



AN EVALUATION OF EXTENSION SERVICES OF THE COLOMBIAN COFFEE GROWERS FEDERATION

June 2013



Cornell University

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Leaders with Associates Cooperative Agreement No. AID-OAA-L-10-0003

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ACRONYMS

4H	Head Heart Hands Health- a U.S. land grant university extension program targeting children and youth
AAA	Nespresso/Nestle coffee cultivation in harmony with ecosystems
AHPROCAFE	Association of Honduran Coffee Producers
ANACAFE	Guatemalan National Coffee Association
BSCA	Brazilian Specialty Coffee Association
C.A.F.E.	Coffee and Farmer Equity program founded by Starbucks
CED	Community Economic Development
CEO	Chief Executive Officer
CBPR	Community-Based Participative Research
CBPAR	Community-Based Participative Action Research
CENICAFE	National Federation of Coffee Growers Research Center
CENIPALMA	Colombian Oil Palm Research Center
EIAR	Ethiopian Institute of Agricultural Research
EMPRABA	Brazilian Enterprise for Agricultural Research
ES	Extension Service
FEDEPALMA	Colombian National Federation of Oil Palm Growers
FNC	National Federation of Coffee Growers
HAM	Human Action Model- an organizational leadership development diagnostic tool
ICCRI	Indonesian Coffee and Cocoa Institute
ICRAF	World Agroforestry Research Institute
IHCAFE	Honduran Coffee Institute
INMECAFE	National Coffee Institute of Mexico
MAG	Ministry of Agriculture
MEAS	Modernization of Extension and Advisory Services (USAID LWA Project)
NGO	Non-governmental organization
PAR	Participative Action Research
PPP	Private public partnership
SAN	Sustainable Agriculture Network
SCAA	Specialty Coffee Association of America
SCORE	Strengths Challenges Opportunities Responses and Effectiveness
SENA	Colombian National Service of Learning training institute
SMS	Short message service used in mobile phone texting
SWOT	Strengths, Weaknesses, Opportunities and Threats
TA	Technical Assistance
UIUC	University of Illinois at Urbana-Champaign
UTZ	UTZ Certified is a label and program for sustainable farming of agricultural products launched in 2002, which claims to be the largest program for coffee in the world. It was formerly known as Utz Kapeh, meaning 'Good Coffee' in the Mayan language Quiché.
VINACAFE	Vietnam Coffee Corporation

ACKNOWLEDGEMENTS

A rapid scoping mission was undertaken by the Modernizing Extension and Advisory Services (MEAS) study team at the request of the Colombian National Federation of Coffee Growers (FNC) to assess and evaluate the FNC Extension Service. The study team members are indebted to the central administration leaders, research center staff, and extension field agents of FNC for their assistance and collaboration throughout the project. In particular the study team would like to acknowledge the support of FNC administration leaders, Ricardo Villaveces, Carlos Saldia and Carlos Uribe for their continual support throughout the planning and implementation of the FNC Extension Service assessment.

The MEAS study team would like to acknowledge the support of Dr. Paul E. McNamara and Ms. Andrea Bohn for their advice and support in organizing the project. The study team would like to thank the Colombian Coffee Mission members for their insights and recommendations related to the MEAS assessment. The study team would like to thank the more than 300 women and men smallholder coffee farmers and the 280 FNC extension service field staff that participated either directly in the field study or through the survey conducted prior to the field study who graciously gave their time and shared their knowledge and experiences regarding the FNC Extension Services in Colombia, as well as their suggestions on how to strengthen and expand these services in the future.

Additionally, a number of private, not-for-profit, and public organizations and institutions graciously agreed to anonymously participate in our industry survey work that looked at current models for providing extension. Root Capital (Elicia Carmichael, Jesse Last, and Elizabeth Teauge) and the Sustainable Food Lab (Stephanie Daniels), were instrumental in assisting us with reaching out to these cutting edge organizations and helping us understand how extension activities were being undertaken in an era of increased private sector participation. We graciously thank them. This study is a compilation of all of these valuable inputs. The authors alone accept responsibility for any shortcomings or factual errors in this report.

EXECUTIVE SUMMARY

The coffee sector plays an important role in Colombian agriculture. It represents about 17% of the agricultural output and for about 2.2 million rural residents coffee is the primary source of income. Although the extension services provided by the National Federation of Coffee Growers (FNC) have contributed immensely to the wellbeing of coffee growers, recent developments in the domestic and global coffee markets are posing new challenges, which require careful reassessment of the extension services. The challenges are many. Coffee is becoming increasingly differentiated, particularly with the rise of specialty and sustainable coffees. Advancement in information technologies offers new possibilities in the provision of extension services. Climate change is affecting growing conditions and, in the future, the geographic locations of coffee production. Furthermore, the continuous reduction in government support to agriculture, including coffee, makes it critical to allocate scarce resources efficiently.

Given these challenges, the Modernizing Extension Advisory Services (MEAS), a USAID funded program composed of multiple land grant universities and US institutions whose lead institution is the University of Illinois at Urbana-Champaign (UIUC), entered into an agreement with the FNC in 2012-2013 to conduct an in-depth evaluation of the Extension Service, and to offer insights into relevant best practices and key lessons from an evaluation of public and private models of coffee extension. Specific recommendations for the FNC based on the results of carefully designed action research fieldwork in Colombia and a summary of the key lessons and best practices from our review of outstanding international examples of public and private extension models are synthesized below.

Phase 1: FNC Fieldwork, Extension Agent and Producer Interviews

The investigative team, consisting of a team leader from the UIUC and two researchers from Cornell University, undertook two major tasks to fully evaluate the FNC Extension Service and the opportunities for smallholder farmers and extension providers working in global coffee value chains. The first was primary in-country research and data collection, with targeted interviews with FNC management and research center investigators; and focus group discussions and community meetings with extension agents and member smallholder farmers. Using this information, a situational analysis of the FNC Extension Service was conducted focusing on internal Strengths/Assets and Weaknesses/Challenges as well as on external Opportunities and Threats. Over three hundred coffee producers participated in the small group discussions and community meetings at fourteen different locales in 8 departments or states over nearly a three week period with an additional 60 Extension agents who participated in separate small group discussions.

These qualitative interviews and focus group findings provided insights about the FNC Extension Service as an organization and the strengths, opportunities, weaknesses, and threats facing the FNC as a provider of critical extension services. These insights are summarized below.

Organizational adjustments:

- 1) *Flatten the administration of FNC.* Extension agents have expressed their interest in having a stronger voice in developing the field programs. It is also apparent that the “pockets of innovation” occurring at different FNC sites around the country should be shared and built upon. Several options may be considered of how to flatten the administration and strengthen the “tejido social” or social network within the FNC Extension Service. One principle to apply is to create stronger channels of communication from the bottom up to central administration decision makers and to use technology and the Internet to create virtual communities of interest.
- 2) *Consolidate field offices and reduce overhead.* The FNC needs to increase extension coverage, and reallocation of resources needs to occur so that more funds are distributed to regional extension hubs and local extension offices.
- 3) *Support field resource centers.* Support and expand the capacity for extension centers to have extension tools and workshop content materials including creative props, videos, cameras, laptops and projectors, and other content resources to easily access, check out and use.
- 4) *Improve “new hire orientation program.”* It is under discussion with FNC administrators to develop a mentor program for new hires to be named the “Padrino” Program. The idea is that each new recruit to FNC field staff will be matched with an experienced FNC Extension Padrino or mentor who can guide the newcomer and help her/him understand how to present the different aspects of the field work such as technical assistance, social work and teaching, as well as helping the producer become fully integrated into the FNC organization. New recruits will be paired with senior extension agents with less computer experience or those who are new to computer technology to teach how to tame and maximize the use of technology. Helping the senior staff to learn how to use the new tablets is an example.
- 5) *Create clear career opportunities for extension agents.* Individuals should be able to clearly see how they can work towards new opportunities (e.g., supporting extension staff to pursue advanced degrees, language learning or expertise in a specific area) and advance in their career objectives.

Strategic Investments and Necessary Partnerships

- 6) *Invest in extension field transportation and mobile phones and encourage private sector partners' investment in these areas.* Many extension agents face long, dangerous commutes to producer communities on motorcycles. Some are without any vehicle access, walking and using public transportation. The lack of accessible and appropriate transportation is a cause of stress and 'burn out' for extension agents, and extension coverage (which is already stretched thin) suffers further. Investments and/or a strategic partnership with a transportation/fleet management companies is vital. Some extension agents also do not have resources for personal mobile phones as FNC does not provide phones to its agents.
- 7) *In an effort to leverage its public partnerships, FNC should continue to dialogue with key public sector officials and stakeholders to increase participation from the government in the building and maintenance of basic infrastructure in coffee producing states, including roads, housing, water and sanitation.* Poor transportation networks create a major barrier to improved farm income and coffee farmer profitability. Poor sanitation and housing keep people impoverished and unable to successfully cultivate high-quality coffee at commercial production levels.
- 8) *Target the development of unproductive coffee farms often owned by older, inactive coffee farmers and build partnerships to offer new growers without land, and young, intergenerational coffee producers the opportunity to access land and access to credit.* FNC Extension Service should continue to support more targeted diagnostic and pilot programs for non-productive coffee farms with a roll-out of promotional programs such as "Cafeteros sin Tierra." A goal for FNC should be working with FNC members so that all have sufficient coffee under production to be able to maintain and improve their quality of life.
- 9) *Increase and expand investments in communications and knowledge-sharing technology.* The FNC Extension Service has been innovative in its efforts to extend tablets to producers and extension agents. However, technological advancement is a continuum. Integration of these devices with other extension approaches (radio program access through podcast applications, SMS texting to mobile devices when critical production activities are necessary) must continue.

Mobilizing the Community

- 10) *Develop 'Friends of the FNC'.* Friends of FNC organization can emulate the best features similar to popular Friends of Extension organizations in the U.S. This national program can leverage local, state and federal funding, attract alumni and potential investors to special projects, and keep people excited and aware of ongoing FNC activities.

- 11) *Recruit FNC volunteers and develop volunteer led programs.* Along with working on the creation of a *Friends of FNC* national organization, the FNC should pilot an initiative to build volunteer-based programs that target the youth (similar to the 4H program in the U.S.) as well as new producers, women groups, and indigenous and relocated communities and families.

Modifying Delivery Model Approaches

- 12) *Employ ‘train the trainer’ approach and expand peer-learning.* Reduce burdens on extension agents and increase coverage by training lead farmers and ‘farmer trainers’ to provide extension-related services to the communities they live in. Certification programs for coffee farmers and FNC members developed by their education and training arm, Foundation Manuel Mejia and their research center, CENICAFE working more closely in the development of field research and farmer led experimental demonstration plots are examples to expand upon.
- 13) *Develop specialized teams and utilize a ‘circuit rider approach’ where small multidisciplinary educational teams travel together.* Each team member specializes in a particular area and teams work together to provide multi-faceted trainings, workshops, or farmer field schools. These teams would have access to a vehicle to carry educational materials and maximize number of visits and coverage.

Strengthening Social Capital in FNC Communities

- 14) *Expand and support the participation of youth and young adults in local organization activities and as peer leaders.* There are already a number of successful youth programs in FNC. These programs should be expanded and gear up technology related programs for youth which would include expanded internet website for youth and increased use of social media geared toward children and youth of FNC membership families and their community members. The 4H Club in the US can be a model to build upon for youth clubs and CENICAFE’s expansive website can have certain areas that are geared specifically for children, youth and young adults.
- 15) *Expand approaches to working with indigenous groups and relocated families.* These families face unique social stresses which can have dire impacts for productivity and profitability. The FNC Extension Service should expand innovative approaches that address mental health, community health and food security as well as community cohesion needs. These will have direct impacts on farmer’s lives and the lives of their families, and indirectly impact coffee production.
- 16) *Expand approaches that support the increasing leadership of women in all facets of FNC activities.* Forty-nine percent of all FNC members are females. Women play increasingly important roles as owners of coffee farms, leaders of their communities and in their leadership roles in local and state

committees and as FNC national leaders. This expanded role of women in FNC has been well documented, based on merit and well earned. These successful efforts on the part of women coffee growers in FNC should continue to be duplicated through the pluralist approach of FNC toward the gender and background of its members.

Phase 2: Evaluation of Privately and Publicly Led Extension Models in Coffee

The second phase of the research included reviewing relevant coffee extension models globally. This meant considering public models for coffee extension in major coffee exporting countries in East Africa, Central America, Latin America, and Asia and considering trends and best practices. Yet some of the more innovative coffee extension services are being led by private (not-for-profit and for-profit) organizations. Because these privately-led models are new and most information is not publicly available, the research team reached out to over twenty organizations (private companies, non-governmental organization, research institutes, and consultants) providing coffee extension services and conducted fourteen interviews with organizations doing coffee extension work in over sixteen countries. Key findings from this review of public and private sector approaches to extension include:

- 1) *Organizations are moving towards decentralized extension models.* Organizations working with the lead-farmer models or ‘train the trainer’ models increased extension coverage and reduced burdens on extension agents. Organizations also benefitted from leveraging established and trusted relationships with individuals already known and respected in the community.
- 2) *Seeing is believing with your peer group.* Organizations using farmer field schools and demonstration plots provide farmers with hands-on opportunities and higher adoption rates of improved practices and varieties are reported as a result. Moreover, conducting these activities in groups provide the opportunity for rich discussion, active participation, and peer-to-peer accountability.
- 3) *Organizations are expanding services coverage to include business development services as well as agronomic support.* Complex new markets are placing new burdens on smallholder farmers and cooperatives: all surveyed organizations agreed that small business development and management training was a growingly necessary component of extension.
- 4) *Organizations succeed when they align extension goals with end-markets and educate buyers about extension realities.* Successful extension providers align extension goals with buyer needs – but priorities between multiple buyers were often contradictory. As a result, many extension providers were investing heavily on building strong relationships with individual buyers.

- 5) *Adapting to local context and breaking away from blind standardization.* The most innovative extension providers are breaking away from standardizing services/partnerships across regions, contexts, or countries. Local realities were considered and funding needs and priorities were contextualized.
- 6) *Continuous and frequent communication with ground-level staff is critical.* Collecting and analyzing feedback on a regular (at least monthly) basis held decentralized extension management systems together and created a sense of teamwork and mission. Strong monitoring and evaluation frameworks were indicative of organizations curtailing and adapting programs to local contexts.
- 7) *Everyone is racing towards technological advancement.* Many organizations are coordinating information and evaluation of farmers and coffee farmers across a range of platforms. GPS and GIS technology collect critical productivity and quality information at the individual farm level, and overlay of this information with established soil, water, institutions (like schools and hospitals) and weather maps for complete picture. This picture provides a new, holistic method of targeting areas out of sync with production, economic, quality of life, and environmental goals.
- 8) *Partnerships with research organizations, universities, and other specialized service providers are growing in popularity and importance.* In private and public models alike, new and innovative partnerships are being formed around a range of initiatives, priorities, and policies.

The FNC is executing one of the oldest and most comprehensive private extension systems in the world. The FNC Extension Service is skillfully providing critical services to more than a half a million smallholder coffee farmers while facing many of the same serious environmental, economic, and social issues that other organizations working in coffee extension are grappling with. The recommendations based on fieldwork interviews represent an opportunity to reflect on the perspectives of the people most intricately connected to the FNC's mission: extension agents and participating smallholder farmers. Their day-to-day experiences in coffee production and coffee extension provide the basis of our recommendations for future areas of FNC attention, activity, and organizational change. Together with the trends and best practices expressed by for-profit and not-for-profit extension providers and private buyers, the research team is convinced that the FNC Extension Service can strengthen activities, increase efficiency and agility, and better perform critical organizational functions as a provider of relevant and necessary information and education.

1. Introduction

The coffee sector plays an important role in Colombian agriculture. It represents about 17% of the agricultural output and for about 2.2 million rural residents coffee is the primary source of income. The National Federation of Coffee Growers (FNC) represents the producers and advocates for the interests of coffee growers and it has been a key element for rural development since 1927. Since its inception, the FNC has provided valuable nationwide extension services to its constituents in 17 departments or states in Colombia. Today, over 1,000 FNC extension agents provide a variety of field services spanning multiple areas, from technical assistance, support for accessing credit, as well as social services. The FNC also executes programs in alliance with governmental, private and non-governmental organizations.

Although the extension services provided by the FNC have contributed immensely to the wellbeing of coffee growers, recent development in the domestic global coffee market are posing new challenges which require careful reassessment of the extension services. The challenges are many. Coffee is becoming increasingly differentiated particularly with the rise of specialty and sustainable coffee. Advancement in information technologies offers new possibilities in the provision of extension services. Climate change is affecting growing conditions and, in the future, the geographic locations of coffee production. And continuous reduction in government support makes it critical to allocate resources efficiently.

Given these challenges, the Modernizing Extension Advisory Services (MEAS), a USAID funded program composed of multiple land grant universities and US institutions whose lead institution is the University of Illinois at Urbana-Champaign (UIUC), entered into an agreement with the FNC in 2012-2013 to conduct an in-depth evaluation of their Extension Service. The FNC proposed an analysis of its Extension Service that would identify potential challenges and threats to the FNC as well as validate the strengths and opportunities using a group of experienced “outsiders” from the MEAS partnership of land grant universities who had conducted evaluations of extension services in international settings and were familiar with Colombia and its coffee sector. The FNC case is of particular interest to MEAS because of its private nature, given that most assessments of extension services focus on public systems and the provision of these services by the private sector has been largely ignored in the literature. The investigative team consisted of a team leader from the UIUC and two researchers from Cornell University all of whom were part of the collaborating partners from the MEAS project.

The MEAS research team employed a mixed, complementary approach to assess FNC’s Extension Service. The research team utilized a participatory research model to understand the challenges and opportunities faced by FNC’s extension Service. The use of participatory research models

ensures that research design, methods and results are developed collaboratively with community partners. Assessment findings, when shared and reviewed widely in the FNC, can become the source of action plans that catalyze innovation and development within the organization. In addition, the research team carried out a complementary in-depth, sweeping review of the literature and other private and public experiences on successful strategies to deliver extension services among smallholder coffee growers worldwide. In combination, these two approaches were reflected in multiple strategies to collect data for the analysis, including field work in Colombia with smallholder coffee growers, extension services, and key informant leaders in the FNC's central administration and research center. In addition guided interviews were conducted with private (profit and non-for-profit) organizations participating in the coffee supply chains that provide extension services; and the research team conducted a review of the academic and coffee industry literatures on successful strategies for the provision of extension services to smallholder coffee growers.

The document is organized as follows. Section 2 explains the methods and approaches employed for data collection and analysis. Sections 3, 4, 5, in turn, present key findings from the fieldwork in Colombia for coffee growers, extension agents, and key FNC administrative and research leaders respectively. These sections emphasize strengths, weaknesses, challenges and opportunities of the Extension service from the point of view of these three groups. Section 6, in turn, discusses key lessons from the interviews with profit and non-for-profit organizations providing extension services to coffee growers (coffee buyers, certifying agencies and non-governmental organizations), Section 6 also synthesizes successful extension practices from the review of the academic and coffee industry. Finally, Section 7 concludes with a set of key implementable recommendations to strengthen and sustain FNC's Extension Service in years to come and a summary of the presentations and workshops implemented by the research team based on the findings of the MEAS assessment.

2. Methods

With a half-million families as members and over 1,000 field extension agents, the FNC is a large private sector organization with partnerships with public sector institutions, organizations and government at the local, department or state, and national level. Including the FNC Central Office in Bogota and its research center near Manizales, there are 1,400 extension staff in the central administration and the 17 departments of Colombia where there is a FNC Extension presence. The MEAS assessment is guided by a community-based participatory action research approach for working with communities or large organizations. The scope of the assessment included the collection of qualitative data from about 300

participants in field-based focused small group discussions with coffee farmers who are members of FNC as well as a representative sample of FNC extension agents. Prior to the field research, 225 selected extension agents received an organizational diagnostic tool survey to assess the organizational profile of FNC Extension Service. The Human Action Model tool is designed to provide a diagnosis of a community's or a large organization's areas of strengths and weaknesses based on the six elements or component of an organization (Terry, 1993).

