

effect of water resource investments over large multi-county or multi-state areas.¹

The first group consists of case studies of various small watershed projects and the impact of the investment program on the local economy and/or the sectors they were intended to benefit. Jansma and Back [22] estimated the local secondary effects of the construction of watershed structures for upstream flood protection in Roger Mills County, Oklahoma. Input-output analysis was used to estimate income multipliers. The multipliers were used to determine the effect on the county's economy of increases in agricultural and recreational income as a result of the watershed program. Gray and Trock [18] in an evaluation of the Green Creek Watershed Project in Texas used traditional benefit-cost analysis to compare the actual benefit-cost ratio derived from post-project evaluation with the ratio estimated in the watershed work plan.

Input-output analysis was used by Kasal [24] to estimate the local economic impacts in a four-county area as a result of five Colorado watershed projects. Several other studies not mentioned were concerned mainly with benefits to primary project users, land use, and increases in farmland values.

The second category of studies has been concerned primarily with the methodology for use in evaluation of water resource investments. Eidman [12] presented a method to describe the linkages or interdependence of the various sectors and subsectors of Southwestern Oklahoma. He used a simple five-equation economic model that employed economic base multipliers and regression multipliers. The model was designed to explain employment and income changes as a result of resource investments. Mazuera [25] used the model to determine the secondary impact of using water in the Sugar Creek Watershed for irrigation development.

The work of Bromley et al. [6] outlines the role of economic logic and methods in analyzing the consequences of water resource investments. Their work does not offer a concrete method of project evaluation but rather is concerned with the many questions raised in such an undertaking. A later study by Gibbs and Loehman [17] deals with the evaluation of resource investment projects in terms of multiple public goals.

The last category of studies also has been concerned with the estimation of the impacts of water resource development at the

¹ A more complete discussion of these studies can be found in Cato [8].