Agroforestry Technology Transfer in Los Rios, Chile: Analysis of Rural Farmers’ Response to Outreach and Education

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Abstract

Gonzalez-Jeuck, Grizel. Master of Natural Resources – International Resources Agroforestry Technology Transfer in Los Rios, Chile: Analysis of Rural Farmers’ Response to Outreach and Education

Owing to their commitment to sustainable development, Chile has implemented education and outreach programs to motivate rural farmers to implement agroforestry methods. Follow-up visits to farmers who had received outreach services revealed that while some farmers had successfully implemented the methods introduced, other farmers expressed confusion about the processes or appeared as though they had never received outreach materials. A qualitative, multiple method study was conducted, utilizing SWOT analysis design to survey farmers who had received agroforestry outreach materials in San Jose de la Mariquina. Written outreach materials were also analyzed to establish design and readability appropriateness.

Analysis of current written outreach materials indicate that they are not suitable for the intended audience and that design elements such as font and picture size, use of technical language and the number of concepts covered should be revised. In addition, survey responses suggest that agencies should incorporate alternate modes of communication, such as mobile phones and radio as a means of bolstering outreach efforts. Finally, results from the SWOT analysis reveal that respondents tend to have a positive attitude toward benefits associated with agroforestry and they show interest in learning about agroforestry methods. However, inconsistent delivery of written materials and continued tensions between Mapuche stakeholders and the Chilean government pertaining to land use and development pose threats to outreach efforts. Further analysis of outreach methods in other regions is needed determine generalization of this study’s findings.
Acknowledgements

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INTRODUCTION

History of Land Use in Southern Chile

Unsustainable agricultural practices in Chile dating back to Spanish colonization and settlement have led to increased land degradation and deforestation. Land initially belonging to the indigenous Mapuche, which they used for grazing and cultivation, became the source of southern Chile’s wheat trade. The success was such that southern Chile was seen as the breadbasket of the country. With increased migration and the construction of railroad tracks, the southern region of Chile became an important zone for grazing as well as wheat production. As demand for land increased, native forests were cut down and converted to pasture land and more wheat plantations. Consequently, it has been estimated that by 1881 approximately 580,000 hectares of land had experienced deforestation (Van Dam & VanDam, 2003).

Forest Industry

As an attempt to mediate land erosion caused by deforestation the Ley de Bosques was introduced in 1931 (Van Dam & VanDam, 2003). The intent of the law was to reforest eroded lands. However, instead of planting native trees, exotic species were introduced to the area, with Radiata Pine as a favorite. Within 20 years, Chile saw the construction of its first pulp and paper mills. The motivation to reforest became focused on the need to supply the pulp mills. Then, in 1973, the entrance of a new military government became a catalyst for the expansion of industrial forestry as a new economic model in Chile (Cornejo, 2003). In 1974, Ley de Bosques was modified, adjusting land use and tenancy between Regions VIII and X, where the large concentrations of Mapuche communities were found. The government sold its woods and cellulose plants to Arauco and Mininco for an “infamous” fraction of their value (Van Dam & VanDam, 2003). To supply the pulp mills, exotic species such as eucalyptus and
pine began to dominate the Chilean landscape. By 2003 the two largest industrial forest groups in Chile, Arauco and Mininco controlled over 60% of forest and export activities (Cornejo, 2003). This created a significant reduction in the amount of native forests and agricultural lands.

Between 1955 to 2007 forest plantations increased by 2.6 percent, while natural forests and woods decreased by 12.3 percent. In the same time period, cultivated land decreased by 11.3 percent (Curumilla, Mauricio, Arteche, & Velasquez, 2010), with approximately 40 percent in parcels smaller than five hectares in size, significantly reducing farmers’ resources for livestock and agricultural production.

**Remediation**

In adherence with Chile’s commitment at the 1992 UNCED Global Plan of Action for the 21st century, held in Rio de Janeiro, Brazil the Chilean government decided to implement agroforestry strategies as a means of mitigating damage to soils caused by almost a century of unsustainable land-use practices (Brown & Gabaldón, 1992). Agroforestry has been identified as a feasible means of meeting human needs while preserving the environment. Furthermore, agroforestry technology can contribute to more sustainable use of agricultural lands.

**INFOR’s Role in Remediation**

Aligning with Chile’s sustainability goals, (1992) the Instituto Forestal, INFOR, developed an education and outreach program with the goal of motivating rural farmers to adopt agroforestry methods. INFOR is a technology research institute which was conceived from an FAO project in 1961 and was formally established by the government of Chile in 1965 (INFOR). INFOR is a private corporation under Chile’s Ministry of Agriculture which espouses the goals of “creating and transferring knowledge for the development of innovative
small and medium forestry and timber production, meeting the information needs of sector economies and social and environmental spheres, generate excellence and expertise for the scientific community and civil society to promote the sustainable development of the sector” (www.infor.cl/index.php/quienes-somos/mision-y-vision).

Working in collaboration with local municipalities and local INDAP (Instituto de Desarrollo Agropecuario) chapters, during 2011 and 2012 INFOR carried out agroforestry outreach and education to farmers in the Los Rios Region (Region X) via in-person verbal communication and written materials. INDAP is a public service agency belonging to the Ministry of Agriculture which “supports the development of small agricultural producers through productive development activities aimed at building and strengthening human, financial and productive capital, which contribute to poverty alleviation and sustainability and competitiveness of family agriculture” (www.indap.gob.cl/que-es-indap).

Upon follow-up visits, INFOR found that while some farmers had successfully implemented the recommended agroforestry, a great many farmers expressed confusion about the processes and some appeared as though they had not received information about agroforestry (Jofre, P. personal communication, 18 January 2012). On some of the farms, it was found that donated seedlings had never been planted or that they had not been planted according to the specified guidelines and had died as a result. If the outreach program was to be successful, INFOR needed to understand the causes of confusion, and make improvements in their education and outreach program.

While agroforestry has been identified as a valuable means of sustainable land use, the transfer of agroforestry technology has shown only partial success, particularly in developing
countries. “Technologies are viable only when they are used by farmers. No matter how well new technologies work on research stations, if farmers will not have them for use, their development would have been in vain” (Oladele & Fawole, 2007).

The primary goals of this study were to understand the factors that contribute to meaningful transfer of agroforestry technology to small landholder farmers in the Los Rios region of Chile. Specific objectives included: (1) assessing farmers’ knowledge of and attitudes toward agroforestry, (2) evaluating current outreach program and written materials to determine appropriateness for the intended audience, (3) conducting a SWOT analysis (Suh, 2011) to identify the strengths, weaknesses, opportunities and threats associated with agroforestry as perceived by small landholder farmers, and (4) identifying topics on which farmers would like to receive outreach information. The following section discusses major factors that affect technology transfer. Section 3 describes the methods used for data collection and analysis. Section 4 contains the results and finally, section 5 offers conclusions and recommendations.

Section 2: Factors that Affect Technology Transfer

Education and Literacy

The literature suggests that a significant factor affecting adoption of innovative agricultural technologies is the level of formal education among those intended to use the technology. Some studies suggest that farmers’ level of formal education is the most important variable explaining respondents’ willingness to adopt new innovations (El & Muneer, 2008). However, a meta-analysis investigating agroforestry adoption found that although a large percentage of studies consider education level an important factor in the adoption of
agroforestry, education is only a significant factor 24% of the time (Pattanaya, Mercer, Sills, Yang, & Cassingham, 2002). However, since “differing levels of farmers’ education result in differences in predicted reading ability, comprehension of extension literature and possible misconstrual of information” (Baynes, Herbohn, Russell, & Smith, 2010), it is possible to consider education level as a predictor of reading ability. Baynes (et al.) suggest that the “consequences associated with misconstrual of the intended meaning of extension literature are potentially serious” (2010). Therefore, it is essential to evaluate any potential relationships between farmers’ educational levels and effective transfer of agroforestry.

Chile’s rural farmers experience a low level of education and literacy: Apey et al. found in their 2005 study that 74% of subsistence farmers and 64% of small farmers possessed no formal education or just a basic primary education. Baynes et al. (2010) found that for farmers who have difficulty reading paragraphs, the “usefulness of written extension materials is marginal”. Even when pictures or diagrams were used to improve comprehension, there is a chance of misunderstanding, a consequence that Baynes et al. suggest can be “potentially serious” (2010).

