MODULE NUMBER 8

COMMUNICATION SKILLS & TECHNOLOGY TRANSFER

SUMMARY

The purpose of this module is to enhance communication skills through knowledge and practice. Communication is the key to transferring BNF technology. Only through the effective effort of extension specialists and agents can farmers gain the skills necessary to use this technology.

First, this module will be a refresher course on the importance of your role as a BNF trainer and the need to know some techniques to communicate for better understanding. Second, we will look at blocks to communication and do some exercises which point out problem areas. Third, we will practice some skills. Fourth, participants will work together with course instructors to plan a strategy for the future efforts in BNF technology transfer. Finally, participants will present a mini-course in BNF and Inoculant Technology.

KEY CONCEPTS

- YOU are the key to successful BNF technology transfer
- Information (New Knowledge) is flexible, alive, and easy to transport
- People want to learn something that will improve their lives
- Apply new information to past experience and real life — make it meaningful
- People don't hear or understand everything that is said
- People learn differently
- Repetition is good
- Using a variety of teaching methods is most effective
- Planning is a key to success

IMPROVING COMMUNICATION SKILLS

YOU are the key to successful BNF technology transfer.

Transferring BNF technology successfully depends on the capability of persons like you in the extension service to train agents and farmers, to diagnose BNF problems in the field, formulate feasible solutions, and to spread the knowledge of BNF. (Review Demonstration 8/1).

Participants in this course have been selected because they are already considered to be

in positions that will allow them to expand the knowledge of BNF by training others. You were probably selected because you have certain skills and attributes that make you capable of teaching others.

These attributes also have to do with your professional commitment to extension work. Ask yourself this series of questions, and make a mental note of whether you can answer yes or no to each question.

Can you help people to help themselves and enjoy doing it?
Do you believe farmers are intelligent and capable people?
Are you willing to learn from farmers?
Do you enjoy the success of others?
Do you resent criticism of farm people?
Do you believe there is always a quicker, easier, cheaper, safer, or better way to do a job? Are you anxious to look for it and get it in use?
Are you a creative thinker?
Are you able to discipline yourself?
Is your goal in life service rather than wealth?
Would you rather be a king maker than a king?
Are you sympathetic to farmers and their difficulties and willing to listen to their problems, even when you would rather be doing something else?
Do you feel a sense of responsibility to the people you serve, over and above office hours and your pay packet?

Source: Adapted from Handbook for Extension Work, Flores, Bueno, Lapastora, SEARCA, The Philippines, 1983.

The yes answers to these questions imply an attitude that fits with extension work. It probably also means you are a person able to use the training in this course to effectively transfer BNF technology to others.

Knowledge grows when we transfer technology

Life's experiences, including growing up on a farm or receiving an education in agriculture or extension work, prepares us to communicate with others. As you communicate with extension agents or farmers in the transfer of BNF technology, you will become an important person in assessing the successful use of BNF by farmers. With this information, you will have an even larger body of knowledge that can have a wider dissemination.

Imagine the power that is gained by the BNF message when one successful farmer tells another or when you are able to use that example in your presentations.

Information is a renewable resource; it is flexible, easy to transport, and alive. It grows and becomes refined with use. Once a farmer experiences success in the field, the knowledge is available to him forever. It can be taught to children and other farmers and moved from one farm to the next. People are anxious to improve their lives. That brings us to the next concept.

People want to learn something that will improve their lives

If farmers understand the importance of using BNF to improve their lives, they will be happy to learn. We know farmers have specific goals.* Understanding farmer's goals is useful when we want to transfer BNF technology. Extension workers must consider these goals and accept the constraints in achieving those goals the farmer desires.

1. Farmers are primarily concerned with assuring an adequate food supply for their families. They may produce most of the food their family consumes or market a portion of their output and use the cash to purchase food. Farm enterprises also provide other necessities for the farm family, either directly or through cash earnings. In addition, the farm family is a member of a community and has obligations to that community. To meet these requirements, farmers often manage a very complex system of enterprises that may include various crops, animals, and on-farm work. Although this manual concentrates on improving farmer's lives through transferring BNF technology, it is essential that legume inoculation be compatible with the larger farming system.

