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GUIDE FOR ESTIMATING PARTICIPATION IN CONSERVATION OPERATIONS AND WATERSHED PROTECTION PROJECTS

This technical note has the following three sections: (1) identifies research findings concerning who typically adopts conservation practices, (2) provides a fill-in guide of social and community characteristics as well as conservation systems in relation to the adoption of conservation system/practices, and (3) proposes strategies to improve participation through modifying elements of the conservation delivery system. Following these suggested strategies, a section on how to use the guide to determine "with" and "without" estimates is provided. Because a major goal is to provide conservation planning more efficiently, then it is imperative that we work as effectively as possible with available resources. This technical guide provides a systematic procedure to identify, first, areas of our delivery system where we need to increase our efforts and, second, strategies that can help us focus our work.

This first section briefly outlines research information on the social and economic background of people, farm, and communities, as well as conservation practice characteristics in association with the adoption of conservation practices. This information is then combined with social indicators of those characteristics in the following section in order to estimate participation rates in conservation operation programs and Watershed Protection projects.

1. RESEARCH FINDINGS

Certain characteristics of farmers and ranchers have been 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. Practices or system of practice characteristics associated with their adoption are as follows:

* 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

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 as most indicators specified herein are general in nature, which overlooks any unique features of your district/watershed. Furthermore, this guide does not prioritize or give weight to indicators. Weighting indicators can be done locally by field office and planning staffs.

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

This first estimate, then, should not be considered the final estimate.

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 to those who do. 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 final 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." (Number 16 and 17 in section 2 are also community-based 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. No doubt, you 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 that you are familiar with.

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 paymt or cost share level largely reduces risk	moderate risk-taker; &/or incentive paymt or C/S modifies risk	avoids risks; incentive paymt or C/S level too low to reduce risk
5. Number of innovations already adopted	above cty/state average	cty/state av.	below cty/state average
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 orgs.	moderately active in local organizations	does not participate in local organizations
10. Awareness of resource problems	high & applying cons.	high/medium, not applying cons.	low, not applying cons.

II. FARM STRUCTURAL CHARACTERISTICS

		(2)	(1)	(0)
11.	Farm size	above wshed/cty/ state average	wshed/cty/state average	below wshed/cty/ state average
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.	Gross farm sales	above wshed/cty/ state average	wshed/cty/state average	below wshed/cty/ state average
15.	Perceived debt level	low or no debt	medium debt	high debt
16.	debt	% of problem debts under national/ state/county av.	% of problem debts at nat/ state/county av.	% of prob.debts over national/ state/cty. av.
17.	Repossessed farm land	above national/state/cty average & working with new owners, financial institutions, &/or manag. firms on cons. planning		above nat/state/cty average & not working with new owners, fin. institutions, &/or mang. firms on cons. planning
18.	Danger of farm repossession	no threat of repossession	moderate threat of repossession	high threat of repossession
19.	Competing land uses (speculation)	land value appropriate for agricultural prod. or for conversion		land close to urban areas with liklihood of development

III. CHARACTERISTICS OF CONSERVATION PRACTICES/SYSTEMS

		(2)	(0)
20.	Cost Sharing available for (specific) CPs/RMS	yes	no

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

IV. COMMUNITY SUPPORT OF CONSERVATION ACTIVITIES

Fill in as community scores.

	Yes (2)	No (0)
28. Existence of conservation-oriented local groups.		

	Yes (2)	No (0)
29. Over 40% (this % can be determined locally) of land users/owners used district services in past year.	_____	_____
30. Private and public organization formed a team to support a conservation activity in the past year (e.g., conservation tour)	_____	_____
31. District/SCS newsletter	_____	_____
32. District equipment available to lease to community members	_____	_____
33. Cost share money is used up each year.	_____	_____

It is highly probable that you will not have information on each indicator. The following provides you with an easy formula based on any number of indicators you have and their translation into projected participation. As an example, let's say you filled-in 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 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. 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, 20, 21, 24, 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, 28, 29, 30, 31)

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, 22, 25, 26, 27, 29, 30, 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 area will be evaluated separately here. We need to remember, however, that there is a great deal of overlap and each strategy is only one possible action that should be used in combination with other actions.