**Perception of new technology**

A farmer’s initial perception of a new technology can influence the degree to which they “warm up” to a new innovative strategy. Baynes (et al.) noted in a study of agroforestry technology transfer in the Philippines, that farmers’ perceptions were a key predicted constraint to program recruitment (2010). Humans look to the world to find meaning in what they learn and then form perceptions. Since perceptions can be accurate or inaccurate, it is likely that inaccurate can lead to misconceptions. Constructivist Learning Theory (Bodner, 1986) defines
misconceptions as concepts or ideas leading to unacceptable solutions or answers to questions or problems. Similar to the idea that children learn what they see, not what they hear, misconceptions are resistant to instruction because individuals construct knowledge that fits their experience (Bodner, 1986). This also has implications for education and outreach since stakeholders, especially those of limited education and literacy, rely on sources other than written materials to gain understanding of new information.

**Mode of Communication**

The mode of communication is another important factor in technology transfer; a factor with implications for both education levels and contact with outreach agents. Rural farmers are more likely to depend on interpersonal connections, especially through interaction with neighbors who are often the first and only source of information and exposure to new technologies (Glendinning & Mahapatra, 2001). A study assessing factors leading to adoption of improved potato varieties in Ethiopia found that, in addition to education, the use of radio and television were positively related to adoption (Abebe, Bijman, Pascucci, & Omta, 2013). A communication media campaign implemented in Mekong Delta, Vietnam, combining the use of leaflets, radio drama and posters proved effective in changing farmers’ perceptions and behavior towards unnecessary pesticide spraying (Heong, Escalada, Huan, & Mai, 1998).

**Contact with outreach professionals**

Another important factor to effective technology transfer is associated with the degree of contact with outreach professionals. In fact, El and Muneer found that the second most important factor affecting innovativeness, a characteristic complementary to technology transfer and adoption of technology, is the degree of contact with the outreach agent (2008). This is consistent with a finding related to technology transfer found by Glendinning and
Mahapatra, which determined that “the most important factor leading to participation in extension programs was direct personal contact with extension officers (2001). This is also consistent with the constructivist belief that effective learning results from an interchange between learner and teacher rather than from a one-way exchange of information (Hare & Graber, 2007).

**Literature Appropriateness**

Outreach materials can be analyzed for reading suitability to the audience by using the Huerta Reading Ease (HRE), a version of the Flesch Reading Ease (FRE) adapted for Spanish language by Fernández Huerta in 1959 (Rogers et al., 2009). The formula for HRE is slightly different than that for FRE, but they both combine syllables per word with sentence length to estimate required reading comprehension with scores ranging between 0 and 100 (Rogers, R. et. al, 2009). The HRE was utilized in a study by Rogers et al. to determine the readability level of translated Miranda warnings used by law enforcement officials when arresting Spanish speaking individuals (2009). This version of the reading ease test is frequently used in the medical industry to ensure readability of documents and health literature and is the preferred method for judging the readability level of Spanish text for government documents in the United States such as drivers’ licenses, employment applications, consumer questionnaires, and similar texts (Gerstle, 2010).

**Constructivist Learning Theory**

Upon review of the factors associated with technology transfer; education and literacy, contact with extension professionals, mode of communication, and perception, it is not difficult to make a parallel comparison with classroom teaching. Pedagogically, there is little difference between teaching to classroom students or providing extension and outreach to a group of
farmers. The objective is basically the same, to transfer knowledge or skills to a group of learners. As students in a classroom construct knowledge and actively interpret their learning environment, so too do farmers. And like the classroom student, the knowledge farmers develop may be inaccurate or contrary to what the agent (teacher) intended for them to learn (Hare & Graber, 2007), resulting in a misconception. So what happens when a learner has misconception based on their experiences?

When a person is presented with new information that conflicts with what they believe they are likely to do one of four things: (1) delete the pre-existing knowledge, or (2) modify the pre-existing knowledge so that it fits with the new information, (3) modify the new information so that it fits the old knowledge, or (4) reject the new information all together (Sewell, 2002). The farmers INFOR followed up with were likely exhibiting one of these reactions to the new agroforestry information. Identifying how the information conflicted with their current knowledge would be valuable in determining future outreach strategies.

Constructivist Learning Theory has been used as a framework to explain the process whereby learners acquire new knowledge and the part that misconceptions play in their learning. It asserts that learners construct understanding and that they do not simply mirror and reflect what they are told or what they read (Bodner, 1986). This has further implications for a greater understanding of factors that contribute to technology transfer, where knowledge and information may be internalized. Essentially, the agent must lead the farmer to understand what it “means to me” or “what do I get out of it”? Constructivist Learning Theory provides a framework for the development of a survey instrument which informs (1) how effective current outreach is, and (2) what improved strategies INFOR can employ.
SWOT Analysis Design

Theoretical premises of SWOT analysis date back to 1951, with the publishing of Kurt Lewin’s *Field Theory in Social Science*. In 1954, University of Connecticut’s Julian Rotter redefined Lewin’s theory by arguing that individuals attribute successes and failures to reasons either internal or external to themselves (Silber et al., 2009). The goal of a SWOT analysis is to provide a view of an organization’s internal (strengths and weakness) and external (opportunities and threats) environment (Silber et al., 2009). Although commonly used in market research and business strategy development (Silber, et al., 2009), the method can be adapted to analyze other types of programs by providing a framework to guide questions during focus groups or interviews.

Although SWOT is most commonly used in a group setting, the strategy can be adapted for use in questionnaires (Suh, 2011). This approach can help identify barriers to technology transfer of agroforestry, based on farmers’ perceived weaknesses and threats as well as perceived strengths and opportunities relative to the use of agroforestry methods. Furthermore, the use of this strategy may be useful in revising current outreach materials so that they are consistent with how people learn and form perceptions.

The Food and Agriculture Organization has recognized SWOT as “an important participatory tool used to gather, synthesize and analyze information for community forestry development” (Suh, 2011). The SWOT technique was used to analyze the prospects for agroforestry adoption in south-central Florida (Shrestha et al., 2004).
Section 3: Methods
This study utilizes a multiple method (Jonsson, Danielsson, & Joborn, 2005), consisting of a focus group to help refine interview questions and uncover any unanticipated issues, development of an original survey instrument, an interview-led semi-structured questionnaire, and a readability analysis of current outreach materials.

Written Outreach Materials
Analysis of current outreach materials was performed by calculating the HRE formula for readability. Results of the HRE were compared to the HRE scoring matrix to determine the grade level at which it was written then compared against education levels found from the survey.

Survey Instrument
An original questionnaire was developed with questions conceived in collaboration with INFOR. The survey was reviewed and approved (approval #2770) by the NC State University Institutional Review Board. Questions employ constructs based on SWOT Analysis design (Shrestha et al., 2004) and Constructionist Learning Theory as a framework. These methods allow for an organized approach to reporting on both concrete facts as well as issues related to farmers’ attitudes and perceptions. Questions most important to this analysis focused on: importance level of factors associated with farm management, importance of information sources in making management decisions and for receiving outreach information, modes of communication available and preferred, knowledge and perception of agroforestry, opinion and suggestions.
INFOR was interested in acquiring further information, outside of outreach assessment. Therefore questions on the survey include numerous other measures pertaining to respondents’ farm management practices.

**Focus Group**

A two hour session was held in which the questionnaire was analyzed and other comments and questions were collected. Informed consent was read out loud by the researcher and signed by participants prior to conducting the focus group. Consistent with multi-method studies, the purpose of the focus group is to explore a topic, in this case farmers’ attitudes toward agroforestry and to gather information useful in refining the questionnaire (Gill, Stewart, Treasure, & Chadwick, 2008).

The focus group was conducted about three weeks prior to interviewing. It consisted of six farmers, three who had adopted or had experience with agroforestry and three farmers who had not adopted agroforestry. Researchers at INFOR identified participants for the focus group and invited them to participate. Farmers did not receive financial compensation for participating, but transportation was provided for those who needed it.

**Sample**

An interview-led questionnaire was conducted, in which 27 farmers participated from the municipality San Jose de la Mariquina, located in region X, Los Rios, Chile. Permission to conduct interviews was obtained through informed consent which was read by the interviewer and signed by each farmer prior to starting interviews. Random sampling was not practical in this case because of the distances between the farmers and factors associated with poor roads. In addition, scheduling meeting times did not always guarantee an interview. For these reasons as well as time constraints, with assistance from INFOR and INDAP, a
convenience sample was utilized for this study. Convenience sampling can be advantageous in situations where time and resources are limited. This type of sampling can suffer from bias and can be under-representative of the population being studied, making it difficult to generalize results. However, limited resources and local assistance available made this necessary in this study.