The field research framework is guided by a mixed approach of two participatory models. The first, termed community-based participatory research emphasizes a partnership approach that involves a co-learning process; focuses on systems development and capacity building; balances research with action; and promotes a series of activities that are participatory, cooperative, empowering, and evidence based (Israel et al., 2003; Minkler & Wallerstein, 2003). The second model, participatory action research (PAR) has its roots in Latin America and calls on academic communities to address social disparities and challenges to development using a culturally grounded method of investigation for underserved populations with the goal of social and organizational transformation (Fals-Borda, 1987; Freire, 1982). The hybrid model used in this project, community-based participatory action research (CBPAR) has the ultimate objective of empowering communities or large organizations by teaching and learning with them how to address their major concerns through the use of partnerships that involve key stakeholders (Cristancho, Garces, Peters & Mueller, 2008).

Given the size of the FNC Extension Service and the large number of coffee farmers and their families being served, the MEAS team utilized a preliminary survey instrument before their field research that allowed a representative sample of the extension field staff to assess the strengths and weaknesses of their organization and provide a preliminary diagnostic using an organizational assessment tool, the Human Action Model (HAM) developed by Robert Terry author of organizational leadership publications including *Authentic Leadership: Courage in Action*. The Human Action Model was developed to diagnose an organization that is having difficulty progressing toward desired goals. Terry's HAM has six elements that are the fundamental features of human action that occurs in an organizational or community environment. The six elements of action are: Existence, the history and opportunities of an organization; Resources, the members and materials of the organization; Structure, the form and structure of the organization; Power, the stakeholders and vitality of the organization; Mission, the direction of the organization; and, Meaning, the value and significance of the organization.

During the partnership building and planning phase the leadership of the FNC Extension engaged in multiple planning meetings via phone and video conference with the MEAS team that began

the partnership formation process and led to the development and design of the assessment tools used in the project. Prior to the MEAS field research, the Human Action Model survey was administered to 225 FNC Extension staff. Following the collection of the HAM survey data and analysis, the MEAS team prepared the results of the HAM survey that was part of the presentations and workshops with FNC Extension and stakeholders in May, 2013 (See Table 2 in the results section below).

In March, 2013 two members of the MEAS team traveled to Colombia and over approximately three weeks conducted their field investigation at 14 FNC sites using focused small group discussions with both extension field staff and coffee growers who are members of the FNC (see Appendix I, Map and Description of MEAS-FNC field study). Finally a series of meetings and discussions were held with FNC central administration and research center leaders. The purpose of the MEAS assessment was to explore the perceived barriers to improving the FNC extension service and identify the best practices both within the field sites of the FNC as well as outstanding international models of extension that are appropriate to the goals of the FNC. In this report the primary set of findings were obtained from multiple communities where coffee growers and FNC Extension field staff participated in discussions termed focused small group discussions.

2.1 Design

Focus groups have become a popular quantitative method of data collection where participants can provide detailed information about potentially complex experiences and the reasons behind their attitudes, perceptions and actions (Carey, 1994). Focus groups also provide a trust-building experience between the research partners and the communities and/or organization members which is critical for the future steps of the participatory approach. A solid partnership is essential that provides for the flexibility in the design of the small group discussion to ensure the cultural competency of the investigation (Vissandjee, Abdool, & Dupere, 2002). On the advice of the FNC we developed a blended approach to focus group and small group discussions that differed from traditional focus groups in that there is no formal recruitment of participants, convenience samples were used, and small group discussions followed a community event directed and implemented by FNC extension staff. No audiotaping or verbatim transcripts were collected. The discussions were conducted in Spanish with the objective of assessing the various components of the FNC's extension program and to provide an opportunity both from the perspective of the coffee growers and the extension staff to make suggestions to improve the quality and scope of their services. Coffee growers and extension staff were engaged in separate small group discussions. Each small group discussion occurred over a 45 minute to a

one hour session, with the investigator team working in tandem with FNC extension staff to ask a consistent set of questions to the participants and take notes of their responses.

2.2 Participants

The focused small group discussions were conducted in nine communities. In five additional communities meetings were held with Extension field staff and their administrative leaders. One day of discussion and presentations was conducted at the FNC research center, CENICAFE, and two days were spent in Bogota conducting interviews with key FNC central administrators. Small group discussion participants were chosen using purposive sampling, a process that encourages participation of individuals who have experiential knowledge related to the research question (Lincoln & Guba, 1985; Patton, 2002). Participants were invited to a variety of FNC Extension programs and activities in their communities and coffee farms.

There were 301 small group discussion participants who are coffee producers/farmers and members of the FNC. Thirty-seven percent of the coffee growers who participated were female. Age and other demographic information were not requested in deference to cultural competency considerations as requested by the FNC community research partners.

A total of 54 FNC Extension Service field staff participated in the focused small group discussions. One third of the extension agent participants were women. Extension agents were selected by the FNC and conducted activities with the coffee farmers in addition to participating in the focused small group discussions.

Table 1. Participants in Focused Small Group Discussions and Meetings

City and State	Total Coffee Growers	Male	Female	Total groups	Total Extension Agents	Male	Female	Total Groups
Chinchiná Caldas	N/A				N/A			
Argelia Valle	N/A				N/A			
Marsella Risaralda	N/A				N/A			
Anserma Caldas	25	17	8	3	8	6	2	1
Trujillo Valle	10	7	3	2	5	4	1	1
Rosas Cauca	41	34	7	4	10	3	7	1
Timbio Cauca	44	7	37	5	4	2	2	1
Paramour Santander	42	28	14	5	5	5		1
Socorro Santander	45	31	14	7	11	7	4	1
Socorro Santander	34	26	8	7	N/A			
Pueblo Bello Yewra, Cesar	44	29	15	6	3	2	1	2
Valledupar Agustin Codazzi Cesar	16	11	5	5	8	7	1	1
Bogota	N/A				N/A			
Totals	301	190	111	44	54	36	18	9

2.3 Procedures

The MEAS research team worked with the FNC administrative team and selected leaders from the FNC Extension Service to plan and conduct the focused small group discussions. The research protocol was approved by the Cornell University Institutional Research Review Board. The FNC planning group also approved and served as a validity check on the use of the small group discussion instrument and protocol by providing recommendations related to the content relevance, appropriateness of literacy level and cultural sensitivity. Gender separation of the small group discussions was not used with one exception at the request of the FNC planning committee. The focused small group discussions were conducted in Spanish and were designed by the MEAS/FNC planning group. FNC was in charge of inviting FNC coffee growers and Extension agents to participate in the MEAS assessment. The MEAS team leader conducted the majority of the Focused Small Group Discussions with FNC Extension Service

participants. The MEAS team leader is a bilingual social scientist with specialization in community development, action research and community outreach who has worked with disadvantaged populations in rural communities from Latin America and the United States. He has extensive experience with extension organizations in the U.S. and internationally as a former (now retired) Extension Specialist for Community Development and Co-Chair for the Community Economic Development (CED) extension educator team at the University of Illinois Extension. The MEAS team leader provided instructions and supervised FNC Extension agents who volunteered to lead the coffee farmers' small group discussions. Verbal assent to participate in the study was obtained. Each small group discussion with coffee growers as well as extension field staff lasted between 45 and 60 minutes. Moderators asked every person to respond to each question and allowed participants to respond with any additional comments at the conclusion of the discussions. At the end of the session, refreshments were provided.

2.4 Analysis Approach

Notes taken by the moderators from each focused small group discussion were fully transcribed and then translated to English. Then the content was analyzed independently by the three members of the MEAS research team. The research team agreed upon a final list of categories of responses to each of the questions posed in the focused small group discussion protocol for the coffee farmers and the FNC Service field staff. The FNC planning team and the MEAS research team collaborated to create questions that probed the FNC Extension Service's organizational strengths, weaknesses, opportunities and threats (SWOT).

A SWOT analysis, also called situational analysis, is a useful tool that organization leadership may use in order to evaluate the strengths and weaknesses in an organization's internal environment and the opportunities and threats in its external environment (Argopedia, 2013). Through SWOT analysis, administrators can help an organization increment its internal strengths and reduce its internal weaknesses while incrementing external opportunities and reducing external threats. Sometimes labels can become barriers in how an organizational SWOT diagnosis is perceived by the organizations leadership as well as its staff in the field. Tetradian Consulting and others have renamed the categories of the SWOT analysis to SCORE (strengths, challenges, opportunities, responses and effectiveness). For the purpose of the MEAS analysis and because of the familiarity of the FNC with the more traditional SWOT categories, the MEAS team used these traditional terms but broadened their terminology. The S in SWOT refers to the strengths within the organization that could also be seen as their assets. The W in SWOT refers to the weaknesses that are internal to the organization but could also be seen as

challenges. Opportunities refer to the external options that may lead to growth, development and positive outcomes for the organization. The T in the SWOT stands for threats but threats could also be perceived as risks, barriers or problems outside of the organization that should be addressed. It should be noted that the term "Expectations" appears in the SCORE acronym for the final letter E. The desired outcome for the FNC Extension SWOT analysis is to create a new set of expectations that are the set of constructive suggestions or recommendations of how to improve the organization and create new and positive development that are found at the conclusion of this report.

A SWOT analysis begins with an examination of internal strengths and weaknesses. The second part of a SWOT analysis is to look outside the organization and evaluate the opportunities and threats in the external environment. Often the SWOT process is an overwhelming task especially for larger organizations and more effective analysis occurs using a SWOT pyramid approach (Mayer & Vanbery, 2008). The research team used the SWOT pyramid in order to focus on breaking down the SWOT process into several smaller SWOTs. The ending result is a "pyramidization" of SWOT's. The advantage of this approach is to break down the four SWOT categories into more manageable subsets.

Separate SWOT analyses were used for the coffee grower participants and the FNC Extension Service focused small group discussions. The research team then created subcategories within each of the four areas of the SWOT to further differentiate sub-groups that described both the internal characteristics and external environment of the FNC Extension Service. In the sections below we present the qualitative analysis related to how coffee producers and Extension Service agents perceive the strengths, weaknesses, opportunities and threats as related to the Federation of Coffee Growers Extension Service. Two different yet similar set of questions were delivered as focused small group discussion questions to both coffee growers and to FNC Extension field agents.

It is important to note that the MEAS team created a draft report for the FNC with the results of the SWOT assessment and traveled to Colombia to present its findings in multiple presentations over a 3 day period. A consensus building process took place to create a final analysis of results that was used in a series of planning workshops with Extension Service leadership, over 100 Extension Service field staff and with FNC management and research center key informants.

The first tool used to assess the FNC Extension was the Human Action Model. The Human Action Model (HAM) was developed to diagnose an organization that is having difficulty progressing toward desired goals. All 225 subjects returned their completed survey electronically. The HAM framework is a diagnostic wheel containing six areas that are the six elements that are the fundamental features of

human action that occurs in an organizational or community environment that are connected to an organization's existence, resources, structure, power, mission, meaning, and significance.

Table 2, below summarizes the results of the Human Action Model survey ranking of the six elements that characterize the strengths and weaknesses of an organization using the Human Action Model framework and categorizes whether these HAM elements are perceived as a Strength, Weakness, Opportunity and Threat to the Federation using a situational analysis of each ranking of the six Human Action Model elements or categories. Although the percentages of each element are positive in their overall assessment of FNC Extension, when one takes into account that the survey responses were not confidential, the lowest ranking (5th and 6th) of Power and Resources are perceptions of staff that deserve consideration.

Table 2. Human Action Model Survey Results: An Internal Assessment and Ranking by Extension Agents of the FNC Extension Service*

Element of HAM	Totally agree (%)	Agree (%)	Disagree (%)	Totally disagree (%)	SWOT Category
Meaning	63	33	4	0	Strength/Asset (Internal)
Mission	60	34	5	1	Opportunity (External)
Structure	40	42	15	2	Strength/Asset or Weakness/Challenge (Internal)
Existence	43	38	15	3	Threat/Risk or Opportunity (External)
Power	39	43	15	3	Weakness/Challenge (Internal)
Resources	34	36	25	5	Weakness/Challenge (Internal)

*Highest ranking category of the six elements of human action in an organization assessment by the FNC Extension respondents is: Meaning followed by Mission, Structure, Existence, Power, with the lowest ranking category, Resources. Additional graphics of the Human Action Model survey are available in Appendix II Summary of Human Action Model Survey Results.

3. Results: SWOT Situational Analysis and FNC Coffee Growers

Eight questions were asked in the focused small group discussions with the FNC membership coffee producers. Each question allows the participants to express their perceptions as related to the strengths/assets, weaknesses/challenges that are internal to the FNC Extension Service as well as the opportunities and threats/risks in the external environment and future FNC Extension organizational development. Comments from FNC coffee producers were captured by the MEAS moderator and

Extension agents who served as moderators during the discussions. The MEAS research team identified perceived Strength/Assets, Weaknesses/Challenges, Opportunities, and Threats/Risks across all the focused small group discussions. These SWOT themes for each category of the SWOT situational analysis were then subcategorized using the Pyramid SWOT analysis methodology. The following are English translations of remarks made during discussions with 301 coffee producers who participated in 44 focused small group discussions.

3.1 Strengths/ Assets (Internal to FNC Extension)

The following four questions from the Coffee Producers small group discussion questions help to identify the Strengths/Assets of the FNC Extension: 1) “Do you consider it necessary the accompaniment of the Extension Service (ES)?”; 2) “Do you think that the coffee producers could completely develop their work without the accompaniment of the Extension Service?”; 3) “What aspects of the consulting/assisting of the ES are the most outstanding?”, and “7) What is your opinion of the Extension Service model that includes farm visits, also invitations to participate in group activities, and also their recommendations to be attentive to information that is available through (their) radio and television programs?”.

All respondents (301) indicated that the accompaniment of the Extension Service is necessary for success, and nearly 300 growers replied that the coffee producers could not completely develop their work without the accompaniment of the Extension Service. These responses attest to the critical role that Extension Services plays among coffee growers. Regarding question 3, the primary outstanding aspects of the Extension Service, the responses can be summarized as follows:

- Personalized attention, help in applying for loans and financial assistance, expert technical assistance (TA), training and education, timely and quality information, time spent with growers, constructive dialogue, friendship and confidence.
- They are modest, hardworking, guiding, serious, and dynamic who treat everyone the same.
- Multiple participants responded with similar remarks. Helping with obtaining loans; TA on farms; teaching how to develop a farm management plan;
- We have confidence in the Extension staff and their recommendations. Very complete information;
- Multiple participants responded with similar remarks. We feel like they are part of our family because of the friendship we have developed.
- In the office visits there is good attention;

- Multiple participants responded with similar remarks. It is magnificent the support for women producers and recruiting women on the coffee producer committees.
- There is improvement with their relationships and training.
- Multiple participants responded with similar remarks. The technical assistance is very important. Their recommendations are very timely and the producers feel well supported.
- Extension agents have helped us improve as growers from traditional to more technical production. We learn how to plan and administer all the activities on the farm. We implement the good farming practices (taught to us by Extension).
- Multiple participants responded with similar remarks. The extension agents are persons we can have confidence in and tell them about all the issues we are facing.
- They are facilitators to help us access loans with financial institutions and lines of credit such as PSF that also has incentives (ICR) and credits for food security crops and ecological beneficiaries

The following responses to question 7, which focused on the methods to deliver extension services, from the Coffee Producers small group discussion questions helped to further identify additional Strengths/Assets of the FNC Extension Service model:

- Very good, always learning, don't lose time, good mechanisms, radio and television are very useful, good model, invitations to activities is important.
- We like the model of visits to the farm and the workshops we learn and put into practice their recommendations. It is important to have various channels of information to keep producers informed about all the areas of interest.
- It is an excellent model. The model motivates our families and integrates the coffee producer community. It is good because we have a variety of ways to receive TA and services. It is a good model because we have the same capacity to learn and there are various forms to improve as coffee producers. It is a practical model.
- It is important that we feel that we are being consulted as to our needs and the different activities we require. The few times they visit they are attentive and their information is useful. The visits to the farms and office visits are important in helping us secure credits. Their model is to meet every 2 months in the community, visit once a year to the farms and have 5 group programs per year. There should visit our farms more frequently and institutionalize radio programs in our area.
- Would like more of the TV program, it is a good mechanism to send us up to date information.

- ES is a good strategy. The invitations (to activities) for radio are good. The farm visits are very important for us. The ES agents are attentive informing us how to improve.

3.2 Weaknesses/Challenges (Internal to FNC Extension)

Question 5 from the Coffee Producers small group discussion, “what aspects (of the consulting/assistance) of the Extension Service could be improved?” helps to identify Weaknesses/Challenges of the FNC Extension Service. The responses to this question can be summarized as follows:

- Multiple participants responded with similar remarks. Not enough coverage, need more ES agents in the field.
- Multiple participants responded with similar remarks. More TA, need call center at the office, another day other than Saturday at the office
- Multiple participants responded with similar remarks. More meetings at farms, more radio programs, and technical assistance from the committees should join with TA from the cooperatives.
- We need more extension agents to better cover all the programs.
- Better services in the committee offices- there are often long waits to be attended.
- We need more training, more personalized work and capacity building in using systems as well as more capacity in selling our coffee.
- There needs to be more help in understanding how to use the “cédula inteligente” (smart id) and we need more time to access the new technologies.
- We would like more training, more quantity of extension staff that have the latest technology. We would like to have them more often visiting and we would like that they provide TA not just in coffee but in diversification in other crops.
- Multiple participants responded with similar remarks. The extension staff needs to adjust to our needs. They need to visit us more, more support for the women’s groups and our organizational development. We need more extension staff in our area. We need more office time with them.
- We need loan programs not just for the small producers. We need a plan for the labor on the farm as we are paying for labor.
- This zone is very large for the ES agents. There are many farms and they do not have enough time. Their transport should be improved and the Federation should establish an office.

- We need more organic production practices approved by CENICAFE and programs that use less chemical products and development of agro-environmental practices.

3.3. Opportunities (External to the Organization)

Question 8 of the focus group discussion helps us identify how coffee growers perceive issues that represent opportunities for the future of the FNC Extension and its coffee growers. This question asks “In the next five years what would you expect from the Extension Service in carrying out their work?”

The responses about opportunities can be summarized as follows:

- More emphasis on “cafés especiales” (specialty coffees) for our area. We need more education directed toward our coffee workers on the farm. Should be aware of approaches that address family issues. We need ES staff that specialize in markets to be able to send continuous market information.
- Programs about the potential of coffee agro-tourism.
- Education about labor regulation and social security regulations.
- Same attention as in the present, same TA and visits, expert Extension staff, better production, more youth learning about coffee and motivation to become coffee farmers. FNC ES is good but will be much better. Hope that ES does not disappear.
- We would like continuous improvement through their capacity building we strengthen our ties to the community and have a stronger presence in the coffee production zones. More extension agents will improve our quality of life. We would like to continue to share our experiences to improve the vision and mission of the extension agents.
- We anticipate more advanced technology and experience in the use of technology. We would hope that each family would have their computer in their home to run their business. We would hope to learn more computer technologies and that Extension would become specialized teachers in this area.
- They should continue to help the producer to improve their coffee income; and continue to collaborate in the well-being of the coffee farmer.
- Be better positioned in the market for high quality coffee, more income for producers, better quality of life and more working in groups for producers.
- That they serve as a bridge to inform of our situation as producers to find credits to those affected by the coffee price and changes in climate. More consultations in our organizational development, more help with technical and economic areas; assistance in housing.

