

# Guide for Measuring Outcomes At the Meeting and After the Meeting

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## Introduction

Outcomes can be measured at different points in time. One point in time is **at the meeting**. These “end-of-meeting” strategies have the advantage of easily reaching all participants and being low cost. The disadvantage is that some outcomes or changes take longer to develop. The alternative approach is **after the meeting**. This means delaying the measurement until participants have had a chance to reflect and make changes. These delayed measurements are often considered a better indicator of outcomes because the change is relatively longer lasting.

## What can you measure?

Changes in knowledge can often be measured immediately. Changes in skill may require practice and reinforcement and are often better measured at a later time. If you want to measure changes in practices and behaviors then you will need to wait until participants have had a chance apply the concepts. Some outcomes take considerable time, such as changes in community, changes in the environment, or economic changes.

In some situations such as when you are teaching improved agricultural techniques it may take an entire growing season to determine if people made changes and the benefit of those changes. Think about how long it will take for participants to make the desired changes, and ask the questions after a reasonable amount of time has passed.

## What's included in this document?

This document contains ideas on how to measure outcomes at different levels. There are many ways to measure outcomes that are not included in this publication. The first three sections look at outcomes that are attained by individuals. Topics included are:

Topic	Page
A. Knowledge change	3
B. Skill change	7
C. Behavior change or practice adoption	10

Sometimes we want to determine what difference a program made on another level. The following sections you can use at either an individual outcome level or at a societal outcome level.

D. Economic value	13
E. Social impact	15
F. Environmental impact	19

In the last section you will find some suggestions on analyzing of results.

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## Suggestions on how to use this document

1. First decide what level of outcome(s) you are interested in measuring. For example, if you want to measure individuals behavior change and what impact that had on the environment, skip to sections C and F. (If you read this document from beginning to end you will find lots of redundancy. That is intentional, so educators who want to look only at knowledge or behavior can do so without reading the whole document.)
2. Then decide if you want to measure the outcomes at an educational event or if you need to allow time for the changes to occur. Behavior changes and economic, social, and environmental changes can't be measured right away. So you can then look at the sections that describe methods for measure outcomes after the meeting / program.
3. Pick a method that will work for your situation. Pick questions that make sense. Adapt questions to fit your situation. Develop a strategy (How many people are you going to ask? When? Who will gather and analyze the info?) and a tool to measure the changes.
4. Have some colleagues review the strategy and tool. Get feedback.
5. Revise and proceed!

## A. MEASURING KNOWLEDGE CHANGE

### **What is knowledge change?**

Knowledge change refers to what an individual has learned. It is the process of acquiring new knowledge. It is information transfer. It is creating awareness. When reporting knowledge change we typically report on the number of different individuals who gained new knowledge.

### **At the meeting / program**

#### **1. Observing the participants**

Watch the audience while the meeting is taking place. Are they paying attention? Are they doing the things that people usually do when they receive new information? For example, are they taking notes? Are heads nodding? Are they asking good questions? If the instructor uses activities, do the participants get involved and engaged in the activity? Watch the audience and estimate the number of participants who give clues that they are learning. But be cautious because it can also be misleading. People might look like they are paying attention, but they may not be.

#### **2. Listening to the participants**

Listen to what participants say. What are they saying at the breaks, at lunchtime and at the end of the session? Do they continue to talk about the topic and seem to be engaged in the subject? Occasionally a comment will be made to the extension educator about the quality, worth or benefit of the session. Sometimes the educator can solicit comments by asking informal questions of individuals, such as: "Is this information new to you?" "Are you learning anything new?" Or "Did you know this before you came?"

Listen for comments made to educators and also listen for comments that participants make to each other. Or you might ask: "What are people saying about this session?"

As you listen, think about: How many others might feel the same way? And, should I jot down the comment, story or example to use as an illustration of what was gained?

