

TECHNICAL NOTE

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Reference: Guide for Estimating Participation In
Conservation Operations and Watershed Protection
Projects

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Guide for Estimating Participation in Conservation Operations and Watershed Protection

This technical note contains three main sections:

- (1) research findings section identifying those who typically adopt conservation practices,
- (2) an indicators and participation rates section that provides a fill-in guide of social and community characteristics as well as characteristics of conservation systems that are relevant to the adoption of conservation systems/practices, and
- (3) a section on strategies to improve participation through modifying elements of the conservation delivery system. Following these suggested strategies is a section on how to use the guide to determine "with" and "without" estimates.

Because a major goal is to provide conservation planning more efficiently, it is imperative that we work as effectively as possible with available resources. This technical note provides a systematic procedure to identify areas of our delivery system where we need to increase our efforts, to identify strategies that can help us focus our work, and to estimate participation rates in conservation operation programs and Watershed Protection projects.

1. Research Findings

Certain characteristics of farmers and ranchers are associated with the adoption of conservation practices:

- High income
- High use of mass media
- High education
- High number of contacts with private organizations Full-time farmers
- Desire to pass farm to children
- High number of contacts with USDA agencies Willingness to take risks
- High awareness of resource problems

Farm/ranch structural characteristics associated with adoption of conservation practices are:

- Large scale farms
- Corporate farms
- Full ownership
- High gross farm sales
- Low debt level

Research indicates that characteristics of conservation practices/resource management systems are also related to adoption of these practices/systems. Characteristics associated with the adoption of practices or systems of practices are:

- Inexpensive
- Simple and easy to use
- Results are easy to see
- Can implement on a small scale
- Consistent with existing ideas, beliefs, and management styles of farmers/ranchers
- Flexible enough to fit into a farmers/ranchers' existing management system
- Installed or managed by readily available equipment

Finally, research that associates specific community characteristics with "community adoption" of conservation practices/systems is not well developed. However, we can make the following qualified "guesses" on factors that are likely to be positively related to conservation use in the community.

- Existence of "conservation clubs" (e.g., no-till clubs)
- "healthy" local farm economy
- High support of district activities and high use of their services
- High level of cooperation between and among private and public organizations
- Consistently high use of cost-sharing funds
- High support of educational activities (e.g., existence of a required class on conservation at local schools)
- High requests for technical assistance
- High number of volunteers
- Existence of District-paid employees

2. Indicators and Participation Rates

The purpose of this section is to help field office staffs and state planning staffs estimate participation. These indicators are separated into the same four areas that divide the research results in the above section. Each general area has several indicators that correspond with social and economic research results. If field and state planning staffs feel they are highly knowledgeable about the social and economic characteristics of the district/watershed, this section can be filled out before collecting additional social information. If not, then additional social information may be needed before completing this section.

In either case, this Technical Note can serve only as a guide for predicting participation. Most of the indicators specified in this reference are general in nature, which overlooks any unique features of a district/watershed. Furthermore, this guide does not give weight to indicators. Weighting indicators can be done locally by field office and planning staffs.

This guide was constructed to indicate whether financial, informational/educational, or the technical delivery system need adjustments to achieve the "best mix" for a given situation. It is important to note that a revitalized emphasis in any of these areas may increase participation.

2.1 - Guide

Ecological factors are important in developing strategies for directing our assistance. These factors include problems such as soil erosion, poor range conditions, water quality, and water conservation. If land users do not have these types of problems or contribute toward negative off-site ecological impacts, then we should redirect our efforts. Consequently, to apply this guide, field and state personnel should select problem areas that can be delineated as a watershed, any other small manageable geographic area, or a group of people with similar characteristics (e.g., absentee landowners).

This guide has four sections. In the first three sections, the information can be gathered through several methods - personal interviews, discussions with small groups of local people, interviews with key community leaders, a district-sponsored survey, interview with other agency personnel, use of secondary information (census data, university reports), or any other information gathering method available, including your own personal experience/knowledge. The last section on community indicators represents an average score so that all individuals or the district/watershed as a whole would receive the same "community scores."

You can use the guide by:

- (1) adding up each individual's likely participation, or
- (2) providing information on "typical" individuals based on social status, the type of farm/ranch, or any other logical distinction.

To use social status categories, you can place individuals into low (small-sized, low income), middle (medium-sized, average income), or high (large-sized, high income) social status groups. The appropriate number of likely adopters represented by each status group would also need to be assessed to be able to add-up overall participation. Importantly, the percentage of land each group operates and/or manages also needs to be included in your analysis (see Appendix, page 14).