2. Whether farmers market little or most of their produce, they are interested in the economic return. Farmers will consider the costs of changing from one practice to another and the economic benefits resulting from that change. (You can apply in this context the discussion of the benefits of using BNF in **Module 6** and economic benefits in **Module 7**.) Farmers will recognize the benefit of harvesting more seed when they inoculate legumes. They also realize they must give up some time, effort, and cash to buy inoculant. Farmers will compare the yield benefits gained to the things lost in the form of labor and cash given up. What farmers are doing in this case is assessing the difference in net benefits between practices—the value of the benefits gained minus the value of the things given up.

The farmer's most important consideration will be the risks of trying something new versus the benefits. The farmer must be convinced there is little or no risk in inoculating legume seeds. The discussion of causes for inoculation failure covered in **Module 6** are important issues for consideration by extension agents and farmers as they assess risk. Farmers attempt to protect themselves from risks of loss in benefits and often avoid choices that subject them to risks, even though such choices may yield higher benefits than less risky choices do. Recall the discussion of risk assessment from inoculation technology in **Module 7**. The farmers preference for stable returns rather than the highest possible returns is easy to understand.

*Adapted from Agronomic Data to Farmer Recommendations, CIMMYT, 1989.

Activity (Demonstration 8/1): Describe the typical extension agent you will be working with. Describe the typical farmer you expect will be a potential user of BNF technology.

Apply new information to past experience and real life—make it meaningful

Information is most readily received if the extension agent can link it to something that farmers use, enjoy, desire, or dislike. For example, inoculation makes the most sense to a farmer who grows legumes for food or market. The desire for a better life is a strong motivation toward learning something that will give them more food on the table and a potential cash crop. This same farmer dislikes not being able to provide for his family. Thus, link the transfer of BNF technology as close to the farmer's life experiences as possible.

Think about the extension agent and farmer described earlier. How does the description of extension agents and farmers help to link BNF technology to their experience?

Activity: Make lists answering this question.

BLOCKS TO COMMUNICATION

People do not learn everything that is taught

We learn only 20% of what we hear. Only limited information can be held in the mind at one time. One estimate is that people can only think about six things at one time. When we hear something that requires time for thought we miss other things that are said. Further, we all can acknowledge we must work to focus our mind on a lecture, especially when the conditions are uncomfortable or we have been sitting for a long time.

Seeing doubles the amount of information we gain. Providing ways for learners to see is one of the more enjoyable parts of communication for many of us. Drawing graphs, sketches, and lists; showing slides or videos; or assembling displays is a good method of adding the visual element to teaching. It is also useful to provide written materials because reading can reinforce knowledge through seeing.

Activity Demonstration 8/2): The Secret. Participants pass a short secret orally it should be written out by the facilitator) through the line of all the people present. Let the last person write what he or she heard, and then compare the two secrets.

We can use 40% of what we hear and see.

We can use 80% of what we see, hear and experience. Again, the addition of another

element doubles the amount we can gain in information received. Doing is critical if a technique like inoculation is to be learned. Doing must be a part of any BNF training course. Theoretical information is good to know, and diagnostic skills are useful to farmers, but the ability to inoculate seeds is essential.

People don't understand everything that is said

Often when we try to communicate to teach, the information is quite abstract. What do we expect from the learner? The following exercise will give us some understanding of what a learner may experience.

> Activity (Demonstration 8/2): Have participants form pairs. Hand out cards with abstract figures drawn on them. Have one person describe to the other how to draw the hidden figure. Any instructions are okay as long as they are verbal—no hand signals. Have them compare the two figures and discuss how their instructions might have been more effective. Give pairs a chance to report.