#### **3. Asking for a show of hands**

A rapid way of getting an indication of what the participants gained is to ask one or more questions of the group and request a show of hands. For example, here are some that relate to gaining knowledge: "If you feel you've learned at least one new thing from this session, please raise your hand." Or "If you learned more about the topic of \_\_\_\_\_ please raise your hand. "

There is sometimes a tendency for participants to feel social pressure to raise their hands even if they did not learn anything new. This tendency can be minimized by asking several other questions that do not imply appropriate

responses, such as: “If you traveled more than 50 miles to get here, raise your hand.” “If you own farmland, raise your hand.” “If you operate a farm, raise your hand.” Another strategy for minimizing the social pressure is to tell the audience that it is OK to answer in either direction. “Sometimes people learn new things at these sessions and sometimes they don’t. We would like to get a quick indication of how many people did learn something new—something that they didn’t know before the meeting today. Please raise you hand if you learned something new.”

#### **4. Asking key observers to estimate**

In advance of the meeting or session, you might identify several individuals who conduct short interviews or observe participants. Interviews could be with either open-ended or closed-ended questions. Observations could be similar to that described above. A random sample of the audience might be selected so that results can be inferred to the total group.

#### **5. Using a diagnostic – self-rating instrument**

In some situations a diagnostic instrument can be developed in advance. This rating form helps individuals know how well they are doing, what needs they have, what they have accomplished, or whatever. Usually, these instruments have the primary intention of helping the individual get a reading of their own status. In some situations, the evaluator might ask participants to share their results to use in evaluation of the session. These self-rating, diagnostic forms could be an integral part of the training. For example, the instructors might identify the 5-10 things they want participants to know or to do. These items could be placed in a diagnostic instrument where participants rate themselves. Response categories could be:

- I knew it before the meeting / program,
- I did it before the meeting / program,
- I learned it at the meeting / program,
- I plan to do it after the meeting / program.
- The topic doesn’t apply to me

#### **6. Using a short rating sheet with closed-ended questions**

End-of-meeting rating sheets should be short (1-2 pages) and easy to complete. Consider adding a few demographic questions to see if there are differences among different categories of people. For example, is your target audience different from others who may have attended?

Here are some examples of questions that you could ask: (Do not ask all these. Select one or two.)

Estimate of useable information

Of the information presented today, how much is useable to you? (Check one)

- 0-20%
- 21-40%
- 41-60%
- 61-80%
- 81-100%

Knowledge—amount of learning

To what extent did you learn more about (name of subject)? Would you say it was:

- To a great extent
- To a moderate extent
- To a slight extent
- Not at all

Knowledge—getting questions answered

To what extent did you get an answer to your question? Would you say it was:

- To a great extent
- To a moderate extent
- To a slight extent
- Not at all

Knowledge—changing awareness

To what extent has your awareness changed on (name of topic)? Was it:

- To a great extent
- To a moderate extent
- To a slight extent
- Not at all

**7. Use Before and After questions in your survey or interview.**

At the end of a program you might ask the respondents to rate themselves now and also to rate themselves at an earlier point in time, such as before the program was offered. Here are two examples of how the question can be asked:

Example 1: Rate your knowledge of (name to topic).

Before the Program

- ( ) Great
- ( ) Moderate
- ( ) Slight
- ( ) None

Today

- ( ) Great
- ( ) Moderate
- ( ) Slight
- ( ) None



## B. MEASURING SKILL CHANGE

### **What is skill change?**

Skill change is when someone learns how to do something that requires verbal or physical effort. Developing skill begins by acquiring knowledge and then moves to application. We learn about something and then have a chance to do it. For example, we first learn how a new computer program works, and then by actually operating the program we develop our skill. When reporting skill change we typically report on the number of different individuals who gained new skills.

### **At the meeting / program**

#### **1. Observing the participants**

In some educational events the participants are asked to try out, to actually use or practice the new skills. This is particularly true for computer or technical training. Sometimes the educator can set up several opportunities where the participants can practice—on computer, on paper or in small groups. In these situations you might be able to observe the participants as they try using the new skills. To what degree are they able to demonstrate the skills? How many are able to demonstrate the skills?

#### **2. Listening to the participants**

Listen to what participants say. What are they saying at the breaks, at lunchtime and at the end of the meeting? Do they continue to talk about the topic and seem to be engaged in the topic? Occasionally a comment will be made to the extension educator about the quality, worth or benefit of the session. Sometimes the educator can solicit comments by asking informal questions of individuals, such as: “Are these skills helpful to you?” “Do you think you will be able to use what you are learning?” or even “Do you feel you are adequately prepared to do the desired task?”

