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## *Technical Note*

# *Guide for Estimating Participation In Conservation Programs and Projects*

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## **Technical Note 1801 (2<sup>nd</sup> Revision)**

### **Guide for Estimating Participation in Conservation Programs and Projects**

#### **Purposes and Uses**

The primary purpose of Technical Note 1801 is to provide conservationists with (1) an estimated participation rate for the successful implementation of NRCS conservation programs and projects, and (2) sociological information with which to develop strategies for accelerating and increasing participation. Technical Note 1801 was written primarily for NRCS regional and state planners and program staff. However, NRCS field office staff, Soil and Water Conservation Districts, and other conservation partners will also find it useful to improve local conservation program and project planning and implementation.

Participation estimates can be used to:

- Provide a preliminary estimate of a project or program's likelihood of acceptability and successful implementation,
- Assist in evaluating project and program timing, financial needs, and effects,
- Identify obstacles to conservation implementation and suggest strategies for overcoming obstacles,
- Help prepare state, area, and field office program budgets and project staffing needs,
- Monitor progress and adapt management of programs and projects, and
- Shape policy and programs at a National level to be more amenable to voluntary participation.

#### **Introduction**

Following the introduction and description, Technical Note 1801 has three main sections which include:

1. Factors associated with the adoption of agricultural conservation systems and practices,
2. An indicators section that includes a fill-in guide of producer, agricultural, conservation, and community characteristics explicitly relevant to the adoption and diffusion of conservation practices and systems, and
3. Strategies to increase participation through modifying elements of the conservation delivery system.

The procedure for estimating participation requires a working knowledge of the people, leadership, agricultural equipment, community cohesiveness, and the degree of acceptance of prior projects in the area. This type of information might be well known by a single person or a local committee, or it may require local interviews with people knowledgeable of the agricultural project or program area. This might include farmers and ranchers; representatives of local, regional, and national organizations and interest groups; and agency personnel from all levels of government.

Interviewees are asked about:

- Producers' ability and willingness to incorporate conservation into their agricultural operation,
- Farm and ranch structural characteristics,
- Characteristics and local perceptions of proposed conservation practices and resource management systems, and
- Community support for conservation activities.

The outcome is an *estimated* participation rate for a conservation program or project's targeted group or groups. For example, the targeted group(s) might include large-acreage ranchers in a watershed, low income farmers in a county, or irrigated farmland in an irrigation district.

## Factors Associated with Estimating Conservation Participation

The basis for the indicators comes from communications, agricultural, and rural sociology research in the area of the adoption and diffusion of innovations. This basis for completing the procedure can also include the professional experience of resource conservationists, planners, and other practitioners in the field of conservation and agriculture.

### I. Characteristics of farmers and ranchers associated with the adoption of agricultural conservation practices:

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>• Desire to pass farm to children</li> <li>• Full time farmers</li> <li>• Has a conservation plan</li> <li>• History of early adoption of innovations</li> <li>• History of conservation adoption</li> <li>• High number of contacts with USDA agencies</li> <li>• High use of mass media</li> </ul> | <ul style="list-style-type: none"> <li>• High awareness of resource problems</li> <li>• Relevance of conservation to their operation</li> <li>• Stewardship attitude</li> <li>• High income</li> <li>• High education</li> <li>• High number of contacts with private organizations</li> <li>• Willingness to take risks</li> </ul> |
|---|---|

### II. Farm or ranch structural characteristics associated with the adoption of conservation practices are:

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>• Large-scale operation</li> <li>• Corporate operations</li> <li>• Full ownership</li> </ul> | <ul style="list-style-type: none"> <li>• High gross farm/ranch sales</li> <li>• Low debt level</li> </ul> |
|---|---|

### III. Perceived characteristics of conservation practices and resource

**management systems** are also related to adoption of agricultural conservation practices and resource management systems. *Perceived* characteristics of conservation practices and systems associated with adoption include:

