Human - ECONOMIC AND SOCIAL CONSIDERATIONS
Minnesota Help Sheet for NRCS CPA-52 workbook

Economic and Social Considerations

The Economic and Social Considerations section of the Minnesota NRCS Environmental Evaluation (EE) form, the NRCS-CPA-52, is integral part of the conservation planning process. This Help Sheet is intended to assists planners in complying with General Manual policy by providing guidance for Completing Human – Economic and Social Consideration section of the Environmental Evaluation Worksheet (Form NRCS-CPA-52). The following is guidance to complete evaluation of economic and social effects and document those effects. All human and economic considerations shall be analyzed. Human consideration categories are: Land use; Capital; Labor; Management Level; Profitability; Risk; Public Health and Safety.

What is NRCS Policy regarding economic analysis?

The agency will provide the *economic effects of alternative actions* to NRCS customers in order for them to make informed resource conservation decisions and ensure nationwide consistency in the application of economics to NRCS activities by providing guidance for the *integration of economics into conservation planning*.

The Environmental Evaluation Form (NRCS-CPA-52) has a pull down list to select Human Economic and Social Considerations. After picking a consideration from the list the planner needs to describe the economic and social effects for the benchmark, no action, and alternatives.

Human - Economic and Social Considerations (list to pick from):

- Public Health and Safety
- Land Use
- Capital
- Labor
- Management Level
- Profitability
- Risk

Benchmark and No Action

Some key points about the benchmark and no action situation.

- Economic and Social effects for the No Action Alternative are usually no change.
- There might be negative economic effects if the benchmark and no action alternative results in environmental violations and fines.
- There might be negative social effects if the benchmark and no action alternative have negative effects on health, safety, or community well-being.
- There may be profitability effects from the benchmark or no action, but to find and document these effects would require more detailed economic analysis beyond the scope of a conservation plan.

Documenting Economic and Social Effects

It is expected that all economic effects will be described in narrative or non-monetary terms in most cases. It is expected the planner will be considering the expected physical benefits of the alternative compared to the cost of the alternative. Monetary or dollar amounts may be used as needed to quantify or qualify the explanation of the economic effects of a conservation alternative. Generally the planner will not be completing economic analyses to calculate a benefit/cost ratio, net returns, or net present values for the alternative, but if analyses were conducted those values would be included in the documentation of economic effects.

The questions listed below are for evaluation of economic and social considerations. **If you chose those answers that are highlighted, then consideration for the proposed alternative should be reviewed more intensely (*i.e. quantified, modified*) because it appears the no action alternative has better economic and social effects.**

Public Health and Safety:

Alternatives that have a potential to pose a public health and safety hazard should be evaluated closely, such as the spray zone of a 595 Pest Management application and its potential drift.

Will there be a negative effect on the client and community with regard to public health and safety?

☐ No ☐ Yes

Will there be negative off-site effects?

☐ No ☐ Yes

Land Use:

Formulating alternatives that are appropriate or suitable to the current land use is essential to the success of implementation. Explain economic effects in terms of what is gained and lost in the change of land use. Further development of crop budgets or quantifying of dollar values is not needed in most cases. Typically conservation alternatives will improve the efficiency of the land use in the long term, but if land is taken out of production the planner will have to recognize the economic effect of the costs of the loss of potential production and the benefit of the alternative.

Is the present land use suitable for the alternative?

☐ No ☐ Yes

Will the efficiency of the land use improve with the alternative? (e.g. improved forage or yields).

☐ No ☐ Yes

Will land be taken out of production?

☐ No ☐ Yes If yes, then consider if the practice benefits have more value than costs (the net returns lost from production). If benefits outweigh costs then the alternative has positive economic benefits and is better than the no action alternative.