#### **3. Asking for a show of hands**

A rapid way of getting an indication of what the participants gained is to ask one or more questions of the group and request a show of hands. For example, here are some that relate to gaining knowledge: “If you feel you’ve learned at least one new thing from this session, please raise your hand.” Or “If you learned more about the topic of \_\_\_\_\_ please raise your hand. “

There is sometimes a tendency for participants to feel social pressure to raise their hands even if they did not learn anything new. This tendency can be minimized by asking several other questions that do not imply an appropriate response: “If you traveled more than 50 miles to get here, raise your hand.” “If you own farmland, raise your hand.” “If you operate a farm, raise your hand.” Another strategy for minimizing the social pressure is to underscore that it is OK to answer in either direction. “Sometimes people learn new things at these sessions and sometimes they don’t. We would like to get a quick indication of

how many people did learn a new skill—something that they didn't know before the meeting today. Please raise your hand if you've gained a new skill today."

#### **4. Asking key observers to estimate**

In advance of the meeting or session, you might identify several individuals who conduct short interviews or observe participants. Interviews could be with either open-ended or closed-ended questions. Observations could be similar to that described above. A random sample of the audience might be selected so that results can be inferred to the total group.

#### **5. Using a diagnostic – self-rating instrument**

In some session, a diagnostic instrument can be developed that helps individuals know how well they are doing, what needs they have, what they have accomplished, or whatever. Usually, these instruments have the primary intention of helping the individual get a reading of their status. In some situations, the evaluator might ask participants to share their results to use in evaluation of the session. These self-rating, diagnostic forms could be an integral part of the training, where the instructors identify the 5-10 things they want participants to know or to do. These items could be placed in a diagnostic instrument where participants rate themselves. Response categories could be:

- I was able to do it before the meeting,
- I learned this skill at the meeting,
- The topic doesn't apply to me

#### **6. Using a short rating sheet with closed-ended questions**

End-of-meeting rating sheets should be short and easy to complete. Consider adding a few demographic questions to see if there are differences among different categories of people. For example, is your target audience different from others who may have attended?

Here is an example of a question that could be asked relating to skills:

##### Skills—amount of change

To what extent did you acquire more skill in (subject)? Would you say it was:

- To a great extent
- To a moderate extent
- To a slight extent
- Not at all

#### **7. Use Before and After questions in your survey or interview.**

At the end of a program you might ask the respondents to rate themselves now and also to rate themselves at an earlier point in time, such as before the program was offered. Here are two examples of how the question can be asked:



## C. MEASURING BEHAVIOR CHANGE OR PRACTICE ADOPTION

### **What is behavior or practice change?**

Behavior or practice changes are when the participant actually puts to use the knowledge or skills that were acquired. Aspiration was the desire or intention to change but behavior or practice change is the actual change made by the participant. When reporting behavioral or practice change we typically report on the number of different individuals who made the change.

Most changes in behavior actually require some time to accomplish, and you won't be able to get an accurate measurement of change while at the meeting. Therefore, it is usually best to delay the measurement until after sufficient time has passed for participants to actually make the desired change.

Caution: Remember that making changes in practice or behavior is a personal experience, and the researcher must be sensitive to the each person's sense of privacy. Individuals may feel uncomfortable when they sense that an organization is seeking to get them to change. The sensitivity will depend on the situation. For example, changing a dangerous food preservation practice would likely meet with local support. However, changing skills in parenting might seem to be intrusive and could raise concerns.

### **After the meeting / program**

#### **1. Observing the participants**

Some changes can be more easily observed than others. For example, changes in agricultural practices might be more observable (timing of cutting alfalfa or erosion control measures) than are those that occur within the home (child discipline practices). Think about the types of changes that program participants might make and then develop a checklist to use as you travel around the area or visit with program participants.

