Chapter-9

CONCLUDING REMARKS

Water is most precious and critical natural resource for survival of all the living beings. It hasbeen so intimately linked to our very existence and societal and cultural developments that ithas become the source of rich symbolism, traditions, rituals and religious beliefs. Water played a pivotal role in shaping the life and living standards of the people of the great civilizations of the world. Throughouthistory, our vital relationships to water have led to material testimonials of how waterwas used, managed and valued. The first successful efforts to control the flow of water were mainly driven by agricultural needs for irrigation purposes. With a more detailed understanding of the hydrologic cycle, nature of surface water, ground water and rain water; robust and sustainable water management systems were also evolved in all the civilizations that prospered for thousands of years.

Besides the spiritual growth, ancient India also exhibited the growth of science. The Indus Valley Civilization, one of the earliest and most developed civilizations, was the world's largest in extent and epitomises the level of development of science and societies in proto-historic Indian sub-continent. As rightly observed by Jansen (1989), the Indus people were known for their obsession with water. They prayed to the rivers everyday and gave them a divine status. Ancient Indian literature, dating back from the age of the Vedas, further witnesses this development of sciences (including the water science). Numerous references exist in Vedic literature, Arthashastra, Puranic sources, VrhatSamhita, Mayuracitraka, Meghmala, Jain, Buddhist and other ancient Indian literature which illustrate the status of the knowledge of hydrology and water resources in ancient India.

As we investigate deeper into hydrologic references in Indian mythology, many fascinating dimensions of the early scientific endeavours of mankind emerge. Fortunately, the ancient Indian works have been well documented and provide us with pointers to the human history in general, and growth of water sciences in India in particular. Number of research works related to water science developments in ancient India have been also published by national and international research community. While updating this book, an attempt has been made to incorporate a number of recent national as well as international research papers and technical book published by various national and international institutions. Figures illustrating various concepts,

hydrological processes and water engineering techniques have also been included to clarify the concepts and help forming clear mental image of the developments.

What is less known, however, is the rigorous discussion in the Vedic literature and other ancient Indian literature on several aspects of hydrologic processes and water resources development and management practices as we understand them today. It is high time that we realize and question our current systems of water resources utilization and management and acknowledge our traditional wisdom and practices and apply them to the modern context. Hence, a comparison of hydro-technologies in ancient times to that of the modern times is required. Although to some extent, there are differences in the tools and techniques used today and the scale of applications, still there are no differences in the fundamental principles used. Even the lifestyle related to the hygienic standards of a civilization may not be a recent development. For example, flushing toilets equipped with seats resembling present-day toilets and drained by sewers has existed during ancient times.

Finally, in view of our immense traditional knowledge in water science and technology, it is important and helpful to study and represent the connection between water and humans more deeply as was prevalent in India during ancient times.