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>• Inexpensive, saves time, or reduces labor</li> <li>• Simple and easy to use</li> <li>• Results are easily observable</li> <li>• Can be tried incrementally; on a small scale</li> </ul> | <ul style="list-style-type: none"> <li>• Flexible enough to fit into a producer's existing operation and/or management system</li> </ul> |
|--|--|

- Can be installed, operated, and maintained using readily available equipment and existing knowledge
- Compatible with producers' (1) existing values and beliefs, (2) past experiences, (3) current management style, and (4) the producer's need for the practice or system

**IV. Social capital**, and the degree it exists within a group or community, appears to be related to the adoption of agricultural conservation practices and systems. The research on the relationship is not conclusive. Nevertheless, there are case studies and professional experience that lead us to reason that the following factors are positively associated with adoption and diffusion of conservation. These factors include:

- High degree of community participation in civic, social, religious, agricultural and/or conservation organizations and activities
- Highly effective local leadership
- Previous participation in collaborative resource planning

**V. Community characteristics** are related to the diffusion of agricultural conservation. Though the research is not extensive, social scientists drew upon case study analyses and professional experiences to conclude that the following factors are positively related to the diffusion of conservation throughout the agricultural community:

- Highly effective conservation partnership outreach activities
- Readily available, qualified technical assistance
- Minimal residential and commercial development pressure on agricultural land
- Recent, private and public jointly-sponsored, successful conservation activities
- Widely perceived regulatory threat(s) on agricultural operations
- A healthy farm economy

### **Additional Areas of Interest: Timing, Management, Technical Assistance, Information/Education Assistance, and Financial Assistance**

Providing an estimate of participation in conservation adoption frequently leads NRCS, SWCDs and conservation partners to ask several other questions regarding program and project planning, implementation, and evaluation. Some typical questions are:

- How long will it take to achieve the estimated rate of participation?
- Are we asking too much of producers in terms of increasing management and labor demands?
- Are we asking too much of our field staff to provide the necessary technical assistance and information/education for planning and implementing new conservation practices and systems?
- Is the financial assistance available enough to overcome the risks associated with the new conservation practices/systems and motivate producers to try it?

Because conservation implementation is affected by many intangible variables, such as people's perceptions, economics, politics, media, emotions, etc., it is difficult to answer these questions with a high degree of certainty. However, decades of NRCS experience with voluntary

conservation implementation has generated some insight into factors which affect the timing, management capabilities, and needs for technical assistance, financial assistance, and additional information and education.

An improved number of indicators aimed at providing answers to the most frequently asked questions about producer participation have been added to this revised version of Technical Note 1801. At the end of the guide there is a list of the items that are associated with the following areas of interest:

- Timing of conservation adoption and diffusion
- Evaluation of management capabilities
- Technical assistance needs
- Information/Education needs
- Financial assistance needs to motivate conservation adoption

## Indicators and Participation Rates

The purpose of this section is to describe how planners and others can develop estimates of participation and accelerate adoption of conservation practices and systems.

These indicators are separated into the same five areas described in the previous section. Each general area has several indicators that correspond with social and economic research results. If planners, local conservationists, or others are confident that they are highly knowledgeable of the social and economic characteristics of the district or watershed being studied, then preliminary responses can be provided and unknown areas of data identified. However, in the likely event that there are some characteristics of the social environment of which planners are unsure or disagree on, then collecting additional social information from local producers and other knowledgeable individuals in the community will be necessary.

In any case, the process is intended to serve only as a GUIDE for estimating participation. Most indicators specified herein are general in nature and will overlook some unique features of your district or watershed. One way to account for indigenous characteristics is to weight some indicators differently than others. This guide does not weight, order, or prioritize indicators. When necessary, weighting indicators can be done locally with the help of local field office and planning staffs.

This guide is also constructed to indicate whether financial, informational/educational, or technical delivery system could be adjusted to increase or accelerate participation in a particular situation. It is important to note that a re-designed or revitalized emphasis in any of these areas may change participation.