- There should be a continual improvement in the coffee production by improved hybrids, better technology in the use of beneficiaderos, more programs for children and youth.
- Using technology that will incentivize young people to get involved.
- Doing programs for youth to motivate them to become growers.
- More communication channels.
- We would like more visits to other coffee growers' towns. Improved environmental practices. Our farms will be better organized and more productive.
- We would like to see an improvement in quality of life in 98% of all the growers. We hope that 100% of all the growers have renewed their plants. We hope that 100% of the families have a better social education, better health, better economic situation, etc. Overcome the mistakes we had before so that our work is more easily accomplished and we obtain the desired results.

3.4 Threats/ Risks (External environment)

Question 6 of the focus group discussion with growers, ("What do you think would happen if the Extension Service disappeared?" contributes to the identification of Threats/Risks to the FNC Extension. The responses are summarized as follows:

- Multiple participants responded with similar remarks. We would be unprotected without guides.
- Small coffee farmers would disappear as would the Federation.
- It would weaken our ability to work; there would be no one to ask questions about plant diseases.
- We would lose many services for the small and medium range producers as Extension is the direct contact with the Federation.
- We would see an increase in costs because we would have to pay for technical assistance. We would lose control of our work on the farm.
- Multiple participants responded with similar remarks. There would be no future for us as coffee producers. It would be a grave situation as we would move backwards and would have to pay for TA. We would not have access to the latest technologies and research.
- They strengthen the coffee producers. Without them there would be more violence and planting of illicit crops. We would not take care of the environment.

- We, indigenous people, need to have someone who is present and working with us. We would forget their recommendations and lose motivation. We have learned a lot about coffee planting but each day there are more problems with pests and diseases. We would also lose many programs, because they are the only ones who come and visit us and bring us information about Federation (FNC) and government programs.
- It would be bad for us not to have anyone who would guide us in sustainable technical assistance practices. If their assistance was lessened or disappeared it would be hard for me as a new grower to advance.
- Our children also need their assistance so they should what is necessary to maintain their involvement. We would lose great helpers and the many opportunities they provide for us to produce better coffee.
- Their involvement (with us) is more difficult due to the conditions of the roads. The FNC needs to advocate for road improvements. The extension agents need better transport.

3.5 Summary of SWOT Analysis for Coffee Producers Small Group Discussions

The coffee producers provided a significantly greater number of remarks that identified the Strengths/Assets of the Extension agents and FNC Extension than any other category of the SWOT analysis. Most participants also included positive remarks that corresponded to Strengths/Assets category when characterizing the “FNC Extension Service model.” The most prevalent remarks that reflected the Weakness/Challenge SWOT category mentioned by the coffee producers related to the insufficient coverage of extension agents with producers as reflected by too few farm visits, not enough education and training, and limited office visits. Producers identified future oriented opportunities that included expanded use of technology and greater involvement of youth and women in coffee production and organizational leadership. Most threats related to the hypothetical question of what would happen to the coffee producers if the Extension Service disappeared. Poor roads and lack of transport were mentioned as a threat in multiple responses.

4. **Results: SWOT Situational Analysis from FNC Extension Agents**

Seven questions were asked in the focused small group discussions to the FNC Extension agents. Each question allows the participants to express their perceptions as related to the strengths and weaknesses that are internal to the FNC organization and its membership as well as external opportunities and threats to FNC. Comments from Extension agents were captured by the MEAS moderator during the

discussions. The MEAS research team identified perceived Strength/Assets, Weaknesses/Challenges, Opportunities, and Threats/Risks across all the focused small group discussions. These SWOT themes for each category of the SWOT situational analysis were then subcategorized using the Pyramid SWOT analysis methodology. Below we provide English translations of remarks made during discussions with 54 FNC Extension agents in 9 focused small group discussions.

4.1 Strengths/ Assets (Internal to FNC Extension)

Two questions from the Extension Agents small group discussion questions help to identify the Strengths/Assets of the FNC Extension. They are “2. What is your role or function as an extension agent in the FNC?” and “5. What do you consider the strengths of the FNC Extension Service?” The strengths/assets of the FNC Extension Service from the point of view of its extension agents can be summarized as follows:

- Strong institutional traditions. For example, The Yellow Shirt (Camisa Amarilla) is a symbol of confidence and security to the producers. The methods were developed over 50 years with a high standard and level of certification.
- High credibility with coffee producers.
- We work well with small, medium and large producers.
- We keep our word; take action.
- Dedication of the Extension agent
- Charisma
- Creativity
- Science-based technical assistance, including transfer of CENICAFE research and technical preparation and experience.
- Capacity builders, problem solvers
- Catalyst for educational, social and environmental content to rural communities. In particular:
 - Catalyst to motivate changes in how producers cultivate and manage their farms to improve coffee production in Colombia.
 - They should be change agents with continuous improvement with growers and their families. Many times they are social workers, counselors, mediators. Each visit is different- some days TA; others social work. In the end there are many different roles that Extension agents play: to share experiences and learn to understand the growers and their families.

- Personalized attention, including Customer First Approach; the electronic courses are important to stay abreast of latest studies, but technology is a tool not the answer. You must learn to control technology so it does not interrupt other face to face work.
- To be the representative of the FNC for the growers. To articulate processes, technical assistance, assistance in the organizational and community development, to be present with the coffee grower and his/her family.
- The (career) opportunities in Extension
- To do assessments on the farm, with the organization and in the community; technical assistance related to coffee and other crops and projects; teach in the adoption of new practices and technologies, provide orientation and motivation.
- Technology helps our work. We can transmit to growers. It helps us in our capacity building. Now that producers have tablets they can receive emails and messages from the committees and the CEO. Everyone wants tablets. Important role of tables include:
 - Improve how we organize our data base so as to improve the administration of farms. Improve in our projections and year to year comparisons
 - Advance in the use of technology-visits to the farms with tablets on site to actualize information into the system on field visits, photos and transfer of info on current problem. This also cuts back on inefficient use of office time.

4.2 Weaknesses/Challenges (Internal to FNC Extension)

Question 3 from the Extension Agents small group discussion (“How can you improve your skills to be more efficient as an extension agent?”), helps to identify critical Weaknesses/Challenges of the FNC Extension. The responses of extension agents can be synthesized as follows:

- Need more Technical Assistance
- More Farm visits
- More frequent communication between the producer and ES; and communication could be improved by providing cell phones to ES staff paid for by FNC.
- More studies to improve soils. Need strategies to communicate (research) in a way producers understand; for some communication is difficult. Teaching instruction to incorporate sustainable agriculture practices into TA.
- More radio programs
- Improve the quality and use of more modern technology equipment provided by FNC

- Better transport system, which can be improved using the following strategies:
 - Credits to purchase vehicles
 - Transportation is a weakness of the Extension Service; if it were improved then there would be an improvement in the efficiency of services.
 - Improve our transportation-we are at risk traveling on motorcycles and we cannot take our training materials with us to farms and communities. We can do better quality teaching and provide better and more TA covering many more farms with better transport.

4.3 Opportunities (External environment)

Two questions from the Extension Agents small group discussion questions contribute to the identification of the opportunities for future organizational development of the FNC Extension (“6. Are you in agreement with the actual system of operations of the Extension Service as related to the structure of the organization and the work dynamics?” and “7. In 2016 what do you consider ought to be the characteristics of an FNC extension agent and his roles with coffee producers?”). The responses can be summarized as follows:

- We are in agreement with the structure but the dynamics of work planning and the development of goals are not in tune with reality of different zones.
- There should be more field participation in the development of a global plan of work. Specific responses related to this issue include:
 - It would be better that the ES agents do not change traditional functions so that they are able to cover more farms and improve production.
 - There should be a better career promotion path based on merit.
 - We need better career paths that include opportunities for university degrees including Master’s degree with universities affiliated with the FNC and offering extension and other specialized Master’s programs.
- Better communication within the Federation; creating a closer partnership between Extension and CENICAFE that is more personal and effective.
- The focus the last few years of the work of Extension has been on administrative activities which causes us to lose of our main focus and the necessary time for us to be catalysts to create changes in the practices of coffee producers and in the community. Relevant opinions related to this issue include:

- Extension agent should be a dynamic leader that returns to the true function of Extension, to be on the farm interacting with the coffee producers and spend less time in the office doing things that a secretary could do. It is not fair that an “ingeniero agronomo” (agriculture engineer) after his/her preparation and training should spend so much time doing paperwork and other work that is not appropriate to his level of training. We need: more time on the farms and more contact with the producers; strategies for working with children and youth; and, more activities in the social work area. We need more support with the work tools and incentives to cover our areas of work. We need transfer of technologies, motivation and an integrated approach to accomplishing our work with the farmers.
- We need to adjust the work dynamic. Too much time is taken on credit applications; the producers need to learn how to do this and work with bank officials. Extension has many different activities. There needs to be more division of work and more specialization in certain areas-some of us are not well trained in certain areas. We need more prioritization and planning. The coffee producers need to have more training in farm management as a business.
- Extension staff needs to put together a portfolio of tools to improve their presentations in all aspects of our services. We need to use technologies in the farm/finca visits such as take photos and send to other neighboring farms, connect with a group of farmers while visiting one farm. Our use of technology in the office should be more efficient with administrative work. We should work offline on forms rather than writing them up and then typing them up on the computer. We need to be prepared to deliver social work, have a greater understanding of psychology of associations and organizing groups. We need more understanding of how to resolve conflicts, help informal organizations become legal organizations. We need to motivate more in social organization actions, to work more in groups rather than with individuals.
- Capacity to adapt to innovation through the following actions:
 - Assimilate to new technologies and scientific findings
 - Integrated professional supported by technology, with up to date TA, doing social and environmental investigations with improved work conditions.
 - Technology will strengthen Extension with better access and flow of information; it will improve time spent, resources and our approach with producers.

- Use technology more for communication with less reliance on office visits. Use photos and video as part of technical assistance. We need to be more efficient in how we deliver TA. We need to use technology to improve our coverage to 100% rather than 60-70%.
- There are agreements in place for ES and MAG (Ministry of Agriculture) and other entities to work together.
- Radio programs are useful. Technology that is basic and functional like the Bio-computers.
- We need to use the most basic (teaching materials) like poster board demos. Cell phones do not function but radio programs would be useful. Send meeting and activity reminders for radio. But the radio is powered by batteries here, and is communal, so we need resources (for radios and batteries).
- Strengthen our access to audio visual content with a special emphasis on promoting the involvement of children and youth in the organizational aspects of FNC and the local communities.
- There is a good selection of virtual courses but they are not recognized as credit by any university. We need to use our courses in *E-learning* to work toward university degrees in extension and other majors.
- Extension agents will know the systems of planting and the traditional coffee maps of the indigenous communities. That we will have social understanding and understanding of their environment: the theme of water, air and land. The theme of food and other products. That their coffee farms will be clean, organic and bringing a better quality of life to the growers.

4.4. Threats/ Risks (External environment)

Question 4 from the Extension Agents small group discussion (“With the development of advanced technology, do you believe that the Extension Service will face risks or will be strengthened?”) helps to identify the external Threats/Risks to the FNC Extension. The synthesis of responses is as follows:

- If technology leads to less contact with producers than it can become a risk. Technology can be a weakness because if we use a single approach with the coffee producers it does not take into account their multiple educational levels.
- Strengthen access (connectivity) to information. Good connectivity in the whole country (is important). We lose time because we do not have good connectivity to the internet. We can build more capacity using technology.
- Growers do not want technology. They prefer their own customs. There is no energy here.

- Other Threats/Risks were identified in the following responses:
- It is important to improve the roads as their bad conditions increase the cost of transport. By improving roads, improving internet connectivity, we increase the number of growers we cover.
- Due to the geographic conditions increase the number of ES staff.
- We are now not extension agents we have become credit analyst, functionaries of banks. Now there are not opportunities for all of the Extension Service to meet and make decisions. What an ES staff receives as salary in this zone depends on other institutions (external funders). There should be equality of compensation in all the FNC work zones.

4.5 Summary of SWOT analysis for the Extension Agents Small Group Discussions

The responses of the FNC Extension Service (ES) agents who participated in the focused small group discussions identified the SWOT analysis category of Strengths/Assets more frequently followed by the category of Opportunities, then Weaknesses/Challenges and finally the least responses were attributed to the SWOT analysis category of Threats/Risks. While there are a majority of responses that reflect positively upon their perception of the FNC Extension, the Extension agents expressed concerns related to the following areas.

1. There is a great amount of diversity in the communities and cultures of the FNC's country-wide coverage. Consequently a "one size fits all approach" to program planning will not be an adequate planning method. ES agents would like to have a stronger participation in developing the annual FNC Operations Plan and better channels of communication in decision-making.
2. Extension agents are interested in having a more progressive career advancement pathway with improved opportunities for promotion and participation in advanced university degree programs in extension related disciplines.
3. Extension agents are concerned that they do not have the adequate tools related to transport, improved access to the internet and cutting-edge technology and innovative strategies to improve the quantity and quality of their technical assistance, organizational development and educational programs.

5. Themes from meetings with FNC Central Administration and Research Center Leaders

Meetings were held over a two day period with key administrative leaders of the Technical Division of the FNC in Bogota and a one day visit at the CENICAFE research facility in Manizales, Caldas. The purpose of these meetings was to have an opportunity to understand the programs and initiatives of the various

departments and areas of the FNC and to dialogue with key leaders concerning their perspectives as to how to improve the FNC Extension Service. Listed below are the key points from the discussions with FNC central administration and research center leaders.

5.1 Key points from the discussion with the Director of Research and Technology and staff at CENICAFE (FNC Research Center):

- Win-win Strategies- How to use action pilot programs to transfer technology and expand its effect- example of shade plots with participative investigation.
- 2013 Operation Plan- Convert CENICAFE into a Development Center with: Faculty sabbaticals with participation of universities outside of Colombia, multi-disciplinary studies, work outside of the Federation, work across the coffee sector including in other countries, no limiting of institutional involvement,
- Strengthen the platform of SENA (a national training and education institution)- Help them to improve their topics especially as related to coffee production, encourage more relations with SENA and Manuel Mejia Foundation (FNC education and training center). Convert what is a culture or system that is paternalistic to an entrepreneurial culture. The question must be properly addressed as to what is a productive unit for coffee production taking into account cost of labor.
- The generation paradigm has to be changed so that there is a decent quality of life; that the coffee farm is profitable and the migration from rural to urban is halted.
- More attention to marketing where the consumers pay more because they understand more about the life of the producers, more fair exchange partnerships, carbon print considerations.
- Important challenge is to help the small producers to become more productive. The small producers need a sound technology that takes into account labor and other factors. There needs to be more adaptability to climate changes (example of Central America- need to take seriously the effect of climate change).
- CENICAFE is addressing the challenges of the producers and wants to be able to inform in the FNC central decision-making.
- Generational partnerships are a key in the transition of experience with knowledge- these relationships can become intergenerational partnerships.

5.2 Key points from the interview with the FNC Technical Manager and Director of Extension:

- FNC Extension has as one of its top priorities to reconstruct the “tejido social” social capital network. The social capital network in FNC should be strengthened as well as the social safety net in communities especially with dislocated coffee growers and new growers, the indigenous communities, zones with predominant numbers of women producers and with youth of all the producers.
- The private/public partnership is a strength that can attract resources from external partners and government to improve the quality of life of its 500,000 members/producers
- A mentor program has potential to increase skills in the field and with financial programs.
- Our connectivity and SIC@ technology is a strength.
- Offices have become more productive: more loans applied for and more and better educational programs.

5.3 Key points from the discussion with the Director of Organizational Resources and Organizational Resources Specialist:

- The theme of reconstructing the social capital network is reinforced as an organizational priority.
- Mentor program to be established-“Los Padrinos”.
- Career Pathways strengthened.
- Effort to establish CENICAFE courses to become accredited with universities.
- Create more opportunities to pursue graduate degrees.
- Create more FNC/university partnerships.
- Create more beneficial private/public partnerships.

5.4 Key points from the interview with the Director and Capacity Building Specialist of Manuel Mejia Foundation (FNC institution for Capacity Building/Education):

- The Foundation is involved in multiple types of education and training for FNC professionals: social, organizational, new hire orientation, monitoring, virtual courses, face to face workshops, regional meetings, and professional development courses.
- The Foundation is taking the lead role in an expanding pilot program, The Rural Extension Program for training for FNC extension, farm businesses, community organizations and cooperatives and coffee producers in partnership with the Ministry of Agriculture, SENA, and

Rural Development to create a series of modules that will be the curricula for multiple extension training workshops and short courses. The Rural Extension Program is 320 hours and has enrolled as of March, 2013 1,653 admissions. At least 7 modules are being taught over a wide range of extension related subjects.

5.5 Key points from the discussion with the Director for Development and Management

- Implementing a pilot program to establish more comprehensive evaluation process for extension agents based on competencies and levels of achievement.
- Planning new incentives for university degree programs.
- Creating job security based on attainment of level four competencies and years of work experience in FNC.

5.6 Key points from the interview with the Coordinator for Sector and Organization Investigations smart identification card (“cédula inteligente”)

- Demonstration of the SIC@ data collection system
- Demonstration and discussion of FNC Technology Innovations: the smart identification card (“cédula inteligente”) for producers that qualify; coffee identification card for those growers that do not qualify for the smart identification card, Mobile Bank cellphone, tablets for producers, more durable and powerful tablets for extension agents.

5.7 Key points from the meeting with the Director for Commercialization:

- The scope of this study does not include a market assessment. MEAS team leader met with the Director to learn more about the process of export sales of the different types of coffee being sold through FNC.
- Results of focused small group discussions with coffee producers demonstrate that producers are interested in learning more about how to best sell their coffee.
- Producers want more marketing studies about the various types of specialty coffee markets.
- Producers need to change their mentality about production to stress greater quality control.

5.8 Summary of Key Points and Discussions with Central Administration Leaders

One of the most significant findings from these meetings and discussions is that key leaders of the FNC central administration, Extension agents and coffee producers are drawing the same conclusions, as FNC

central administrators are already implementing pilots or rolling out programs that address some of the key issues and concerns of the Extension field agents and the FNC coffee growers. Although FNC has moved toward a more decentralized administration strategy, the interests of key leaders in CENICAFE for example, echo field staff's and growers' concerns to have a stronger role in central planning and decision-making. Key administration leaders are interested in producers improving their quality control, particularly in post-harvest handling, while coffee farmers are interested in producing and marketing higher quality coffee. The efforts of the Manuel Mejia Foundation to provide more training in the Rural Extension Program for coffee farmers and FNC affiliated local organizations and new hires at the Ministry of Agriculture is one strategy that will begin to address the issue of inadequate coverage of farm visits and office administrative tasks. The Information Systems division of FNC is certainly continuing to make strides to make new technologies available to producers and field staff. The overarching goal, repeated in meetings with key administration leaders, to build a stronger social capital network both within the organization and across the coffee sector communities, will be the decisive action step to improve channels of communication and strengthen trust in the FNC.

6. Key Lessons from Global Private and Public Extension Models

Extension systems, be they public or private, have helped farmers adapt to ever-changing production, socioeconomic and environmental conditions. Nowhere is this more evident than in coffee supply chains, where the production system has faced increasing land pressures, volatile international market conditions, difficulties with existing and new diseases, climate change and increased demand for quality from buyers and consumers. The need for knowledgeable, extensive, flexible, and adaptive extension services has led to the engagement and participation of public and private sector actors supporting innovative extension approaches.

This section examines private and public models that provide extension services to smallholder coffee growers in developing countries. For the most part, governments have traditionally provided extension services to coffee growers in developing countries. Nonetheless, rapid changes in the global coffee market in recent years have prompted private companies (for-profit and non-for-profit) to take a more active role in the provision of extension services. Consequently, the analysis aims at identifying emerging 'best practices' in the provision of extension services to smallholder coffee growers, with particular emphasis on models led by private entities.

