

FOREWORD

Human history is full of events and eras whereby humanity in general was faced with grave challenges for survival, be these in the form of natural calamities, social needs, or economic conquest. The human struggle has been going on since long and has seen the ups and downs of individuals, groups and nations who have or have not equipped themselves with the right tools and skills from time to time. This struggle for the survival of the fittest is still on, and it challenges only the ones that have a realization for it, while others would succumb to their ultimate fate in the wake of being literally 'resource-poor', viz both intellectual and infrastructural capacity.

The overwhelming mass of 'scientific knowledge' of today is the real essence of all the human struggles. It is the product of precise planned, patient, potential and prosperous cognitive endeavors made over centuries for improving the state of life and adding the meaning of quality to it. The impetus in this human struggle was built with the paradigm-shift in focus and efforts towards generating and gaining scientific knowledge and developing technologies to serve the interests of a group, a nation or a region. The role of science and technology is now well-established as 'rescue agents'; however, there still is a necessity of awakening and enlightening us to 'rescue from what?'.

It is only in the relatively recent past that humanity as a whole has given itself the title of 'one nation', after the realization that we are rapidly consuming the endowed resources of our planet earth, in an unsustainable manner, and using it to nullify the progress of others. It was after all this understanding of many years of struggle by humanity that we have resolved to 'live and let live' and coined the term, 'sustainable development' in the first earth summit in Rio de Janeiro, thus insisting on the paramount role of science and technology. It was for the first time that the concept of planning at global scale was initiated and documented in the form of 'agenda 21', Millennium Development Goals, etc.

Having said this and taking account of our brief history, man appears as the only species with intellect and the skill to survive and prosper. We must plan and coordinate our developmental activities accordingly, as responsible states and nations. The issue of progress and development now has gone beyond the boundaries of national development, though it has roots in local empowerment and social justice. The discussion on this broad domain of "S&T Policies and Strategies for Sustainable Development" has now attained great importance and drawn the attention of the 'most influential' (the developed world) and 'most needy' (the developing countries) equally. It is a high time to ponder practically and prepare ourselves appropriately to meet the challenges of the present day, as well as ensuring a prosperous future.

This realization being the need of the hour, I am pleased to say that this book by COMSATS is a timely effort to highlight the important issues of S&T policy-planning,

and gives useful directions to address the same. This compilation of valued contributions from experts in various fields of Science and Technology gives good insights into the subject and explicitly defines guidelines for a sound S&T policy-framework, keeping in view the perspective of developing countries. I must say that this book is a crucial step towards reinforcing the need to develop and implement effective S&T-policy in the developing countries. The understanding of the importance of S&T policies and strategies comes with a responsibility to devise sound plans for formulation and implementation of S&T policy. This book establishes a base for the scientists and S&T policy-makers to identify and devise proper framework, according to the point of view of developing states.

I must appreciate the pro-active role of Dr. Hameed A. Khan, who has always given leadership and shown resolve to come up with useful scientific publications from the platform of COMSATS, which itself is motivated and commissioned to undertake scientific initiatives with a regional perspective. I must also applaud the group of authors who have contributed to the content of this publication and done justice to the topic. The admiration is also for the team of professionals at COMSATS, who with their marathon efforts have been bringing out a series of such publications.

Finally, I recommend this book to the scholarly and policy-making circles of developing countries.

(Dr. Ishfaq Ahmad, N.I., H.I., S.I.)
Advisor Planning Commission on
Science & Technology, Govt. of Pakistan