In an attempt to be more representative a somewhat purposive sample was selected based on varying farm production types (agricultural vs. non-agricultural), land tenancy, land size and geographical characteristics of the property, in proportions comparable to those of the rest of the municipality. All participants, however, were enrolled in one of three (Prodesal; Local Development Program, IDP; Investment Development Program, PDTI; Indigenous Territorial Development Program) development assistance programs offered by INDAP. All farmers in these programs had received INFOR’s outreach and education materials. To reach farmers, phone calls and visits were made. In the case that farmers could not be reached or opted not to participate, alternate respondents fitting the same criteria were chosen. Most interviews were conducted on the farm, in Spanish by a bilingual interviewer. The information collected was recorded both by hand and with a digital voice recorder, when given permission to do so (22 farmers gave permission). When circumstances made it more convenient for selected participants to be interviewed in town, allowances were made to do so. Questions most important to this analysis focused on: importance level of factors associated with farm management, importance of information sources in making management decisions and for receiving outreach information, modes of communication available and preferred, knowledge and perception of agroforestry, opinion and suggestions.
Respondents were also shown INFOR’s existing outreach brochure on agroforestry and asked to review it for content and design. Then they were asked open-ended questions pertaining to its design and to rank specific characteristics of the brochure. Data analysis of the questionnaire was conducted using both data measures of central tendency to infer meaning.

Section 4: Results

Huerta Reading Ease Score

The current written outreach materials were analyzed using the Huerta Reading Ease test for readability formula:

\[
206.84 - (0.60 \times F) - (1.02 \times P) = \]

P=# of syllables per 100 words
F=# of sentences per 100 words

The test returns a value ranging from 0 to 100. The higher the number the easier the document is to read. Interpretation for specific value ranges are shown in the table below (Table 1). Results returned a score of 57.89, which falls into the “moderately difficult” to read range. This corresponds with a 10\textsuperscript{th} to 12\textsuperscript{th} grade level (Garger, 2012). The mean level of education for respondents was 6 years (n=27). This means that 81.5\% of farmers fall below the recommended education level needed to understand the outreach brochure.
Focus Group

Due to arrangement challenges, it was necessary for the interviewer to also serve as the moderator for the focus group. This is not an ideal scenario as a moderator’s role is essential to a focus group. Their role is much like that of a traffic cop in that they facilitate the group’s discussion and keeping it focused without leading it (Gill et al., 2008). This allows the interviewer to concentrate on analysis of the discussion by creating an environment for all participants to contribute and where the discussion is not dominated by more vocal parties.

The focus group offered much in the way of fine tuning the questionnaire. It provided familiarity with local terms and language and uncovered a general sense of suspicion toward the research objectives. I was asked if the study was in connected with the local CELCO pulp mill. Only after the farmers felt assured that I did not represent the pulp mill did they agree to sign informed consents and participate in the discussion.

General Description of the Sample

The study yielded a total of 27 survey responses, from nine communities located in the San Jose de la Mariquina municipality of 30 interviews attempted. Two potential respondents

Table 1: Scoring of Huerta Reading Ease

<table>
<thead>
<tr>
<th>Score Huerta Reading Ease</th>
<th>Description of difficulty</th>
<th>Estimated reading grade level</th>
<th>International Standard of Classification of Education (ISCED)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-30</td>
<td>Very difficult</td>
<td>Graduated from College</td>
<td>Advanced</td>
</tr>
<tr>
<td>30-50</td>
<td>Difficult</td>
<td>Grades 13-16</td>
<td>Advanced</td>
</tr>
<tr>
<td>50-60</td>
<td>Moderately Difficult</td>
<td>Grades 10-12</td>
<td>Upper secondary</td>
</tr>
<tr>
<td>60-70</td>
<td>Standard</td>
<td>Grades 8-9</td>
<td>Lower secondary</td>
</tr>
<tr>
<td>70-80</td>
<td>Moderately Easy</td>
<td>Grade 7</td>
<td>Lower secondary</td>
</tr>
<tr>
<td>80-90</td>
<td>Easy</td>
<td>Grade 6</td>
<td>Primary</td>
</tr>
<tr>
<td>90-100</td>
<td>Very Easy</td>
<td>Grade 5</td>
<td>Primary</td>
</tr>
</tbody>
</table>

were removed from the sample due to their refusal to sign the informed consent and one other was removed because they decided to discontinue participation after the interview process had begun.

The final questionnaire is found in Appendix D. Respondents consisted of 12 males (44%) and 15 females (56%). The major part of farmers (n=27) were over the age of 50 (59%) with a mean education level of 6 years of formal education.

The average length of time respondents (n=27) had lived on their property was 38 years, and 74% of the farmers lived there in excess of 20 years. Most farmers claim ownership of the farm (63%) compared to inheritance status (18%) and occupant status (11%). Two respondents (7%) specified that they maintained inheritance and occupant status simultaneously. If the same were true of the five respondents who claimed inherited status, it is possible for the inheritance/occupant status reflects up to 26% of the sample. Farm sizes included small (<=5 ha), medium (6-15 ha), to large (>= 16 ha) by Chilean standards. Respondents stated that the most important reason for having a farm was production for family (89%), followed by production for market (48%). Production for export was not chosen by any respondents as an important reason for having a farm.

Farmers’ knowledge of and perceptions of agroforestry

Seventy-six percent of the 26 who responded (n=26) had heard the term agroforestry. Respondents (n=25) were asked to rate their level of familiarity with agroforestry methods, with 50% of those who responded to this question (n=10) crediting Prodesal and INDAP as their first sources for hearing the term agroforestry. A large proportion (68%) of those who responded (n=25) claimed to be somewhat familiar with agroforestry, with 28% and 4% having
either no familiarity or being very familiar, respectively, with agroforestry. Forty-two percent of respondents (n=21) have seen agroforestry methods used in their region compared to 60% who have seen agroforestry demonstrated in workshops or television (n=21).

Of the farmers who claimed to be at least somewhat familiar, those who claimed to be currently using or who had previously used some form of agroforestry (n=20) on their farm gave examples such as “thinning”, “pruning”, the “use of windbreaks” and “planting Eucalyptus” as examples the types of agroforestry methods they have implemented. With one exception, these terms are not found in the brochure. The only example given that is found in the outreach brochure is “windbreaks”.

Perception

Farmers were asked: (1) what words or images came to mind when they heard the term “agroforestry”, (2) what advice they would give a farmer expressing interest in using agroforestry methods, and (3) if they currently or previously used agroforestry on their farms. The first question (n=16) resulted in a total of 21 separate words or terms (each person was asked to give up to three). Although almost all participants had heard the term agroforestry, only sixteen were familiar enough with the term to provide associated words or phrases. Only five words, as seen in Figure 1, were stated more than once, with forestation comprising 41% of the generated terms and plantations (27%) and agriculture (23%) being mentioned in similar proportions.
Figure 1: Percentage of farmers who have heard the term agroforestry

What words or images are prompted by the term "agroforestry"?

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>41%</td>
<td>Forestation</td>
</tr>
<tr>
<td>23%</td>
<td>Plantations</td>
</tr>
<tr>
<td>9%</td>
<td>Agriculture</td>
</tr>
<tr>
<td>27%</td>
<td>Plants</td>
</tr>
</tbody>
</table>

To gain further perspective of farmers’ perceptions of agroforestry, respondents were asked to share what they would tell a fellow farmer who showed interest in adopting agroforestry methods. Respondents (n=8) offered the following advice to the second question, listed in Table 2.

Table 2: Most Common Responses to “What would you tell another farmer who has expressed interest in using agroforestry methods on their farm?”

<table>
<thead>
<tr>
<th>Response</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>First learn how and where to use agroforestry methods, so you don't do it on good soils.</td>
<td></td>
</tr>
<tr>
<td>Forestation should be done in the pasture area.</td>
<td></td>
</tr>
<tr>
<td>It’s important to prune pines to encourage fast growth.</td>
<td></td>
</tr>
<tr>
<td>Not to plant trees in areas that are good for cultivation.</td>
<td></td>
</tr>
<tr>
<td>That it is a good thing and that they would not regret doing it.</td>
<td></td>
</tr>
<tr>
<td>That it is bad. I do not like forestation.</td>
<td></td>
</tr>
<tr>
<td>They should do it. It's a good alternative to erosion.</td>
<td></td>
</tr>
<tr>
<td>Use the flat areas for agroforestry. Use the foothills and/or slope for your plantations.</td>
<td></td>
</tr>
</tbody>
</table>

The third question (n=20) resulted in 30% of respondents answering that they are currently using or have previously used agroforestry methods on their farms.
In addition to the previous questions, farmers were asked to rate, on a scale from 1 to 3 (1 being not at all important and 3 being very important), the importance of benefits commonly associated with the use of agroforestry methods. Response means (n=25) shown in Figure 2 (above) suggest farmers find most agroforestry benefits to be at least somewhat important. The study assumed that agroforestry had merit for all farmers. Therefore, responses pertaining to agricultural benefits, land management, and knowledge of agroforestry were analyzed to identify response differences based on farm size and level of education. No significant differences were found.