The analysis proceeds in two parts. First, we examine extension service models driven by private sector alone or in partnership with public agencies. Given the lack of research and data available

to analyze private initiatives, we designed a survey instrument and applied to fifteen private (for-profit and not-for-profit) extension service providers operating in over sixteen countries in Latin America and Africa. We also examine government-run extension models in the primary exporting countries.

6.1 Privately-driven Extension Models

Private for profit and not-for-profit actors have continued to play an increasingly important role in providing extension and technical assistance to smallholder farmers. In the past, a buyers-market allowed private traders and retailers the luxury to begin thinking about the coffee value chain at aggregate points of purchase. Today, traders and retailers have expanded their supply chain responsibilities, investing and engaging with smallholder producers around a number of quality and productivity goals, and responding to pressure from non-governmental organizations (NGOs), consumers, regulatory agencies and governments to expand supply chain transparency from farm to final consumer product. Provision of technical assistance to meet these goals has forged new partnerships and created innovative, unique models for extension.

A limited amount of data and case studies looking specifically at privately led extension efforts was available. To address this empirical gap, we solicited interviews from private organizations engaged in extension efforts across the globe and collected primary data on extension methods and approaches. We also reviewed the extension strategies of critical large buyers, tracking extension efforts through annual reports and desk research. After analyzing and discussing the findings, we conclude this section by identifying emerging best practices and providing key applications for organizations delivering extension services in public and private coffee value chains.

6.1.1 Data and Methods

We conducted fourteen interviews and collected primary data from private for profit companies (traders and buyers), not-for-profit agencies including non-governmental organizations (NGOs), certifying agencies¹, and research organizations. The survey instrument used divided questions amongst six key areas including; organizational structure, extension services provided, specific extension activities (including numbers of extension agents, participating farmers, etc.), extension goals and priorities, monitoring and evaluation methods, and an open-ended section describing challenges and

¹ Certifying agencies included organizations that were engaged in certifying farms against specific production or product criteria- a labeling that allows participating farmers to obtain a higher per-unit price at the point of sale.

opportunities facing extension providers (see appendix III for the complete survey instrument). The aggregate responses of these entities allowed us to identify generalized typologies of extension service provision, compare centralized versus decentralized extension approaches, popular extension activities, technological advances, and challenges facing extension agents and entities.

6.1.2 General Models for Providing Extension

Organizations working in multiple countries described adapting to unique environmental, political, and social challenges on a country by county basis, or even on a project-by-project basis. Within a single organization we often found a variety of methods and approaches; an organizational feature that demands clear communication about local needs and relevant partners from the bottom-up. Largely, this need for adaptation seemed to be accomplished through partnerships that helped them meet their organizational goals to equip farmers with knowledge and training and to evaluate and monitor gains in productivity and quality, and impacts on livelihoods, farm management practices, business operations. 67% of the total organizations we surveyed described their approach to extension as being a primary provider in some locations, and a secondary provider (meaning they contracted extension work to other entities or individuals) in other places. Despite this diversification between organizations and within organizations, three general extension models were pursued (Table 3).

Table 3: Generalized Extension Models Pursued by Private Entities

	DIRECT EXTENSION	INDIRECT EXTENSION
TRADITIONAL EXTENSION APPROACH	<p>TYPE 1 <u>Model characteristics:</u></p> <ul style="list-style-type: none"> Extension agents work daily with individual farmers and farmer groups -they are members of the organizational staff. Extension agents directly train farmer groups. Extension agents are primary points of contact for agronomy/business services <p><u>Monitoring and Evaluation Approach:</u></p> <ul style="list-style-type: none"> Centralized approach requires extension agents to monitor and evaluate across a wide range of managed groups and individuals. <p><u>2 Survey Participants Including:</u></p> <ul style="list-style-type: none"> PPP participants in Ghana (a NGO) PPP participants in Cote d'Ivoire (a research institute) 	<p>TYPE 2 <u>Characteristics:</u></p> <ul style="list-style-type: none"> Contract or work directly with direct extension providers (either TYPE 2 or TYPE 3) to implement most extension activities. If the organization has extension staff, they are specialized, usually experts in a particular area or certification system who work together with traditional extension agent partners. Integrate project/certification specific curriculum into farmer trainings. <p><u>Monitoring and Evaluation Approach:</u></p> <ul style="list-style-type: none"> Centralized, direct approach requires extension agents to monitor and evaluate across a wide range of managed groups and individuals. Decentralized, lead-farmer approach requires establishing infrastructure and capacity for constant reporting at every level – from lead-farmers to regional extension agencies and country level staff. <p><u>3 Survey Participants Including:</u></p> <ul style="list-style-type: none"> Not-for-profit certification agencies
FARMER-TRAINER APPROACH	<p>TYPE 3 <u>Characteristics:</u></p> <ul style="list-style-type: none"> Extension agents focus on training individual farmer-leaders within the community. These individuals then take on responsibility to train specific farmer groups and organizations according to specific extension principles. These Lead farmers Farmer-trainers Farmer-field school facilitators Extension agents may also focus on training agronomists or other technical assistants who already work with (or are part of) a cooperative. These trained individuals then provide extension to individual farmers. <p><u>Monitoring and Evaluation Approach:</u></p> <ul style="list-style-type: none"> Decentralized, lead-farmer approach requires establishing infrastructure and capacity for constant reporting at every level – from lead-farmers to regional extension agencies and country level staff. <p><u>7 Survey Participants Including:</u></p> <ul style="list-style-type: none"> NGOs Private companies (buyers/traders) International development agencies 	

Type 1. Type 1 illustrates the direct, traditional approach to extension service – where extension providers hire and train numerous extension agents as part of organizational staff. Agronomic, business development, social, and other extension related activities are executed directly by hired extension staff and deployed in productive regions. In our study, entities pursuing this traditional, direct extension

service were those that were engaged in wide-reaching, large-scale PPPs. The PPP platform is designed to bring together NGOs, private businesses, and government agencies together into national steering committees in charge of coordinating investments, resources, and policy.

Two respondents (an NGO and a research institute) were current participants of PPP initiatives underway in West Africa². PPP participants explained that the role of private companies was to share quality and volume standards, provide financing for additional extension agents (or the costs of certification), and point out particular production areas of interest or areas that have been problematic from a quality or productivity perspective. Government participation responsibilities included financing of extension activities and relevant investments in infrastructure and policy. Finally, respondents indicated that NGOs and (and occasionally certifying agencies) were responsible for training government and privately funded agronomists according to the private company certification desires or quality, productivity, environmental, or labor standards. A steering committee and subsequent sub-committees helped centralize and streamline extension goals, communicate and implement agreed upon extension activities, and determine regions and communities for intervention and investment. Our respondents included a not-for-profit research agency (the World Agroforestry Research Institute, ICRAF) and a certifying NGO; both of these two distinct PPPs were engaged in providing direct extension activities for smallholder farmers.

Type 2. Organizations falling into Type 2 tended to run a fine line between being primary or secondary providers; offering direct extension (e.g. training individual farmers and groups) in some places and contracting out day-to-day extension work to local NGOs or other groups in other areas. The organizations that fell into this category included certifying agencies (3 respondents from distinct agencies). When contracting out direct extension work, these entities pulled from a local network of direct providers (either Type 2 or Type 3 providers). Certifiers often maintained technical extension staff in-country, but the staff was often small and their primary task was to monitor and evaluate adherence to certification standards and train day-to-day extension providers for partner NGOs on certification criteria.

Type 3. In contrast to Type 1 direct service providers, Type 3 providers executed a more decentralized approach to farmer training and knowledge transfer. Type 3 respondents contained NGOs (including 'local certifiers working in collaboration with certification agencies), an international

² The PPP described in our study was a large-scale project looking at cocoa production. However, the PPP structure is a typical example of a public-private initiative around strengthening and investing in an agricultural sector: with relevance and application to the coffee industry.

development agency, and several private coffee traders, buyers, and roasters. This approach included having extension agents train a tier of lead farmers who were then responsible for training individual groups of farmers³ and reporting back to extension agents and regional staff about participation, progress, challenges, etc. The diversity around how lead farmers was used was quite interesting: some organizations used farmer leaders as ‘showcase farmers’ who helped spread the word about practices and benefits of participation and showed their farms as models of success. Others used lead farmers as the facilitators for farmer field schools and as local extension agents in a variety of traditional and untraditional ways. Lead farmers were cited as doing activities ranging from providing classes, holding meetings and doing individual farm visits, running community and educational events, and holding educational ‘movie’ nights.

In addition to the organizations encompassed in the above typologies, two organizations were classified as ‘special service providers.’ These organizations provided helpful comments and gave important insights into the coffee sourcing and coffee extension world. These included organizations and companies that provided select consulting and research support for initiatives looking at the linkages between smallholder coffee farmers and global marketing opportunities. Since these organizations provided extension in a removed and limited basis, we have included their data points only when appropriate. Otherwise, their comments and insights were helpful for understanding larger questions, including strengths and weaknesses, facing the coffee industry more generally.

Between these three types of approaches, an important distinction between centralized and decentralized extension emerged. Organizations using a decentralized, farmer-led approach were clearly looking to build up local extension capacity and a reservoir of local knowledge—one that wasn’t only available when the actual extension agent was visiting the community. Organizations discussed how this model reduced the burden on extension agents while creating long term impact. Yet this approach required a rigorous monitoring and evaluation system to be in place, one that kept extension staff frequently in touch with what lead farmers were doing and if they were succeeding. Implementing a reporting and review system of lead farmer and farmer-trainer activities was described to be essential, several spoke of the need to establish monthly review periods as a way to make improvements and tackle emerging issues quickly.

³ Individual farmer groups were usually described as being around 30-40 members who joined together for regular educational events (trainings, meetings, lectures, dramas, etc.) or who participated during a farmer field school. Most of these groups were described meeting over the course of an entire crop period.

Centralized (traditional, direct) extension models seemed to be more focused on short-term gains as they were able to better control extension activities and begin implementing educational activities immediately. The focus of this approach was much less on building local knowledge infrastructure and support, and more about making impact through extension activities in the near future. Extension agents were required to be the primary point person for any and all extension-related activities. As a result of this workload, organizations using this approach described how extension agents were often overwhelmed. Several organizations suggested that finding funding to hire additional extension agents in order to reduce workload and increase coverage was a major challenge.

6.1.3 Country level extension activities and financing

Our survey respondents covered extension activities in sixteen countries, including Central America (Honduras, Nicaragua, Guatemala, Costa Rica and El Salvador), Latin America (Colombia, Peru and Ecuador), West Africa (Ghana, Cameroon and Cote d'Ivoire), and East Africa (Ethiopia, Rwanda, Tanzania, and Kenya). The diversity of approaches in our sample reflects the wide range of agricultural contexts globally. Some extension providers were able to leverage pre-established national extension networks or a culture of farmer associations and cooperatives; other extension providers were organizing farmers for the first time in areas of the world where the government had had little political interest in agriculture or coffee.

Table 4. Country level extension activities and financing

		PPP participants	Direct providers	Certifiers
Number of respondents		2	7	3
Countries		Ghana, Cote d'Ivoire, Cameroon	Peru, Ghana, Ethiopia, Tanzania, Kenya, Ecuador, Honduras, Colombia and Rwanda.	Nicaragua, Guatemala, Peru, El Salvador, Costa Rica, Uganda, Honduras
Agents of Extension	Trained 'lead farmers'	NO	OFTEN : lead farmer staff ranged from 50-1666 approx.	33% (1) said NO. 66% (2) said YES, ranging from 5-40 in-country.
	Extension agents (government)	YES – approx. 200	RARELY	AS NEEDED/WHEN AVAILABLE
	Extension agents (as part of organizational staff)	YES- staff ranged between 38-60	YES – full time extension staff ranged from 12-189.	YES- extension staff tends to be small (approx. between 2-4) as extension work is often contracted out to NGOs.
Number of participating growers (range)		Lower bound: 10,000 Upper bound: 30,000	Lower bound: 1,300 Upper bound: 50,000	Lower bound: 500* Upper bound: 3500*
Ratio range of farmers to extension agents (lead farmers)		100-170:1	Lower bound: 16:1 Upper bound: 58:1	Difficult to assess as much of the extension work is contracted out to third parties.

*Certifiers in this study limited their responses to Central America and Peru. Globally certification agencies may work with hundreds of thousands of farmers.

Direct providers who used the lead-farmer model had a substantially lower farmer-to-extension provider ratio, perhaps unsurprisingly. Larger scale PPP projects, while comprehensive in scope (refer to Table 4 where participants indicate that through the PPP they provide all major types of extension services), had a much larger ratio of farmers to extension agents. Across our participant groups, however, combined country projects indicated that over 204,000 growers worldwide were reached through our sampled extension providers.

Across respondents one of five possible extension-financing mechanisms was described:

- 1) *Public-private partnerships.* For PPPs, hybrid public-private financing for extension agents and activities was undertaken dually by the government (who financed new agronomist hires and trainings) and participating private companies (who tended to finance extension activities in particular areas of sourcing interest or around certain themes).
- 2) *Private traders and buyers.* Private (generally traders) engaged in direct extension work financed extension activities by building it into the price of the product, essentially requiring retail buyers to pay for extension with the expectation that extension activities were improving quality and elevating productivity. Occasionally private companies expressed that they were able to access donor financing to kick-start extension projects that were well placed to provide development and livelihood benefits to rural participants.
- 3) *NGO organizations engaged in certification.* NGOs financed direct or indirect extension activities by using the premiums earned through certification and through contracts with certifiers when they took on a role as a 'local certifier.' This is the only example that we found of smallholder farmers paying for extension services through member associations and groups; using profits from certification to pay for extension services when gaps in donor financing made it necessary.
- 4) *Certifying agencies engaged in direct/indirect extension.* Certifiers indicated that they financed extension services through donor and aid money, and additionally with private funds (from companies) for specific projects in specific places. Occasionally, certification agencies indicated that participating associations and cooperatives paid (through individual member-farmers) for extension services to help them meet specific requirements and regulations intrinsic to certified market opportunities.
- 5) *NGO organizations not engaged in certification.* These entities often financed their extension activities (at least in the short-term) through donor funds. Some NGOs expected to shift from donor funds to private company investment (traders and retail buyers) once productivity and quality goals had been met and once extension service infrastructure had been well established.

6.1.4 Extension Services and Specific Extension Activities

In this study, extension activities were largely focused on providing agronomic assistance, followed by business development assistance, then targeted social assistance, and finally facilitation of credit and financing and other services. Across our group classifications, our averages illustrate that more than half of extension budgets are allocated for agronomic activities (56%). An average of 23%, 12% and 11% were divided between social assistance and outreach, and credit and finance facilitation (Table 5).

Table 5. Extension Areas Covered

Type of Extension		PPP participants	Direct Service Providers	Certifiers	Total Average
Agronomic services	Percent that provide agronomic support	100%	100%	100%	100%
	Extension budget allocated	58%	55%	55%	56%
	Organizational effort	40%	37%	53%	43%
Business development assistance	Percent that provide business development support	100%	83%	100%	94%
	Extension budget allocated	20%	26%	10%	19%
	Organizational effort	23%	30%	27%	26%
Social services*	Percent that provide social services and support	100%	50%	100%	83%
	Extension budget allocated	8%	22%	25%	18%
	Organizational effort	13%	28%	27%	22%
Facilitation of credit and financing	Percent that assist with financing	100%	83%	33%	78%
	Extension budget allocated	10%	24%	--	11%
	Organizational effort	20%	32%	5%	19%
Other services***	Percent that provide other services	50%	80%	0%	76%

*Social services include specific extension-related outreach for producers around specific themes not directly related to farm production, including; post-conflict, women and youth, etc.

**The list of 'other services' described by participating direct and indirect extension providers include: creating monitoring and evaluation policies and programs, facilitating policy support and increasing support for national extension activities, quality and cupping trainings for farmers and associations, and addressing labor/health needs. Note that averages for 'other services' include data from an additional, fourth category of participants (e.g. 'special service providers.').

Participants engaged in PPPs suggest that their model provides the most comprehensive model of extension service, including agronomy, business development, and targeted social outreach. This is perhaps unsurprising considering that a number of perspectives and priorities need to be accommodated in this multi-stakeholder (public and private) approach. Repeatedly, survey participants noted that lack of access to credit was hampering progress and opportunities with smallholder farmers, extension budgets dedicated to this area, across groups, was smaller than the proportion of organizational effort that most respondents said they paid to credit and finance related issues and

services. However, some organizations struggled with the separation we made between business support and financing support, indicating that they were part of the same coin of holistic business development services. For direct service providers, if we combined the budget and organizational effort proportions for business development and credit and financing, the resulting percentage would be comparable to the budget and effort given to agronomy. For one service provider, paying equal attention to both business management and agronomy was so important that they elected to split extension efforts into two clearly separate arms that had independent budgets, metrics, and staff.

Additionally, respondents shared specific extension activities normally undertaken by extension agents and lead farmers for training and educating individual producers and producer groups. These activities included:

- Individual farm visits
- Available office hours for farmers to visit extension agents
- Regular group meetings
- Demonstration plots and farmer field schools
- Mass media education and mobile technology communication
- Special educational events

The responses of our survey participants suggested that while there are advancements in mass media and communication technology, extension activities are still largely about primary contact with individual farmers; in particular, individual farm visits and demonstration plots (Table 6). 96% of survey respondents indicated that part of their extension activities included individual farm visits undertaken either by a primary extension agent, a lead farmer, or an extension agent working for a specific certification agency. The same percentage of respondents (96%) indicated that extension activities included the use of demonstration plots and/or farmer field schools, organized by either a trained lead farmer or an extension agent.

Table 6: Popular Extension Activities and Perceived Effectiveness Rankings

Popularity and Type of Extension Activities	<i>Extension Activity Use Rank</i>	<i>Respondent usage (total %)</i>
1. Individual visits		96%
1. Demonstration plots/farmer field schools		96%
2. Regular group meetings		83%
3. Mass Media and Mobile Communication		58%
Perceived Efficiency <i>Ranking of Efficiency (most effective towards extension goals)</i>		
1. Individual visits		
2. Demonstration plots/ farmer field schools		
2. Special educational events		
3. Regular group meetings		

Organizations also ranked activities in terms of perceived effectiveness towards reaching extension goals. Despite the fact that individual visits were cited as the most costly extension activities, (closely followed by demonstration plots and farmer field schools), these individual visit activities were ranked overall as the most effective strategy overall. Special educational events and demonstration plots/farmer field schools ranked closely behind.

In addition to demonstration plots and individual farm visits, respondents described an interesting list of additional activities that were an important part of extension. This list included lectures, dramas, cupping and quality trainings, and workshops focusing on specific themes. Information and education through mass media and mobile technology—the third most popular extension method—was an area of much interest and discussion for many interviewees. Some providers described how this was a future goal of extension work, that information technology would play a large role in the future, but that many of the necessary platforms (like GPS mapping of farm locations and integration of this data with national soil maps, SMS text alert systems, and information on actual and potential productivity and quality estimates) are still being established. Several organizations are underway developing these technologies. However, despite this interest to use GPS mapping in tandem with productivity, quality, and environmental goals and information, mass media tools were being employed in a variety of ways. Respondents pointed to ongoing development of e-learning curriculum for farmers and dissemination of tablets so farmers and extension agents could more easily contact each other and share images and information about important disease and farm management issues quickly and easily. Additionally, radio and television broadcasts and community ‘movie nights,’ where producer communities watched educational and entertaining videos about various farm management and production issues, were described as part of ongoing extension efforts.