**Therefore, a *first* estimate of participation should not be considered the *ultimate* estimate..**

## Guide for Estimating Participation

Natural resource concerns and situations are important for developing strategies that direct our assistance. Most natural resource concerns relate to soil, water, air, plants, and animals. Typically, NRCS planners function more effectively if they have accurate estimates of participation. This type of estimate would help direct resources for helping landowners marshal their resources to achieve productive and environmental sound goals.

Planners would want to use this guide to estimate the participation of producers in a common problem area that can be delineated as a watershed or other relatively small, manageable geographic area; or by a group of people with similar characteristics, such as absentee landowners or new farmers.

The guide has five sections. In the first four 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, interviews 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.

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 categories. An example of categories might be low (small-sized, low-income), middle (medium-sized, average income), or high (large-sized, high-income) social status groups. A different grouping might include crop farmers, vegetable growers, small livestock producers, and large livestock producers. 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 I).

Estimating participation by individual or by group may depend on the number of producers in the area you analyze. For example, 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 too many to producers in an area to individually assess (e.g. more than 50), calculating indicators for each individual would likely take too much time. Therefore, you can use the guide to estimate a participation rate for groups of producers, such as those in a specific area with small, average and large acreage operations.

As you fill out the guide you will likely not have information for each of the 37 indicators. Therefore, fill-in only the information which is valid and reliable. At the end of the indicators, a formula is provided to translate any number of indicators into an estimate of probable participation. If you use the accompanying active spreadsheet version of the guide, or the web version, a participation rate will automatically be calculated as you work through the guide. Both the spreadsheet version and the web version are available at <http://www.ssi.nrcs.usda.gov>. Click on Interactive Tools and then "Guide for Estimating Participation in Conservation Programs and Projects."

## Calculating a Participation Rate

There are several ways to obtain a participation rate after responding to the aforementioned indicators. As stated above, probably the easiest way is to download the active spreadsheet at <http://ssiapps.sc.egov.usda.gov/SocialSciences/Downloads/Participation.xls> and let the computer calculate the rate for you; use the web version which also does your calculations, or use the formula below to calculate the estimates yourself.

Since you probably do not have information on each indicator, the following provides you with an easy formula, based on any number of indicators, to calculate a participation rate.

For example, let's say you responded to 23 of 37 indicators. After adding up each of those indicators, the score equals 32; this is your "actual" score. To calculate the probable participation:

- Multiply the number of indicators by 2. This equals the "perfect" score (23 indicators x 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. A first estimated participation rate 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, income level, size of ranch, or type of farm. Consequently, you could modify different components of the delivery system based on these distinctions. For example, this procedure could indicate that a small ranch might need more technical and financial assistance, while large ranches in the same watershed might need more information and education.

This guide also calculates five characteristics of groups or individuals in addition to estimating overall participation: Financial Assistance (FA), Technical Assistance (TA), Information/Education (I/E), Timing (T), and Management (M) Capabilities of Producers. There is a chart following the guide that shows how these characteristics are calculated. Again, the simpler process is to use the spreadsheet or web version to go through the process rather than performing the calculations yourself. However, it is informative to display the indicators used for the calculations transparently so those interested in these operations can evaluate their validity and reliability.

## Guide to Estimating the Adoption of Conservation Systems

**Title:** (Identifying name of group, project, watershed, etc.; date; and other identifying information.)

Sub-routines for additional group/individual characteristics: **Financial Assistance (FA), Technical Assistance (TA), Information/Education (I/E), Timing (T), and Management (M) Capabilities of Producers.** If a letter(s) is displayed in the sub-routine column, then this indicator is used as a partial measurement of this characteristic.