**Modes of Communication Available and Preferred**

Farmers were asked which media services were available on their farm and which of those services they used the most. A comparison between available services and most used
services, Figure 3 below, shows that the most common services available to farmers are mobile phones, televisions and radios. Mobile phones and radios are used the most by respondents.

![Figure 3: Comparison between utilities available and utilities most used.](image)

To further assess the role of written materials as preferred means of communication, participants were asked what type of literature they read most frequently (they were allowed to pick all that applied). Results (n=25) indicate that agricultural reports are read in greatest proportion (68%), followed by newspapers (60%) and farm business ads (56%). Extension literature was mentioned only 28% of the time.

Farmers’ responses (n=24) seen in Figure 4 to the question “Out of ALL forms of communication, which do you depend on the most to receive information about new farming techniques” is consistent with their utility usage, indicating farmers’ dependence on phones, radios and televisions to acquire new technology information.
Figure 4: Where do farmers get information on new farming techniques?

Farmers were asked which sources of information had the *greatest influence* on how they made management decisions on their farms. The top five sources (n=27) mentioned,

Figure 5: Sources of information with greatest influence on management decisions.

<table>
<thead>
<tr>
<th>Answer</th>
<th>Response</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>government officials (please specify)</td>
<td>20</td>
<td>96%</td>
</tr>
<tr>
<td>extension agents</td>
<td>25</td>
<td>93%</td>
</tr>
<tr>
<td>farming demonstrations</td>
<td>25</td>
<td>93%</td>
</tr>
<tr>
<td>family members</td>
<td>22</td>
<td>81%</td>
</tr>
<tr>
<td>radio</td>
<td>18</td>
<td>67%</td>
</tr>
<tr>
<td>consultants</td>
<td>18</td>
<td>67%</td>
</tr>
<tr>
<td>television</td>
<td>17</td>
<td>63%</td>
</tr>
<tr>
<td>farm trade magazines</td>
<td>17</td>
<td>63%</td>
</tr>
<tr>
<td>farm production ads</td>
<td>17</td>
<td>63%</td>
</tr>
<tr>
<td>neighbors</td>
<td>15</td>
<td>56%</td>
</tr>
<tr>
<td>public meeting (please specify)</td>
<td>15</td>
<td>56%</td>
</tr>
<tr>
<td>cooperatives/associations</td>
<td>10</td>
<td>37%</td>
</tr>
<tr>
<td>universities</td>
<td>6</td>
<td>22%</td>
</tr>
<tr>
<td>private vendors</td>
<td>6</td>
<td>22%</td>
</tr>
<tr>
<td>internet</td>
<td>3</td>
<td>11%</td>
</tr>
<tr>
<td>other (please specify)</td>
<td>0</td>
<td>0%</td>
</tr>
</tbody>
</table>
as seen in Figure 5, were government officials, farming demonstrations, extension agents, family members, with radio and consultants having been chosen an equal number of times.

**Preferred method of receiving future outreach**

Study participants were asked to choose their preferred means of receiving any future agroforestry outreach information, from a list of sixteen information sources. Figure 6 below, shows the top five means chosen (n=22).

Figure 6: Five most preferred methods of receiving future outreach on agroforestry.

<table>
<thead>
<tr>
<th>Top Five preferred methods of receiving future agroforestry outreach information (n=22)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farming demonstrations</td>
</tr>
<tr>
<td>Government officials</td>
</tr>
<tr>
<td>Public meetings</td>
</tr>
<tr>
<td>Outreach materials such as the example shown</td>
</tr>
<tr>
<td>Radio</td>
</tr>
</tbody>
</table>

**Farmer analysis of current written outreach material**

All interview participants (n=26) were asked if they had received any form of outreach and education and then asked if they had ever seen INFOR’s brochure. As seen in Figure 7, 85% of respondents claimed to have received outreach compared to 50% who had seen the brochure.
Figure 7: Comparison between farmers having received outreach to those who have seen INFOR’s agroforestry brochure.

An original agroforestry outreach brochure, provided by INFOR, was presented to study participants. They were asked to take a few minutes to review the document. Then they were asked (n=26) to rate how effective (on a scale from 1 to 3, with 1 being not effective and 3 being very effective) specific components were in helping them understand the information. As Figure 8 illustrates, response means suggest that picture size was most beneficial in
conveying the information, followed by the amount of concepts, pictures (in general) and the colors displayed in the brochure.

An open-ended question asking what other information respondents would include in the brochure resulted in the suggestions seen in Table 3.

### Table 3: Respondents’ suggestions for information to include in outreach brochure

<table>
<thead>
<tr>
<th>Suggestion</th>
</tr>
</thead>
<tbody>
<tr>
<td>That forest plantations should be developed far from water sources (rivers, lakes, streams, etc.)</td>
</tr>
<tr>
<td>The letters (font) should be larger.</td>
</tr>
<tr>
<td>Information pertaining to raising sheep. I am often given information I don’t need.</td>
</tr>
<tr>
<td>The illustrations should be pictures of actual farms rather than drawings. Information about water contamination. Eucalyptus can cause water deficits.</td>
</tr>
<tr>
<td>Some of the words should be easier; sometimes I don’t understand them.</td>
</tr>
<tr>
<td>Letters (font) should be bigger. Too many concepts makes it difficult to understand. How to improve crops. How to use organic practices</td>
</tr>
<tr>
<td>Information about women in agriculture. Gastronomy. Artisanship. How to produce and market the products we grow.</td>
</tr>
<tr>
<td>How to manage crop diseases and plagues.</td>
</tr>
<tr>
<td>Needs personification. People like to see &quot;themselves&quot; in the situation. Like to see other people that use the practice. Ways to generate income; costs, objectives leading to economic sustainability</td>
</tr>
</tbody>
</table>

### SWOT Analysis

Responses and attitudes from the focus group and the interviews were categorized using a SWOT analysis strategy (Table 4).

### Table 4: SWOT Analysis

<table>
<thead>
<tr>
<th>SWOT ANALYSIS</th>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Government officials listed as greatest influence farm management decisions</td>
<td>Written outreach materials are written at a level inappropriate for its intended audience</td>
</tr>
<tr>
<td></td>
<td>Most respondents who have heard of agroforestry have heard about it from an INDAP or Prodesal agent</td>
<td>INFOR’s agroforestry brochure has not been seen by all respondents who have received outreach education</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Opportunities</th>
<th>Threats</th>
</tr>
</thead>
<tbody>
<tr>
<td>76% of respondents have heard of agroforestry</td>
<td>Farmers expressed caution toward agents potentially associated with CELCO pulp-mill</td>
</tr>
<tr>
<td>Most respondents express interest in learning more about agroforestry</td>
<td>History of Chilean government siding with big business and not acting on behalf of Mapuche interests, especially as it relates to maintaining their farmlands.</td>
</tr>
<tr>
<td>Most respondents have a positive attitude toward benefits associated with agroforestry</td>
<td></td>
</tr>
<tr>
<td>Most farmers have electricity, radios and televisions</td>
<td></td>
</tr>
</tbody>
</table>
Section 5: Conclusions and Recommendations

The SWOT analysis suggests that while farmers seem interested in learning about agroforestry, current outreach methods and tools do not sufficiently address stakeholders’ learning needs or preferred communication methods.

Strengths

Respondents listed government officials, primarily agents from INDAP and Prodesal, as having the greatest influence on how their farm management decisions are made. Studies regarding trust in government institutions point to two forms of co-existing trust, rational and relational (Job, 2005). Rational trust argues that “if people trust government to perform in their interest, they will generalize their experience to form social trust, similar to what is formed in “intimate circles” (Job, 2005). In addition to government officials having influence over the decisions they make, most farmers claimed to have first heard about agroforestry from an INDAP or Prodesal agent. This suggests that as long as the experiences remain positive, government agents will remain a trusted source of information.