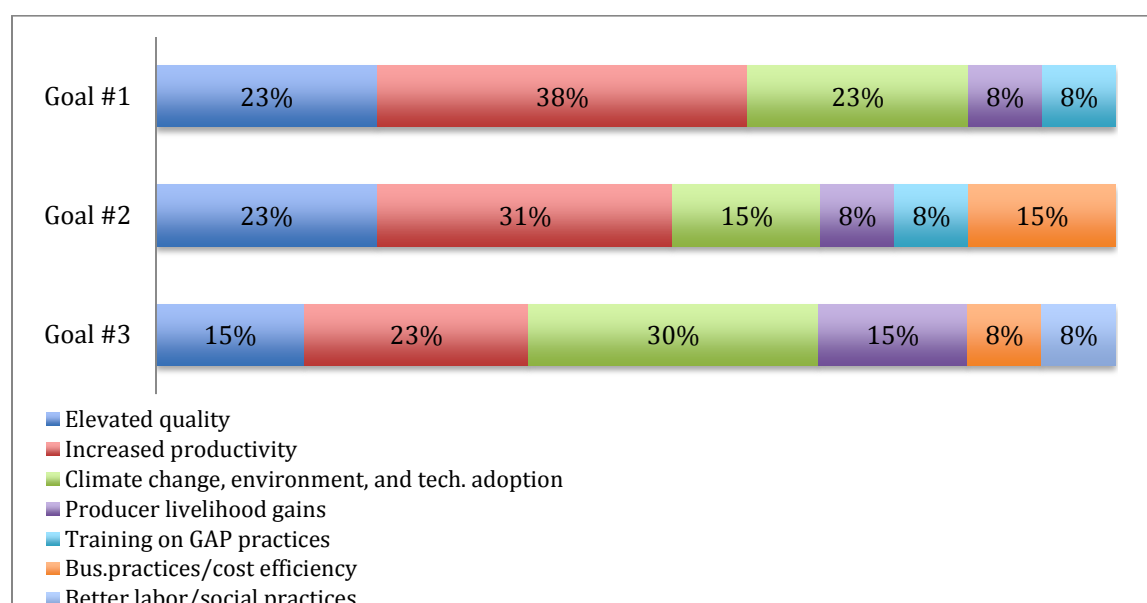
6.1.5 Extension Goals

Respondents were asked to list and rank their organizational goals for extension. As seen in Figure X, organizations were divided in describing extension mission, but common themes and emphasis emerge. When productivity and quality improvements are combined, these dual missions account for over 60% of responses for goal 1 and over 50% of responses for secondary extension goals. Only two organizations (14%) did not rank productivity or quality (or both) as one of their top two goals. In fact, the order of productivity and quality ranking seemed to directly reflect the coffee market dynamics that a particular organization operated in. For example, any organization working with relationship coffee, origin specific, or other specialty markets described quality as the most important function of extension.

Meanwhile, companies and NGOs working with growers in non-specialized markets, focused first on increased productivity, citing quality as a secondary or tertiary goal. There was no unification amongst certifiers, perhaps because certifiers have particular ‘brands’ and niches reflected in their certification; the three organizations cited productivity, GAP practices, and climate change as their most important extension goals.

Extension goals clearly need to be aligned with market opportunities—most organizations seem to be aligning these goals with the particular market and niche that their farmer communities produce for. However, many extension providers expressed frustration with having to standardize goals, activities, and budgets across areas and communities where context and agricultural realities were very different. Several organizations stated that it was impossible to keep costs consistent across regions, and that that extension budgets within a given organization might be large in some countries (given local infrastructure and other efficiencies) and dismally insufficient in others. As a result, many questioned the ability to provide equitable services—or even the same goals—across countries and within regions. Many organizations were equally exasperated that they were required to meet diversity extension objectives in order to compete and qualify for donor, public, or private funds that could help them increase extension coverage and meet new challenges. Education of financers and others further up on the chain (including buyers and traders) was essential to aligning expectations and establishing agreement on extension goals.

Figure 1. Goals of Extension Providers



6.1.6 Large Buyers and Extension Models and Activities

The table in Appendix IV summarizes the key approaches, partners and purchasing impacts of extension-related activities for four of the largest global roasters. Aside from Starbucks, which trains extension agents, cooperative leaders, and smallholder farmers according to their own criteria through C.A.F.E practices, most large buyers conduct extension level activities indirectly through collaborative partnerships and contracts with third party certifying agencies and NGOs operating in coffee regions of interest. These certification agencies, as discussed at length in this text, provide a range of services to growers based on project and client-company needs. Starbucks, and to a lesser extent, Nestlé, have institutionalized extension as a necessary organizational function given their need to source quality coffee. Others like Sara Lee and J.M Smuckers have not operationalized extension as a key business function but have engaged in extension through ancillary donations and ad hoc collaborations with certification agencies.

For these companies, which represent the global coffee market leaders, investments in field-level extension services should, ostensibly, provide these large buyers with a supplier network that is producing quality product for company purchase. This suggests that a sizable amount of coffee sourced by the company should—if extension activities are successful—come from the communities that are offered and participating in company-funded extension services and projects. Unfortunately, determining if investments in extension are actually changing company-sourcing patterns is often a complicated and confusing task. Starbucks, however, appears to be an exception. Investing in local extension agencies (called ‘farmer support centers’), which are a part of their in-house C.A.F.E practices, the company sources more than 90% of their total supply from coffee producers participating in C.A.F.E practices. On the other hand, extension-related investments in UTZ and Rainforest Alliance certifications represent a relatively small proportion of the supply of J.M Smuckers and Sara Lee (approximately 10% and 5% of totally coffee sourced, respectively). Nespresso, a subsidiary of Nestlé, sources more than 68% of their Nespresso brand coffee from the AAA program. As a total of Nestle purchases, this represents approximately 13% of Nestle coffee sourced⁴.

Despite some of these lackluster impacts on global sourcing networks, donations and investments in extension and coffee upgrading are reaching organizations providing extension services to smallholder farmers. UTZ, Rainforest Alliance, the Sustainable Agriculture Network (SAN),

⁴ Nestle cites direct purchases with over 190,000 coffee farmers and that over 100,000 smallholder coffee growers have been provided with technical assistance (as part of the AAA coffee sourcing program). See www.nestle.com/csv/rural-development/farmers

TechnoServe, research entities and foundations (including the Neumann Foundation and the World Coffee Research Institute), are among the organizations frequently cited as donors, contracted partners and direct extension implementers.

6.2 Public Extension Service Models in Selected Coffee Exporting Countries

Coffee countries in the developing world have taken a variety of approaches for offering extension and advisory services for smallholder farmers cultivating this critical export crop. We examine selected trends of such national systems in Brazil, Ethiopia, Guatemala, Honduras, Indonesia, Kenya, Mexico, Peru and Vietnam.

6.2.1. Brazil

Brazil has a longstanding national agricultural research program; including a two-tiered federal and state-based system which is one of the largest in the tropical world (Andersson et al. 2009) (Lopez and Arcuri 2010). The Brazilian Enterprise for Agricultural Research (EMBRAPA) network is a consortium of 38 research centers focused on various crop or ecological niches, including the EMPRABA CAFÉ, a center focused exclusively on coffee production and promotion (EMPRABA 2013). In turn, EMPRABA CAFÉ works with over 39 institutes of higher education (together they constitute the Brazilian Coffee Research and Development Consortium) which work on applied research and extension issues related to the Brazilian coffee industry including favorable public policy for coffee production; soil and nutrition, pest and disease management; harvest, post-harvest, and quality issues; technological transfer; biotechnology; and climate, market, and production forecasting (EMPRABA 2013). Together with the Ministry of Agriculture, extension services are provided by over 11,000 agricultural extension agents stationed in one of the 4,167 municipal agricultural extension offices that reach farmer groups and individuals directly (Andersson et al. 2009). As a result of the coverage of the national and state extension system, the private nonprofit sector plays a modest role (Lopez and Arcuri 2010). Challenges for the Brazilian public extension service and the Brazilian coffee industry include escalating pressure and competition for land and natural resources, declining international prices and productivity, and a federal and state bias to increase coffee production by championing a full-sun, fertilizer and input-heavy coffee system currently squeezing farm-level profitability (ICO Annual Review 2012; Watson and Achinelli 2008).

The industry is pushing for a re-branding of the image of Brazil at as a provider of specialty coffee. This is in contrast to traditional public efforts disease-resistance, increased yields and large

production volumes. The Brazilian Specialty Coffee Association (BSCA), with support from the Brazilian Ministry of Agriculture, has been the engine behind increased specialty coffee production: 2010 saw over 1 million bags of specialty coffee exported (up 15% from the previous year) out of an country export total of 31.2 million bags (ICO 2010; SECOM/Brazilian Government 2011).

6.2.2 Guatemala, Honduras, and Mexico

In 2013, a resurgence of coffee leaf rust devastated coffee farms in the region. Mesoamerican coffee producing countries including Guatemala, Honduras, and Mexico, have established national coffee institutes and trade and producer organizations, as well as collaborative, inter-regional institutes focused on coffee production and sector viability throughout the region. The national institutes and organizations discussed below frequently work together, often on an ad-hoc basis to manage disease epidemics, engage in region-specific coffee research, or to provide appropriate technical assistance to farmers and adopt new technologies. PROMECAFE, in particular has been an important regional consortium that has helped coordinate activities and responses to critical issues including coffee rust both for the epidemic that lasted during the decade of the 1980s, as well as the current region-wide epidemic prevalent throughout the Central American region (CAC 2013; CAD 2013).

In Mexico, the National Coffee Institute of Mexico (INMECAFE) was established in 1973 to offer support to smallholder farmers by providing technical assistance, credit guarantees, and marketing assistance (Martinez-Torres 2006). Collapsing in the late 1980s, the establishment of Mexican cooperatives was meant to replace INMECAFE and the formally state-owned coffee processing plants and resources were transferred to farmers' cooperatives and the private sector (Martinez and Morales 1997). Yet the transfer of public extension resources appears to have been incomplete: a 2003 study found that most coffee growers in Mexico, as well as Guatemala and Honduras, sold unprocessed coffee cherries to intermediaries, bypassing publicly organized cooperatives and processing facilities (if they even remained open) and relying on a seemingly inadequate network of non-governmental and private sector organizations for extension-related services (Martinez and Morales 1997). Today, the Secretariat of Agriculture (SAGARPA) manages a program entitled Productive Coffee Chain, which coordinates actors in the supply chain and develops policies and programs to provide access to new technologies and trade promotion (USDA GAIN 2013a). Smallholder growers are benefiting from private investment in single-origin and specialty coffee initiatives in specific regions and for specific groups and communities (see partnerships with Conservation International and Starbucks, for example, in Millard 2006). Nevertheless coffee production has stagnated largely due to the prevalence of poor agricultural

practices in many regions. Additionally, old plantations in need of renovation and increasing costs of production are reducing immediate supply capacity (USDA GAIN 2013a). High altitude, quality coffee and investments in new coffee nurseries and farm renovation is a success of private and public investments in extension, but lack of organization of farmers into cooperatives has created patchy, potentially unequal levels of development across the country. Adoption of good agricultural practices region-wide remains a challenge for the Mexican extension system.

In Guatemala, a history of conflict between rural Mayan smallholder farmers who traditionally held prime landholdings in favorable coffee growing regions can explain decades of aggression and hostility between smallholder producers and the Guatemalan government; a dynamic which plagued coffee productivity, research, extension and development until the late 1990s (Eakin et al. 2006). As a result, non-governmental organizations, the private sector, and the Guatemalan National Coffee Association (ANACAFE), an autonomous organization prominent in coffee marketing since the 1900s began offering more egalitarian extension-related education and information sharing directly to smallholder farmers since the 1960s (mainly through cooperatives) (Wagner 2001; Eakin et al. 2006). Today, ANACAFE continues to provide extension services, working closely with the Ministry of Agriculture in Guatemala and providing a clear link between extension, national-coffee trade policy, and smallholder financing. Coordinating national policy and financing to enable extension service and outreach to smallholder farmers is clearly a strength of ANACAFE, however, the link between ANACAFE's coffee extension and coffee research with in-country universities or Guatemalan research institutions is not well developed. Research and technology development for coffee modernization and production occurs principally through PROMECAFE and other international and regional research institutes. Ostensibly, this is a risk, seeing that specific production systems and individual climate contexts (at the country, community, and individual farm level) appear to intensify coffee rust as well as other climate-change complications; findings which suggest that site-specific approaches for providing extension and meeting extension related goals like productivity and quality are required (Avelino et al. 2006; Laderach et al. 2010).

In Honduras, coffee growers have struggled from a combination of a weak central government, poor international market integration, and underdeveloped transportation infrastructure (Williams 1994 as cited by Eakin et al. 2006). However, a national priority to establish Honduras as a competitive coffee growing country since the 1950s resulted in a series of investments in research, infrastructure, and institutions. This includes the Association of Honduran Coffee Producers (AHPROCAFE) and the Honduran Coffee Institute (IHCAFE), which researches critical coffee topics and practices. Additionally,

policymakers have prioritized coffee by creating a number of funds and policy instruments to buffer producers, extend credit, and improve quality (Tucker 1999; Eakin et al. 2006). Honduras has become the coffee success story of Central America; it is the leading exporter in the region and was recently named by the Specialty Coffee Association of America (SCAA) as the Portrait Country in 2012 (ICO 2012; USDA GAIN 2012c). Today, IHCAFE provides extension services focused on quality and productivity goals and has been promoting production for differentiated markets, including organic and eco-friendly market opportunities, in addition to managing all coffee exports (USDA GAIN 2012c). Today, many farmers in Honduras are suffering the growing pains of huge coffee production increases that have occurred without matching increases in post-harvest processing facilities – extension agents are working with farmers to dry large volumes of coffee efficiently and quickly (CAD 2013d).

6.2.3 Ethiopia and Kenya

Prior to the 1980s, the Kenyan government supplied extension services to smallholder farmers, but following the economic liberalization mood of the 80s and 90s and intra-country critiques of public agricultural extension service, the national extension service budget plummeted, including that for coffee (Muyanga and Jayne 2006). Today, coffee research and extension services come from the Kenyan Coffee Research Foundation (CRF), which includes research ranging from to plant breeding and disease control to farm management practices (CRF 2012). The Foundation also collaborates with universities and other regional and in-country coffee research efforts. Extension approaches have focused on reaching out to organized cooperatives and other farmer organizations, with extension agents disseminating research, and providing education in marketing and business management including finance (Muyanga and Jayne 2006). Today, although government extension agents continue to provide coffee extension services, a third type of extension service – private agricultural extension and NGO extension assistance- is growingly important. The government has been vocal about strengthening and building public-private partnerships that could strengthen extension coverage. For example, a large scale project in collaboration with the Bill and Melinda Gates Foundation “Coffee Initiative” project has provided extension-services to smallholder farmers; training over 67,000 farmers in quality assessment and processing with the technical non-profit TechnoServe in Kenya, Tanzania, Rwanda, Ethiopia, and Uganda (TechnoServe 2010).

In Ethiopia, the government has committed to developing the largest agricultural extension system in sub-Saharan Africa (Davis et al. 2010; Belay and Abebaw 2004). However, the impact of the expanding public extension system on coffee has been modest. Extension agents have focused primarily

on staple food production and recent evaluations of the system indicate that the majority of extension for high value crops like coffee has been largely supported by private firms and NGOs (Davis et al. 2010). Biotechnology development and other extension-related research for coffee comes from the Ethiopian Institute of Agricultural Research (EIAR) and various university research centers (Jimma University) (EIAR 2012). Starting in 2012 the government has made efforts to increase adoption of new technologies among smallholder coffee farmers through trainings, field days, farmer research discussion groups, demonstrations, and providing seeds and other production inputs (EIAR 2012).

6.2.4 Indonesia and Vietnam

Vietnam still operates under a climate market controlled by the state, with the Vietnam Coffee Corporation (VINACAFE) being a state-owned company that manages farms and a network of additional state-owned enterprises (27) which includes processors, traders, and extension service providers who extend credit, fertilizer, irrigation, and coffee roasting, among others (Marsh 2007). The Dak Lak agricultural center is the primary public extension office, with additional public centers in the Northern and Western regions also working on coffee research and extension (Marsh 2007). Previously, Dak Lak would provide common programs and services to all regions, including coffee, but the farmer field schools that were prominent during the 1980s and 1990s were phased out and used for other crops when prices sank in the mid-2000s (Giovannucci et al. 2004). Today, coffee extension services are more decentralized; the central government provides financing for provincial extension agencies, and the local agencies determine how funds are allocated and used in extension activities (Giovannucci et al. 2004). This decentralization and weak federal control is true for the majority of agricultural spending; approximately 80% of annual sector financing is channeled to local provinces and there is little national control regarding how local governments choose to allocate these funds (Akroyd and Smith 2007). Additionally, the Vietnamese Farmers Union and the public research centers are all active in providing extension services at the farm level. Despite the fact that these extension outlets are better poised to adapt to local needs, coordination has been problematic. Moreover, these institutions and districts have unequal control over current research and up-to-date technology, an issue which created Vicopex, an additional extension agency with a responsibility to coordinate aspects of extension across different agencies (Giovannucci et al. 2004; Marsh 2007). Most extension occurs in the form of farm visits and publication of technical material, much of which is not translated to non-Vietnamese speaking ethnic minorities, many of who live in key coffee growing regions (Giovannuci et al. 2004). Encouraging and engaging public-private extension with buying companies and exporters continues to be a focus of the government, as a recent Coffee Sector Taskforce report with MARD and outside consulting groups

highlighted in their final coffee sector review (DE Foundation 2009).

Sizeable government and private sector investments in research and extension since 2000 have enabled Indonesia to become the fourth largest volume producer of coffee globally (ICO 2012). Primary research undertaken at the Indonesian Coffee and Cocoa Research Institute (ICCRI) includes plant breeding and post-harvest production, waste-water, and environmental management and research undertaken at a number of experimental plots in various regions and labs around the country (ICCRI 2013). Reviewers of coffee extension, however, suggest that poor and unreliable extension by the government has made private sector extension preferable (Nielson 2008). The government does, however, provide some training and mentoring to individual public extension agents working at various Ministry of Agriculture district offices throughout the region (Directorate General of Estate Corps) (Nielson 2008). Export buyers use a network of Indonesian farmer associations (farmer groups averaging between 50-100 participants), cooperatives (where farmers pay a membership fee), and other processing companies (who sell coffee beans along a spectrum of quality or certifications). These entities often pay exporters indirectly or directly to provide extension services (USAID 2007). Though the private sector has undertaken many of the costs associated with providing extension to improve productivity and organize smallholder farmers, new issues and questions emerge.

6.2.5 Peru

In 2001, a major agricultural refocusing occurred when the Peruvian government, including the Peruvian National Coffee Board, and other relevant private institutions established and invested in the National Organic Products Commission, which created a system of monitoring, evaluating, delivering extension services, and standardizing organic production at the national level (USDA GAIN 2008). Additionally, the country has pursued a specialty coffee production niche-funding and building collaborative partnerships between producer organizations, individual cooperatives and rural development financing agencies, to train farmers and extension agents around specialty coffee production (JNC 2007). Training of extension agents in the production of specialty coffees included education in agronomy, cupping and quality, and identification of producer groups and individuals with socio-economic capacity (JNC 2007). In addition, research and extension in improved varieties and has benefited from collaborations between cooperatives, the government, and a variety of public and private research institutes. For example, the research and extension to control the coffee berry borer has been supported by the INIA, the JNC, national universities, and a variety of NGOs and farmer associations who have assisted in the establishment, monitoring, and evaluation of experimental plots around the country (INIA 2013).

6.3 Emerging Best Practices and Applications from Current Private and Public Coffee Extension Models

Though the perspectives of the extension providers we surveyed and research differed in their organizational goals, approaches to extension, and overall function in extension services, their combined perspective highlighted several best practices and relevant applications.

