

Introduction to Human Considerations

Human considerations are included along with resource concerns in planning to assure that economic and social effects are considered and included in the recommended conservation plan alternative. The National Planning Procedures Handbook (NPPH) guidance on the planning process includes the human considerations. The purpose of this section is to provide definitions and additional technical guidance on economic and social considerations during the planning process and documentation of economic and social effects on the Environment Evaluation (NRCS-CPA-52 form).

Human actions result in direct and indirect effects on natural resources, both detrimental and beneficial. A conservation plan facilitates producers to operate in economically sound and socially acceptable manner as they address natural resource concerns.

Economic Considerations

Economic considerations are used in the nine step planning process as the planner develops a conservation plan. Economic “effects” can be summarized into six categories: Land, Capital, Labor, Management, Risk, and Profitability. Economic “effects” are not always in “dollars;” resources can also be valued in “non-monetary” units such as hours, tons, animal units, or qualitative terms such as “reduced risk.” From a financial standpoint, the planner must be aware of the economic factors that affect or result from conservation decisions, such as interest rates, market uncertainty, commodity prices, land tenure, taxes, land rights, customary rental agreements, costs, and farm programs.

Planners need to identify financial constraints during planning (step 2, Determine Objectives) to know if there are financial limits and what those constraints are. It is the responsibility of the planner to be mindful of the general agricultural economic conditions in the area. Example: The planner is aware of typical yields, prices, and typical net farm incomes reported by the agricultural census, so they are aware of what the financial constraint might be from removing land from production. It is appropriate to discuss with the producer what financial constraints there are to addressing the problems identified in the first step in the planning process. Examples of a financial constraints would be the producer saying if the plan requires more than \$20,000 to install, I will need three months lead time to arrange for credit before I schedule installation or stating I only want to implement practices that will pay for themselves within ten years.

Planners should never request financial information or discuss the producer’s financial condition during planning. Planner should explain the cost to install/implement, operate, and maintain the conservation practice/s and how those practices may have economic effects. Planners should always explain the expected time lag between the cost to install the practice and when the economic benefits of practice accumulate over the life of the practice. Or in other words, economic effects are negative in the short run due to upfront costs and positive later when benefits are realized. Example: A windbreak requires the planting and care of the trees and the benefits do not occur until the trees have grown to the point where they provide benefits.

Land: Land is the basic unit of production. It is cropland, rangeland, pastureland, forest land, and other land on which crops, livestock, food, fiber, and other agricultural products are produced. This also includes tree farms and horse operations. Structures are also included with land because they are permanently attached to the land. Conservation practice/s alter land use. Considerations for land use include consideration of changes in land use and the suitability of the land for the proposed practice/s. Economic effects to consider during the planning process include:

- Suitable land sites have economic effects due to the soil types, layout, drainage, etc. Example: The layout alternatives for a practice on a headquarters site may have different site preparation costs.
- When the practice alters production on the land, there are economic effects due to the changes in net returns. Examples of change in net returns economic effects include a different crop rotation changes the crops produced, changing enterprises from row crops to a pasture crop for grazing, or changing land use to a filter strip that only has hay harvested occasionally instead of growing crops.
- Land is taken out of production means it is no longer used for any agricultural production purpose, i.e. cropping, grazing, etc. Economic effect is that the land is no longer producing any income for the farming operation.

Economic effects would be a negative effect for the loss of the net returns and a positive economic effect for the benefits of what the land is being used for with the practice/s implemented. Examples of benefits would include wildlife habitat, recreation, or sediment pollution reduced.

- Control of the land could have economic effects due to the terms of leases for rented land.

Capital: Capital is a measure of the monetary assets (dollars), physical assets (machinery), ability to borrow money (credit), or barter “goods and services” available. Conservation practices that require money and equipment (machinery) to install/implement have economic effects. When a practice/s require capital there is a negative short term economic effect during installation. Longer term as the practice benefits accrue, the effects become positive. Economic effects to consider for capital include:

- The planner has provided practice standards and specifications in detail so that the producer has the information needed to plan for capital needs as they implement their conservation plan. The producer understands the cost involved to install the practice/s.
- The materials and/or equipment is present or obtainable to operate and maintain (O&M) the practice/s. If materials and/or equipment are needed for O&M, there may be negative economic effects for the capital needed when additional equipment has to be purchased to carry out O&M. Example: The new fence installed for a grazing system requires the purchase of tools for tightening wires during maintenance operations.
- The total cost of installation, operations, and maintenance was considered in comparing practice/s alternatives to recommend a cost effective practice/s. A lower cost installation with high O&M requirements will have negative economic effects for the life of the practice due to the higher cost of O&M, so it may not be a cost effective alternative.

Labor: Labor includes the landowner, family, hired help, or other trained workers. Labor concerns include the adequate supply of labor available to implement, operate, and maintain the practice/s. During the planning process the planner needs to consider of the timing and amount of labor needed for practice/s alternative being considered. Economic effects for labor considerations include the change in the amount and timing of labor needed. The cost of additional labor needed is a negative effect and the savings from reduced labor needed is a positive effect. Examples for labor consideration economic effects: For a manure management system labor is reduced as weekly spreading is eliminated and labor is increased during the times when the facility is emptied and cleaned.

Management: Management is measured in qualitative terms to describe the new knowledge, skills, and ability needed to install and operate the conservation practice/s. Economic effects for management are negative in the short term when the practice/s have a cost to learn new skills or processes needed to operate and maintain the practice/s. The economic effects become positive in the long terms as the new knowledge and skills enhance management of the system. Example: A new grazer may need additional time to measure and assess forage to determine moving animals to the next paddock, when an experienced grazer would make the measurements and decisions faster with fewer errors.