Aside from the obvious difficulties of transferring information as we just experienced, there are other problems. The use of a special language or jargon connected to a particular subject often inhibits information transfer. BNF uses a special language. Many terms we use are unusual and words used in one context might have a different meaning in another. The problem is that these are usually the best words to transfer meaning. How do we overcome this? Each teacher must use judgement in deciding how best to communicate. Three examples of methods for overcoming this problem are: 1) introduce the new vocabulary as you go along (best with extension agents who need to understand written background materials); 2) select different words that you know will convey the same or a similar meaning; or 3) simplify the material to the extent that the use of jargon will not be necessary. You are the best judge of how and when to use these or other techniques to overcome the problems of effectively teaching the difficult concepts of BNF.

Teaching involves more than just giving someone information. Each audience has unique characteristics in the way they learn, which makes it important for extension workers to understand the special characteristics of adult audiences.

Teaching Adults Requires Special Considerations

The three most important factors in teaching adults are:

Respect. To communicate well with adults, respect is essential. Children can be taught in a very directive way, however adults must feel honored and respected as a person, not for what he or she knows but for themselves. Respect, then, is a way of communicating to the sense of feeling. Everyone can think of a situation in which they felt disrespected. It is obvious that whether the learners are extension agents or farmers, ensuring that they feel respected will be of great benefit when transferring the BNF message.

Immediacy. Learners must see how they can use their new knowledge, skills and attitudes immediately. They need to carry away from a learning experience a tangible gain. In our case this could be the knowledge of how to inoculate seeds, how to obtain inoculants, how to tell if a legume has nodules, or even a packet of inoculant and instruction sheet.

Experience. As discussed earlier, providing a learning experience where participants can relate the new knowledge to something known and valued is essential. Adults learn best when their learning is directly related to their own life experience.

Adults who are ready to learn are the easiest to teach. It is important to be sensitive, however, to physical realities. Speak clearly and slowly and use visual aids as much as possible because vision declines steadily after age 14, with a marked decline in the middle age (45-55) and hearing ability declines steadily from 14 years on. Men lose ability to hear higher tones and women lose on the lower tones as they grow older.
One last thought on creating the right learning environment. It is up to the teacher to make the learning environment a safe place to practice skills and experiment with new knowledge and ideas. Feeling safe gives people a chance to experiment and make suggestions which may even challenge the teacher. Nothing is more rewarding to a good teacher than seeing learning grow before their eyes. If an appropriately respectful environment is provided, people will automatically feel safe and ready to learn.

Repetition is good

Often when we are teaching others, we think they will become bored if we repeat information. There is another way to look at this belief. Consider that we remember only a portion of what we hear, see and do. How then do we create situations in which people will learn? We can repeat the same information in several ways.

Perhaps you have realized that our approach in this course has been to present the same information differently as each module was taught. We used repetition. If you have learned well, it may have been because we used that technique. Our model for teaching has been to **SHOW IT**; **TELL IT**; **DO IT**.

For example, in the last module you saw slides as part of the lecture, you were reminded of things from previous modules, and you actually diagnosed BNF problems. You saw, you heard, and you did. We used repetition of the same material to reinforce your knowledge. When teachers have little time to complete a training session, they often forget to take time to use repetition as a teaching technique.

It is also very important to evaluate whether learning has taken place. This is best done by questioning, but always keeping in mind the conditions of successfully teaching adults. What are some other ways of gaining attention from learners?

Use a variety of teaching methods

No two people are alike and no two people learn alike. They need to be approached using

a variety of teaching techniques. The following table shows that the use of more teaching methods increases the rate of technology transfer.

Table 8-1. Increasing teaching methods enhances technology adoption.

Number of different teaching methods used	Percentage of people who adopted the practice.
1 to 2	45%
3 to 4	64%
5 to 7	95%

Source: *Handbook for Extension Work* , Flores, Bueno, Lapastora, SEARCA, Philippines, 1983.

By using the five senses of sight, sound, taste, smell, and touch, it is easier to influence people to accept new ideas such as legume inoculation. Extension teaching methods are classified as written (bulletins, leaflets, news articles, etc.); spoken (meetings, home visits, office or telephone calls, radio); objective or visual (result demonstrations, exhibits, posters, charts, slides, video tapes, etc); and spoken and objective or visual (method demonstration or informational meetings).