Examples of Land Use Economic & Social Effects:

- *Positive effect as producer well-being improved with objectives addressed*
- *Positive effect as row crop changed to grass crop improves feed and forage efficiency.*
- *Positive effect Filter Strip straightens field edge providing savings in equipment use and provides long term wildlife benefits.*
- *Positive effect as Animal walkway improves grazing efficiency.*
- *Negative effect as Filter strip causes loses from crop income as the occasional hay crop from the strip has less net returns than the former crops produced.*
- *Negative short term effect of reduced net returns per acre in the establishment year of pasture.*

Capital:

Each alternative will have an effect on capital because of the costs associated with installation and/or implementation of the conservation practice(s) in the short run, which is above the normal farming/ranching operation expenses. Most alternatives will have some positive capital effects in the long term as benefits provide a breakeven and payback. Generally larger conservation systems would have higher costs and may be financed over several years causing higher costs from the use of credit, thus making the payback time longer.

The cost to install, operate, and maintain the alternative will have an economic effect on cash flow. Producer's need cost information about the alternative to complete their own cash flow planning and evaluation of capital needs. The producer may request site specific cost estimate. Typical practice costs from the FOTG can be used for costs if there is no site specific cost estimate for the alternative. There are additional costs associated with the operation and maintenance of the proposed alternative. If there is a

site specific cost estimate, use that information; otherwise rely on the general O&M costs in the typical practice cost information to determine expected costs. These costs would be long-term economic effects over the life of the alternative

Alternatives may require other capital costs such as changes in machinery and equipment, for example purchase/lease of a no-till drill or different manure handling equipment needed to operate a storage facility. The economic effects would be the negative expenses in the short run, the positive savings in the short run as well as positive and negative effects in the long term. When new tools and equipment are required for O&M the purchase or lease cost is a negative long term economic effect. (e.g. purchase of fence tensioner for fencing or hiring excavation services for cleaning a manure storage facility.) When the alternative reduces capital costs from what is the No Action plan it has positive economic effects. (e.g. the grazing plan eliminated the use of silage equipment, reducing machinery costs creating positive economic effects.)

If the producer had breakeven or payback economic objectives and evaluation was conducted as part of formulating the alternative, then those capital effects would be documented. Comparing practice average annual costs per acre to county average net farm income per acre can provide some idea of the breakeven and payback effects when the producer has requested this additional analysis during planning.

Does the producer have the funds or ability to obtain the funds needed to implement the proposed alternative? This question is asking if the producer economically "able". Another way to ask this is: Does the producer know the costs to install, operate, and maintain the practice/s and have they indicated they are ready, willing, and able to implement the alternative?

☐ No ☐ Yes

Does the producer know the other capital requirements for the alternative?

☐ No ☐ Yes

Labor:

Additional time and/or labor may be needed in addition to what is already required on-farm, particularly when management practices are proposed such as 449 – Irrigation Water Management or 528 – Prescribed Grazing.

Does the client understand the amount and kind of labor needed to implement and operate the proposed practice(s)?

☐ No ☐ Yes

Does the client have the skills, time or ability to carry out the conservation practice(s) or can hire someone to do so?

☐ No ☐ Yes

Examples of Labor effects:

- *The amount and timing of labor is changed from weekly spreading to seasonal spreading of manure with a Comprehensive Nutrient Management Plan (CNMP) altering when labor is needed to work longer days while emptying the storage facility.*
- *With a grazing system more labor will be needed to move animals during the time the animals are learning a new routine, more labor to move animals for more intensive system than the no action current grazing system, or labor needed at different times during the day.*
- *Monitoring the irrigation system costs may increase when additional services are hired.*

Management Level:

The producer must have knowledge an ability to successfully implement the alternative. The knowledge and skills used in the no action alternative may or may not apply to management of the alternative.

Generally there may be a short term negative economic effect for the cost to learn new management skills or tasks needed for the alternative when additional education or consultants are needed. There may be long term positive social effects of well-being when the management skills are mastered and/or taught to others.

Does the client understand what is needed to manage the practice?

☐ No ☐ Yes

Does the client understand their responsibility to maintain practice(s) as planned and implemented?

☐ No ☐ Yes

Is it necessary for the client to obtain additional education, or hire a technical consultant, to operate and/or maintain the practice(s)? If yes, this will contribute to additional costs of practice implementation and the economic effect reported.

☐ No ☐ Yes

Is the client's planning horizon too short for the lifespan of the practice(s)? Or is the practice lifespan too long for current management to assume the required operation and maintenance?