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 that may assist farmers/ranchers to pay for conservation services, purchase conservation-oriented equipment, and/or apply CPs/RMS.

* Field office personnel can use the "Interactive Conservation Evaluation" (ICE) computer program to provide land users an on-farm economic analysis of the cost of including or not including conservation oriented systems into their farm/ranch operation (ICE is now available to field offices that have FOCUS equipment).

* 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 SCS for many years and, for the most part, they have been effective in raising awareness of conservation needs in the districts. Because of special resource problems in Watershed Protection Projects and the relatively recent emphasis on them, more information on the details of this program seems necessary. 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 SCS/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.

* Dramatize local costs of erosion, both on-site and off-site, through all types of printed and video media

* Develop ways 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 (e.g., with an easy phone number to remember: 262-SOIL).
  (c) Conservation information bank
  (d) Farmer testimonials and case studies

* In a variety of ways, visually show conservation practices & resource management systems and explain the degree to which they are cost effective.

* Promote farmer-to-farmer referral networks
  (a) Encourage the formation of small neighborhood groups
  (b) Tap into existing, informal social networks

* Use farmers/ranchers as local experts on conservation because they are accessible, respected, trustworthy, and familiar with local resource problems.

* Develop directory of who's doing what in conservation (computer data-base, index cards, pamphlets).

* Target specific information to farm businesses, agricultural lenders, absentee landowners, part-time operators, and other identifiable groups.

* Feature conservation farmers on tours and at meetings.

* Have group meetings relative to the crop cycle.

* Target <u>all</u> decision-makers (husband, wife, children, landlords, etc.) in the information/education program.

3.3 Technical Assistance

Increased technical assistance needs are usually related to a shortage of district and SCS personnel. At this time, it does not appear that SCS will be increasing the total number of people in the agency. Therefore, it appears that we will have to do more with less, while still maintaining 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.

* Form a "district/watershed team" composed of some of the following representatives: district supervisors (commissioners), SCS district conservationist and staff, extension agent, ASCS and FmHA. Other members could include leading conservation farmers, farmer opinion leaders, mass media, local government officials, county conservation board, financial institutions, educational leaders, farm organizations, women's groups, civic groups, environmental groups, farm business owners, and managers.

a) A conservation team is important because it can make the best use of limited money and people; add legitimacy and credibility; tie into informal network of farmer contacts; avoid duplication of services and conflicting messages; and clear up farmer's confusion about the responsibilities of public and private organizations.

b) Important factors involved in building a conservation team are identifying cooperative philosophy among the major organizations/agencies; recognizing and emphasizing common objectives; working within historical situation; working within existing organizational frameworks; involving existing farmer groups (e.g., no-till clubs); clearly defining a division of labor and responsibilities; and emphasizing complementary resources and expertise.

c) A conservation team's major responsibilities would be to provide a framework from which farmers can express concerns; to identify and meet farmer information needs; to plan and to implement program activities; and to refer farmers to proper sources of assistance.

* Additional technical assistance could be attained by making special efforts to recruit and/or train volunteers. These volunteers could be college students, retirees, environmentally oriented professionals, etc.

* Temporary "conservation camps" could be established in a district/watershed. DC's and SC's from all parts of the state could stay in a "camp" and plan the entire watershed in a concentrated period of time (e.g., a week). Local field office staff and the state planning staff would need to provide as much technical information as possible on the local situation.

Conservation plans would need to be worked out between local farmers and the visiting SCSers, while the local field office staff would need to follow through on each conservation plan.

* Federal, state, and/or private fund transfer could be provided to the local district(s) so that additional technical district staff could be hired to compliment the efforts of SCS field office staff.

* Through federal and/or state fund transfers or local private or public fund raising, districts could establish a equipment leasing program in conjunction with training sessions on the use of the equipment, and required technical specifications of CPs/RMS.

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 CO-01 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; 21-24; 26-33). 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 #20 (cost sharing availablility); #31 (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 weaknesses of your conservation operations program or evaluating potential participation in a Watershed Protection projects. 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). 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 is 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 these 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%