Any attempt to grapple with a fundamental legal conception is fraught with dangers --- of leading oneself and the readers into a conceptual quagmire from which one comes out more sordid than wise. Yet, fundamental conceptions are the hub on which the whole framework rotates, and from which all operational ideas radiate. It becomes necessary, therefore, to sometimes dive to the centre to remake the hub if one wants a new framework to emerge. Water rights is one such basic idea at the heart of law around which the network of water law weaves itself.

Water law, unfortunately, has had little to learn from the nature of water. At the deepest level it has stagnated, neither flown nor evaporated. The bedrock of the law still consists of the old Roman law notions of property, easement, dominium and riparianism --- notions which are about two thousand years old. Modernization of water law cannot come about unless the role of these notions are understood in their historical context, for what they are worth, and the foundation laid again with concepts which have been discovered in the advancement of legal knowledge. The fundamental reason for the advancement of all legal knowledge is the search for justice --- to create a more just and humane world. In so far as this work seeks to advance legal knowledge the reason for this endeavour can be none other, notwithstanding the fact that there may remain a big gap between what is legally desirable and what politically possible at any given time in a nation.

However, the more questionable issue here may be the claim about wanting to advance legal knowledge. In what sense can legal knowledge be advanced? There are two sides to this. The first involves providing better principles on which distribution of water can take place and on the basis of which it can be ecologically sustained for future use. This would of course, also entail giving reasons and justifications for the principles, and showing why they have been better stated even where they are not new. Such an attempt, as will be evident, involves bridging the gap between customary, national, international and case law, and showing how the national laws, for example, have a lot to learn from customary or international laws.

The second aspect concerns the basic concepts on which the principles are to be based. As noted, traditional concepts, such as ‘appropriation’, ‘riparianism’, ‘discovery’ and ‘dominium’, have their genesis in particular historical and legal contexts. Such concepts were generated for the governance or regulation of common access or common property resources. But with the transformation of property relationships over the ages, specially where common resources have been privatised or monopolised, these earlier notions fail to adequately serve the needs of the modern perceptions of justice. As in other areas of law, resource laws need to be based on modern notions, such as egalitarianism and equity, from the side of the people, and trusteeship from the side of the state. The public trust doctrine as it has evolved in modern law --- that the state holds the resources in trust for the people, does not go as far as the Gandhian notion of trusteeship, but there is no reason why it should not. This needs to be explored. From the side of the state formation, traditional
notions such as 'sovereignty' and 'eminent domain', are just as inadequate as 'appropriation' or 'riparianism' are from the side of the people. The traditional principles of distributive justice, both from the side of the state and that of the people, need to be demystified and explicated in a simple language to lay bare what the principles actually are and what they are worth.

As regards advancement of knowledge then, the task is not merely one of identifying the basic legal concepts in the context of modern property relationships and state formation, it is also one of generating principles from these concepts, such that they are workable and define water rights in ways which can do justice not only to all people but to all living creatures in a sustainable environment.

Water rights is a matter which is of interest to all human beings, in fact to all living creatures if they could read, and not to lawyers alone. This work, therefore, attempts to deal with the issues in a manner which does not presuppose any formal training in law, but, at the same time, from the lawyer's point of view, it attempts to make no compromise for the requisite legal or jurisprudential depth. The assumption is that however technical a legal issue may be, since it concerns justice and since justice is of concern to all, it should be possible to explain juridical matters in a manner which any intelligent person can understand. The way this task is attempted here is by arranging the work in such a way that the reader is led progressively into deeper and deeper legal issues, starting from the most general issues of ecology and justice to the specific legal issues like sovereignty, equity or property rights. As such it is hoped that the work will be intelligible and useful not only to law-persons but also to planners, policy makers, administrators, project executioners, voluntary agencies and agents engaged in the pursuit of justice, and finally someday to economists.

A few words about the contents and structure of this work. The work is about the legality of water rights, that is, about its nature, status, functions and sources, and not a sociological account of the status or history of water rights. Moreover, the work is about the jurisprudence of this right. India is only an exemplary context for developing this jurisprudence. By its very nature a jurisprudential work cannot be about a specific society only. A theory of distributive justice (and a theory of water rights being one aspect of it) must be a theory for all contexts, just as a theory of democracy for India must as much be a theory of democracy for the United States of America, or as a book on the concept of law must be applicable to all legal systems.

The work is divided into seven chapters, the sixth, on the jurisprudence of water rights, being the longest. This apparent disproportion is not accidental. The first five chapters prepare the grounds, document the material and provide the lead arguments, which are then fully utilized in the seventh chapter to work out the detailed jurisprudence of water rights, which is the main aim of this work. The last attempts to operationalize the main conclusions of the earlier chapters by laying out a format for the legislation of an appropriate water law. The important and relevant provisions of the Indian Constitution and sections of statutes which deal with water rights are attached as an appendix to the work. These may be of some use to the lawyers, but to others too who wish to review the legislations and come to their own conclusions which may be different from the ones suggested here.
It is hoped that even if the arguments advocated in this work are not accepted, and they fail to affect the lives of millions who survive on polluted water and have to struggle even to get access to it, the work will at least provide an impetus to the development of natural resources law in India and elsewhere and to the long overdue law reform.

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surface water, reducing evaporation and complicating water circulation. Water resources protection and management are urgently needed for dealing with the contradiction between water supply and demand in coal mines in northern China. This study investigates multiple types of water resources in the western mining area in China, their supply-demand balance by using the same dimension gray recurrence dynamic model GM (1, 1), and water content coefficients of mines to ease water supply-demand contradiction. A multi-objective programming model is proposed for optimal water resources allocation management. Internationally recognized principles of integrated water resources management (IWRM) support these efforts. Application of the Integrated Water Resources Management (IWRM) principles in the countries of Eastern Europe, the Caucasus and Central Asia is taking place as part of global efforts to improve water management and in line with the international commitments of these countries in the area of water management and protection.