Selection of 1 or 2 should depend on the number of farmers/ranchers in the area you analyze. For a small group of people (e.g., 50 or below), you could fill-in indicators for each individual (including calculating a community score). But, if there are more than 50 (this number is arbitrary), calculating indicators for each individual would likely take too much time. Therefore, use indicators for the typical farmer/rancher in the low, middle, and high social status groups.

Fill out the guide on the following five pages. You probably will not have information for each of the 33 indicators. Therefore, fill-in only the information you believe is accessible and reliable. Next, a formula is provided to translate any number of indicators into an estimate of probable participation.

I. - Personal Characteristics

Check only those that apply and/or those with which you are familiar.

Please check the appropriate line.

	(2)	(1)	(0)
1. Education	_____ Some College	_____ H.S. graduate	_____ Non- H.S. graduate
2. Occupational status	_____ full-time farmer		_____ part-time farmer
3. Inter-generational farm/ ranch transfer	_____ children farming or intend to pass farm to family member	_____ young children living on farm	_____ no children on farm
4. Risk orientation	_____ enjoys taking chances; and/or incentive payment or cost share level largely reduces risk	_____ moderate risk-taker; &/or incentive payment or C/S modifies risk	_____ avoids risks; incentive payment or C/S level too low to reduce risk
5. Number of innovations already adopted	_____ above city/state average	_____ city/state average average	_____ below city/state
6. Use of local media (e.g. pamphlets) & extra- local media (e.g farm mag.)	_____ seeks info. on cons. through a variety of sources	_____ seeks info. on cons. through local sources	_____ does not seek information on conservation
7. Conservation planning	_____ follows cons. plan; practices cons.	_____ has conservation plan, but does not follow	_____ does not practice cons.nor have conservation plan
8. Stewardship attitude	_____ positive	_____ medium	_____ negative
9. Organizational participation	_____ very active in local organizations	_____ moderately above in local organizations	_____ does not participate in local organizations
10. Awareness of resource problems	_____ high & applying conservation	_____ high/medium, not applying conservation	_____ low, not applying conservation

III - Characteristics of Conservation Practices/Systems

	(2)	(0)	(1)
17. Cost Sharing available for (specific) CPs/RMS	_____ yes		_____ no
18. Perceived costs	_____ low	_____ medium	_____ high
19. Perceived difficulty of installing cons. plan or recommended system of practices	_____ easy	_____ medium	_____ difficult
20. Perceived visibility of positive results: Aesthetics (looks nice)	_____ high	_____ medium	_____ low
21. Perceived stabilization of yields	_____ high	_____ medium	_____ low
22. Install practice(s) system of practices on a small scale	_____ yes	_____ some	_____ no
23. Recommended CPs/RMS consistent with existing equipment and/or availability of appropriate equipment	_____ yes	_____ some	_____ no
24. Practices/system of practices flexible enough to fit into farm er/ranchers' existing management system	_____ yes	_____ some	_____ no

IV. - Community Support of Conservation Activities

Fill in once for community scores.

	Yes (2)	No (0)	
25. Existence of conservation-oriented local groups.	_____	_____	
26. Over 40% (this % can be determined locally) of land users/owners used district services in past year.	_____	_____	
27. Private and public organization formed a team to support a conservation activity in the past year (e.g., conservation tour)	_____	_____	
28. District/NRCS newsletter	_____	_____	
29. District equipment available to lease to community members	_____	_____	
30. Through its identification as a nonprofit organization, District has a "Bulk Mailing" permit.	_____	_____	
31. Number of district-paid full-time equivalent (FTE) employees	(2) _____ two or more FTEs	(1) _____ less than two FTEs	(0) _____ none
32. Number of volunteers in the District/NRCS field office	_____ two or more	_____ one	_____ none
33. District's total annual cost-share funding is:	_____ above state average	_____ similar to state average	_____ below state average

It is highly probable that you will not have information on each indicator. The following provides an easy formula based on any number of indicators you have and their translation into projected participation. As an example, you successfully completed 23 indicators. After adding up each of those indicators, the score equals 32; this is your "actual" score. To calculate the probable participation, you multiply the number of indicators by 2 - This equals the "perfect" score.

$$23 \text{ indicators} \times 2 = 46$$

Then divide the actual score by the "perfect" score.

$$32/46 = .70$$

Move decimal two places to right for percentage.
 .70 translates into a 70% probable participation.