I. Personal Characteristics				Sub - Routines	Score
	2	1	0		
1. Inter-generational transfer of Ag. Operation	Children farming/ranching or intending to pass farm/ranch on to family member	Children living on farm/ranch or have limited involvement in the operation	No children on farm or children not involved in operation		
2. Number of days the primary operator works off-farm or ranch	Works less than 50 days off-farm	Works 50 - 200 days off-farm	Works more than 200 days off-farm	M	
3. Has a conservation plan	Yes	Plan under development	No	TA, T, M	
4. Number of agricultural innovations already adopted	Above area average	Area average	Below area average	TA, T, M	
5. Seeks out conservation information (e.g. print, electronic, tours, demonstrations, etc.)	Regularly	Occasionally	Does not seek out conservation information	I/E, M	
6. Awareness of local natural resource problem(s)	High	Medium	Low	I/E	
7. Relevance of resource problem(s) to the Ag. Operation	High	Moderate	Low	T	
8. Stewardship attitude	Positive	Indifference or Moderate	Negative	I/E	
9. Applying Conservation	Producer applies a <i>high</i> number of conservation practices/systems	Producer applies a <i>medium</i> number of conservation practices/systems	Producer applies <i>no or low</i> number of conservation practices/systems	TA, T, M	
10. Education	Some College	H.S. graduate	Non H.S. graduate	I/E, M	

II. Farm Structural Characteristics				Sub - Routines	Score
	2	1	0		
11. Relative size of the Ag. Operation	<i>Above state, county, or watershed average</i>	<i>At state, county, or watershed average</i>	<i>Below state, county, or watershed average</i>	FA	
12. Ownership / rented	Rents 20% or less	Rents 21% to 50%	Rents over half		
13. Lease arrangements	Stable lease, even if year to year	Lease for 2 years, but uncertain	Yearly lease and uncertain		
14. Relative gross sales of Ag. Operation	<i>Above state, county, or watershed average</i>	<i>At state, county, or watershed average</i>	<i>Below state, county, watershed average</i>	FA	
15. Financial Health of Farms/Ranches	<i>Most are in good financial health</i>	<i>Some are in good financial health</i>	<i>Few are in good financial health</i>	FA, M, T	
16. Extent of "external" influence on conservation decisions (for example by corporations, absentee landowners, professional farm managers, etc.)	<i>Externally run or operated Ag. Operations have a positive influence on conservation application(s)</i>	<i>Externally run or operated Ag. Operations have a moderate influence on conservation application(s)</i>	<i>Externally run or operated Ag. Operations expend minimal or no conservation effort</i>		

III. Characteristics of Conservation Practices and Resource Management Systems (RMSs)				Sub - Routines	Score
	2	1	0		
17. Perceived likelihood of receiving financial assistance to install and/or maintain conservation practice(s) or RMSs	High	Moderate	Low	FA, T	
18. Perceived cost of implementing the conservation practice(s) or RMSs	Low	Medium	High	FA	
19. Perceived cost of operation and maintenance (O&M) of the conservation practice(s) or RMSs	Low	Medium	High	FA	
20. Perceived environmental effect of the conservation practice(s) or RMSs on local resource concern(s)	High	Medium	Low	TA	
21. Perceived impact of conservation practice(s) or RMSs on net return	Improves	None	Reduces	FA, T	

22. Perceived difficulty installing conservation practice(s) or RMSs	Low	Medium	High	TA, T, M	
23. Perceived visibility of intended effects or results	High	Medium	Low		
24. Conservation practice(s) or RMSs are perceived to be aesthetically appealing	High	Medium	Low		
25. Conservation practice(s) or RMSs can be implemented incrementally or on a small scale	Yes	Some	No	TA, T	
26. Conservation practice(s) or RMSs are compatible with producers' existing equipment and/or availability of the appropriate equipment	Yes	Some	No	TA, FA, T, M	
27. Conservation practice(s) or RMSs are flexible enough to fit into the producers' existing management system	Yes	Some	No	TA, T	

IV. Social Capital Within the Group or Community				Sub - Routines	Score
	2	1	0		
28. Participation in civic, social, or religious organizations and activities	Frequent	Occasional	Rare	I/E	
29. Participation in agricultural organizations	Frequent	Occasional	Rare	I/E, T, M	
30. Participation in conservation organizations	Frequent	Occasional	Rare	I/E	
31. Effectiveness of local leadership	Highly effective	Moderately effective	Ineffective or Nonexistent	I/E, T	
32. Participation in collaborative resource planning.	Yes		No	I/E	

