

# THE ECONOMICS OF SOIL CONSERVATION

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TO H. H. BENNETT

*. . . for thirty years a pioneer in soil  
conservation*

*. . . who has made this country conscious  
of erosion and initiated action to prevent it*



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## INTRODUCTION

The problems of conservation planning range all the way from deciding whether to put a 5-acre field into alfalfa on a specific farm, to evaluating the criteria which may be used to determine how much of the national income should be expended to control erosion. The very scope of the field implies the use of both induction and deduction, particularly when national policies are being formulated and scarce resources have to be allocated to alternative means and areas.

Conservation is an objective of social planning, and should include within its basic purpose the concept of maximizing individual and social wealth over time; its primary, but not sole, concern is to direct the use of resources toward this end. For agriculture this corresponds to the objective of farm management except that conservation planning should be directed first to those areas where the misuse of resources is greatest, while farm management applies broadly to all farms whether any social problem exists or not. Conservation planning, however, also is concerned with intangible values and must consider these in their relationship to other individual and social ends.

Soil conservation is a physical or technological problem, as well as economic, and it is essential that the interrelationships between these two aspects be clearly seen. The physical specialist needs to understand the economic implications of physical changes just as the economist needs to understand the physical factors which underly the problem. Those who formulate policies should base decisions upon both physical and economic factors if social action is to become progressively more effective and economic in nature.

Social planning, which is directed towards non-economic or intangible ends, inevitably includes economic problems because choices between alternative means must be made and the economic repercussions of specific actions must be estimated. All social planning, therefore, must include within it the concept of maximizing social net returns, whatever the end may be. Much social planning of today can only include these economic problems as we develop improved techniques of social accounting.

This does not mean that economic values must be the criteria by which all planning is evaluated; there are many non-economic values or ends which at certain times and in certain localities may be more important; it does mean, however, that economic values must be given consideration in determining the most economic means of achieving the desired end. In all cases where social action is necessary, we must draw upon whatever empirical data there are, we must set research procedures in action to obtain more facts, and we must interpret the data and analyze the problems according to the best theoretical devices available, whether they be statistical, economic, or sociological in nature.

In this study an attempt is made to outline in a broad way the economic and social problems of soil conservation. For, as Pigou has so well expressed it:

"We are thus put in a position to detect and expose sophistical dogmatism. It is better to know exactly what facts are required to make the answering of a question possible, even though these facts are unattainable, than to rest in a fog of vague and credulous opinion."<sup>1</sup>

The study as a whole may be divided into three major parts. The first section, comprising Chapters 1 to 3, develops the theoretical tools used throughout the study. Concepts and terms are defined in order to give them explicit meanings,

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<sup>1</sup>A. C. Pigou, *The Economics of Welfare*, (Fourth Edition) Macmillan Co., London, 1932, p. 227.

and their interrelationships are developed. This involves a brief analysis of production economics as applied to agriculture and the development of the concept of the elasticity of production which has received too little attention in works on agricultural economics.

The second section includes Chapters 4 to 7, and deals with the factors affecting the use of the land by the individual. First we review the effect of virgin fertility upon the cost of production, land values, and prices, and the problems of adjustment that develop as this original productivity is used up. We then move to an analysis of the comparative advantage of exploitive and conserving crops and the effect of price changes upon land use by the individual. Finally, the factors that determine when conservation is economic to the individual are discussed in detail, and the resistances to individual economic adjustment are reviewed. Here we consider not only theoretical relationships but also institutional and sociological factors as they comprise part of the world in which the individual lives, "economizes," and plans his use of the land.

The third major section takes up almost half of the book and contains the remaining five chapters, all of which deal with various aspects of soil conservation as it is related to society. The causes of differences between individual and social net returns are analyzed briefly, and the necessity of social action is related to the basic causes of exploitation that is undesirable from a social point of view. Economic factors, such as differences between the prices available to the individual and to the government, and the failure of all costs to impinge upon the individual, are discussed together with such social and institutional factors as inertia and insecurity of tenure which are also important causes of deviations between individual and social interests.

This analysis is then followed by a brief description and discussion of the major means of social control over land use



and the problems of conservation planning. The need for more accurate methods of social accounting and the necessity of developing techniques of evaluating social gains and losses are stressed and related to specific problems of soil conservation. From the general we proceed to the specific. Chapter 11 deals with war and conservation and suggests in some detail the kind of governmental action that is needed if increased production for war needs is not to result in greatly increased erosion.

The final chapter discusses the basic problems of formulating public policy and action for conservation, and the important part that may be played by economic research in this key function of democratic planning.

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