6.3.1 Best practices and applications from private sector review

- 1) **Engage the community.** In general, most extension service providers pointed to practical, hands-on, incremental approaches that empowered agrarian communities to participate in farm management education. Organizations working with the lead-farmer model not only increased extension coverage (lower ratios between farmers and lead farmers, for the organizations that utilized this approach, was lower than staffed extension agents to farmers in every instance), but they also benefitted from established and trusted relationships with individuals already known and respected in the community.
- 2) **Strong, but decentralized management and consistent monitoring and evaluation.** Monitoring and evaluation was a mixed bag; some organizations were engaged in annual and semi-annual reviews around various goals (for example, participation at extension events), others had streamlined information and evaluation of organizational goals on a monthly basis. Consistently, organizations that were collecting and evaluating information on participation, productivity, events, and smallholder feedback on a regular (at least monthly) basis were underpinned by a decentralized management structure that fed information from lead farmers, to local coordinators or managers, and upwards to regional and country-level staff. With this amount of information about producer communities coming in, these organizations were often the ones that were curtailing and adapting programs to local contexts and able to offer measurable progress indicators of extension programs to donors and private companies alike.
- 3) **Two sides of the same coin: business and agrarian support.** While some organizations focused on the former or the latter exclusively, all organizations spoke of the need to approach coffee with both sides of farming in mind. Some organizations completely divided these extension priorities into two 'arms' of extension service; an approach that offered to reduce the burden on overwhelmed extension agents.
- 4) **Reducing the burden on extension agents.** Again and again, we heard about the burn-out and exhaustion of extension agents who were faced with seemingly insurmountable paperwork, traveling schedules, farmer-trainings and workshops, event management, skill building, and

continual technical course completion. Decentralized farmer-leader models and ‘farmer-trainer models’ of extension alleviated some of this pressure as many farmer-leaders were encouraged to do group visits to individual farms (reducing the need for extension agents to do individual visits and encouraging accountability of visits through farmer-group participation in these events) and play more of a role in direct extension service provision. Moreover, investment in transportation for extension agents cut down transit time and increased fieldwork efficiency.

- 5) **See it and believe it with other members of your peer group.** Almost every service provider we worked with discussed a priority to show—rather than tell—farmers through demonstration plots and farmer field schools and through visits to ‘showcase farmers,’ about certain farm management tactics. Many described the need to do this in a group setting, allowing farmers to debate and discuss as a group and to see progress and differences through control plots or by visiting group member’s farms.
- 6) **Extension goals and extension impacts are tied closely to targeted end markets.** Many extension providers were aligning extension goals with the end markets that they were targeting. In general, this meant that the top priority for providers working to equip farmers to compete in large, volume driven markets focused on productivity gains. Extension providers working with specialty boutique coffee buyers tended to focus on quality increases. How these extension priorities impact livelihoods and if they compete with other integral environmental sustainability goals is a concern for many providers who still express a social and environmental mission.
- 7) **Engaging and educating buyers on extension realities and budget limitations.** Respondents in this study suggested that large buyers and retailers were investing in extension work in order to secure supply, increase productivity, and maintain quality (among other priorities). However, the extension costs and activities vary not only depending on the goals of extension (which, as we found, often diverged between primary and secondary extension providers and between certifiers, NGOs, and others), but are variable between countries and within regions. For many extension providers, this may require them to ‘feast or famine,’ in some regions depending on local conditions, the varying costs of extension service, and the understanding, engagement, and ability of private companies to invest. As a result, we noted that many direct service providers were required to diversify financing and thus diversify program goals and extension offerings. To get adequate coverage or to modify programs to receive funding, many direct services providers were required to pursue donor money, funds from certification premiums,

and private investment to finance, which resulted in an array of programs and policies in various coffee producing communities globally. Certainly, this is one of the confounding realities causing disagreement between the goals of extension programs (and thus the approaches and methods to use) within organizations and within regions.

- 8) **Racing towards technological advancement.** Many organizations are coordinating information and evaluation of farmers and coffee farmers across a range of platforms. Organizations discussed how they are advancing GPS and GIS information to collect critical productivity and quality information at an individual farm level, and overlay this information with established soil, water, institution (like schools and hospital) and weather maps for complete information on how to target areas out of sync with production, economic, livelihoods, and environmental priorities. Much of this information is in the collection stage, with mapping underway in many regions. Moreover, greater connectivity through SMS text and cellphones is alerting farmers to critical thresholds and important farming moments (like optimal times for planting, pruning, fertilizing, spraying, etc.). The latter advancement, when described by a respondent, was also creating links between technology companies, universities, and other research and development agencies previously thought to be unrelated. In addition, emailing of questions and images to extension agents, accessibility of e-learning courses, and other online information are all creating stronger links between farmers and information.

6.3.2 Best Practices and Applications from Public Sector Review

- 1) **Government efforts make coffee an attractive and important research area and career path depends on integration with research institutes and country universities.** Brazil's integration with universities and private institutions has ensured growth and gains in productivity and profitability for coffee farmers, and has also made the country a favorable coffee exporter for many of the world's largest coffee providers. Integration of national research institutes into government extension policy and programs has strengthened the coffee industry in Indonesia and supported smallholder producers to remain competitive in global markets.
- 2) **Countries are differentiating coffee production by targeting niche and specialty markets.** The governments of Peru and Honduras are remaining competitive and opening up new market opportunities with a narrow focus on organic (Peru) and specialty coffee (Honduras). The mobilization of government resources towards these efforts has created an incentive for private

companies interested in sourcing organic and specialty to further invest in cooperatives, intermediaries, and export companies and secure supply.

- 3) Government support of private sector investment is happening globally.** From East Africa (Ethiopia and Kenya) and Asia (Vietnam), governments are soliciting consultants and building out agricultural policy platforms for attracting public-private partnerships and greater foreign direct investment in the coffee sector. Considering the mobilization of public efforts to create these kinds of partnerships in coffee, major changes for extension service provision is on the horizon.

6.4. Synthesis of findings from private and public extension service models

A review of current private and public models in extension offers insight into how extension challenges are being addressed and into what new opportunities are being actively pursued. Technological advancements are continuing to bring farmers, buyers, and extension providers closer together through information access, but new models of direct extension service are perhaps more transformative. Empowerment of local NGO providers and an emphasis of training lead farmers at the community level seem to be reducing the workload of extension agents and creating a more participatory extension environment. Yet the approach requires an organizational management structure with a strong monitoring and evaluation framework, which is no simple task. Complex partnerships with research institutes, government agencies, and others will continue to be a necessary component, especially as extension providers widen services and address business development, social, and financing support, in addition to basic agronomic extension. The following section explores future recommendations for the FNC, combining this industry-level extension analysis with the direct fieldwork results for a complete perspective on coffee extension improvements and opportunities in Colombia.

7. Discussion and recommendations to the FNC Extension Service

The roots for these recommendations were generated in discussions with FNC staff and its members. Most of the ideas for recommendations were an attempt to address the issues and concerns drawn directly from the focused small group discussions with either the coffee producers or FNC extension agents in the field. Other ideas came from informal meetings with field administrators, researchers at CENECAFE or with the Bogota based central administration specialists. Some suggestions came from informal conversations with field experts who did not participate in the focused small group discussion activities.

One of the themes that has emerged from the MEAS FNC Extension Service assessment and has resonated with the leadership of FNC is that there are pockets of innovation around the 17 “departments” or states of Colombia. What needs to be done is to continue to build and strengthen the “*tejido social*” or social capital network within FNC and within the communities of the FNC membership to “connect the dots”, improve communication and find resources and consensus to replicate innovative FNC “best field practices” as well as to study and pilot innovative approaches and models. These initiatives will not only provide new development of improvements and growth but will energize the organization especially the younger and more recent members of FNC Extension Service. As we see a growing number of older, less active producers among the 500,000 FNC members, there is also a group of older extension agents who have a wealth of experience but are not always in tune with the new directions and new technologies of FNC. Added to this are new hires and level entry field staff who feel that they have not had proper orientation and incentives and suffer from “burn-out.” Both of these groups, the older agents and the new hires, have created a higher turn-over rate than in past years. Retention of field staff is probably one of the biggest issues for the central administration as well it should be. The following recommendations are not in any particular order of importance.

7.1 Recommendations that will have a direct and immediate positive impact on FNC Extension Agents

The following is a synthesis of recommendations that would impact the activities conducted by extension agents:

- **Flatten the administration of FNC.** In an effort to reduce costs, the FNC has in recent years eliminated or sharply limited the traditional large meetings of FNC Extension agents in a central location to discuss and provide feedback on the annual operation plan for FNC Extension. While this decision was driven by cost-saving considerations, the elimination of these annual meetings of field agents with central administration has had an adverse effect on the sense of participation in the decision-making process related to program development for the Extension agents. Extension agents have expressed their interest in having a stronger voice in developing the field programs. As well it is apparent that the “pockets of innovation” occurring at different FNC sites around the country should be shared and built upon. Several options may be considered of how to flatten the administration and strengthen the “*tejido social*” or social network within the FNC. One principle to apply is to create channels of communication from the bottom up to central administration decision makers and to use technology and the web to create virtual communities. Café especial could be an example where producers and extension

agents who are engaged in café especial projects could convene via internet-based blogs, chats, social media and video conferencing to share information and strategize.

- **Consolidate field offices.** If the FNC is going to address a major concern of both the producers and extension agents to increase its coverage of producers, some reallocation of resources will likely need to occur. One scenario would be to study the consolidation of field offices as has been the case in a number of land grant university extension programs in the U.S. The FNC field office in Cesar supports Cesar, Magdalena, Guajira and a new project in southern Bolivar. It has a well-organized, but small Café Especial office and is working in partnership with external funder supported special projects such as the Holland Project, (“El Proyecto de Holanda”) as an example. The FNC office in Valledupar is an internal example of how FNC might study the advantages of consolidating some of its field offices. Central Administration is aware that this is a very sensitive issue. However it is my recommendation to explore how some offices might be consolidated. However a positive outcome from consolidation of field offices would be that the jobs for field staff would be increased with the savings and that coverage can also be increased through other means listed below.
- **Develop a “Friends of FNC Extension” group.** Some of the FNC problem is that they are not doing a good job of widely publicizing their own successes and strong partnerships. A Friends of FNC organization can emulate the best features of popular Friends of Extension organizations in the U.S. to leverage local, state and federal funding and attract alumni and potential investors to special projects. Some of this is already being done at FNC but in isolation without a central strategy and strong channels of communication and dissemination.
- **Recruit FNC volunteers and develop FNC volunteer led programs.** Along with working on the creation of a *Friends of FNC* national organization, the FNC should pilot an initiative to build volunteer based programs with youth and new producers, women groups, and indigenous and relocated communities and families. Already some FNC administrators have expressed interest in knowing more about 4H and youth programs. It would seem a Master Gardner program could be adapted to become a Master Organic Farmer or Master Coffee Producer programs as example. Also with the social issues to be faced, Master Social Worker programs to assist families and work with early childhood and youth would be valuable. The Master programs would not be academic certifications rather a certificate of participation with accomplished competencies. There could be other potentially attractive Master programs such as farm

management and communication and social media, but each volunteer program can develop its own area of expertise and experience.

- **Strengthen the contribution of external private multinational partners that lead to sustainability.** A top priority for FNC could be to secure investments in transport vehicles for Extension agents to increase their coverage and to provide producers with the resources to haul their production to market. Multi-national private sector partners are in a position to do more to improve coverage and assist farmers in marketing their alternative production as well as their coffee harvest. Those that transport coffee and any other agricultural production have become the intermediaries for the producers in many regions much to their detriment. More negotiation with multi-national large companies for vehicle and transport resources is well justified. Four wheel drive vehicles and small trucks are a big need among field staff and producers as transport limitations cut back on the number of and quality of field site visits and educational presentations. Nearly 8% of extension field staff has suffered motorcycle accidents resulting in significant injuries and loss of work days. Producers need to control their own transport so that they may deliver and sell their production at the best available markets.
- **Strengthen existing and create more university degree program partnerships related to extension.** Community-academia partnerships are the heart and soul of the land grant mission. When FNC has been able to build new partnerships with a national or an international university or public/private sector affiliations, new program initiatives with improved outcomes have resulted. But these FNC/university partnerships are far too few. Young professionals trained as extension professionals in Colombian universities may lead an economic resurgence in rural areas of Colombia. There are conditions for a sustainable value-added agriculture upsurge with specialty coffee leading the way that could bring social stability and an end of violence in long suffering areas of the Colombian countryside if Colombian universities and external universities increase their involvement. Brazil is an excellent example of how the roles of universities and research centers have greatly improved the coffee sector.
- **Improve the “New Hire Orientation Program” and improve computer technology literacy focusing on older FNC extension agents.** A FNC “Padrino” Program could become an anchor for a new and improved orientation for new hires with a mentoring program to keep young staff motivated and older staff feeling in tune. Each new recruit to FNC field staff will be matched with an experienced FNC Extension Padrino or mentor who can guide the newcomer and help she/he understand how to present the different aspects of the field work such as technical

assistance, social work and teaching as well as helping the producer become fully integrated into the FNC as a member. With new technology being introduced at a rapid pace such as virtual eLearning, as well as technical info on the web, and expanded use of tablets in the field, there is a good reason to focus on improving computer literacy among extension staff, especially those with little experience using computers. New recruits with high levels of computer skills will be paired with older extension agents with less computer experience or those who are new to computer technology to teach how to tame and maximize the use of technology. Helping the older staff to learn how to use the new tablets is an example. There are many devices now and there will be more technology and tech field devices that will be introduced to keep the grower fully informed. Extension agents need to take their office work with them to the field by learning how to work off line on farms where there is no connectivity. FNC will continue to adopt new technologies to communicate appropriate information about cutting-edge research and technical support from CENICAFE.

- **Use more train the trainer, peer learning and certification programs to train expertise among community leaders and producers and build capacity among new positions for extension paraprofessionals.** Manuel Mejia Foundation will lead this effort as they have already entered into a second year of training in a blue ribbon development of a pilot training program with Manuel Mejia and other public sector partners. A series of short modules have been developed and training provided to train coffee producer leaders and entry level field staff about how to provide assistance in farm management and financial literacy. FNC should lead the effort to build greater cooperation between training programs coordinated by Fundación Manuel Mejia, SNA, a national training institute, and more involvement of small farm owners and new producers should be encouraged in these training opportunities. There is a new training program being launched with the aforementioned institutions with training materials development from Manuel Mejia. This sort of partnership should be encouraged and expanded and subsequent graduates may find ways to continue to partner in support of coffee growers and small farmers. This “train-the-trainer” and “peer learning” model is to teach how to fish rather than just giving away the fish. It is a more sustainable approach to providing capacity building and training to strengthen the “social network” and improve economic and environmental conditions.
- **Create a more aggressive retention program with attractive career pathways that includes traditional level advancement.** This is another widely supported idea among central

administration leadership. An initial profile of the new hire would include a detailed plan for his or her career aspirations. There is considerable interest among new hires and established extension agents in pathways to Master's degrees especially in social issues and qualitative research. Staff would like more access to weekend classes, accreditation for their FNC training and courses to be able to be applied toward university degrees with cooperating universities. There is interest in studying English and other foreign language training with access to self-teaching programs such as Rosetta. Staff would like to have specialty area training tracts such as becoming more expert in "café especiales" and curriculum development. Career track advancement will be even more attractive if linked to travel to conferences, relocation to locations to facilitate degree education, and other career advancement levels beyond promotion to the limited number of leaders or "líderes" position or promoted to an executive director position. FNC could develop a traditional four tier level of advancement with competencies, merit-based salary increases and benefits to give more incentives to the best and the brightest to stay with FNC.

- **Support Field Resource Centers-** This recommendation came out of the innovations at the Cauca office (CREAR) but central administration was very supportive of replicating this idea. The concept is to have a one stop shop where different types of presentations, felt board, power point, technical assistance handouts, videos and the like are available in an organized library to check out as well as video cameras, laptops and projectors, etc.
- **Develop specialized teams and use the circuit rider approach of small multidisciplinary educator teams traveling together.** The circuit rider has become popular as educator teams cover broad regions of FNC producers. Each team member specializes in a unique area such as social work and counseling, another in financial and farm management, another in new technology rollouts as examples. Those chosen to participate on the circuit rider teams will have specialized training and/or Master's degrees. Teams would have access to vehicles to organize their trips and to transport educational resources.

7.2 Recommendations that will have a direct and immediate positive impact on FNC Coffee Producers, their families and communities

The following is a synthesis of recommendations that would impact the livelihoods of coffee growers and their families:

- **Leverage for more constructive participation from government in investment of public works to improve roads, housing, water and sanitation.** The need for improved roads is a major barrier to improved farm income. More effort should be exerted to engage Ministry of Transport on road repairs. In Cesar there is a project where coffee growers each contribute 2 bags of cement and labor to repair roads. Gravel and road repair equipment needs to be recruited in a number of areas which would result in not only better market profits for coffee production of coffee but also food security and value added agriculture could be expanded and marketed. As it stands although FNC sells their coffee at a fair market value and returns 94% of the sale to growers, the intermediaries are in effect the transporters who charge high rates to carry the coffee to the closest selling points.
- **Target for development unproductive coffee farms and new and young coffee producers without land.** FNC should continue to support more targeted diagnostic and pilot programs for non-productive coffee farms with a roll-out of promotional programs such as “Cafeteros sin Tierra.” FNC assistance in helping to promote expansion of small coffee farm production where family members from the younger generation of growers may negotiate a shared model of participation as well as options to have growers without land be able to participate on farms with owners who are not actively planting new areas.
- **Continued expansion and support of greater participation of women as producers, in gremial activities, and as peer leaders.** Expansion of the 1,000 “palos” program is an example. More recruitment of women into the FNC Extension Service will facilitate more involvement and greater numbers of women producers. There are a number of excellent FNC women producer projects but they lack resources to fully develop. Indigenous women who produce native handicrafts as well as regional crafts should be supported including marketing and working capital programs.
- **Continued expansion and support of youth and young adults as coffee growers, in gremial activities and as peer leaders.** The 200 “palos” program is an example. There is interest in a 4H Club model for coffee producer families with FNC Extension support in organizing the clubs. CENICAFE could develop a web portal especially for youth and another web portal geared toward young adults and internet oriented producers. The CENECAFE’s website at present is almost exclusively focused on FNC Extension Service agents.
- **FNC should seek resources to expand on its holistic approach to working with indigenous and relocated families.** Programs that address social issues such as mediation and reconciliation and

the development of social safety-nets are needed as well as basic infrastructure development especially for indigenous producers such as housing, water and sewage, nutrition, and eco-sound practices, including solar and bio-gas energy alternatives. There are already some excellent model programs that could be replicated or expanded upon with additional resources. Additional income from crafts or specialty production such as organics would be popular sustainability programs with this segment of the FNC membership.

- **A greater involvement of CENICAFE in field research with producers and extension agents is encouraged.** The classic gap between researchers and extension field staff and producers exists. More experimental plots as was the case with the introduction of the Castillo variety should be encouraged. “Giras” or learning tours, workshops in the field, visits to farms by CENICAFE investigators using the Bridges Project as an example would build stronger partnerships with field agents and producers.
- **Greater use and expansion of the mass media education tools** This initiative would include web-based archives of radio, television and video productions, podcasts using internet sites, and a daily national radio that could be segmented and shared via MP3 files to support the multiple regional radio programs being broadcast around the country. The FNC television program could also seek sponsors to increase its coverage.

7.3 Summary of the MEAS Report Workshops and Presentations

The MEAS research team led by Ben Mueller (University of Illinois) and Miguel Gomez (Cornell University) traveled to Colombia for five days during May, 2013. The purpose of the field visit was to review the findings of the MEAS evaluation of the FNC Extension Service with key administrative leaders of the Federation as well as Extension field staff, key stakeholders in the coffee sector, and key leaders in other public and private sectors with extension programs. The table below summarizes the MEAS presentations and workshops in Bogota which included a video conference with over 100 FNC Extension agents in 17 departments or states of Colombia. In addition the MEAS team conducted 2 interviews related to the MEAS evaluation project with FNC leadership and the FNC Communications Specialist as well as a video interview for FNC television programming. All workshops, presentations and media interviews were conducted in Spanish.