V. Community Context				Sub - Routines	Score
	2	1	0		
33. Effectiveness of conservation partnership's outreach activities	Highly effective, timely, and relevant	Average	Ineffective, slow, and/or irrelevant	I/E, T	
34. Availability of <i>timely</i> technical assistance from public and private sources	Readily available	Average availability	Rarely available	TA, T	
35. Community private and public organizations have jointly supported a conservation activity in the past year (e.g. tours, demonstrations, field days, etc.)	Activity occurred and was highly effective	Activity occurred and had a moderate effect	No activity or had no effect	TA, I/E	
36. Intensity of residential and commercial development on agricultural land	No development pressure	Some development pressure	High development pressure		
37. Perceived regulatory threat(s)	High	Moderate	Low	T	

Total Number of Pertinent Indicators	0
Perfect Score	0
Actual Score	0
Estimated Participation Rate	

### Sub-Routines

Timing Score	Management Capabilities of Producers Score	Technical Assistance Score	Information/Educational Assistance Score	Financial Assistance Score

Timing Scores
Timing Indicators are: 3, 4, 7, 9, 15, 17, 21, 22, 25, 26, 27, 29, 31, 33, 34, 35, 37
70% and above indicates the likelihood of rapid participation in the <u>first three years</u> of the project.
50 to 69% indicates the likelihood of full participation in the <u>first 5 years</u> of the project with moderate adjustments in technical and financial assistance, and conservation marketing.

**Below 50%** indicates a need for significant adjustments in technical assistance, financial assistance, and a dedicated marketing effort to achieve a successful participation rate in a reasonable amount of time.

#### Management Capabilities of Producers Scores

**Management indicators are: 2, 3, 4, 5, 8, 9, 10, 15, 22, 26, 29**

**70% and above** indicates HIGH management skills.

**50 to 69%** indicates MEDIUM management skills and a combination of educational assistance and technical assistance needs to be increased to improve the participation rate.

**Below 50%** indicates LOW management skills and a combination of educational assistance and technical assistance needs to be significantly increased to achieve a successful participation rate.

#### Technical Assistance Scores

**TA indicators are: 3, 4, 9, 20, 22, 25, 26, 27, 34, 35**

**70% and above** is a HIGH score, which indicates effective the technical assistance is available.

**50 to 69%** is a MEDIUM score and indicates the technical deliver system needs minor modifications.

**Below 50%** is a LOW score and indicates the technical delivery system needs major improvements.

#### Information/Education Assistance Scores

**I/E indicators are: 5, 6, 8, 10, 28, 29, 30, 31, 32, 33, 35**

**70% and above** is a HIGH score and indicates the existing information/education program is effective.

**50 to 69%** is a MEDIUM score and indicates the existing information/education deliver system needs minor modifications.

**Below 50%** is a LOW score and indicates the information/education delivery system needs major improvements.

#### Financial Assistance Scores

**FA indicators are: 11, 14, 15, 17, 18, 19, 21, 26**

**70% and above** is a HIGH score and indicates the existing financial incentives are adequate.

**50 to 69%** is a MEDIUM score and indicates the existing financial incentives need to be expanded or increased to improve the participation rate and accelerate participation.

**Below 50%** is a LOW score and indicates the existing financial incentives needs major expansion or substantial increases to achieve a successful participation rate in a reasonable amount of time.

