

EPILOGUE

Socio-economic development in the poor countries is a complex phenomenon and it becomes more intricate when the country is facing challenges of political instability or of internal and external conflicts. Policies and strategies for any development-plan have a key role in determining its success or failure. The picture becomes further complicated when the concept of sustainable development becomes the part of the equation. World initiatives of socio-economic development, like MDGs, are not yielding the expected results so far due to overambitious and in many ways unworkable policies and strategies. This has created disillusionment among a large number of developing countries who were supposed to be the primary beneficiaries of the MDGs. Is it time to take another look at the policies and strategies being pursued for the last several years? The answer will depend upon the sagacity and vision of the advanced and the developing countries together, bearing in mind that the target date of stock taking is not too far, only seven years away.

The potential contributions of science and technology to the sustainable socio-economic uplift of the developing countries is as important as it is for the developed ones. The developing countries have not yet fully realized the importance of this fact and have suffered a great deal in the past. It will be unfortunate if they remain adherent to this mindset in the future as well. This is the most difficult barrier that the developing countries have to cross, i.e., give adequate place to science and technology in their future policy considerations aimed at sustainable socio-economic development. The present book has provided several encouraging ideas for the policy-makers in the developing countries to cross the aforestated barrier and be fully sensitized to the imperativeness of the inclusion of science and technology in their policy-making processes. Mobilizing science and technology for sustainable development in the developing societies, building-up of a scientific culture and educating the societies on the potentials of information and communication technologies should form the developing society's base, in order to set foot on the road to sustainable socio-economic uplift.

It is usually not easy for the developing countries to formulate appropriate policies and strategies to solve their complex socio-economic problems. The major cause is the lack of capacities and competencies. One cannot imitate the policies and strategies of the successful societies per se, as each developing country has its own specific pattern of socio-economic problems. Sound education and expertise are pre-requisites for transforming the knowledge of other societies to suit the exact requirements of another country. Capacity building and competency enhancement through international cooperation are necessary to achieve such prerequisites.

Policies and strategies must not be intermingled with each other. Policy leads towards objectives or targets which, in turn, are linked to the strategies for their successful achievement. Strategies provide enabling schemes for the fulfillment of a policy and

the objectives. Thus the policies and objectives constitute what is called the design of a project, whereas the strategies will be linked to the implementation or execution of that project. As the projects are major tools in the process of achieving socio-economic progress, they must be handled carefully with full clarity of policies, objectives and strategies. The role of expert management-personnel is of crucial significance in the successful handling of the socio-economic developmental projects. Excellent information, based on the practical experience for project collaboration, as provided in one of the relevant Articles in this book, leads to the conclusion that developing countries can indeed learn a lot from the developed countries so as to manage a successful project on socio-economic development carrying a sizeable chunk of science and technology.

As mentioned earlier, the much sought after MDG's are of major concern to a large majority of the developing world. Some important arguments have been built in the present book on the role of biotechnology and genetic engineering to serve the cause of several MDG's. These specific applications of S&T are expected to emerge as major fields of further research during the 21st century. If these segments of science and technology, alongwith some others, are appropriately included in the policies and strategies of the developing countries, they can bring significant change in the poor societies by reducing poverty, hunger, disease and the devastating impacts due to the environmental degradation. Moreover, health and environmental risks from poor water-supply and sanitation are also discussed thoroughly in the overall context of S&T linked parameters, which should constitute an important part of policies and strategies aimed at sustainable socio-economic betterment of the populations of developing countries.

Case studies are always useful to clearly understand the intricacies of any complex project and its execution, and especially for the policies and strategies, which are inherently linked to these projects or programmes. How others have successfully formulated and executed such policies and strategies provides a useful input in the thinking process of other decision-makers. Although it is not advisable for the developing countries to blindly follow the examples of others, it is often useful that lessons learned in such examples are kept in mind while contemplating a country's own set of policies and strategies. In the present discourse a good deal of discussion on three economies at various stages of development, i.e., USA, South Korea and Turkey, has been provided. This conveys clear message that sound S&T policies and innovation does lead to socio-economic development, provided other relevant parameters are well in place. When read side by side, the above three scenarios reveal how various background paradigms and the policies and strategies stemming out of them are defining the destinies of these nations. The developing countries could learn a lot from these three countries' approach to their socio-economic development, their successes and shortcomings, as well as the effect of integrating the crucial component of innovation in the overall framework of their policies and strategies that are led by science and technology.

Today, the future of both rich and poor countries lies in the equitable distribution of wealth and prosperity in the world. To this end they must be willing to show strong political resolve to work coherently on using the world's resources during this century and agree on ways and means to do that successfully. Policies and strategies must be evolved as early as possible by both advanced and developing nations to help each other in scientific and technological development with judicious flow of benefits in both direction. The advanced countries may formulate policies to transfer knowledge, technology and expertise to the developing countries and provide market access to latters' manufactured products, whereas the developing countries should gear up their resource allocation to education, science and technology, industry-university integration for research and innovation, and provide better working environments for educationists, scientists and engineering, ensuring protection of intellectual property rights, etc. Above all, good governance must be ensured at every level. On strategy side, the developed countries should make unbiased assessment of the efficacy of their past and ongoing mechanisms, assistance schemes and socio-economic projects, with a view to make corrections in the previous stereotyped approaches. They should provide generous opportunities for the scientists, engineers, technicians and managers of the developing countries to get high-quality training in their relevant technical and research organizations.

Indigenization of scientific and technological programmes in the developing countries should be encouraged by the rich nations for several spin-off advantages that would accrue to them from the developing economies. Joint industrial ventures in the developing countries should be enhanced considerably and tactically scattered technical workshops for repairs, maintenance, spare parts stock transports, and other logistical facilities for industrial goods as well as the production units, should be built on profitable locations in all the regions of underdeveloped and developing nations. More technical, financial and managerial facilities should be made available to the developing countries by the developed ones in the areas that are going to be of crucial importance in the near future to both, but more so to the poor countries. A few such areas could be: high food-productivity, clean drinking water, energy security, healthcare and environmental protection. It may take half a century of vigorous and concerted efforts by both the rich and poor countries, with their best science and technology inputs and serious cooperation, before any useful results will start to emerge. Daunting causes such as uncontrolled human population and conflicts will have to be stringently controlled at the global level. National and international strategies involving strong political and technical forces will be required to achieve this. Science and technology will certainly play its positive role, the doubt will only be from the political side.

(Hasibullah)

*Advisor International Affairs
COMSATS Headquarters, Islamabad, Pakistan*