For years the Expanded Food and Nutrition Education Program has successfully used a "Food Behavior Checklist" to measure the degree to which homemakers are using safe and appropriate food practices. The tool has been used in several different ways. One strategy has been to use the checklist as a diagnostic tool and enlist the cooperation of the homemaker to getting the information. The second way is to gather the information through unobtrusively observation and chats with the homemaker followed by the paraprofessional filling out the observation form.

## 2. Asking participants to keep a log or keep records

In some situations you might consider asking participants to keep a regular log or records of the change. If the change is complex, costly and time consuming you might find that change is so subtle and slow that it is not observable. If you use logs or journals you will need to establish some basic protocol about when and how these records are to be prepared. In other situations the participants might want to keep financial records of the income and expenditures as well as the steps or practices they used.

If you are asking for financial records you will need to assure participants that their financial information will be confidential. Take special care to remove names from the data and be certain that no individual can be identified when the data are aggregated with that of other participants.

The father of genetics, Gregor Mendel kept careful records of the characteristics of peas he grew. His careful records and meticulous attention to detail enabled him to discover fundamental principles of genetics. Mendel was successful because of his careful observation and record keeping. What drove Mendel was curiosity. Extension participants might also be curious about how things in their environment change over time, and they may be quite willing to keep records. Their motivation in keeping records is to learn about their own environment. Then, after a period of time, they are asked by an extension worker to describe what they have discovered.

## 3. Using a rating sheet with closed-ended questions

At a reasonable time (perhaps 3-6 months) after the meeting / program, the participants (or a sample of participants) might be invited to complete a rating sheet of changes they may have made. Participants could be contacted by telephone, by mail or by email. Include some demographic questions to see if there are differences among different categories of people. For example, is your target audience different from others who may have attended?

Here are some examples of questions that have been asked:

### Practice change—trying it out

To what extent have you tried (name of practice)? Would you say it was:

- To a great extent
- To a moderate extent
- To a slight extent
- Not at all

### Behavioral change—using ideas

To what extent have you used the ideas or skills you learned regarding (name of topic)? Was it:

- To a great extent
- To a moderate extent
- To a slight extent
- Not at all

Practice change—longer-term change

To what extent are you doing things differently because of the program on (topic)?

- To a great extent
- To a moderate extent
- To a slight extent
- Not at all

Practice change—sharing with others

To what extent have you shared the information with others? Would you say it was:

- To a great extent
- To a moderate extent
- To a slight extent
- Not at all

Behavioral or practice change—linked to extension program

To what extent did the program encourage you to get more involved in (subject)? Would you say it was:

- To a great extent
- To a moderate extent
- To a slight extent
- Not at all

Behavioral or practice change—list of possible changes

Listed below are possible changes you may have made. Check those you have made since attending the program / meeting:

- Describe change 1 in a few words
- Describe change 2 in a few words
- Describe change 3 in a few words
- Describe change 4 in a few words

## D. MEASURING ECONOMIC VALUE

### What is economic value?

Economic value is measured in dollars. It is the gain or loss of money caused by the program. Sometimes it is easy to measure economic value, such as when a certain practice increases yield. Other times economic value is difficult to measure. It can be a difficult question to answer because individuals may not be fully aware of the value or know how to measure the economic value. One strategy is to ask participants to estimate the economic value of what they learned at the meeting. Economic change can relate to individuals, to a community, or to society as a whole.

### At the meeting / program

#### 1. Using a short rating sheet with closed-ended questions

End-of-meeting rating sheets should be short (1-2 pages) and easy to complete. Consider adding a few demographic questions to see if there are differences among different categories of people. For example, is your target audience different from others who may have attended?

Here are examples of economic questions that you could ask:

How much would you pay for the information you received today?

- 0 to \$25
- \$26 - \$50
- \$51 - \$100
- \$101 - \$500
- Over \$500
- Other, please specify \_\_\_\_\_

Estimate how much you think you might save (or might additionally make) by using the information you gained here today.