### Financial Assistance

(Use indicators 11, 14, 15, 17, 18, 19, 21, 26)

Category	Action
70% & above	Normal cost-sharing is adequate
50 to 69%	Additional incentives may be needed
below 50%	Additional financial sources are required to increase participation

### Information/Education Assistance

(Use indicators 5, 6, 8, 10, 28, 29, 30, 31, 32, 33, 35)

Category	Action
70% & above	Existing program is adequate
50 to 69%	Existing program may need improvement
below 50%	Program needs considerable improvement to increase participation

### Technical Assistance Delivery System

(Use indicators 3, 4, 9, 20, 22, 25, 26, 27, 34, 35)

Category	Action
70% & above	Delivery system is adequate
50% to 69%	Delivery system needs minor modifications
below 50%	Delivery system needs major improvements to increase participation

## Estimating Timing of Participation

To obtain an indication of the amount of time it might take to achieve various levels of participation, the guide identifies seventeen indicators which can lead to a better understanding of the time it might take to achieve participation.

### Timing Indicators for Participation

(Use indicators 3, 4, 7, 9, 15, 17, 21, 22, 25, 26, 27, 29, 31, 33, 34, 35, 37)

Category	Action
70% & above	Indicates strong likelihood of rapid participation in the <u>first 3 years</u> of the project or program.
50% to 69%	Indicates the likelihood of full participation in the <u>first 5 years</u> of the project with moderate adjustments in technical and financial assistance, and conservation marketing.
below 50%	Indicates a need for significant adjustments in technical and /or financial assistance, and/or a dedicated marketing effort.

## Evaluating Management Skills

The guide uses eleven indicators to estimate management opportunities, skills, and/or needs for successful, voluntary participation in conservation projects and programs.

### Management Indicators

(Use indicators 2, 3, 4, 5, 8, 9, 10, 15, 22, 26, 29)

Category	Action
70% & above	Indicates a high level of management opportunity or skill to facilitate early adoption of conservation.
50% to 69%	Indicates a moderate level of management opportunities or skills. Educational and technical assistance needs to be increased to improve the participation rate.
below 50%	Indicates a need for significant increases in educational and technical assistance directed at those with low management opportunities or skills.

## **Strategies for Increasing and Accelerating Conservation Participation**

Improvements can be made in the conservation delivery system with respect to information/education, financial assistance, technical assistance, management capabilities of producers, and the timing of adoption. Each area will be briefly discussed and examples provided of strategies for overcoming barriers to adopting conservation. Remember, however, that there is a great deal of overlap among strategic implementation activities and each activity imparts only one possible action that should be used in combination with other implementation activities.

### **Information/Education Assistance**

Information and education programs have been a part of NRCS conservation implementation for many years. For the most part, NRCS attempts to inform and educate producers about resource needs and effective conservation solutions have been effective. However, an expanding array of on- and off-site natural resource problems, an increasingly diverse population of landowners, additional USDA programs for technical and financial assistance, and new means of delivering conservation messages all combine to make NRCS information/education programs potentially more powerful, yet decidedly more complex .

Most NRCS state Public Affairs Specialists or communication specialists from the USDA Cooperative Extension Service, SWCDs, and other conservation partners should be able to design strategies to effectively and equitably inform and educate producers and other community members about conservation.

In most conservation programs and projects, information and education efforts need to occur before, as well as during, planning and implementation. Information and education issues should be identified during the earliest phase of planning (for example, during problem identification, scoping, and setting goals). A locally-led information and education campaign, initiated early in the planning process, can be an effective way to increase and accelerate participation in conservation programs and projects.

Following are some examples of ways to inform and educate producers and community members about local natural resource concerns and ways to address these concerns through conservation.

- Develop communication methods to enable farmers to visualize and understand local resource concerns
- Visually demonstrate how cost effective conservation practices and resource management systems can be implemented through NRCS programs to address resource concerns.
- Dramatize the potential detrimental on- and off-site effects of not correcting local resource concerns.
- Increase farmer and rancher understanding of the sources and types of federal, state, and local financial and technical assistance for conservation.
- Target information to the specific needs of farm businesses, agricultural lenders, absentee landowners, part-time operators, and other identifiable groups.
- Feature conservation farmers on tours, at meetings, and through special events.
- Make use of farmer's testimonials on tours, in publications, on websites, etc.