The teacher must adjust his or her style and teaching role according to the objective they are attempting to achieve, i.e., transfer information primarily by lectures or new techniques by demonstration. However, there are other useful teaching roles. **Table 8-2** lists all the roles and gives some information on each.

Table 8-2. Teaching roles

Role	Activity	Goal/Comments
Lecturer	Presents oral material	Don't forget that lectures are usually not enough
Coordinator	Organizes efforts of more than one person or group	Extension specialists spend much of their time coordinating the efforts of groups
Demonstrator	Shows how to do something	Essential in communicating BNF technology
Guide	Asks questions Responds to questions	Helps people to learn for themselves. Good to use with adult learners
Facilitator	Gives instructions and guides learning as needed	Learners have both safety and freedom in this setting
Observer	Gives instructions and then simply stands back and lets learner teach him or herself	Allows us as teachers to step back and see where the learner is and how much he or she can do on their own

This gives us an opportunity to become familiar with using the training aids at the end of each module. We have provided you with materials and suggestions on their use. You are very creative people and will come up with innovations in their use that we haven't thought of. The next activity (DO IT) will make use of these training aids.

> Activity: practice using flip charts and training aids at the end of modules. Be clear about your teaching role, facilitator, lecturer, etc.

PLANNING

Planning is a key to success

First, we can use a relatively simple set of seven steps* that have helped trainers and managers prepare presentations and training events, conferences, and workshops. It has been proven a useful instrument in planning any meeting or workshop.

1. HOW: steps, activities, materials (Modules 1-7)
2. WHO: participants, trainers, resource persons
3. WHY: the situation (BNF technology transfer)
4. WHEN: the time frame (1 to ? days)

5. WHAT FOR: objectives (get farmers to use legume inoculants, extension agents to teach farmers, etc.)
6. WHERE: site
7. WHAT: content

*Adapted from learning to teach: training of trainers for community development, Save the Children, 1989