Summary of Presentations and Workshops May 14-16, 2013 Bogota, Colombia

Date	Organizations	Number of attendees	Male	Female	Nature and Duration of Meeting	Projected Impacts, Outputs and Organizational Behavior Changes
May 14	FNC	24	22	2	Presentation and Planning workshop (7 hours)	Action Plans were developed to implement prioritized MEAS recommendations that include: greater decentralization of decision making during annual operations planning and regional strategies; strategic structural reforms related to retention and career pathways for extension agents; increased Lead Coffee Grower training
May 15	Gov't. appointed Coffee Mission	7	5	2	Presentation and Planning workshop (3 hours)	National mission members favorably impressed with results of MEAS report. Pledged more field visits to understand the realities of the FNC coffee growers and FNC Extension. Pledged interest in attracting more university participation with FNC graduate training, field research, and social science investigations. Additional workshop impacts include: interest in additional research projects with MEAS and national universities; MEAS report clarified the FNC Extension mixed approach model as more viable than just delivery of technical assistance; recognition of the importance of FNC Extension in securing financing for coffee farmers with renovation of coffee plants resistant to coffee rust; and, recognition of the role of FNC Extension in the construction of social capital networks with the small and vulnerable coffee farmer families.
May 15	African Palm Federation and Manuel Mejia Foundation	7	6	1	Presentation and Planning workshop (3 hours)	Fedepalma, the National Federation of Oil Palm Growers in Colombia and Cenipalma, the Colombian Oil Palm Research Center expressed interest in a MEAS assessment of their extension service. Colombia is the fifth largest producer in

Date	Organizations	Number of attendees	Male	Female	Nature and Duration of Meeting	Projected Impacts, Outputs and Organizational Behavior Changes
						world and largest in Latin America with over 450,000 hectares in 15 states and more than 8,000 producers facing multiple difficulties in production and post- conflict community and social issues.
May 16	FNC central administration leaders and extension agents in 17 departments via video conference	12 (in studio) 104 via video conference	10 N/A	2 N/A	Presentation and Planning workshop (3 hours)	Vibrant discussion among FNC extension agents and central administrators including: best practices of international extension models; importance of greater participation of field staff in planning and operations decisions; importance of participation in developing regional strategies, greater emphasis in specialty coffees; development of social capital internal to FNC Extension; greater involvement in the development of the FNC Extension action plans to address the MEAS report recommendations.
May 16	FNC interviews for print articles and television	N/A	N/A	N/A	Interviews for FNC Board reports, FNC print articles and television programming.	Greater exposure and coverage for MEAS Report findings with FNC key stakeholders, 1,000 extension agents and 540,000 coffee farmers and their families. Positive aspects of assessment of FNC Extension by MEAS team served as encouragement in a period of difficulties for coffee farmers and FNC as an organization. MEAS Report's set of recommendations embraced by central administrators and field staff as a road map to improve their organization and their model of extension delivery.
Totals	4 organizations including multiple sections of the FNC	154	43 face to face	7 face to face	4 Presentations and Planning workshops and 1 mass media session	See above listing of projected impacts, outputs and organizational behavior changes.

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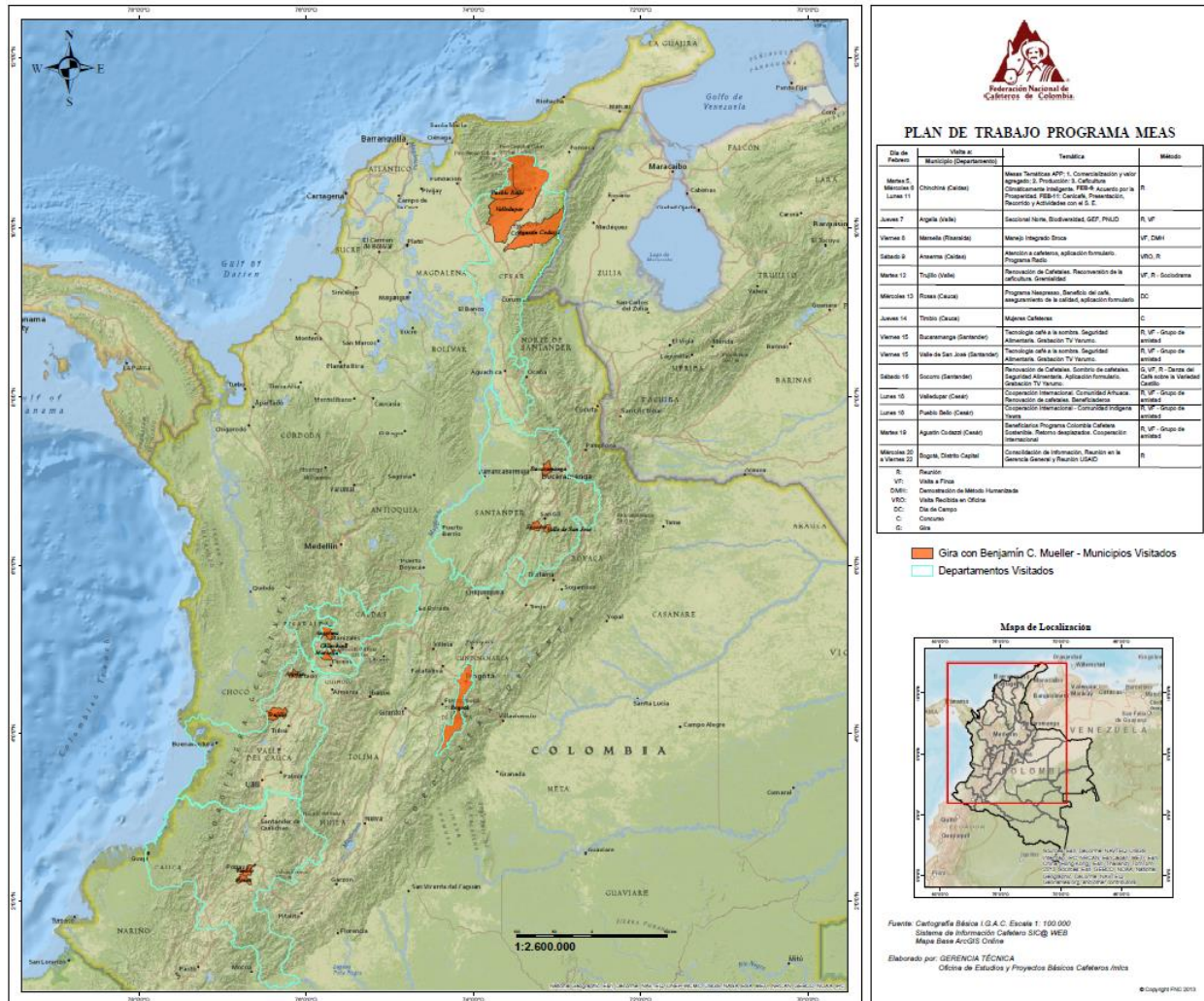
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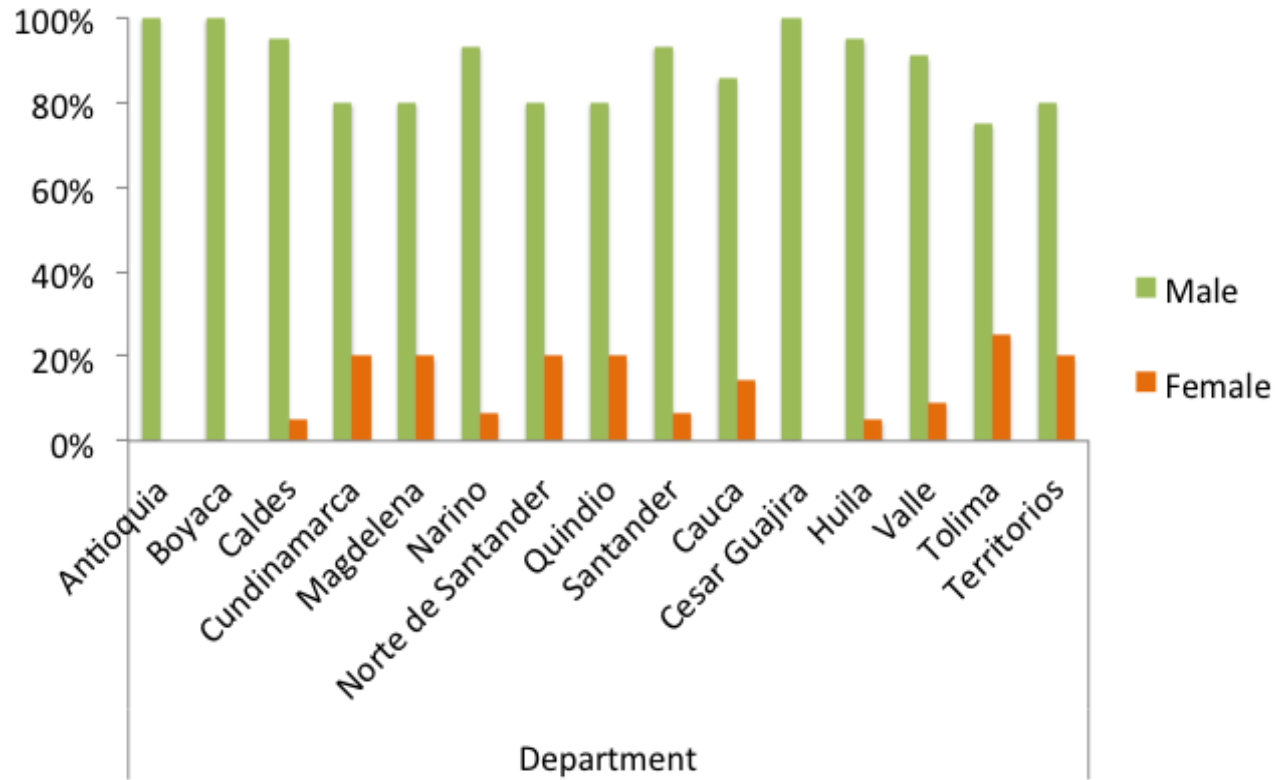
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Appendices

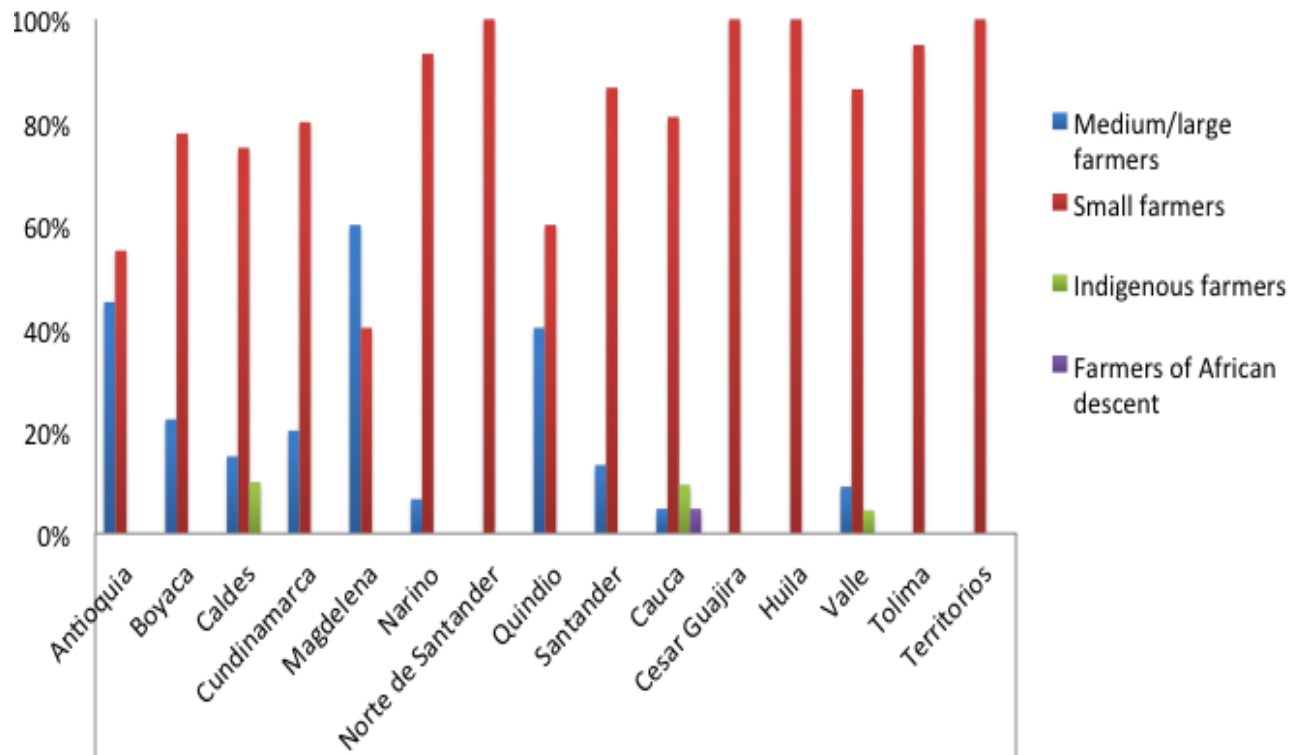
Appendix I. Map of Field Work and Municipalities Visited by The Research Team



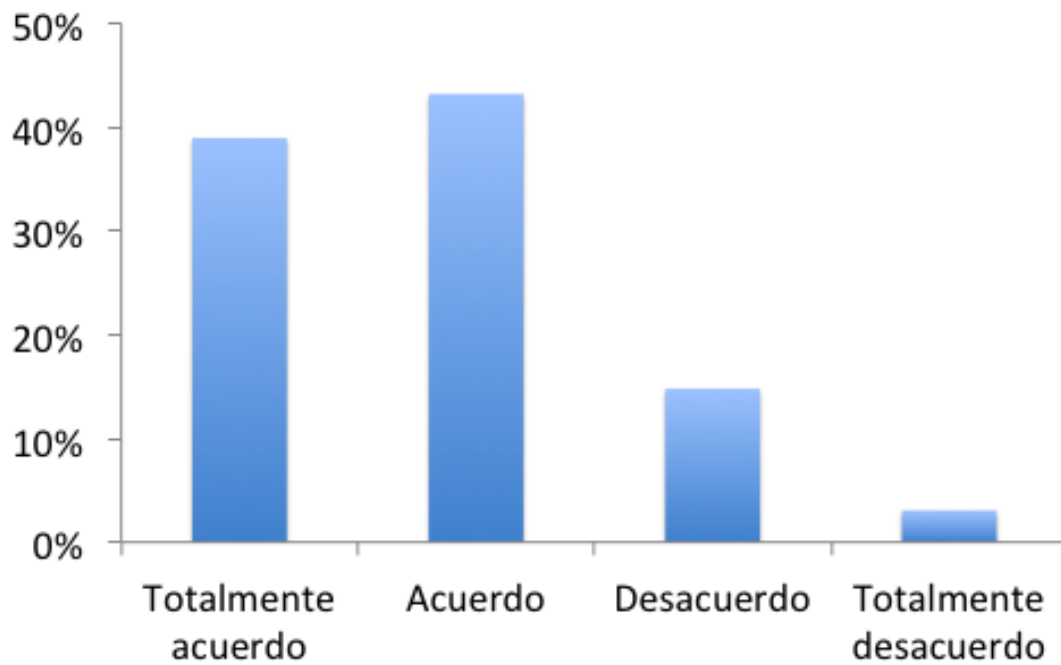
Appendix II. Selected Results from the Human Action Model Survey



Type of Farmer by Department



Power: Stakeholders and Vitality of the Organization



5

English translation from Spanish:

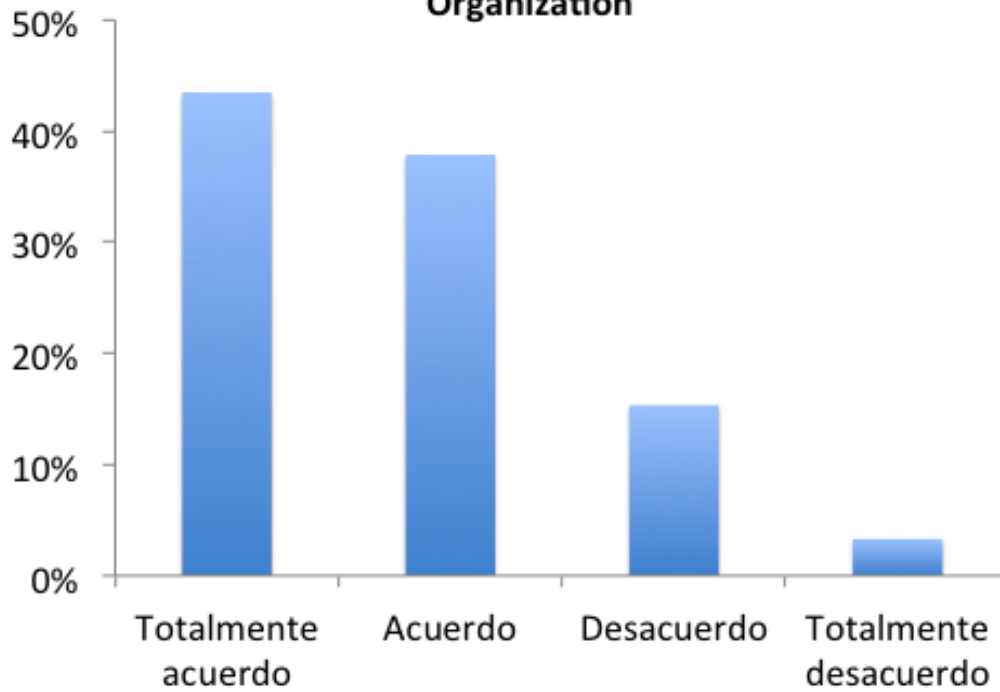
Totalmente acuerdo: totally agree

Acuerdo: agree

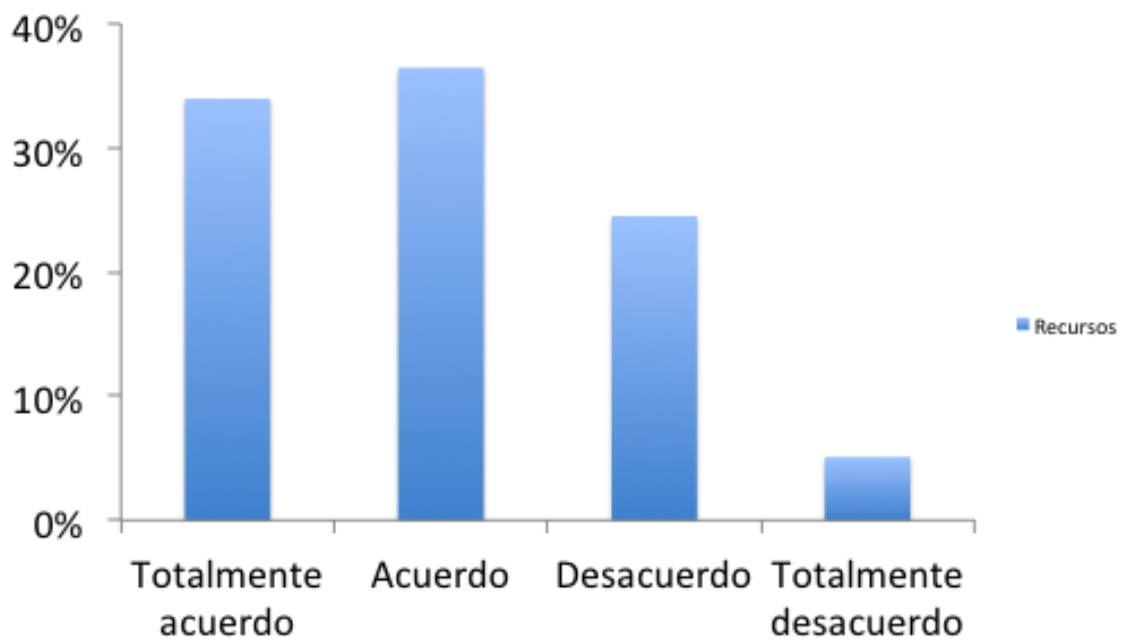
Desacuerdo: disagree

Totalmente desacuerdo: totally disagree

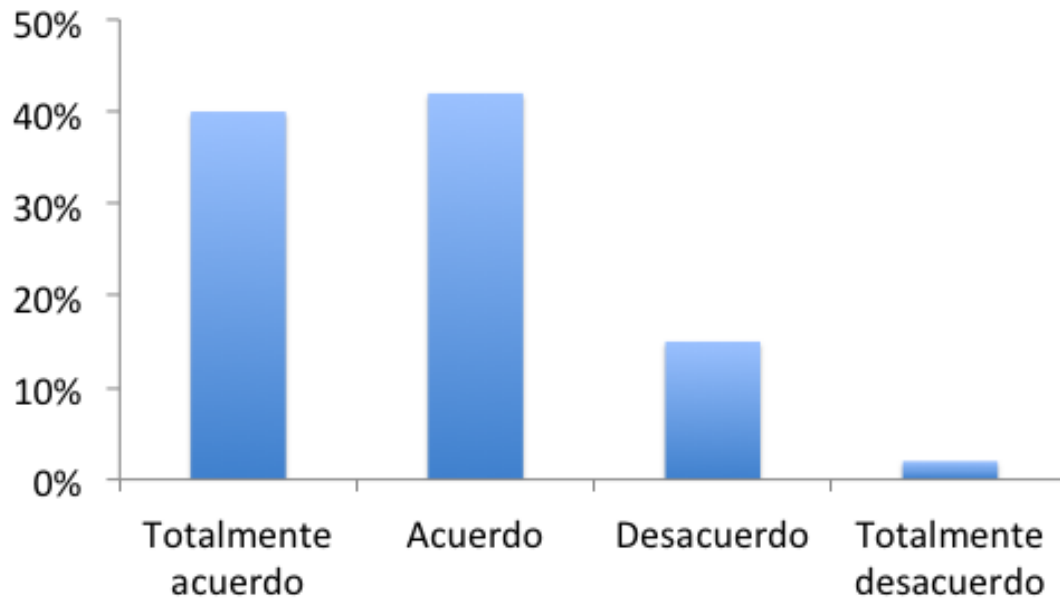
Existence: History and Opportunities of an Organization