- 0 to \$25
- \$26 - \$50
- \$51 - \$100
- \$101 - \$500
- Over \$500
- Other, please specify \_\_\_\_\_

(Note: You may want to change the dollar values to fit your specific situation)

## After the meeting / program

### **1. Asking estimates of economic value**

You might get in touch with participants a reasonable amount of time after the meeting. This could be a sample of participants who are reached in person, by telephone, by mail or by email. Individuals are asked to describe, if any, the changes they have made that resulted from the extension meeting or program. You might want to ask how much of an influence the extension meeting / program had in making the change. Was it to a great extent, to a moderate extent, to a slight extent or not at all? Incidentally, most changes that people make are influenced by multiple factors and you might try to establish the degree or amount of influence that Extension made.

Once you have identified the specific change you could get estimates of the value of the change. One estimate could come from the participants themselves. "What dollar value would you place on this change?" Another estimate could come from experts in the subject who use consistent and established protocol for estimating economic value.

### **2. Using a short rating sheet with closed-ended questions**

You could invite former participants to fill out a short survey several months after the meeting / program. This survey might ask participants to reflect on the changes they have made since the meeting / program and then to estimate the economic value of those changes. Here are examples:

If you were to place a dollar value on the information you received, what would it be?

- Less than \$25
- \$26 - \$100
- \$101 - \$500
- Over \$500
- Other, please specify \_\_\_\_\_

To what extent has this program improved your economic quality of life?

- To a great extent
- To a moderate extent
- To a slight extent
- Not at all

As you ask economic questions, you might want to use a scale that depicts either gain or loss of money. For example, a person might have made recommended changes and feel they have actually lost money. Or you could avoid categories and ask the individual to estimate an actual amount, such as:

As you reflect on the changes that you made on (specify topic), what is the economic value of those changes? \$ \_\_\_\_\_ (NOTE: use – sign for loss)

## E. MEASURING SOCIAL IMPACT

Social impact can mean many different things. In this context we use the term to refer to all changes to groups and communities that are not related to the environment and those that cannot be measured in dollars. It includes issues of diversity, empowerment, social capital, leadership, networking and quality of life issues. Social impact occurs when there is a change by a number of individuals in their attitudes, aspirations or practices.

Social impact is difficult to measure because it usually represents a cluster of complex behaviors.

Social change typically begins with the actions of individuals and when enough people make changes this results in a societal change. From a measurement point of view, this means that you will likely detect changes in individual behavior before you detect changes in the society. Therefore, consider asking questions both about individuals and about others in the community.

### At the meeting / program

#### **1. Using a short rating sheet with closed-ended questions**

Most changes in social impact require time to accomplish and you won't be able to get an accurate measurement of change while at the meeting. Therefore, it is usually best to delay the measurement until after sufficient time has passed for participants to actually make the desired change.

However, one could ask participants if they became more interested in the topic or their perceptions of the likelihood of making a change. For example:

#### Attitude about social change

To what extent did you become more interested in (subject)? Would you say it was:

- To a great extent
- To a moderate extent
- To a slight extent
- Not at all

Or, you can revise this question to get perceptions of how others have changed, such as: "To what extent do you think others became interested in the subject?"

### Aspirations toward social change

To what extent did you become more determined to try (subject)? Would you say it was:

- To a great extent
- To a moderate extent
- To a slight extent
- Not at all

Or, you can revise this question to get perceptions of how others have changed, such as: "To what extent do you think others became more determined to try (subject)?"

### Aspirations toward social change

What is the likelihood that this meeting / program will result in positive changes in (specify topic of social impact)? Do you believe it is:

- Highly likely
- Somewhat likely
- Not at all likely

## **2. Ask experts to rate the potential impact**

Identify experts before the event and ask them to be present at the educational events, observe the proceedings, listen to the participants and then develop an estimate of the social impact of the program.

## **After the meeting / program**

### **1. Using an evaluation form several months after the event**

Participants might be invited to complete a rating sheet several months after the meeting / program. This inquiry could be by mail, telephone, in person or by email and it could be sent to all or a random selection of participants. The evaluation might use both closed-ended and open-ended questions.

Consider adding a few demographic questions to see if there are differences among different categories of people. For example, is your target audience different from others who may have attended?

In the examples below, note that the questions can be asked either of the individual or of the individual's perception of society. Here are some examples of questions that have been asked:

Attitude about social change

To what extent did you develop a more positive attitude toward (subject)? Would you say it was:

- To a great extent
- To a moderate extent
- To a slight extent
- Not at all

Or, you can revise this question to get perceptions about others, such as: "To what extent do you think others became more favorable toward (subject)?"

