Mankind has had a close relationship with rivers since the birth of civilization. A comment on the Egyptian empire says, "Egypt is the gift of the Nile"; and an old Chinese proverb says, "One who controls rivers governs the country". On the one hand, rivers have been man's helpful friends, contributing to his social and economic development and progress. But at the same time, they have been his fierce enemies, periodically unleashing their awesome power to ravage his establishments. No doubt rivers will continue to play an important role in the further development of our society, and the role of the River is to make the relationship between man and rivers as symbiotic as possible.

In ancient times people lived on and cultivated hilly areas or small flat areas in Valleys where no floods occurred. Gradually they moved to more spacious lowland areas where the land was more fertile and more productive. Land along bigger rivers was rich with the natural fertilizer transported and deposited by the rivers, and was more convenient to the rivers for drawing water for irrigation. Although the people knew these lowland areas were vulnerable to flood disaster, they were willing to brave the danger in order to make their lives more productive. They began to build levees and to dig diversion drainage by hand to prevent flood disasters. Floods frequently overflowed the levees and destroyed them, inundating farmland and houses.

Why, then, with the same problems being faced by different civilizations throughout history did different techniques of water harnessing evolved? And why did Modern science, as opposed to ancient and medieval science (with all that modern science implied in terms of political dominance), develop only in the Western world? Nothing but a careful analysis, a veritable titration, of the different cultures will eventually answer this question. Doubtless, many factors of an intellectual and philosophical character played their part, but there were certainly also important social and economic causes which demand investigation.

The paper adopts a holistic approach to model a water infrastructure system's interconnectedness and interdependencies. This approach can also be used for other interconnected infrastructure elements such as physical facilities, electric power generation and distribution. In what follows will be an attempt to describe some of the elements of the strength and weakness in the growth and development of the indigenous cultural and traditional relationship in terms of 'invention' vs. 'mechanical function'. Eventually, an analysis will be made of how these technological advances are related in shaping settlements, architecture and the contribution to human life.