Risk: Risk is the exposure to monetary loss, injury, or damage to resources. Risk is measured in qualitative units. Risk affects crop and livestock/wildlife yields, flexibility, timing, cash flow, and other resources. The risk resulting from the conservation plan affects the landowner, those living or working on the land, the local community, and people traveling near the planning area. Economic effects for risk include the potential for monetary damages the practice/s may cause. Example of risk economic effect: During construction of stream bank stabilization measures the site requires temporary water pumping or disturbance from equipment on the stream bank that has a risk for damages downstream during construction. Example: Young trees have a risk of deer damage which would require replacement as part of O&M so extra trees are planted to compensate for possible losses. The cost of the extra trees is a negative economic effect to cover the risk of some trees being killed.

Profitability: Profitability describes the relative benefits and costs and is often measured in dollars. If an activity is profitable, the benefits are greater than the costs and the system can be sustained over a period of time. The planner should describe the expected benefits of the practice/s so the producer can compare the expected physical effects to the cost of the practice/s. Example: The planner explains the estimated reduction in soil erosion in tons per acre per year along with the cost information for the conservation system so the producer can make an informed decision about the benefits compared to the cost to get them. Key points on economic effects for the profitability consideration include:

- There are negative short term economic effects for the costs of the practice/s until the benefits accrue to recover those costs (payback). After the practice/s has paid for itself, the rest of the benefits over the remaining life of the practice are profits and contribute to profitability. Generally, the longer it takes for the benefits to accrue the longer it takes to achieve positive economic effects. Example: A windbreak which may take several years to reach mature size to begin to function, so the positive economic effects come later in the life of the practice.
- Payback time on practices varies, so when profitability positive effects happen are difficult to document without detailed economic analysis. It is expected there is a reasonable expectation of the long-term positive economic effects will be achieved by the end of the design life of the practice.
- Financial feasibility may require the practice/s to accrue benefits to payback the costs over the time frame of a loan or other financial viability target the producer has, so when the practice/s payback timeframe is more than the financial timeframe the economic effects are negative. Example: The producer plans to retire in 15 years and the windbreak will not have enough benefits during that time to cover the costs and contribute to profits. While this plan has negative economic effect for profitability, it may be a positive economic effect on the land's value if the windbreak would add production value to a future operation that is willing to pay more for land with a windbreak. The reason planners provide expected benefits and costs to producers is so they can make informed financial feasibility decisions.

Social Considerations

Social evaluation attempts to identify the effects, both positive and negative, of specific practices in a conservation system on the quality of life and social well-being. Social evaluation provides a basis for minimizing adverse effects and maximizing beneficial effects during the planning of a conservation system. In order to do a social evaluation of a practice or system of practices, the planner must first identify the significant social variables that pertain to the activity. Be aware that as more information becomes available during the planning process, social variables may change.

All social variables should be monitored throughout the conservation planning process. Planners should be aware of the community in which they are working. Gathering social data may be useful in watershed or area-wide planning. The following are social variables that can be useful during planning:

- Local Census Data: Population, Economic, Labor and Employment, Local Government, Educational Opportunities, Industries, Transportation, Community Organization and Local Leadership, Housing, and other Social or Cultural Characteristics. These provide a general understanding of the community in which the planner is working.
- The state and county Agricultural Statistics reports (number of farms, value of agricultural production, crop and livestock data, etc.) used to understand the typical types of farms and production the planner will be working with.

Social considerations can be summarized into three categories: client well-being, community well-being, and environmental justice. These effects are described in qualitative terms.

In addition, many personal characteristics, such as experience, education, background, and the working relationship with NRCS, partners, or the conservation district affect behavior. The producer has an identity in the community as well as a personal identity based on their personal values and beliefs. Understanding the producer's objectives and finding out what goals they have for the resources in their operation are the first step in addressing social considerations. The producer's values are their ideals, customs, attitudes, and beliefs used to judge the effects of conservation treatments as favorable or unfavorable. The planner includes individual producer values as well as collective values of groups and society as a whole as part of social considerations.

Client Well-Being: Client well-being is an evaluation of how the conservation implementation impacts the client/producer. Well-Being is considered through the planning process, but is most important in step 2 of the planning process when the planner is working with the producer to determine objectives. Well-Being considerations are used to develop a conservation alternative which addresses the producer's social objectives and addresses how the practice/s being considered will alter the producer's quality of life, lifestyle, social, family activities, behavior, or religious values. Discussions with the producer during planning are ways to understand what the producer values,

what are problems or concerns. Example: The producer tells the planner an important objective is to secure the pesticides because they are worried about the children accidentally getting into them. Conservation practice/s that solve a problem or provide positive steps forward in addressing something that is troubling the producer have a positive social effect of making the producer feel better off.

Community Well-Being: Community well-being is an evaluation of how the conservation implementation impacts the community. During planning the effect of the practice on the surrounding area are considered to determine if there are other people likely to be adversely affected by the practice/s and if there will be an effect on life, health, and/or safety of others in the community.

Environmental Justice: Environmental justice has two components. Are minority or low income populations: 1) provided an opportunity to comment before decisions are rendered on government actions affecting human health or the environment and 2) allowed to share in the benefits, not excluded from, and are not affected in disproportionately high and adverse manner by government programs affecting human health or the environment. The planner needs to be aware of who affected populations are and know if an affected population is within the planning area. This is completed early in the first phase of the planning process.

Additional Guidance and Documentation

There is additional guidance on completing documentation of economic and social considerations within the worksheet tabs of the Environmental Evaluations (NRCS-CPA-52) form. Documentation of discussions economic and social information provided to the producer during planning can be included in the conservation assistance notes on form NRCS-CPA-6.