Aspiration toward individual social change

To what extent did you become more determined to try (subject)? Would you say it was:

- To a great extent
- To a moderate extent
- To a slight extent
- Not at all

Or, you can revise this question to get perceptions about the social change of others, such as: "To what extent do you think others are more determined to try (subject)?"

Aspiration toward individual social change

To what extent did you become more determined to try out the ideas on (subject)? Would you say it was:

- To a great extent
- To a moderate extent
- To a slight extent
- Not at all

Or, you can revise this question to get perceptions of how others might have changed, such as: "To what extent do you think others are more determined to try out the ideas on (subject)?"

Behavioral or practice change of individuals

To what extent did the program encourage you to get more involved in (subject)? Would you say it was:

- To a great extent
- To a moderate extent
- To a slight extent
- Not at all

Or, you can revise this question to get perceptions of how others might have changed, such as: "To what extent did this program encourage others to get more involved in the subject?"

### Estimate of social impact

To what extent has this (name of program, event, meeting) improved the quality of your life? Would you say it was:

- To a great extent
- To a moderate extent
- To a slight extent
- Not at all

Or you might ask: "To what extent has this (program, event, meeting) improved the quality of life in your community?"

## **2. Developing your own categories of social impact**

Because social impact is so varied, you might want to develop your own categories to use in a rating sheet several months or longer after the meeting / program. These questions, like those in the previous section, could be asked by mail, telephone, in person or by email and it could be sent to all or a random selection of participants.

Here are some categories of questions. They could be asked at either the individual level or at the community level.

To what extent has this program . . .

- Improved appreciation of diversity
- Improved the ability to network with relevant groups and individuals
- Developed leadership
- Empowered local residents
- Helped your community
- etc.

For easy of analysis and consistency consider using the recommended response categories of :

- To a great extent
- To a moderate extent
- To a slight extent
- Not at all.

## F. MEASURING ENVIRONMENTAL IMPACT

### **What is environmental impact?**

Environmental impacts are changes to air, water, soil and living things. Sometimes these changes can be measured with technical instruments over a designated time period. Other times we must rely on “indicators” that give us advance clues that environmental change are about to occur. For example, an indicator would be the percentages of lake homes that have installed approved sewer systems. When a sufficient number of these changes are made we would expect to see an improvement in lake water quality. Environmental impact tends to occur after a sufficient number of individuals have made a desirable behavioral change.

Environmental change typically begins with the actions of individuals and when enough people make changes there is an environmental change in the community. From a measurement point of view, this means that you will likely detect changes in individual behavior before you detect changes in the overall community. Environmental change at the community or society level may take a considerable amount of time.

### **At the meeting / program**

#### **1. Using a short rating sheet with closed-ended questions**

Virtually all changes in environmental impact require time to accomplish and you won't be able to get an accurate measurement of change while at the meeting / program. Therefore, it is usually best to delay the measurement until after sufficient time has passed for participants to actually make the desired change.

While at the meeting / program it may be possible to get indications about potential for change. You could ask questions about either individual change or societal change.

You can ask about individuals or about the community / society. Individuals might make changes and if a sufficient number make changes it might result in environmental changes for the community as a whole.

When asking about environmental impact you could ask about changes in knowledge or skills of the topic (see sections A and B for examples of questions). Or you could ask questions about individual changes in attitudes or aspirations toward environmental change. Here are several examples:

#### **Attitude (interests) of individuals about environmental change**

To what extent did you become more interested in (subject)? Was it:

- To a great extent
- To a moderate extent
- To a slight extent
- Not at all

### Aspirations of individuals toward environmental change

To what extent did you become more inclined to make a change in (subject)?