Weaknesses

Although about three quarters of respondents had heard of agroforestry and half had seen INFOR’s outreach brochure, knowledge shared by respondents was incomplete and often not reflective of the terminology and concepts used in the outreach materials.

One possible explanation may be inconsistent delivery of the materials. INFOR’s agroforestry brochure was not seen by all respondents who claimed having received outreach information.

Another explanation relates to the brochure design. Results of the HRE analysis on INFOR’s current agroforestry outreach brochure finds the written content to be “moderately
difficult” and that in order for someone to adequately understand its contents a 10th to 12th grade education is needed, but respondents’ had only sixth grade education on average.

A study by North Carolina State University’s Kelly Mance analyzed reading levels for existing outreach and education materials used by public agents in the southeastern United States (2004). Similarly they found that reading levels were inappropriate for the intended audience, which consisted primarily of low literacy, limited resource landowners. Based on readability analysis and input from stakeholders, outreach materials were revised. Changes such as adjusting reading level to match the audience, increasing font size, connecting information to the reader, using short sentences and creating more visual cues and illustrations (Mance, 2004) were well received by stakeholders.

Respondents in the current study found pictures to be most helpful in understanding the information. However, a suggestion to “personify” the pictures speaks to how Mance (2004) “connected” the information to the reader. Using pictures which include other Chilean farmers allows stakeholders to “see themselves” in agroforestry scenarios. Another means of connecting the information to the farmer is by including them in the development of outreach information. Glendinning & Mahapatra (2001) suggest that to make agroforestry technology meaningful to small farmers, they “should, at the very least, identify and set the priorities for the information to be propagated and media to be used in farm forestry extension systems”.

Additional respondent suggestions which correspond with Mance’s study indicate that font size should be larger (12 or greater), and technical language should be put into more laymen’s terms. Perhaps the use of a glossary, as Mance (2004) suggested would also be helpful. Further, it is suggested that sentences be shorter, and the amount of terms limited.
Consideration should also be given to having several one to two page (front and back) fact sheets, each covering one specific topic. This would allow for information to be distributed in response to stakeholders’ needs and interests. Breaking up the information may also be less overwhelming than getting it all at once, which could help minimize confusion and the occurrence of misconceptions.

“Trying to make a person delete or modify existing knowledge as a means of correcting a misconception is considered by some to be the most difficult task. Helping a person to modify the new knowledge so that it fits with their old knowledge, can in itself lead to misconceptions or incorrect information. Having a person reject the new information all together does nothing to correct the misconception” (Bodner, 1996).

Given the inherent difficulty in correcting misconceptions, limiting the opportunities for them to occur is a probable alternative.

**Opportunities**

Most respondents conveyed a positive attitude toward benefits associated with agroforestry and expressed interest in receiving information on the topic. Moreover, their primary source for first hearing about agroforestry was through an INDAP or Prodesal agent. Agricultural demonstrations and public meetings are respondents’ preferred means of receiving new technology information and are consistent with theoretical premises of Constructivist Theory. Through more experiential or hands-on learning farmers are able to learn from what they see rather than from what they hear. Nevertheless, limited resources and the rising cost of providing extension and outreach services may not always make this a viable option. Therefore, consideration should be given to varied means for communicating new technology.
It is advantageous that most farmers interviewed have electricity either on their farms or where they reside, and that almost all of the farmers have radios, televisions and phones. Furthermore, many of the farmers already use radio or television regularly to listen to national agricultural programs or to watch programs such as *Tierra Adentro, Chile Conectado* or *Fruto del País*. This is consistent with Abebe’s findings that both television and radio are “important modes of education and ways of promoting new agricultural technologies” (2013). The added advantage of radio is that even those farmers who did not have electricity available used battery operated radios to stay connected to agricultural news.

Also, all farmers in the study owned or had access to a mobile phone. The rapid spread of mobile phones in developing countries has created new opportunities in technology transfer (Aker, 2011). Aker (2011) suggests that the use of mobile phones can significantly reduce costs of communications, reducing costs associated with providing extension services. Mobile phones have been used to disseminate information on prices, availability of inputs and the adoption of new practices (Abebe et al., 2013). According to Aker benefits to farmers from the use of mobile phones include (1) increasing farmers’ access to private information through reduced communication costs, (2) improving farmers’ management of input and output supply chains, (3) facilitating the delivery of other services, (4) increasing accountability of extension services, and (5) increasing communication linkages with research systems (2011). Respondents in this study cited phones as one of the top ways they received information on new farming practices, making this a promising strategy for INFOR. By diversifying their modes of communicating new technology to include mobile phones, outreach agents could minimize time spent and costs associated with providing extension services.
Threats

During the focus group and on a few occasions during the interview process, farmers expressed suspicion on the true intention of this study. Further discussion to clarify the goal of this study revealed that the mistrust was in fact directed toward the local CELCO pulp-mill and its motives and practices. Recent controversies that allegedly link CELCO to planned construction in the region of a hydro-electric dam and viaduct divert effluent from the pulp mill contributed to their suspicions of this study.

The myriad of complexities associated with this topic are too many to address in this paper. Nonetheless, it is important to reflect on historical accounts regarding protests against previous hydroelectric projects and controversies surrounding forest industry practices in the region (Carruthers & Rodriguez, 2009) as they likely influence current perceptions and attitudes toward agroforestry. Constructivist Learning Theory reminds us that humans look to their surroundings to find meaning. Piaget, another constructivist, believed that “knowledge is acquired as the result of a life-long constructive process in which we try to organize, structure, and restructure our experiences in light of existing schemes of thought” (Bodner, 1986). Graffiti and signs litters the region with statements such as “acuaducto NO!” (aqueduct NO!), and “Chile sin represas” (Chile without dams). Preparedness in addressing questions surrounding this topic is essential in keeping the level of trust outreach agents have worked so hard to acquire.

Moreover, it is important to look to the landscape to consider its role in farmers’ attitudes and perceptions toward agroforestry. According to the 2007 INE (Instituto Nacional de Estadisticas) Census figures, the most prominent species utilized for forest industry
plantations in the Los Rios region are Radiata Pine (*Pinus radiate*), *Eucalyptus nitens* and *Eucalyptus globulus*, occupying 97.1, 51.7, and 45.5 thousand hectares respectively. To gain perspective, native species plantations collectively comprise 12.7 thousand hectares in the Los Rios region (“Los Rios en Cifras,” 2010) (INE, 2010).

One need not look far to see exotic species plantations. Often they are right in farmers’ back yards. It is difficult to convince farmers of the benefits of agroforestry if they associate its methods with forest industry. Seedlings distributed to farmers through outreach programs are primarily donated by Arauco or Mininco (INFOR, personal communication, August 2012), the same nurseries that supply the forest industry with their seedlings. During the interview period and on one occasion when I accompanied an outreach agent to deliver seedlings, I observed only eucalyptus and Radiata pine being distributed to farmers. Constructivist Learning Theory would suggest that the prominence of forest industry plantations consisting of the same species that are frequently donated to farmers under the guise of sustainable agroforestry methods may, in itself, lead to misconceptions. In light of farmers’ suspicions and expressed concerns toward planting eucalyptus on their land, agroforestry outreach should make an effort to distribute a variety of tree species.

An opportunity exists to fulfill farmers’ requests while contributing to southern Chile’s biodiversity. Establishing relationships with alternate sources for seedlings or working with current sources to act in good faith by donating varied species, especially native species, is suggested. More research is needed to determine farmers’ specific farm management needs and preferences. Once trees are identified that contribute to more sustainable land use practices it will be necessary to identify nurseries that are willing to supply agents with those species.
Further research is also needed to identify the strengths, weaknesses, opportunities and threats associated with outreach in other regions. Replicating the study to compare results is would be beneficial to in making generalizations and in making further recommendations to current outreach practices.
References


Gerstle, A. (2010). A case study analyzing the reading levels of print and electronic health education materials for health consumers with low levels of literacy.


