Farmers’ Communication Process: A Route to Sustainability

Josué López
Office of International Programs
240 Ag Adm Bldg
University Park, PA 16801
jxl400@psu.edu

Thomas H. Bruening, Associate Professor
Department of Agricultural and Extension Education
335 Ag Adm Bldg
University Park, PA, 16801
thb2@psu.edu

Abstract
In rural areas, the challenge is to increase the quantity and accessibility of information, to ensure its exchange in appropriate ways, and to elicit more information from rural people themselves in order to guide the planning of sustainable development programs. This study used participatory approaches to explore limited-resource farmer communication processes within their own context. All San Lázaro participants (100%) indicated that friends were the reference group they associated the most concerning agricultural practices. Eighty-four percent of the participants indicated that communication with their neighbor farmer was the type of communication most used regarding decision-making in production practices. Taking into account the views, capabilities, and needs of rural people as they see them is a key to develop meaningful communication strategies that lead to sustainable development. Communication processes among farmers need to be active so farmers can search for and select their own new technologies and practices. Helping people at all levels to communicate effectively empowers them to recognize important issues and find common grounds for action, and builds sense of identity and participation in order to implement decisions. Higher education institutions, and vocational schools in nearby San Lázaro village, should develop and modify curricula that use appropriate communication strategies, methods, and media to reach farmers and share information with them. Finally, extension educators should create linkages and enhance communication with/among farmers through curriculum development, training and workshops to meet farmer educational needs regarding agricultural sustainability.
Introduction

There is a growing belief that one of the more effective means of protecting the environment and agricultural resources is to empower local people and stakeholders directly involved in the management of natural resources to make their own analyses and decisions (FAO, 1997). Communication is central to this task in many ways. For instance, it enables planners when identifying and formulating development programs, to consult with people in order to take into account their needs, attitudes, and traditional knowledge (FAO, 2000). In rural areas, the challenge is to increase the quantity and accessibility of information, to ensure its exchange in appropriate ways and to elicit more information from rural people themselves in order to guide the planning of sustainable development programs.

More importantly, Reijntjes, Haverkort and Waters-Bayer, (1992) presented evidences showing that most agricultural technologies in use in the world today were developed by farmers, not by formally educated scientists. Innovations are developed and diffused by farmers through processes of which many outsiders are completely unaware. As Dudley (1993) suggested, transfer of technology (TOT) is not a passive process of farmers and others receiving new knowledge and skills from experts, but instead it is an active process by which villagers search for and select their own new technologies and practices. More importantly, attitudes generated by the top-down TOT paradigm have precluded researchers and extensionists from learning indigenous systems (Rajasekaran & Martin, 1991). Under this situation, power is concentrated in universities, laboratories, and research stations, and then transferred and packaged for adoption. This approach is centralized, standardized, and simple. Reductionist research (based on TOT), high input packages, and top-down extension were successful in the uniform and controlled conditions of industrial agriculture. The sustainability of that approach is open to question, and TOT does not work well with more complex, diverse and risk-prone rain-fed agriculture of poorer countries (Chambers, 1990).

Using Indigenous Communication Approaches

Various approaches have been recommended to facilitate the communication process with/among farmers in the process of technology generation and diffusion. FAO (1998) described a procedure called Participatory Rural Communication Appraisal (PRCA) used as the first step in the planning and conducting of cost-effective and appropriate communication and development programs. This procedure that was first developed and implemented in Africa, actively involves people concerned in the research process to ensure that “Communication for Development” programs are effective and relevant to them. The “Communication for Development” design uses participatory activities, communication approaches, methods and media to share information and knowledge among all stakeholders in order to ensure mutual understanding and consensus leading to action. This clear plan and development process empower local people and increases their readiness to mobilize themselves for collective action in order to achieve the objectives of the development effort. Van Veldhuizen, Waters-Bayer, & De Zeeuw (1997), proposed an innovative approach called “Participatory Technology Development” (PTD) as a reaction to major problems encounter with TOT. PTD stresses the importance of farmers’ role in agricultural innovation and change, which is complemented by formal research (see Table 1).
Table 1. Comparison among three approaches to technology development.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Indigenous TD</th>
<th>TOT</th>
<th>Participatory TD</th>
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</thead>
<tbody>
<tr>
<td>Objectives</td>
<td>Secure living, reduce risks</td>
<td>Maximize yield</td>
<td>Farmers’ agricultural self-management</td>
</tr>
<tr>
<td>Source of innovations</td>
<td>Farmers</td>
<td>Research organizations</td>
<td>Farmers complemented by research organizations</td>
</tr>
<tr>
<td>Nature of knowledge</td>
<td>Holistic</td>
<td>Particularistic</td>
<td>Creative tension between holistic &amp; particularistic</td>
</tr>
<tr>
<td>Experimental approach</td>
<td>Largely unknown</td>
<td>Scientific procedures</td>
<td>Farmers’ method complimented by simple scientific procedures</td>
</tr>
<tr>
<td>Channels of communication</td>
<td>Farmer-to-farmer</td>
<td>Extension service</td>
<td>Multiple system: farmers, NGO’s extensionists, etc</td>
</tr>
<tr>
<td>Process of communication</td>
<td>Informal, horizontal</td>
<td>Formal, vertical, top-down</td>
<td>Semi-formal</td>
</tr>
<tr>
<td>Role of farmers</td>
<td>Generator of knowledge, communicator, user</td>
<td>Receiver, adopter</td>
<td>Generator, communicator, evaluator of outside ideas, user</td>
</tr>
<tr>
<td>Role of field staff</td>
<td>None</td>
<td>Teacher, control compliance with regulations</td>
<td>Multiple: moderator, resource person, co-researcher, teacher</td>
</tr>
</tbody>
</table>