- Address all landowner decision-makers (husband, wife, in-laws, children, landlords, etc.) needs.
- Organize and/or participate in conservation workshops, training, and classes through local colleges, extension service, agribusiness, etc.
- Develop a district/NRCS website, newsletter, or email list that regularly provides conservation and agricultural information.
- Establish an active volunteer program.

Possible ways to effectively communicate and deliver messages to target audiences include:

- Traditional means such as print, television, radio, farm tours, and field days.
- Contemporary means such as email, DVDs, and websites.
- Websites that include links to conservation and natural resource information, farm bill programs, technical service providers, legislation, and the like.
- Case studies and farmer testimonials on the benefits of implementing conservation practices and resource management systems.
- Using farmers and ranchers as local experts on conservation because of their accessibility, respectability, trustworthiness, and familiarity with local resource concerns.
- Promoting farmer-to-farmer, internet-based referral networks by providing a directory of who's doing what in conservation. This could be established for the county, state, region, and/or nation. It could also be sorted for easy referencing by common land use, resource concerns, operation type or size, or conservation practices.

### **Financial Assistance**

Financial assistance can be a powerful, persuasive factor influencing conservation adoption among producers and diffusion in the agricultural community. Tailoring financial assistance to meet the specific needs of the landowners in a watershed can be complicated and time-consuming, but the outcome can mean the difference between the successful and unsuccessful conservation programs or projects.

Usually, the authority and responsibility of financial assistance programs reside with USDA national and state agencies/organizations, as well as State Agricultural Departments, State Technical Committees, and other local work groups. They control policies, cost-share rates, priorities, etc.

However, there are some actions planners, field office personnel, conservation district directors, technical service providers, and other conservation partners can take to strengthen the influence of financial assistance for conservation adoption at a local level. For example:

- Local conservation partners may be able to influence cost-share rates by working with local county committees to determine adequate and appropriate cost-share levels.

- Planners and state and field office personnel may influence county funding for conservation by maintaining accurate, up-to-date cost price lists for implementing conservation practices and systems.
- Local conservation partners can be "information brokers" for existing national, state, and county policies, as well as available tax laws. This information can help producers understand the cost of contracting for conservation services, purchasing conservation-oriented equipment, and applying conservation measures.
- Conservationist planners, technical service providers, and other conservation partners can use the customer toolkit and eFOTG to provide land users an on-farm economic analysis of the cost of applying, and not applying conservation systems.
- The local conservation partnership and producers can work closely with their local, state, and national representatives to modify financial assistance to meet their needs.

### **Technical Assistance**

Increased technical assistance needs may be a result of:

- A shortage of NRCS or conservation district personnel,
- A mismatch of skills and tasks (such as technical assistance needs),
- An uncommon, emergency arises and requires immediate, increased need for specific technical assistance,
- New farm bill program requirements, and/or
- Impending legislation requires producers to act immediately to address a resource concern.

There are a number of ways to increase or improve technical assistance in a county, district, or watershed. 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.

- Expand the number and use of certified Technical Service Providers, contractors, and other qualified specialists,
- Plan resource management systems that can be implemented progressively or incrementally,
- Recommend conservation practices and systems that are compatible with area producer equipment and management systems,
- Encourage and assist the Conservation Districts, Watershed Councils, and other local groups to obtain funding to hire technical specialists,
- Recruit and train volunteers to provide technical assistance; depending on the assistance needed volunteers could be retired NRCS or other agricultural professionals, college students, or interested area residents.
- Detail NRCS staff into an area to quickly and intensely deal with specific situation,
- Establish sub-offices in areas where the need for conservation technical assistance has historically been lacking.