Remember, this is only the first attempt to estimate participation. The above estimated participation rates can be modified by increasing emphasis in any or all of the following areas - financial assistance, the information/educational program, and technical assistance. A list of indicators is provided that relates to these areas. The translation of these scores is based on the same simple formula outlined above. Calculating scores in each area may be done for each social status category or type of farm or ranch. Thus, you could modify different components of the delivery system based on these distinctions. For example, this procedure could show that a low status group might need more financial assistance, while a high status group could need more educational information.

Financial Assistance (Use indicators 4, 11, 14, 15, 16, 17, 18, 21, 33)

Category	Action
70% & above	- normal cost-sharing is adequate
50 to 69%	- additional incentives may be needed
below 50%	- additional financial sources are required for adequate participation.

****Information/ Education (Use indicators 1, 6, 8, 9, 10, 25,26, 27, 28, 30,32)**

Category	Action
70% & above	- existing program is adequate
50 to 69%	- existing program could be improved
below 50%	- program needs considerable improvement to increase participation rates

****Technical Delivery System (Use indicators 5, 7, 9, 19, 20, 22, 23, 24, 26, 27, 29, 31, 32)**

Category	Action
70% & above	- delivery system is adequate
50% to 69%	- delivery system needs minor modifications
below 50%	- delivery system needs major improvements to achieve high participation rates

** When this guide is used for Watershed Protection projects, indicators below 50% for either information/education or the technical delivery system would suggest that adequate levels of participation might be difficult to achieve. Thus, the project may not be worth pursuing, as changing these factors might take a considerable amount of time.

3. Strategies to Improve Participation Rates

Improvements can be made in the conservation delivery system with respect to financial assistance, information/education, and technical assistance. Each of these areas will be evaluated in this section. Note that there is a great deal of overlap and each strategy is only one possible action that should be used in combination with other action.

3.1 Financial Assistance

This area is typically related to policy decisions that are appropriately made by USDA national and state agencies/organizations as well as State Agricultural Departments. Realistically, field office personnel have little power to influence financial policies or cost-share amounts at the national or state level. The following suggestions, therefore, are limited to the local level.

- Field office personnel may influence considerations of county cost-share rates by working with local county committees to determine adequate and appropriate cost-share levels.
- Field office personnel may influence county funding for conservation by developing current and realistic average costs for carrying out conservation measures.
- Field office personnel can be "information brokers" on existing national, state, and county policies as well as available tax laws. This information could help farmers/ranchers understand the cost of contracting for conservation services, purchasing conservation-oriented equipment, and applying conservation measures.
- Field office personnel can use economic tools such as budget analysis, partial budgets, and cost and return estimators to provide land users with on-farm economic analysis of the cost of applying or not applying conservation-oriented systems.
- Field office personnel can contact and work with private or public sector financial personnel who are responsible for funding or managing agricultural resources.

3.2 - Information/Education Program

Information programs have existed in NRCS for many years and have been effective in raising awareness of conservation needs in the districts. The state Public Affairs Specialist should be used to help design campaigns to inform/educate community members on the consequences of local resource problems, the potential solutions, and the details of the Watershed Protection program. In these projects, informational activities need to come before the implementation phase; i.e., during the scoping and public participation phase. A localized NRCS/district information campaign is usually an effective way of increasing participation. The following list presents several ideas to encourage conservation through an emphasis on increased information; some of these strategies may reach the entire district.

- Disseminate local costs of erosion, both on-site and off-site, through all types of printed and video media.
- Develop methods to enable farmers to visualize and understand sheet erosion.
- Increase understanding of types and sources of conservation assistance available through:
 - (a) Public information materials (posters, pamphlets, public service announcements).
 - (b) Central clearinghouse with an easy phone number to remember, for example, 262-SOIL.
 - (c) Establish a conservation information library that is easily available to the public.
 - (d) Accumulate several case studies and farmer testimonials on the benefits of using conservation measures.
- Visually show and document how conservation measures and resource management systems are cost effective.
- Promote farmer-to-farmer referral networks by:
 - (a) Encouraging the formation of small neighborhood groups
 - (b) Tapping into preexisting informal social networks
- Use farmers/ranchers as local experts on conservation because they are accessible, respected, trustworthy, and familiar with local resource problems.
- Develop a directory of who's doing what in conservation so that farmers can contact other farmers. This could be established for the county, state, region, and nation through a computer web page or data-base, index cards, and pamphlets.