Source: Van Veldhuizen et al., (1997). Developing technology with farmers: A trainer’s guide for participatory training, p. 44.

In Indigenous Technology Development (TD), farmers control what happens on their farms. All decisions -- for example, those about which aspect of their farm system needs to be improved or which new options should be tested—are in their hands alone. In TOT many of these decisions are taken from them; in some cases of large irrigation schemes, the farmers are little more than laborers on their own land. The PTD approach aims at giving the decision-making role back to the farmers. Where outsiders contribute to farmers’ decision-making, this is done openly as equals in dialogue (Van Veldhuizen et al., 1997).

The *Campesino a Campesino* (CaC) or Farmer-to-Farmer program was founded in Nicaragua in 1987 to help farmers develop their own sustainable agriculture (Hocdé, Vasquez, Holt, & Broun, 2000). The key elements in the CaC approach are the “farmer promoters” and the mechanism of communication used. The farmer promoters’ basic functions are to find technical solutions to problems in smallholder agriculture and to communicate them to neighboring farmers who are also seeking solutions. The impact of this approach lies in the radical change in the mental map farmers have of their role in the process of technology generation and diffusion. Through the CaC approach farmers realize that they are capable of experimenting, offering solutions, communicating and transmitting options to others (Hocdé et al., 2000).

Another approach developed and promoted by FAO is the Farmers Field Schools (FFS) (Community IPM, 2001) as part of its ecological approach called Integrated Pest Management (IPM) in South East Asia. The FFS entails weekly meetings by a group of farmers who instead of listening to lectures or watching demonstrations, they observe, record, and discuss what is happening in their own fields. This discovery-learning process generates
deep understanding of farming problems and promotes practical communication mechanisms for its solutions.

This study used participatory approaches to explore limited-resource farmer communication processes within their own context. Taking into account the views, capabilities and needs of rural people as they see them is a key to develop meaningful communication strategies that lead to sustainable development. Therefore, agricultural educators need to understand and incorporate farmer communication networking in their curricula to bring about lasting improvements and meet rural people’s educational needs.

**Purpose and Objectives**

The purpose of this descriptive study was to examine traditional farmers’ communication processes in the Andean village of San Lázaro, State of Trujillo, Venezuela. The objectives were to:

1. Identify farmers’ information reference groups and communication sources regarding farming decision-making.
2. Describe how farmers’ information reference groups and communication sources influence farming decision-making.

**Methods and Procedures**

**Research design**

This study used both quantitative and qualitative research methods. A “qual+quan” methodological triangulation was used to add rigor and provide richness to the data (Morse, 1991). According to Riechardt and Cook (1979), using qualitative and quantitative methods together helps correct for the inevitable biases that are presented in each method and contribute to methodological rigor to provide richness to the data.

**Population and sample**

The target population for this study consisted of all small-scale farmers in Venezuela. The estimated population of San Lázaro was 2,500 residents (UNIR, 2000). The village consisted of 400 houses and there are approximately 112 farms in the area where the study was conducted. However, a purposive sample of 50 farmers who participated in the UNIR (Una Nueva Iniciativa Rural—A New Rural Initiative) project was used in this study.

**Data Collection and Analysis**

A self-report interview schedule consisting of a qualitative-quantitative questionnaire was developed to collect the data for this study. The questionnaire included close and open-ended questions. To increase clarity and dependability the questionnaire was translated into Spanish and pilot tested in Venezuela. Trustworthiness was established by the panel of experts (Lincoln and Guba, 1985).

A self-report survey, observations, field notes, and a face-to-face interview were used to collect the data. The data collection included participatory approaches and was collected in Spanish and translated into English for analysis purposes. The qualitative data was analyzed using an inductive approach in which predominant themes were identified (Creswell, 1998). Descriptive data were analyzed using a SPSS computer program.

**Results**

The participants in this study were asked to respond to what extend they associated with specific reference groups for agricultural information. They were also asked if they used
specific types of communication regarding decision-making in farming. Table 2 shows that all San Lázaro participants (100%) indicated that friends were the reference group they associated the most concerning agricultural practices. Eighty-four percent of the participants indicated that communication with their neighbor farmer was the type of communication most used regarding decision-making in farming practices.