Would you say it was:

- To a great extent
- To a moderate extent
- To a slight extent
- Not at all

Or you could ask for an estimate of the likelihood of community change, such as:

### Environmental impact—likelihood of change

What is the likelihood that this meeting / program will result in positive changes in (specify topic of social impact)? Do you believe it is:

- Highly likely
- Somewhat likely
- Not at all likely

## **After the meeting / program**

### **1. Using an evaluation form several months after the event**

Participants might be invited to complete a rating sheet several months or even a year after the meeting / program. This inquiry could be by mail, telephone, in person or by email and it could be sent to all or a random selection of participants. The evaluation might use both closed-ended and open-ended questions.

Consider adding a few demographic questions to see if there are differences among different categories of people. For example, is your target audience different from others who may have attended?

Here are some examples of questions that have been asked:

### Extent of environmental change

To what extent has the environment (specific topic) changed between (date before program) and today? Would you say it was:

- Very positive change
- Somewhat positive change
- No difference
- Somewhat negative change
- Very negative change

### Estimate of individual environmental impact

What influence have you had on the environment? Would you say it was:

- To a great extent
- To a moderate extent
- To a slight extent
- Not at all

### Estimate of environmental impact

To what extent has this program improved the environment? Would you say it was:

- To a great extent
- To a moderate extent
- To a slight extent
- Not at all

## **2. Using outcome indicators and periodically measure**

When measuring environmental impact you might have to wait years to see measurable differences in the quality of air, water or soil. In these situations you might consider using indicators of outcomes. These outcome indicators are the early steps or stages of change that logically occur before we can measure a difference in the environment. These indicators are often behaviors or activities that people do that are specific and measurable. For example, the percentage of lakeshore owners who build riparian strips; the percentage of homeowners who recycle or compost; the percentage of farmers who use best practices in soil conservation. These are indicators, which if accomplished by a sufficient number of people, will logically have a positive outcome on the environment. The strategy is to identify appropriate outcome indicators and then periodically inquire about the degree of compliance with those indicators.

## G. ANALYSIS OF RESULTS

Throughout this document we have suggested using the response categories of

- To a great extent
- To a moderate extent
- To a slight extent
- Not at all

We've preferred these categories because they are easy to understand, they work with a variety of audiences and they are easy to analyze. Certainly, other response categories are possible and use others if they fit the situation.

### **Adding more categories**

When using these questions, here are several things to keep in mind. Sometime people add additional categories such as "don't know" or "doesn't apply."

### **Asking for examples**

Another option is to selectively ask for examples. This is particularly helpful when people answer at the "great" or "moderate" levels when responding to using skills, making behavioral changes, or changing practices. When doing this on the form, you might draw an arrow to the follow-up question. For example:

To what extent has this (name of program, event, meeting) improved the quality of your life? Would you say it was:

- To a great extent -----> Please give an example below
- To a moderate extent----> Please give an example below
- To a slight extent
- Not at all

Example if you checked great or moderate:

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### **Calculating change**

When analyzing, first add the numbers of slight, moderate and great. This is the number who made at least a slight change. A slight change, however small, is still a change. For example, suppose you received 100 responses with the following distribution:

<u>Number</u>	<u>Category</u>
20	To a great extent
25	To a moderate extent
45	To a slight extent
10	Not at all

When you are asked how many individuals made a change you would report the number of 90.

### **Calculating specifically for your target audience**

You may want to separate people by demographic factors or a screener question and analyze results separately. Often programs are targeted to a specific audience, but when the meeting or event is held other people also attend. Some in attendance will be visitors, people attending with a spouse, or those attending for other purposes. Use your demographic questions or a screener question to identify your target audience and then calculate their responses separately. If you wish you can include the responses of others in your report as a separate category of participant..

### **Determining amount of change**

Another type of analysis is to calculate the amount of change made by the audience. You do this by calculating the mean score for each question. When using the response choices of “great”, “moderate”, “slight”, and “not at all” you can code these 4, 3, 2, and 1 respectively, with “great” = 4 and “not at all” = 1. For example, the mean score for the following responses would be 2.55.

<u>Number</u>	<u>Category</u>	
20	To a great extent	$(20 \times 4) = 80$
25	To a moderate extent	$(25 \times 3) = 75$
45	To a slight extent	$(45 \times 2) = 90$
10	Not at all	$(10 \times 1) = 10$
		$(80+75+90+10) / 100 = 2.55$

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