☐ No ☐ Yes

Considerations when the lifespan of the alternative is more than the producer's planning horizon:

- *If the producer's planning horizon is only 5 years and the proposed alternative has a lifespan of 15 years, than the alternative should be reviewed and reconstructed to fit the planning horizon.*
- *It is a social negative effect to the client's well-being to acquire a new management skill for a short time period, if the planning horizon is too short to accumulate the benefits needed over the practice lifespan to economically justify the time, effort, and expense to acquire the skills.*
- *When the alternatives lifespan is too long for current management to assume, then the effects need to include the transition/transfer of management of the O&M during the alternative's lifespan.*

<u>Profitability:</u>

Profitability can be evaluated either qualitatively or quantitatively. When profitability is the resource consideration, some estimation is needed of the expected additional net returns that will be the result of the alternative compared to the cost of the alternative. This is often measured in dollars. Generally the planner will not be completing a profitability economic analysis to calculate a benefit/cost ratio. Most profitability considerations will be explaining economic effects of the alternative as expected to increase income such as increased yields which will have a positive effect of profits or an economic effect of the alternative reduces costs such as saves trips across the field to lower production costs to have a positive effect on profits.

Alternatives may have short term negative economic effects until the full benefits accrue. Examples: For a grazing plan would be short term negative economic effect for lower feed values until pastures are established, but long term positive economic effect of more feed per acre and reduced feeding costs. Windbreaks have long-term benefits that are not realized until the trees and shrubs have grown.

Is the proposed alternative needed and feasible? (Feasible means financially feasible.)

☐ No ☐ Yes *Financially feasible means the costs are reasonable for the proposed alternative. In some instances, producers may request or the planner may suggest certain conservation practices that are not needed based on the resource concerns, but would be of production benefit or enhance profits. The need of the alternative is based on a resource concern and not a production or profitability goal. An example of this would be desiring Roofs and Covers 367 over a barn yard area when there is not a resource concern on that area.*

Is there a reasonable expectation of long-term profitability/benefits for the operation if implemented?

☐ No ☐ Yes If profitability was an objective and analysis was conducted, then answer this based on the analysis; otherwise answer based on knowledge of typical net returns reported in agricultural statistics or other sources.

Will crop, livestock, or wildlife yield(s) increase or be maintained? No means the yield(s) decrease and the no action alternative is a better economic choice for profitability.

☐ No ☐ Yes

Do the benefits of improving the current operation outweigh the installation and maintenance costs? (In other words, does the alternative have a positive net present value and positive benefit/cost ratio?). Only answer this if profitability was an objective and analysis was conducted to calculate the benefit/cost ratio and net present values.

☐ No ☐ Yes

Risk:

Understanding how the cash flow of the operation (i.e. calving, harvesting) affects the timing of installing conservation practices is critical to the successful implementation of the conservation alternative. Risk includes both cash flow and time.

Cash flow risk example would be a producer may opt out of obtaining potential disaster payments by not participating in the program which requires a beginning of the year lump sum payment to pay for the high installation costs for conservation because they did not have cash flow funds to pay for both. Cash flow can also effect decisions on the timing of when a practice is installed. To spread installation over time helps cash flow, but adds risk for additional future costs if prices change.

Time can add risk for the operation. If a beef operation calves in the spring, this also coincides with spring weather patterns which may hinder the installation of 516 - Pipeline and 614 - Watering Facilities. Early in a transition to a grazing system there can be short term production losses as the animals adjust to new feeds, so there is short term risk.

Will the alternative risk client participation in USDA programs?

☐ No ☐ Yes

Are there possible impacts due to a change in yield or loss in production?

☐ No ☐ Yes

Are there issues are involved with the timing of installation and maintenance of the alternative (conservation practice)?

☐ No ☐ Yes

Are the cash flow requirements of this alternative going to affect the timing of installation and maintenance of the alternative (conservation practice)?

☐ No ☐ Yes

Environmental Evaluation Assistance

Additional guidance and definitions of terms for Economic and Social Considerations is in Section III of the FOTG. Guidance on economic and social considerations in the planning process is in the National Planning Procedures Handbook (NPPH). Guidance for application of economic analysis (benefit/cost ratio) mentioned in this help sheet is in the National Resource Economics Handbook, Part 610 - National Resource Economics Handbook.