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## Water Management Innovations in England, by Lyle E. Craine

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## BOOK REVIEWS

### *Water Management Innovations In England*

By

LYLE E. CRAINE

Baltimore: The Johns Hopkins Press for Resources for the Future. 1969.

Pp. x, 123, \$3.50.

With the passage and implementation of a single law—the Water Resources Act of 1963—England has emerged as a leader in water resources administration. In the belief that the United States might profit from the experience of British water administration, Lyle E. Craine has prepared this study of recent water management innovations in England. The principal focus of the book is upon innovations introduced by the Water Resources Act and upon an evaluation of the potential effectiveness of the institutional arrangements in achieving desired water management objectives in England. While he makes it clear that techniques which may work in England may not necessarily work in the United States, the examination of British water administration may still give us fruitful and rewarding ideas.

Prior to 1963, British water management had evolved in a rather haphazard manner, with no comprehensive national water policy and with little direction or guidance from the national government. The institutional structure of water management favored local solutions to problems and discouraged regional water development. Dr. Craine reviews the earlier attempts at providing water management systems in England, which preceded and led to the Water Resources Act.

The Act provides for a high degree of regional-level management. While local agencies retain their functions in supply of water to the consumer, and while national agencies (particularly the newly-created Water Resources Board) have functions in over-all planning, coordination, assessment, and guidance, the primary responsibility for comprehensive development and management of water resources has been delegated to twenty-nine River Authorities. Each River Authority covers a single drainage basin or group of smaller basins, and possesses considerable autonomy, local representation, and powers over water management. Flood control, land drainage, river regulation, and development of new water supply sources, for example, are all functions of the River Authorities.

While the Water Resources Act, coupled with previous legisla-

tion, provides for a number of governmental powers in water management, the heart of Dr. Craine's book is an examination of three major institutional elements—the legal powers under which the Water Resources Board and the River Authorities operate, the organizational structure of these agencies, and the devices used to finance water management. Dr. Craine emphasizes six particular legal powers (and related obligations) which the Water Resources Act assigns to the River Authorities.

1. Each River Authority is required to develop and implement a data collection scheme to permit accurate assessment of the available resource, and to organize a plan of action for the orderly development of these resources. The Water Resources Board is also assigned certain functions in the data collection and planning process, particularly with respect to long-range planning.

2. The Water Resources Act requires each River Authority to determine a "minimum acceptable flow"—a controversial subject in England—for streamflow at selected points within its drainage basin, to provide a basis for future water management decisions.

3. River Authorities are required to give their "consent" (via a license) to any discharge of effluent into natural waters. This power, derived from earlier Acts, is the principal means by which River Authorities exert some control over pollution.

4. Since April 1, 1969, virtually every abstraction (*i.e.* withdrawal) of water from surface or groundwater sources must be licensed by the River Authority. Thus, the Authorities are able to estimate potential demands upon their resources, and are provided a tool by which future abstractions may be controlled.

5. Likewise, River Authorities are now authorized, and required, to levy "abstraction charges," based upon the amount of water licensed for abstraction. The abstraction charges, however, are intended only to provide revenue for selected Authority functions (such as development of a new water supply reservoir).

6. River Authorities are authorized to construct and operate water management facilities (especially reservoirs). Additionally, the River Authorities were given powers to coordinate and regulate projects which are not under direct River Authority control—a necessary step to the achievement of basin-wide management. In these various ways, then, the River Authorities have specific obligations and broad powers to provide for the comprehensive development of water resources within their respective areas.

The organizational structure and the interrelationships among the appropriate Cabinet Ministries (Housing and Local Government, and Agriculture, Fisheries and Food), the Water Resources Board, and the River Authorities are briefly described and ex-

amined. There has evolved a good working relationship among the various management organizations, which has greatly facilitated the exchange of ideas and the smooth operation of the various management programs.

Financing for River Authority operations comes from a variety of sources, which are examined. Continued from earlier legislation are the assessments levied against other units of local government, grants from the central government, etc. The use of abstraction charges was introduced by the Water Resources Act. On the whole, River Authorities appear to have adequate financial support.

In attempting to evaluate the relative effectiveness of water management techniques in achieving desired objectives, six criteria are developed (adequate financing, flexibility, the ability to apply a full range of techniques, and so forth), against which the English institutions may be evaluated. For the most part, using the criteria established, English water institutions measure up favorably.

Nonetheless, unintentional or unavoidable flaws do exist in the water institutions in England, a number of which are pointed out by Dr. Craine. For example, although a water charging scheme has been established, water charges are passed on to the consumer in an indirect manner and charges do not reflect the value of water in use. Likewise, the River Authorities have inadequate control over pollution, especially lacking authorization to develop regional waste disposal systems. Despite these and other weaknesses, the water management institutions of England provide a high degree of effectiveness in achieving integrated water management. The period of haphazard water development in England has passed.

The principal weakness of the book is a matter of timing. The bulk of the research took place after the passage of the Water Resources Act in 1963, but before the Act came into operation on April 1, 1965. As a result, the book (as the author states) deals with management innovations as they were *intended* to operate, rather than with innovations which have been tried and tested. In practice, however, not all of the innovations introduced by the Water Resources Act have functioned as intended, which has led to some misleading conclusions. For example, while River Authorities are required to establish "minimum acceptable flows," in practice the River Authorities have been "too busy" to do so. Most Authority engineers, who are not enamoured of the concept, consider it to be a dead issue—in contrast to Dr. Craine's suggestion that it ". . . seems likely to occupy a central place in British water management" (p. 57). Certain other minor problems might have been avoided if the study could have been updated during its long

gestation period. For the American water manager, casting about for new techniques, knowledge of what *has* happened in England is as important as knowledge of what *should* have happened.

Unfortunately, as Dr. Craine points out, many innovations that may be effective in England cannot be easily applied to the United States as a whole. The insular character of Britain, its relatively small size, its relatively humid conditions, its different legal structure, and so forth, make water management there a very different proposition. The innovative techniques which have developed in England would be most applicable in the U.S. at the state, rather than the national level.

*Water Management Innovations in England* provides a useful review both for the researcher embarking on other water studies in England, and for the American water planner and manager seeking new tools with which to bring about more efficient water resources development. With Dr. Craine's recent appointment to the National Water Commission, we may well see further reference to recent innovations in British water management.

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