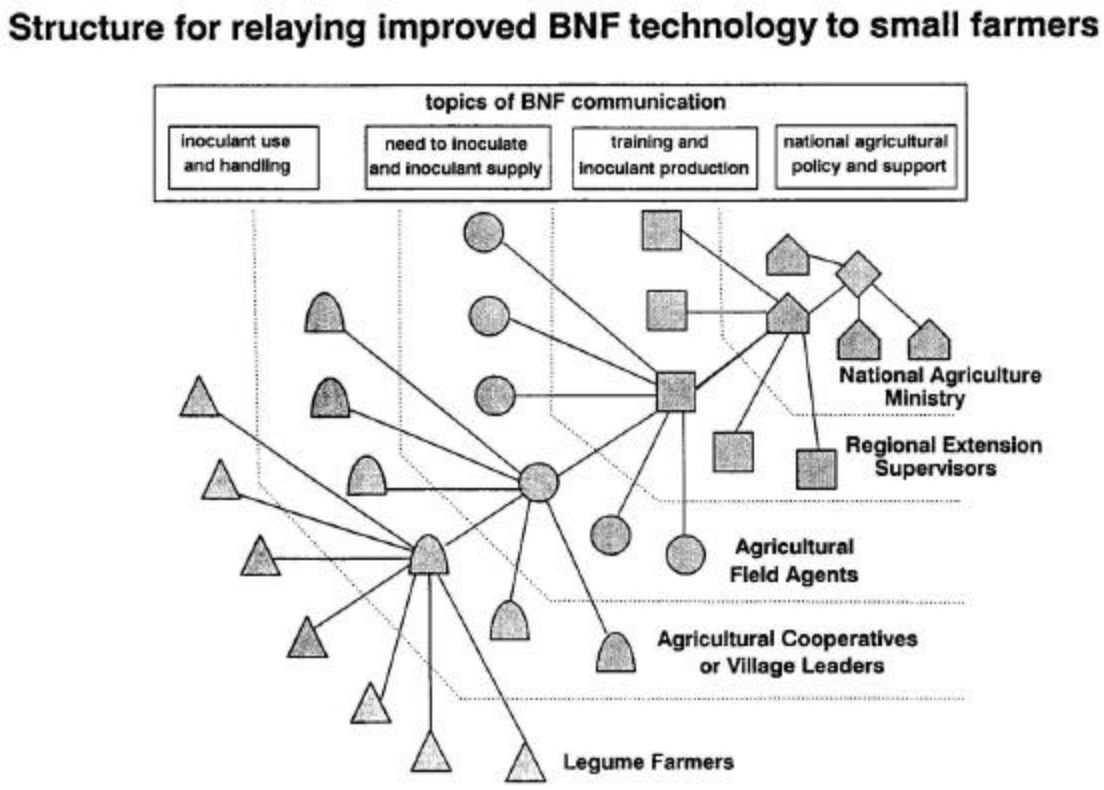


Figure 8-1. The structure of BNF communication for extension of technology.

In order to be successful in teaching others, we must plan carefully. One aspect of planning that is imperative for BNF technology transfer is deciding how to start the training process. Perhaps you have thought about this and of some of the problems that will have to be overcome before you begin. Each situation is different and requires a slightly different approach. We can, however, expect to consider the following in most cases:

Your agency and the national commitment to the importance of BNF technology
Your own resources of time, program flexibility, and funding
Your agency's resources of time, program flexibility, and making funds available to you
The availability of materials, i.e., handouts and inoculant
Scheduling training sessions or field days to coincide with planting seasons or other events to ensure the greatest impact
Will a media promotion help to inform farmers that BNF is important and useful?

Developing a strategy is essential for transferring BNF technology. Each participant will be challenged to plan this strategy. People together have more power than people alone. Take advantage of your network of participants in this course as you return to your home agencies. Your combined strength can have a powerful impact for positive change and for getting the message of the value of adopting BNF technology to those who can use it.

Activity (Demonstration 8/3): Develop a strategy for BNF technology adoption.

Once the strategy for technology transfer has been planned, practicing teaching the technology is one way of reinforcing what has been learned. The last exercise for this module is the presentation of a mini-course. How much can actually be taught in seven 1/2-hour lessons?

Activity: Divide into groups of two or three. Each group selects a module to present. Use the lunch hour and early part of the afternoon to prepare. Present in 15 min. to half-hour segments.

SUGGESTED LESSON PLAN FOR MODULE 8

TIME: 2 hours +

This module can be enriched by adding exercises designed to help people become comfortable with each other.

OBJECTIVES:

Knowing that technology cannot be transferred without people who have the knowledge and willingness to teach what they have learned.

MATERIALS:

Training Aids for Module 8

Large sheets of paper

Note paper or copies of the exercises on page 8-2 and the abstract figure drawing in the training aids.

STEPS:

1. Display key concepts and other appropriate training aids.

2. You will decide how deeply to go into this material. Administering the self-test on page 8-2 is one of the most important exercises. A review of adult learning patterns will be a simple exercise that would also be useful.

3. The learning evaluation for this module is the process of planning strategies for technology transfer. If participants are excited about BNF technology and set as helping to solve the problems of farmers in their areas, you will have been highly successful in your teaching of these materials. CONGRATULATIONS!

KEY CONCEPTS

YOU are the key to successful BNF technology transfer.

Information (New Knowledge) is flexible, alive, and easy to transport.

People want to learn something that will improve their lives.

Apply new information to past experience and real life-make it meaningful.