Appendix A: Huerta Reading Ease

Writing Sample
Los sis te mas a gro fo res tal es, o a gro fo res te ria, son a que llos que com bi nan ar bo les o ar bus
tos, con cul ti vos a grí co las y-o ga na do en un mis mo si tio, ba jo dis tin tas for mas de or de na
mien to en el pre dio o en di fe ren tes pe riod os de tiem po. Con el uso de la a gro for es te ria se lo
gra pro du cir a li men(100) tos pa ra la fa mi li a o pa ra ven ta, fo rra je pa ra los a ni ma les y-o pro
duc tos fo res ta les pa ra u so pre dial o pa ra la ven ta. El u so de ar bo les en con jun to con ac ti vi
da des a gro pe cua rias per mi ten a de más la o por tu ni dad de ba lan cer el u so pro duc ti vo de
los sue los con la pro tec ción de(200) los re cur sos na tu ra les del pre dio, co mo suel o, a gua, fau
na sil ves tre (22)

Sample data
Number of words= 100
Sentences=2.5
Syllables= 244

Calculations
Formula: 206.84 – (0.60 *P) – (1.02 *F) =

206.84 – (0.60 *244) – (1.02 *2.5) = 57.89

P=# of syllables per 100 words
F=# of sentences per 100 words
Appendix B: Focus Group Agenda

ACTITUDES DE AGROFORESTERÍA

Fecha: miércoles 12 de septiembre, 2012
Hora: 15:00 (3:00pm)
Ubicación: 
Moderador: 
Facilitador(es): 

Preparación:
1. Selección de participante basada en la identificación de contactos clave de INFOR
2. Confirmación de participación de los agricultores (no más de 15 mínimo 3)
3. Ubicación de reunión: lugar neutral y cómodo para los participantes
   - ajuste de sillas: como medio círculo
4. Confirmación de ubicación para la reunión
5. Confirmar con los moderadores y entregarles las instrucciones y reglas
6. Reglas básicas para los procesos del grupo de enfoque
7. Recoger los formularios de consentimiento firmados
8. Preguntas de inicio

Materiales
Etiquetas de identificación
Plumeros
Marcadores
Grabadora/baterías
Papeles (para exhibir las preguntas en las paredes)
Galletas, jugos, servilletas, vasos

Bienvenida:
1. Bienvenidos, gracias por tomarse el tiempo para ayudarnos a explorar nuestro tema.
2. Introducir a los facilitadores y el equipo de investigación.

Propósito:
Fomentar el pensamiento divergente y el descubrimiento de las percepciones personales de los agricultores sobre la "agroforestería"
1. Recopilar información acerca de las percepciones y actitudes agroforestales
   (conocimientos, experiencias, motivaciones, sentimientos, creencias) que existen entre los agricultores.
2. Particularmente hay interés en visitar a los agricultores porque, colectivamente, esto aumenta la comprensión global sobre las percepciones de los agricultores sobre la agroforestería y potencialmente puede identificar problemas actuales con estrategias
de divulgación, así como creer oportunidades de mejora los materiales de divulgación.

Proceso:
1. Hacer una serie de preguntas abiertas
2. Pasar de lo general a lo específico
3. De una persona a otra, escuchar respuestas sobre una cuestión determinada (equipo de investigación recogerá respuestas).
4. No hay respuesta mala. No es malo que existan distintos puntos de vista.
6. Compartir su punto de vista incluso si es diferente a lo que otros han dicho (no interesado en la búsqueda de consenso pero bastante comprensión acerca de una variedad de opiniones no es una opinión particular).
7. Además de las principales preguntas, puede hacer preguntas adicionales de aclaración o para más detalles. Por ejemplo:
   a. Puede usted seguir su respuesta con un ejemplo?
   b. Lo que hizo pensar/reaccionan de esa manera?
   c. Puede decir un poco más sobre cómo esta experiencia fue similar o diferente?
8. Reglas:
   1. Participantes deben levantar la mano para indicar que quieren responder
   2. Solo una persona habla a la vez, siga la secuencia de personas que levantaron la mano
   3. Un participante puede añadir a su respuesta una vez que todos hayan tenido una vuelta para responder a la pregunta.
9. Se les pide a todos mantener la confidencialidad de los otros participantes.
10. Marco de tiempo: aproximadamente 2 horas (sin descanso formal)

Preguntas de inicio
1. ¿Están ustedes familiarizados con "agroforestería"?
2. ¿Qué opinan cuando escuchan el término "agroforestería"?
3. ¿Cómo están ustedes familiarizados con agroforestería?
4. ¿Usan modelos agroforestales en sus predios?
   Si es así, ¿cómo?

Preguntas principales
1. ¿En su opinión, ¿cuáles son algunas fortalezas asociadas a la agroforestera?
2. ¿En su opinión, ¿cuáles son algunas debilidades asociadas a la agroforestera?
3. ¿Qué tipo de oportunidades cree que presenta la agroforestera?
4. ¿Qué amenazas asocian ustedes con la agroforestera?
5. ¿Si tuviera un vecino o amigo y le dice que está pensando en aplicar sistemas agroforestales en su predio, que consejo le daría?
6. ¿Recibe usted información de divulgación sobre agroforestera?
   ¿Si es así, qué tipo de información recibe usted?
   ¿Cómo le llega la información?
¿Qué información usted considera útil?
¿Qué información usted considera que no es útil?
7. ¿Sobre cual tema(s) le gustaría recibir materiales de divulgación?
8. ¿Cuál es su método preferido de recibir información de divulgación?
9. ¿Qué importancia tiene para usted tener contacto regular con los profesionales de extensión?
10. ¿Es importante para usted ver cómo funciona la agroforestería para otros agricultores antes de que usted considere implementar métodos agroforestales en su predio?
11. ¿Qué otras cosas consideran ustedes como importante, que no hemos preguntado?

Resumen

Clausura:
- Agradecimiento
- planes para la presentación y análisis de datos
  - Comprender las tendencias emergentes, oportunidades y amenazas
  - Puede estimular nuevas ideas o ideas para la futura exploración
  - Puede utilizarse para informar a futuro cualitativa o cuantitativa
- Comentarios de los participantes.
La representación del moderador es la más importante del grupo de enfoque. El moderador es el que facilita y mantiene el foco de la discusión, pero sin dirigirla o contribuir a ella. El moderador no debe ser participante en la consulta, si no solo ayudar a que todos puedan contestar las preguntas y dar sus opiniones.

Protocolo:

- Al empezar de la consulta, asegurar que los participantes se acuerden que estamos grabando la consulta y también que yo estoy tomando notas en escrito
- Leer las preguntas claramente; repetirlas cuando es necesario
- Solo una persona debe hablar a la vez, siga la secuencia
- Asegurar que todos los participantes tengan suficiente tiempo y oportunidad para contribuir a la consulta
- Hacer preguntas adicionales de aclaración o para más detalles. Por ejemplo: ¿Pude seguir su respuesta con un ejemplo? ¿Que lo(a) hizo pensar/reaccionar de esa manera? ¿Puede decir un poco más sobre su experiencia?
- Permitir opiniones diferentes
- No permitir comentarios irrespetuosos
- Evitar que una persona domine la consulta
- Motivar a personas que no han contribuido a la consulta
Appendix D: Questionnaire

Estamos pidiendo su ayuda en un estudio. Esta entrevista está diseñada para aprender más sobre cómo entregar información sobre las técnicas agroforestales para que proporcione el mayor beneficio a las comunidades rurales. Esta investigación ayudará a desarrollar estrategias eficaces con el propósito de mejorar la información a los pequeños agricultores rurales. No es necesario contestar aquellas preguntas que usted no desea contestar y puede parar el proceso de entrevista en cualquier momento. Todas las respuestas se mantendrán en confidencialidad.

Entrevista N° _________________ Fecha (dd/mm/año) _______________________

I. Identificación del propietario

1. Comunidad

2. Edad______________

3. Último año de educación aprobada_____________________________________

4. Vive en el predio?  Si ______ No_____  
   **Si, SI, siga a #6 abajo.**
   4a. ¿Si NO, donde vive?  
   _____ En un(a) sector/comunidad cerca  
   _____ En la ciudad

4b. ¿A cuánta distancia está del predio?

