral related industrial sector is not the only sector in which the advancement of chemistry could be productively utilized but there are other vital sectors like pharmaceutical, agriculture, energy and many more. For example, advances in chemistry are useful in achieving the vital objective of the present health authority of this country, i.e. to reduce the reliance on imported medicinal drugs by producing some locally to save valuable foreign exchange. Be it increasing the food production, improving the sanitary and health conditions advancements in sustainable and green chemistry could be widely employed.

Voluminous amounts of information are available in relation to the contribution of chemical sciences towards the enhancement of wellbeing of the humankind, yet it is impossible to touch all the relevant areas in the limited space available. If this piece of writing has thrown some light into, otherwise this neglected area, encouraging the relevant parties to constructively act, then the objective of this write up is achieved.

Mr. Deepal L. Bataduwa Arachchi *received his MA in Economics and Postgraduate Diploma in Economic Development from the University of Colombo. He currently serves as a Senior Consultant at the Faculty of Management Studies, the Open University of Sri Lanka.*