### Management Capabilities of Producers

- Producers as managers vary immensely. Many of the information/education techniques could also be used to increase the managerial skills of producers.
- It is important to understand that producers trust other producers if they are learning or adoption a new conservation system or practices rather than government workers, or agricultural dealers. Thus, a high priority is to try to have producers "teach" other producers about management issues.
- Develop and implement field days, tours, and demonstration projects so producers who have low management skills can model their behavior from producers who have already adopted the practice or system.
- Develop a workshop or a short-course to provide producers with "how-to" instructions about how to implement and manage conservation practices or systems. Unless you are the only authority for a particular practice, it might make sense to get producers in attendance to train one another in the management of the practices.
- One-on-one technical assistance is still one of the highest preferences of most producers regarding management.
- Encourage producers to access NRCS technical guides on line to help them improve their management skills.
- Start a Master Conservationist program in which an especially talented producer can be called on for advice by other producers in their area. With their permission, distribute the Master Conservationist's phone number and e-mail address so he/she can respond to questions about managing conservation practices.
- The state office could initiate a state hotline with an 800 number to field questions and link questions with appropriate people who can provide expert advice.

### Timing

Understanding the timing of participation in conservation programs and projects is essential for developing plans of work, allocating program funds, hiring field staff, and developing multi-year budgets. To quicken the adoption process, you can try to procure additional resources for an area and target groups that came out low in the timing score. Resources can include additional information/educational assistance, financial assistance, technical assistance, and managerial assistance. See above for recommendation in each of these areas.

Adoption of conservation like any other innovation typically follows a pattern that is related to the background characteristics of producers in an area. More affluent areas adopt innovations quicker than less affluent areas. Conservation participation can be expected to follow a normal curve; i.e., conservation participation begins slowly with a few innovators and agricultural community leaders. If these early trials are successful, then the majority of the other producers in the community can be expected to participate over the next several years. A conservationist might want to use local early adopters who are respected in the community as role models within a project area. It is also useful to have visuals display not only the practices/systems, but also the benefits of the practices/systems.

Under certain conditions, this adoption process can be altered and have significant consequences for NRCS, SWCDs, and other conservation agencies and organizations. For example, a particularly major climatic event such as a drought or the major loss of an endangered species and/or its habitat, or socio-political pressure can dramatically affect the timing of conservation participation. Likewise, actions can be taken to encourage early, rapid participation and widespread diffusion, and essentially level the participation curve out over many years.

To determine how to best effect the timing of participation for a particular program or project, one must understand: (1) the resource concern and what precipitated the need for conservation, (2) its severity and the immediacy of a solution, (3) the politics behind the problem, and (4) what is motivating producers to either adopt or reject the proposed conservation program or project. A situational analysis of the resource concerns (covering the physical, biological, cultural, and social aspects) could improve your understanding of the factors involved and the steps you need to take to expedite the adoption rate (see "Using a Multidisciplinary Approach to Conduct a Situational Analysis" at <http://www.ssi.nrcs.usda.gov/publications/index.html#PPC032> )

Once this is complete, conservationists can begin to identify motivational factors for conservation participation and the causes of rejection of conservation options for addressing resource concerns. When these influences are identified, conservationists can move to expanding the positive, motivational factors for participation and work to curb the causes of rejection.

### **"Without" and "With" Comparisons**

To compare “without” and “with” program or project participation rates, obtain participation rates for both sets of circumstances. That is, use the guide as directed for each of the various alternative conservation systems or practices under the “with” conditions. For the “without” participation rate use the *current, actual* level of participation to describe the conservation adoption levels (rates) for the geographic boundaries of the population being studied.

Some circumstance may require the “without” participation rate to be determined using the guide. To do that you should pay special attention to modify relevant local indicators. Those using this guide may want to consult with your state or regional sociologist if using the guide to determine a “without” participation rate.

### **Summary**

This technical note is a guide to assessing, in a systematic manner, the strengths and weaknesses of conservation programs and evaluating potential participation in watershed projects. No doubt, it overlooks some unique social characteristics of the people and groups in your particular geographic area. In these cases, you should modify this guide in order to reflect these particular features.

## Appendix I - Calculating Acres Protected

If you are using 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 rate estimates based on the guide. You then 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 are operated by low status farmers, 30,000 acres by middle status farmers, and 15,000 acres by high status farmers. Following four simple 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.

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