5. ¿Ha vivido por algún tiempo en el predio?
II. Identificación del predio

6. Tamaño y tenencia del predio:

<table>
<thead>
<tr>
<th>Tipo de tenencia</th>
<th>Tamaño (ha)</th>
<th>¿Hace cuánto tiempo que es dueño(a), arrienda o es usufructuario de este predio?</th>
<th>¿Cuántas personas mayores de 15 años viven en este predio?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Hombres</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

7. ¿Cuál(es) es/son las razones más importante(s) para usted, tener un predio?
   ____ Producir para su familia
   ____ Producir para venta local
   ____ Producir para exportación
   ____ Otro (especifique)

   ____________________________________________________

8. ¿Cuántas hectáreas (o proporción) de su predio usa usted para las siguientes funciones?
   ____ praderas
   ____ huertos frutales
   ____ huertas
   ____ cultivos
   ____ bosques nativo (van animales en el invierno?):____________
   ____ bosques plantación (bosquete, cortinas cortavientos, otros)
   ____ lagos, arroyos, ríos
   ____ casa y otras construcciones (galpones), patios, caminos
   ____ estanques para peces
   ____ otro (especifique) ________________________________

9a. En el caso que tenga superficie con uso forestal, completar lo siguiente:

<table>
<thead>
<tr>
<th>Plantación Exóticas o nativas (ha)</th>
<th>Cortinas (km)</th>
<th>Bosque Nativo (ha)</th>
<th>Descampe para forestar (ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Especies Exóticas o nativas</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
9b. En el caso que tenga superficie con uso agrícola, completar lo siguiente:

<table>
<thead>
<tr>
<th>Cultivo</th>
<th>Superficie</th>
<th>Rendimiento y Productividad Anual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tipos de Cultivos</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

9c. En el caso que tenga superficie con uso ganadero, completar lo siguiente:

<table>
<thead>
<tr>
<th>Uso</th>
<th>Pastoreo en bosque Nativo</th>
<th>Pastoreo en Plantaciones exóticas o nativas (silvopastoreo)</th>
<th>Superficie (ha) destinada o cantidad (en general)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Eventual</td>
<td>Siempre</td>
<td>Eventual</td>
</tr>
<tr>
<td>Ganadero Life stock</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vanunos</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equinos</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Porcinos</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OVinos</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caprinos</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apicultura</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Otros</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

9d. Por favor use esta hoja de papel y haga un croquis indicando la distribución de usos en el predio.
(La distribución se puede indicar usando ha o %).

III. Manejo del Predio

10. ¿Ha manejado Usted su bosque nativo y/o plantaciones en el predio?

<table>
<thead>
<tr>
<th>Bosque nativo</th>
<th>Si _______</th>
<th>No _______</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plantaciones</td>
<td>Si _______</td>
<td>No _______</td>
</tr>
</tbody>
</table>
11. Si la respuesta es SI, ¿Cuánto y en qué fecha?

Si, NO, continuar a # 15.

<table>
<thead>
<tr>
<th>Tipo Bosque</th>
<th>superficie (ha)</th>
<th>Fecha aproximada (Primera y última)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bosque Nativo</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plantación Nativa</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plantación Exóticas</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

12. Si la respuesta es positiva, ¿Cuál (es) han sido las actividades de manejo forestal que ha empleado?

<table>
<thead>
<tr>
<th>Actividades de Manejo</th>
<th>Si</th>
<th>No</th>
<th>Métodos</th>
<th>Si</th>
<th>No</th>
<th>Métodos</th>
</tr>
</thead>
<tbody>
<tr>
<td>Técnicas de plantación</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enriquecimiento</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poda</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raleo</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cosecha (tipo: protección, en fajas, etc.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cortas de limpieza</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control de malezas</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exclusión del ganado</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
13. ¿Qué beneficios visualiza del manejo del bosque nativo y/o plantaciones en orden de importancia?

<table>
<thead>
<tr>
<th>Beneficio</th>
<th>Bosque Nativo</th>
<th>Plantaciones</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Nativo</td>
<td>Exóticas</td>
</tr>
</tbody>
</table>

- Mejorar los ingresos del grupo familiar
- Incorporar una nueva fuente de trabajo
- Aumentar la productividad del predio
- Asegurar la conservación de la tierra
- Evitar migraciones del grupo familiar
- Controlar erosión
- Asegurar el abastecimiento energético del hogar
- Mejorar Calidad de vida (vivienda, galpones, infraestructura)
- Mejora en el Bosque
- Control de disponibilidad de agua
- Autoconsumo

14. ¿Qué espera obtener con el manejo del bosque en el futuro?

___________________________________________________________________________

15. ¿Estaría dispuesto a seguir manejando o empezar a manejar su bosque o a forestar terrenos?

<table>
<thead>
<tr>
<th>Manejo Nativo</th>
<th>Si _____</th>
<th>No _____</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manejo Plantación</td>
<td>Si _____</td>
<td>No _____</td>
</tr>
<tr>
<td>Forestación Exóticas</td>
<td>Si _____</td>
<td>No _____</td>
</tr>
<tr>
<td>Forestación Nativas</td>
<td>Si _____</td>
<td>No _____</td>
</tr>
</tbody>
</table>

16a. Si su respuesta es sí, ¿Cuánto y cuando estaría dispuesto a manejar o Forestar?: **Si su respuesta es NO, seguir a # 17**

<table>
<thead>
<tr>
<th>Tipo</th>
<th>Cuánto (ha)</th>
<th>Cuándo (año)</th>
<th>Tipo de manejo o Forestación</th>
</tr>
</thead>
<tbody>
<tr>
<td>B. Nativo</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plantación Nativo</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plantación exóticas</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forestación nativas</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forestación Exóticas</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
16b. Si su respuesta es NO

Bosque Nativo:
¿Por qué?____________________________________________________________

Plantación Nativo:
¿Por qué?____________________________________________________________

Plantación Exóticas:
¿Por qué?____________________________________________________________

Forestación Nativas:
¿Por qué?____________________________________________________________

Forestación Exóticas:
¿Por qué?____________________________________________________________

17. ¿En una escala de 1-3, 1 siendo menos importante y 3 siendo más importante, cuales factores son mas importante cuando usted planifica o deside qué producir en su predio?

<table>
<thead>
<tr>
<th>Factor</th>
<th>No es Importante</th>
<th>Es un Poco Importante</th>
<th>Es Muy Importante</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facilidad de manejo</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Capital Inicial</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Bajo Costo Mano de Obra (propia o contratada)</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Acceso al crédito estatal, no bancario</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Ganancias o utilidades</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Precios favorables del mercado</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Menor riesgo económico al predio</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Regulaciones del estado (leyes)</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Incentivos del estado</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Descuentos en impuestos del gobierno</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Reglas de comercios internacionales</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Sistemas de cultivo sostenible</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Efecto del clima</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Conocimiento científico</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Problemas de insectos y de enfermedades</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Mejoramiento a la calidad del suelo</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Agregar nutrientes al suelo (Enmiendas)</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Mejorar el medioambiente</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Asistencia técnica</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Cultura y tradición</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Producir para exportación</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Mano de Obra</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
18 a. ¿Qué fuentes de información influyen en sus labores de manejo del predio?
   _____ Miembros de la familia
   _____ Vecinos
   _____ Profesionales de extensión
   _____ Cooperativas/asociaciones
   _____ Empresas privadas
   _____ Consultores
   _____ Reuniones públicas (especifique)
   _______________________________________
   _____ Demostraciones agrícolas
   _____ Revistas agrícolas
   _____ Anuncios de producción agrícola (publicidad)
   _____ Universidades
   _____ Representantes del estado (especifique)
   _______________________________________
   _____ Radio
   _____ Televisión
   _____ Internet
   _____ Otro (especifique)
   _______________________________________

18 b. Elija tres fuentes de información que para usted son las más importantes
   _______________________________________
   _______________________________________
   _______________________________________

19. ¿Qué otros factores influyen en usted para manejar su predio?
   _______________________________________
   _______________________________________
   _______________________________________

20. ¿Quién(es) toman (n) las decisiones sobre el manejo del predio?
   _______________________________________

21. ¿Quién(es) hace(n) la mayor parte de la labor en el predio? (mano de obra propia, contrata gente o mano de obra familiar)
   _______________________________________
   _______________________________________
   _______________________________________
IV. Comunicacion

22. ¿Ha oído las palabras *agroforestia o agroforestal*? _____Si _____No
Si ninguna de las dos, siga a #24.

23. ¿Qué (tres) palabras o frases le vienen a la mente cuando usted piensa en las palabras agroforestería o agroforestales?

____________________________________________________
____________________________________________________
____________________________________________________

24. En una escala de 1 a 3, cuánto conoce usted de los modelos agroforestales, 1 siendo no conoce Nada y 3 siendo conoce mucho.

<table>
<thead>
<tr>
<th>No conoce nada</th>
<th>Conoce un Poco</th>
<th>Conoce Mucho</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

25. ¿Ha visto modelos agroforestales usados en otros predios en su región? _____Si _____No

26. ¿Ha visto demostraciones de modelos agroforestales en talleres, días de campo o en la televisión?
   _____Si _____No

27. ¿Ha usado modelos agroforestales en su predio? _____Si _____No
Si NO, siga a #31

28. ¿Qué sistema agroforestal utiliza en su predio actualmente?

___________________________________________________________________________
___________________________________________________________________________

29. ¿Qué otros modelos agroforestales ha dejado de usar en su predio?