Table 2. Frequencies and percentages regarding farmers reference groups and types of communication.

<table>
<thead>
<tr>
<th>Farmer selected sources</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
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<tbody>
<tr>
<td>Reference groups*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Friends</td>
<td>50</td>
<td>100</td>
</tr>
<tr>
<td>Input distribution centers</td>
<td>34</td>
<td>68</td>
</tr>
<tr>
<td>Agricultural officials</td>
<td>28</td>
<td>58</td>
</tr>
<tr>
<td>Government institutions</td>
<td>20</td>
<td>40</td>
</tr>
<tr>
<td>Type of communication*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neighbor farmer</td>
<td>42</td>
<td>84</td>
</tr>
<tr>
<td>Radio</td>
<td>38</td>
<td>76</td>
</tr>
<tr>
<td>Publication</td>
<td>34</td>
<td>68</td>
</tr>
<tr>
<td>Progressive farmer</td>
<td>30</td>
<td>60</td>
</tr>
</tbody>
</table>

Note. * Findings are based on Yes/No questions. Total percentage can equal more or less than 100 because participants could choose more than one response.

San Lázaro participant farmers were asked to select a reference group and indicate why that reference group was important to them when they made a farming decision. Furthermore, farmers interviewed were asked why a specific type of communication was the most influential regarding their decision-making in farming practices. The following are the predominant emerging themes and participant comments from the qualitative section of this study. Farmer comments referred to various selected sources of information as seen in Table 2.

**Importance of a reference group**

**Enhanced knowledge and shared experience**
- agricultural officials were an important reference group because they know how to explain agricultural practices.
- I usually talked to friends about agricultural topics. We share things about crops.
- input distribution centers can give advice concerning many farming practices.

**Provided support and help**
- the farmers associations, as the local coffee farmers association...give support, help to its members.
- the Ministry of Agriculture gives credits, promotes agricultural exports and marketing of products and supports farmers.

**Provided technical assistance**
- when I have a problem...I consult with agricultural technicians and the give me specific technical assistance...about soil testing, fertilizers and plant diseases.
• input distribution centers have advised me about the best fertilizers, herbicides, and other external inputs.
• Was easier to reach
• friends are important because we don’t have much technical assistance here…we stay united and try to work together for our own benefit.
• friends are always at reach, closer to me, and always willing to help.

**Importance of a type of communication**

**Provided solutions and specific information**

• input distribution centers...showed me how to use products for plants and animals.
• my neighbor farmer...let me know how to plant and take care of certain crops.
• we have the same soil types, ...when a neighbor farmer controls weeds, he gives me that information...and I conduct the same practice.

**Enhanced learning and knowledge**

• I think publications are the best way to understand information
• I get more information from other farmers and their experiences.
• I have obtained more education about agriculture on TV.

**Was closer and reliable**

• when I have doubts about a crop, my neighbor can give me advice and vice versa.
• here my neighbor lets me know about meetings and new things to try on my farm.
• ...communication with my neighbor is more common and frequent...We are always talking about fertilizers, pesticides, crops and the like.

**Conclusions**

According to the study findings, it is evident that participant farmers successfully use the Farmer-to-Farmer -- CaC approach (Hocdé et al., 2000). In this approach, farmer promoters voluntarily conduct experiments on their own fields, and then share knowledge and experience with their neighbors. Communication processes among farmers are active ones in which farmers search for and select their own new technologies and practices. The study participants consult with one another and identify common technical problems by sharing knowledge and experience with other farmers.

Similarly, the PTD (Van Veldhuizen et al., 1997) approach which stresses the importance of farmers’ role in agricultural innovation and change is perhaps a key for promoting and diffusing appropriate technologies among farmers. Farmers’ agricultural knowledge can play an important role in the conservation of natural resources because this knowledge has created a model for resource management which allows for long-term maintenance of human and environmental well being.

**Educational Importance**

Teaching farmers how to solve their own problems promotes sustainability and food security. Helping people at all levels to communicate effectively empowers them to recognize important issues and find common grounds for action, and builds sense of identity and participation in order to implement decisions. For instance, PRCA (FAO, 1998) addresses
communication as an interactive process characterized by the exchange of ideas, information, points of view and experience between farmers and/or groups. Higher education institutions, and vocational schools nearby San Lázaro village, should develop and modify curricula that use appropriate communication strategies, methods, and media to reach farmers and share information with them. Essentially, extension educators could include training to farmer promoters that at the same time will find technical solutions to farm problems and communicate the ideas to neighbor farmers who are also seeking solutions (Hocdé et al., 2000). Furthermore, extension educators should create linkages and enhance communication with/among farmers through curriculum development, training and workshops to meet farmer educational needs regarding agricultural sustainability. Perhaps Farmer Fields Schools should be developed as they generate farmer-to-farmer communication strategies and help promote effective local farming practices (Community IPM, 2001). More importantly, extension educators need to be taught how to develop educational strategies that enhance farmer communication networks.

References