- Target specific information to farm businesses, agricultural lenders, absentee landowners, part-time operators, and other identifiable groups. Consider special information outreach efforts to agribusinesses that have repossessed farm land. Make presentations as appropriate to these groups.
- Feature conservation farmers on tours and at meetings and through special events.
- Establish group meetings relative to the crop cycle.
- Target all decision-makers (husband, wife, children, landlords, etc.) with information, basing this information on their needs.
- Teach a course on conservation and the environment at local universities or community colleges.
- Develop a district/NRCS newsletter that systematically provides information concerning conservation.
- Establish an active volunteer program.
- Establish the District's identity as a nonprofit organization that can mail information through bulk mailings that are less expensive than regular mailings.

3.3 - Technical Assistance

Increased technical assistance needs are usually related to a shortage of district and NRCS personnel. Yet, we must still maintain the technical quality and standards that we have become respected for by the agricultural community.

Technical assistance may be increased in a district and Watershed Protection projects through a variety of techniques. One obvious way is to shift more personnel into a designated area. Because this is not always possible, some of the following ideas might be considered.

- Plan conservation practices and systems that can be installed on a small scale, such as, on one field.
- Support the establishment of a district equipment lease program.
- Recommend conservation practices and systems that are consistent with existing equipment or can be easily installed through transactions with local contractors.
- Work closely with local contractors in order for you to provide guidance on conservation standards and specifications.
- Encourage and support the District's funding of new technical Positions.
- Additional technical assistance could be attained by making special efforts to recruit and train volunteers. These volunteers could be college students, retirees, professionals, etc.
- Temporary "conservation camps" could be established in a district/watershed. DCs and NRCS from all parts of the state could stay in a "camp" and plan the watershed in a concentrated period of time (e.g., a week). Local field office staff would need to provide as much technical information as possible on the local situation. Visiting personnel could help plan the area but local field office staff would need to follow through on each conservation plan.
- Fund transfer programs from federal, state, or private sources could enable Districts to hire additional technical staff to compliment NRCS field office staff.
- If feasible, establish sub-offices in areas where conservation efforts have lagged.

4. "'Without' and 'With' Comparisons

The following technique is appropriate for Watershed Protection projects because of this program's requirements, but it can also be used in the Conservation Operations program. Filling in current information for the guide represents an estimate of participation under the "without" condition. We do not have the ability to modify all the indicators in the guide, but we can potentially alter nineteen of them (4-10; 18-30; and 32). After state planning staffs, area staffs, and field office staffs examine those indicators that can be modified, they need to determine which are feasible to change, given the realities of the watershed. This could be accomplished through using strategies proposed in the previous section or applying any other workable strategy.

Calculating a new participation estimate, based on proposed program changes, determines the "with" condition estimate. For example, financial approval of a Watershed Protection project could change #4 (risk orientation) and #17 (cost sharing availability); #28 (starting a local conservation newsletter); and #13 (influencing land owners and renters to sign conservation leases). Making these type of changes in the guide would increase the "with" participation estimate.

5. - Summary

This technical note is a guide to assessing, in a systematic manner, the strengths and weakness of your conservation operations program or evaluating potential participation in a Watershed Protection project. No doubt, it overlooks some unique social characteristics of the people in your particular district. In these cases, you should modify this guide in order to reflect these particular features.

Appendix - Calculating Acres Protected

If you use social status distinctions, you will need to understand the following example. An area of 50,000 acres has 100 farm operators. The distribution of these 100 operators is determined to be 50 low, 45 medium, and 5 high status, with respective 40%, 60%, and 80% participation estimates based on the fill-in guide (pages 5-8). Next, multiply the number of people by participant estimates and add together the results: $50 (.4) + 45 (.6) + 5 (.8)$ equals 51. The overall estimate of people participating would be $51 / 100 = 51 \%$.

However, to be accurate, the percent participation per group needs to be multiplied by the percentage of land operated. Out of the 50,000 acres, 5,000 acres is operated by low social status farmers, 30,000 acres by middle status farmers, and 15,000 acres by high status farmers. The following four steps will enable you to calculate the percent of total acres protected.

STEP 1. Calculate average farm size by dividing total acres per group by the number of people in each group.

Low	5,000/50	=100 acre average size
Middle	30,000/45	= 665 acre average size
High	15,000/5	=3000 acre average size

STEP 2. Multiply the participant estimate for each group by the number of people in each group.

Low	(50)(.4)	= 20
Middle	(45)(.6)	= 27
High	(5)(.8)	= 4

STEP 3. Multiply average farm size in each group by the number estimated to participate per group and total the results. This gives the acres protected.

Low	(100)(20)	= 2,000
Middle	(665)(27)	= 17,955
High	(3000)(4)	= 12,000

TOTAL = 31,955

STEP 4. Divide the acres protected by the total number of acres.

$$31,955/50,000 = 64\%$$