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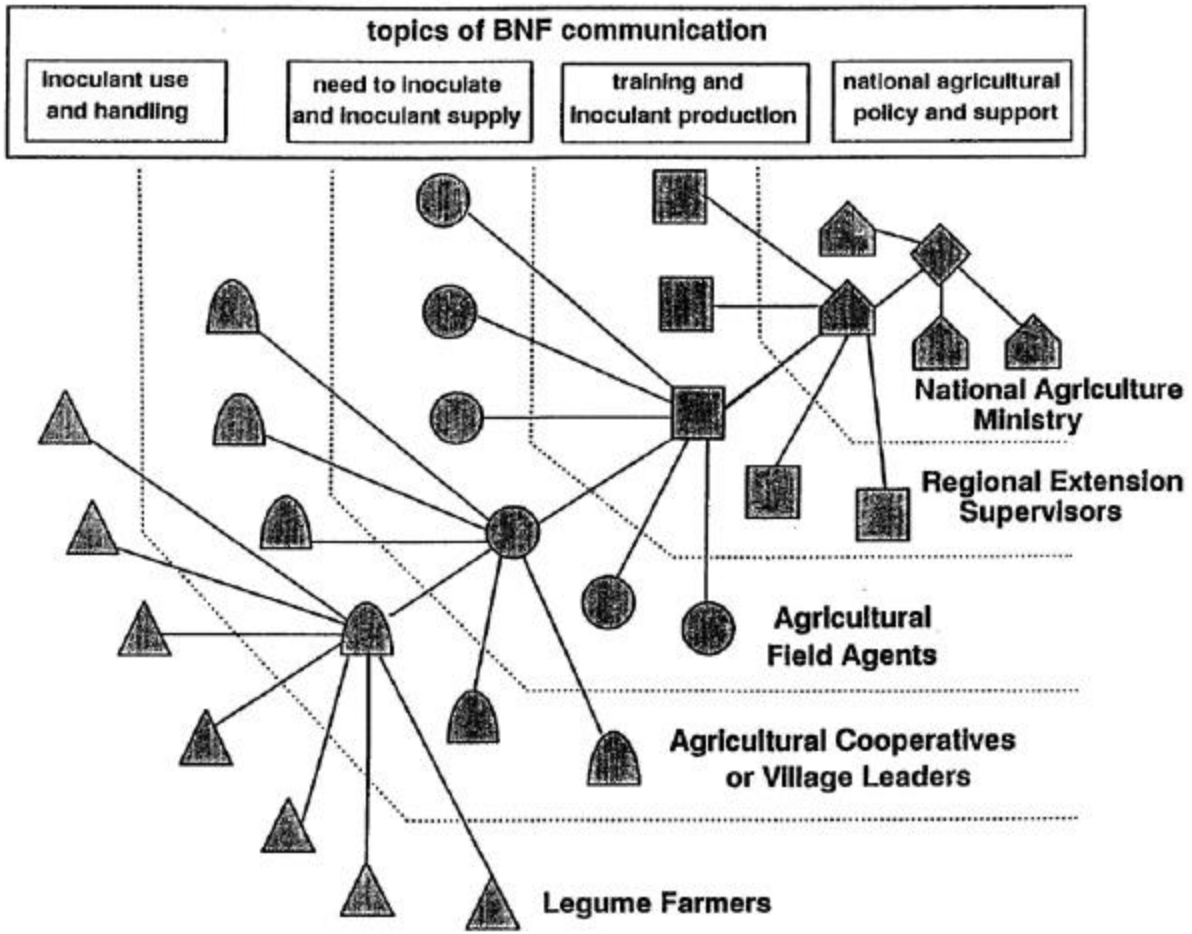
People learn differently.

Repetition is good.

Using a variety of teaching methods is good.

Planning is a key to success.

Structure for relaying improved BNF technology to small farmers



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Do you believe farmers are intelligent and capable people?

Are you willing to learn from farmers?

Do you enjoy the success of others?

Do you resent criticism of farm people?

Do you believe there is always a quicker, easier, cheaper, safer, or better way to do a job? Are you anxious to look for it and get it in use?

Are you a creative thinker?

Are you able to discipline yourself?

Is your goal in life service rather than wealth?

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Do you feel a sense of responsibility to the people you serve, over and above office hours and your pay packet?

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