It is appropriate that the Soil Science Society of America takes this occasion for a forward look at soil conservation. I congratulate your program committee on its selection of this subject because the soil and water resources of the United States are the foundation on which our entire economy stands. The effectiveness with which we protect and improve these resources in the years ahead will have a direct bearing on our standards of living in the towns and cities as well as on the farms and ranches of the United States.

During the long period of growth and expansion of our country, people unconsciously assumed that our soil resources were unlimited. There were exceptions, of course. Beginning with Jefferson's time, individual agriculturists and soil scientists called attention to the growing problem of soil deterioration and to the unrealized abundance in our soils. Still, our soil problem reached serious proportions before it was sufficiently recognized for the nation to make a real effort to reverse the downward trends. It wasn't until about 20 years ago that we began in earnest to do something about it.

Although we still have a long way to go, much progress has been made during the past two decades. We have learned a great deal about the nature of the problem and about how to solve it. I shall focus my remarks on some of these things we have learned that can be helpful to us on the road ahead.

The Specialist Approach

Before the modern era, most farms had many enterprises. Students of agriculture covered the whole range of farm management and economy as agriculturists. But with the increasing application of science, specialization increased. Both research and education have come to be organized around specific fields of science. The "specialist" approach to agriculture became conventional. It proved highly effective for introducing such technology as hybrid corn, mechanization, insect control, and improved livestock management.

Our national soil conservation program was started on the specialist approach basis. The Soil Erosion Service was established for the purpose of controlling soil erosion in America. When work got under way, however, it became apparent that there was far more to the soil problem than soil erosion, and that the practices required for controlling erosion were intimately related to practices used in production. Experience has taught us we cannot get conservation technology widely adopted through the single practice approach.

Four Principles

Gradually our concept of soil conservation broadened until it includes all practices necessary for the full use and improvement of our resources. Soil conservation farming means using the individual combinations of practices that give efficient production on a sustained basis according to the specific patterns of soil and water resources of the individual farms and ranches.

Modern soil conservation has come to mean proper land use, protecting the soil against deterioration, correcting lime and plant deficiencies, rebuilding eroded and depleted soil, conserving moisture for crop use, proper agricultural drainage and irrigation where needed, and increasing yields and farm income at the same time according to the individual characteristics of the farms as both physical and social units.

Our experience of the last 20 years has abundantly demonstrated four firm principles:

1. A successful farm has a proper combination of practices fitted together.
2. A soil map is essential in making modern technology fit the soil and water resources on specific farms.
3. The farmer must understand the objectives, advantages, and principles of "conservation farming."
4. The farm family must take the major responsibility for its own decisions.