___________________________________________________________________________
___________________________________________________________________________

30. ¿Por qué dejó de usar estos modelos agroforestales?

___________________________________________________________________________
31. ¿Cómo se enteró por primera vez de modelos agroforestales?

_________________________________________________________________________________

32. ¿Si tuviera un vecino que le dice que está pensando en establecer sistemas agroforestales en su predio que consejo le daría?

_________________________________________________________________________________

33. Tiene electricidad en su predio? _____Si _____No

Si, NO siga a #28

34. Tecnología disponible en su predio

<table>
<thead>
<tr>
<th>Tipo de utilidad o tecnología</th>
<th>Sí</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teléfono (Celular, Fijo)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Televisión</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radio</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internet/Wi-Fi</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Computadora</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

35. ¿De la lista arriba, cuál es la tecnología que más utiliza usted?

______________________________________________

36. ¿De todos los medios de información disponibles, de cuáles depende Ud. principalmente para recibir información sobre las técnicas de cultivo?

______________________________________________
37. ¿Qué importancia asigna Usted a los siguientes beneficios de AGROFORESTERIA en una escala de 1 a 3 con 1 siendo No Es Importante y 3 siendo Extremamente Importante?

<table>
<thead>
<tr>
<th>Beneficio</th>
<th>No es Importante</th>
<th>Es un poco Importante</th>
<th>Extremadamente Importante</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conservación de biodiversidad</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Protección de la cuenca</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Estabilidad económica</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Conservación de suelos</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Mejores precios de mercado</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Menos posibilidad de enfermedad a los cultivos</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Menos riesgos a la salud de los agricultores</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Menores costos de inversión</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Desarrollo social a través de asociaciones de productores</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Mejores beneficios a través de asociaciones sociales</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Mejores condiciones y beneficios laborables</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Otro (especifique)</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

V. Materiales de divulgación usado actualmente

38. ¿Qué tipo de escritos consulta usted? (recordar que algunas personas no saben leer

- [ ] Revistas de entretenimiento
- [ ] Periódicos
- [ ] Informes agrícolas
- [ ] Literatura de extensión
- [ ] Literatura de empresas privadas
- [ ] Anuncios de negocios agrícolas (publicidad)
- [ ] Revistas de asociaciones agrícola comerciales
- [ ] Otro (especifique)
- [ ] No leo mucho

A los participantes se les enseñará ejemplos de materiales de divulgación que se han distribuido a propietarios en su comunidad.

39. ¿Alguna vez ha recibido usted materiales informativos de extensión? [ ] Sí [ ] No

40. ¿Has visto antes este folleto/panfleto? [ ] Sí [ ] No
41. ¿Consideras que la información en este folleto/panfleto es importante para usted?
   _____Si    _____No

   ¿Por qué sí o no?

   ______________________________________________________________

   ______________________________________________________________

Por favor tome unos minutos para revisar bien este folleto/panfleto. Cuando este listo(a), le voy hacer unas preguntas. Quisiera que conteste las preguntas pensando que usted va a diseñar el folleto/panfleto para mejorararlo y haciéndolo más fácil para usted de comprender.

42. ¿En una escala de 1 a 3, cómo ayudan los siguientes elementos a comprender la información que se le entrega en el folleto/panfleto, con 1 siendo No Ayuda y 3 siendo Ayuda Mucho?

<table>
<thead>
<tr>
<th>Elemento</th>
<th>No Ayuda</th>
<th>Ayuda un Poco</th>
<th>Ayuda Mucho</th>
</tr>
</thead>
<tbody>
<tr>
<td>La cantidad de palabras</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>El tamaño de las letras</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Lenguaje técnico</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Cantidad de conceptos</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Fotos</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Tamaño de las fotos</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Calidad de las fotos</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Colores utilizados</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Datos de contacto</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

43. ¿Son útiles o no ayudan las fotos para entender la información en el folleto/panfleto?
   _____Si    _____No

   Explique por qué sí o no: __________________________________________________________

   ______________________________________________________________

44. ¿Qué otra información se debe incluir en el folleto/panfleto?

   ______________________________________________________________

   ______________________________________________________________
45. ¿En el futuro, cómo usted prefiere recibir información sobre agroforestería?
   _____ Materiales tal como el ejemplo que le enseñe
   _____ Miembros de mi familia (familiares que le comenten)
   _____ Vecinos
   _____ Profesionales de extensión
   _____ Cooperativas/asociaciones
   _____ Empresas privadas o consultor
   _____ Reuniones públicas (especifique) _____________________________________
   _____ Demonstraciones agrícolas
   _____ Revistas agrícolas
   _____ Anuncios de producción agrícola
   _____ Universidades
   _____ Representantes del estado (especifique) ________________________________
   _____ Radio
   _____ Televisión
   _____ Internet
   _____ Otro (especifique) _____________________________________________________

46. ¿Usted tiene interés en recibir más información sobre agroforestería
   _____ Si
   _____ No
   ¿Por qué Si o No?
   __________________________________________________________________________
   __________________________________________________________________________
   __________________________________________________________________________

47. ¿Cuáles de los siguientes programas lo(a) animaría a adoptar modelos de agroforestería en su predio? (Escoja los tres principales)
   _____ Extensión, libros de divulgación y ferias agrícolas
   _____ Consejos y asistencia técnica
   _____ Subsidios directos e incentivos económicos
   _____ Programas de crédito agrícola
   _____ Compra de productos por el gobierno
   _____ Proveer insumos de bajo costo
   _____ Reducción de impuestos a la propiedad (rebaja de contribuciones)
   _____ Reducción de impuestos a la renta
   _____ Participación en cooperativas y asociaciones de productores agrícolas
   _____ Instrumentos de Fomento específicos, incentivo a la agroforestería.
   _____ Otro (especifique) _____________________________________________________
48. Esto concluye nuestra entrevista. ¿Hay algo que le gustaría añadir?
_______________________

49. ¿Usted tiene alguna pregunta sobre el estudio o la entrevista?

50. ¿Le gustaría que le envíe una copia de los resultados del estudio? _____Sí   _____No
   ¿Si la respuesta es SÍ, cual es su forma de contacto preferida?
   Dirección o correo electrónico:
   __________________________________________________________________________
   __________________________________________________________________________

Gracias por su participación.

Contactos:    Grizel Gonzalez-Jeuck, NC State University, USA  ggonzal2@NCSU.edu
              Fred Cubbage, NC State University, USA  fredcubbage@yahoo.com

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              10 de octubre, 2012.
Appendix E: Informed Consent

Formulario de consentimiento informado para la investigación

Se le pide participar en un estudio de investigación sobre transferencia de técnica de agroforestería. El propósito de este estudio es obtener un mejor entendimiento de los factores que contribuyen a la difusión efectiva en las comunidades rurales. El estudio lleva a cabo por Grizel Gonzalez-Jeuck y Frederick Cubbage en North Carolina State University, USA.

Si decide participar en el estudio, se le pedirá responder una entrevista donde se harán preguntas sobre las características de su predio, su comprensión de los métodos agroforestales y su opinión sobre la efectividad de los actuales materiales de divulgación entregados. La entrevista debe tomar aproximadamente 2 horas.

Su información de contacto se obtuvo de INFOR. Su decisión de participar o no participar en esta entrevista no tendrá ningún efecto sobre su relación con INFOR o con servicios recibidos de INFOR.

La información contenida en los registros del estudio será confidencial. Toda la información personal se mantendrá anónima y sin referencias en los informes que se pudiesen vincular a este estudio.

Si tiene preguntas en cualquier momento sobre el estudio o los procedimientos, puede contactar Grizel Gonzalez-Jeuck en ggonzalez2@NCSU.edu o por teléfono al 00+1+919 337 7893 o Fred Cubbage en fred_cubbage@NCSU.edu, o 00+1+ 919 515 7789.

La participación en este estudio es voluntaria. Usted tiene el derecho a elegir no participar o dejar de participar en cualquier momento sin problema. Si usted decide dejar de participar en el estudio antes de completar la entrevista, la información se le devolverá o destruirá si usted lo solicita.

He leído y entiendo la información anterior. He recibido una copia de este formulario. Afirme que soy mayor de edad y estoy de acuerdo en participar en este estudio.

Número de entrevista: _________
¿Mayor de 18 años? Sí No_____
Nombre del participante: ___________________________ Fecha ____________
Firma del participante_______________________________________
Nombre del investigador: ____________________________________
Firma del investigador: ___________________________ Fecha: ____________