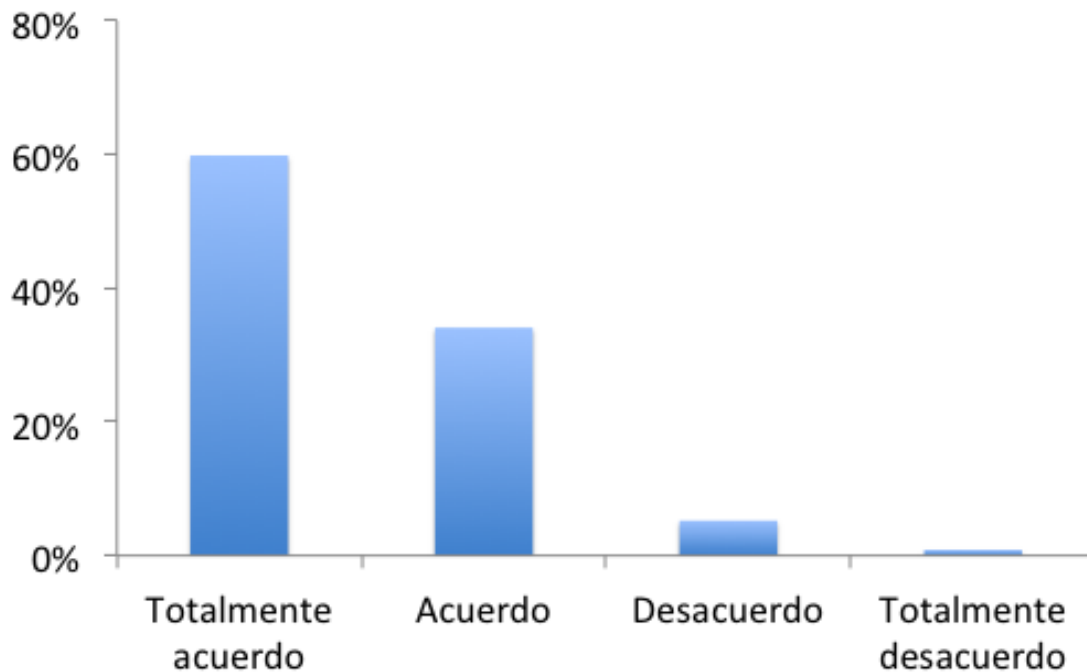
Resources: the Members and Materials of an Organization



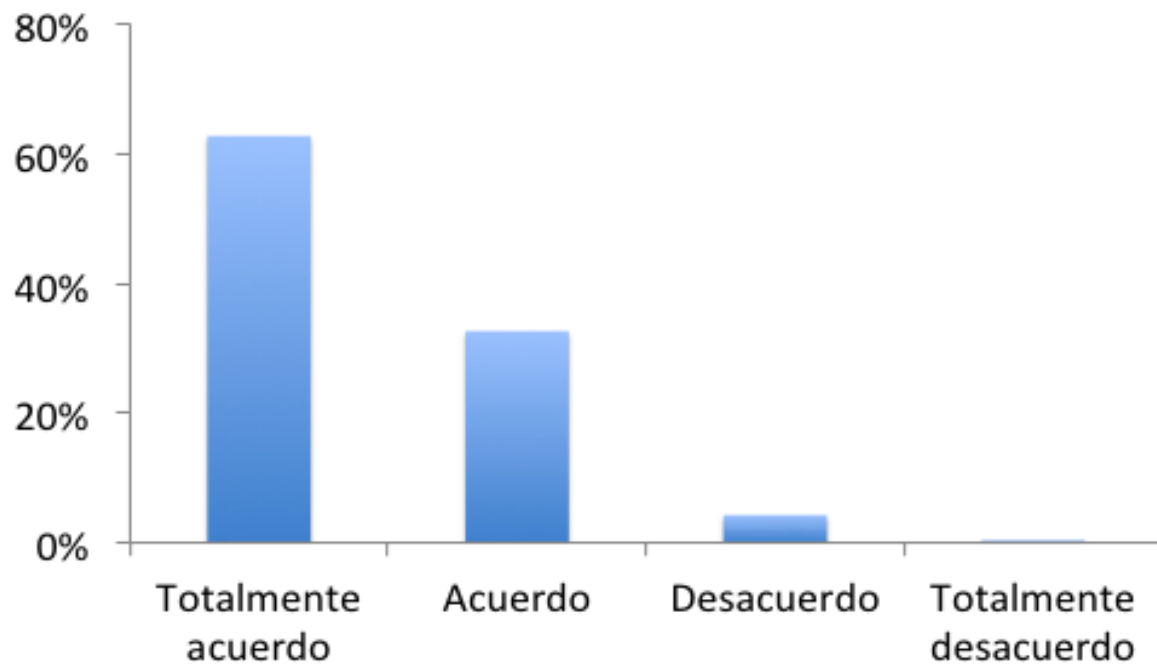
Structure: the form and systems of an Organization



Mission: the Direction of the Organization



Meaning: Value and Significance of the Organization



Appendix III. Protocol Employed to Conduct the Interviews with Private Extension Service Providers



Cornell University
Charles H. Dyson School of
Applied Economics and Management

Coffee Extension Services Survey

Introduction

Researchers from Cornell University (Katie Ricketts and Dr. Miguel Gómez) are currently engaged in a research project examining extension models and services in the coffee and cocoa sector. The project is part of a larger USAID grant on extension services and extension service contractors supporting and integrating smallholder farmers into global markets. Root Capital is supporting the study by facilitating introductions to extension providers within its network. Findings will ultimately highlight the diversity of extension activities and approaches used and hopefully enable organizations to build better partnerships and identify best practices used in the sector.

The aggregate findings of this report will be publicly available, per USAID funding stipulations of the research. While the report does not intend to collect explicitly confidential or strategically valuable information, it is important that participating organizations know that this report will be public information. **Names will be withheld and data will not be able to be linked back to specific organizations in public reports.**

Output and access to final reports

Findings from these brief interviews will be used for two outputs:

1. *Section in USAID Report on Extension Service.* Cornell University will use this information as part of a review of current coffee extension models, thinking, and trends.
Access: Publicly available.
2. *Current Trends and Best Practices in Coffee Extension: Industry Report.* Shorter report for circulation amongst survey participants and other parties.
Access: Participants (including Root Capital) and interested parties.

Project Contact

Please contact Katie Ricketts with questions or for additional information at kdr46@cornell.edu.

Cocoa and Coffee Extension Services Survey

Organization name: _____

Your position: _____

1. Structure of extension service

Which characterizes your organization? Please mark an 'X' where appropriate:

a) _____ We are primary providers of extension (meaning they are part of our team internally).
**If you answered YES (X), please move to 1a.*

b) _____ We contract with organizations that provide us with extension service (they implement extension on our behalf). ***If you answered YES (X), please move to 1b.*

c) _____ We are primary providers in some places, and in others, we contract out with partner organizations. ****If you answered YES (X), please respond to 1a and 1b.*

1a.

Is your extension characterized by (please mark an X)

- a) _____ Long-term, continual extension where agents work with the same group of growers.
- b) _____ Short-term on targeted topics or issues, with a diverse and variable group of growers depending on the topic.
- c) _____ We provide both types of extension.
- d) _____ Other/Neither (please explain):

Do growers pay a fee for this service? How are extension services financially sustained?

1b.

How do you select the organizations you contract with? Please explain:

How do you manage this relationship?

Do growers pay a fee for this service? How are extension services financially sustained?

2. Extension Services Provided:

Please complete the table below.

Type of extension service to growers	Provided? Y/N	Approximate percent of extension budget allocated. (must add up to 100% if split between multiple categories)	Approximate organizational effort in each of spent in each category. (must add up to 100% if split between multiple categories)
Business development			
Agronomic support			
Social support (Ex: youth programs, women programs, post-conflict etc.)			
Finance and credit (Either providing credit directly, or assisting with credit / loan process)			
Other: (please specify)			
		100%	100%

3. Country-level extension activities

Please complete the table below. If you work in multiple countries, please fill out for a maximum of 3 countries (preferably, those of most importance to your organization for coffee/cocoa production)

Country	Number of growers	Are growers organized into groups, cooperatives, or associations? Please specify.	Number of extensionists

4. Services provided to growers:

Please rank the following extension goals in order of priority. If a critical goal of your extension service is missing, please include it.

Extension goal (Rank with 1=highest priority)
_____ Elevated coffee/cocoa quality
_____ Increased coffee/cocoa productivity
_____ Measurable livelihood improvements
_____ Technology adoption /farm modernization
_____ Addressing climate change impacts
_____ Other (specify): _____
_____ Other (specify): _____
_____ Other (specify): _____

5. Extension Approaches:

Please list the extension approaches used by agents and fill out the table below.

Approaches	Used ? (Y/N)	Rank in order from most costly to least costly relative to other approaches you've indicated that you use on this list, (1=most costly)	Rank in order of perceived effectiveness (1=most effective)
Individual, farm visits by extension agents.			
Extension agents hold office hours for farmers to attend.			
Regular farmer group meetings in the community/village.			
Use of demonstration plots, or farmer-field trips with farmer groups.			
Special group educational events (socio-dramas, lectures, group games).			
Use of media and technology for mass education / alerts (e.g, TV, farmer radio, SMS alert systems, etc).			
Other (specify):			
Other (specify):			

6. Monitoring & Evaluation:

Please describe your organizations approach for monitoring and evaluating extension services.

- a) What is your approach to monitoring and evaluation of extension services? Do you have overview documents or studies you'd be willing to share? If you report performance or impact metrics, please list here or as an attachment.
- b) If relevant, provide a brief example of an interesting finding that your monitoring and evaluation process illuminated for your organization recently.

7. Farmer motivations, cooperative integration, and information technology:

Please respond to each text-box question in the rightmost column.

a) Farmer motivations

What seems to motivate farmers to participate in these extension programs?	
What methods or approaches fail to keep them engaged?	
What initially draws farmers in, and what keeps them engaged in the process?	

b) Extension and cooperative integration

If you work with farmers organized in cooperatives, how do you integrate your extension services into cooperatives' ongoing extension programs?	
---	--

c) Information technology

What kinds of information technologies are helpful in the coffee or cocoa extension service that you provide?	
How do these technologies help you accomplish extension-related goals?	

8. Reflecting on challenges and opportunities in extension:

Think about the extension services that you provide and about extension services in general. We intend to understand the strengths, weaknesses, opportunities and threats facing coffee and cocoa extension systems. Please answer the following questions:

- a. What are the strengths of the extension service that your organization provides?
- b. What are challenges for your extension service? (i.e., where do you want to make improvements?)
- c. Have you changed the content, structure, or delivery of your extension services over time? If so, how and why (to address new challenges facing farmers, to adopt more effective approaches, to incorporate lessons learned)?
- d. What new opportunities exist for providing better extension service in the future(i.e., new technologies, partnerships with complementary organizations /providers of extension services, new market opportunities etc.)? What new partnerships are you pursuing / interested in for better extension service provision and success?
- e. What are the looming threats for coffee and cocoa farmers? What does this mean for extension service providers in these sectors?

Appendix IV. Key Approaches, Partners, and Purchasing Implications of Extension-Related Activities for Four of the Largest Global Roasters

Company	Sustainable Sourcing Strategy	Year est.	Extension approach	Summary	Thematic investments and focus:	Partners in agronomy & extension	Purchasing /contract commitments
Starbucks ⁶	C.A.F.E Practices And Small Farmer Sustainability Initiative⁷	2004	Farmer Support Center (Costa Rica) and regional agronomist teams	Farmer Support Centers where farmers have access to trainings in quality, production, and post-harvest techniques. C.A.F.E practices also assesses producer support organizations (cooperatives, etc.) and certifies against environmental, social, and economic criteria. For producer organizations, points towards C.A.F.E practices accreditation accrue when key technical extension and supportive services are available.	Some Farmer Support Centers focus on: <ul style="list-style-type: none"> • climate change, • biodiversity, • carbon offsetting • quality • productivity. 	Conservation International	Yes. 93% of all coffee sourced comes from C.A.F.E practices
Nestle/ Nespresso	AAA Sustainable Quality Sourcing (Ecolaboration⁸)	2009	Public-private extension system focused on agronomic visits centering on quality and better farm management. ⁹	Financing is provided for extension (\$23 million USD in 2012) for key partner organizations operating in regions where high-quality coffee can be sourced. As of 2012, 101,622 farmers have been given technical	<ul style="list-style-type: none"> • Carbon footprint • Financial sustainability for farmers 	Rainforest Alliance	Yes. Rainforest Alliance certification in conjunction with AAA certification. 68% of Nespresso is sourced through the AAA program 2012) which represents

⁶ C.A.F.E practices introduction and impact assessment 2008-2010 available at:

<http://www.conservation.org/campaigns/starbucks/Pages/default.aspx>

⁷ See C.A.F.E practices scorecards and metrics at: www.scsglobalservices.com/starbucks-cafe-practices

⁸ Nespresso coffee sourcing program: www.nestle-nespresso.com/ecolaboration/sustainability/coffee

⁹ Specific criteria, standards, and explicit approaches for reaching smallholder farmers are not publicly available. This includes smallholder socio-economic or farm production indicators and metrics.

Company	Sustainable Sourcing Strategy	Year est.	Extension approach	Summary	Thematic investments and focus:	Partners in agronomy & extension	Purchasing /contract commitments
				assistance (doubled from 2011 and more than 10 times higher than TA given in 2010).			approximately 13% of total Nestle coffee procured ¹⁰¹¹ .
Sara Lee	Ad hoc collaborations with: DE Foundation (corporate foundation) Dutch Sustainable Trade Initiative (IDH) ¹²			No clear, cohesive, extension approach for providing smallholder farmers with new tools, techniques, or knowledge aside from ad hoc collaborations and collaborations with UTZ Certified (preferred sustainability certification partner)	No specific thematic focus on extension or smallholder production.	UTZ	Yes. They buy UTZ Certified products. Roughly 5% of their total purchases are sourced through these sustainability/socially conscious initiatives.
Smuckers	Green Coffee Sustainability Initiative ¹³	2011/2012		Extension services include 'donations' to extension providers: \$150,000 for TechnoServe. Financial/working relationship with Neumann Foundation is a mystery.	Donate to research efforts (World Coffee Research) for climate change adaptation (breeding)	TechnoServe Neumann Foundation World Coffee Research	Ambiguous. 2016 goal set for 10% of total retail ¹⁴ purchases to come from: UTZ Cert Rainforest All. FairTrade

¹⁰ Nespresso: Facts and Figures: www.nestle-nespresso.com/about-us/facts-and-figures and Nescafe Plan: www.nestle.com/csv/responsible-sourcing/coffee.

¹¹ Total Nestle coffee procured = 819,000 tonnes. www.uk.reuters.com/article/2011/02/24/ikUKN2428766520110224

¹² Sara Lee 2011 Sustainability Report: www.saralee.com/sustainability/~media/SaraLeeCorp/Files/PDF/Sustainability?2011_SR.ashx

¹³ 2012 J.M Smuckers Sustainability Report: http://www.smuckers.com/pdf/SMUCKER_2012_CRR.pdf

¹⁴ Unclear what proportion upstream raw materials (green coffee) is to total retail value.

Appendix V. List of Presentations and Workshops: “Assessment of Extension Services of the National Coffee Growers Federation”

The presentations and planning workshops delivered through this project (Included are the slide presentations as complementary materials):

1. Presentation, May 14, 2013 in Bogota, Colombia.

Title: “Una Evaluación de Servicio de Extensión de La Federación Nacional de Cafeteros”

Audience: Leadership of the FNC

2. Presentation, May 15, 2013 in Bogota, Colombia.

Title: “Una Evaluación de Servicio de Extensión de La Federación Nacional de Cafeteros: Consideraciones para La Misión del Café”

Audience: Governmental Commission for Coffee Policy

3. Presentation, May 15, 2013 in Bogota, Colombia.

Title: “Una Evaluación de Servicio de Extensión de La Federación Nacional de Cafeteros: Consideraciones para La Misión del Café” (same slides as in Presentation 2)

Audience: Colombian Agricultural Producer Groups and the Manuel Mejia Foundation

4. Presentation, May 16, 2013 in Bogota, Colombia.

Title: “Una Evaluación de Servicio de Extensión de La Federación Nacional de Cafeteros: Presentación para el Servicio de Extensión”

Audience: Extension leaders and extension agents.

5. Presentation, June 5, 2013 in Washington D.C..

Title: “Assessment of the Colombian National Federation of Coffee Growers (FNC) Extension Service”

Audience: MEAS Conference: Development academics and practitioners.

6. Resource Handout, June 5, 2013 in Washington D.C.

Title: “Speed Dating Session: Assessment of the Colombian National Federation of Coffee Growers (FNC) Extension Service”

Audience: MEAS Conference: Development academics and practitioners.

**Appendix VI. List of Additional Articles, Papers and Presentations for the “MEAS Assessment of
Extension Services of the National Coffee Growers Federation”**

1. “The Colombian Coffee Growers’ Federation: Organized, Successful Smallholder Farmers for 70 Years” - Jeffery W. Bentley and Peter S. Baker.
2. “Ecological Function Assessment in the Colombian Andean Coffee-growing Region”
Lead Authors: Dolores Armenteras, Alexander Rincon, and Nestor Ortiz.
3. “Estimación de la Anualidad por Hectárea Dentro del Programa de Retención de Jóvenes Caficultores de la Federación Nacional de Cafeteros, Caso de Departamento de Caldas” -
Irene Estrada Mejía.
4. “Evaluación de una metodología para determinar el punto final de la fermentación de mucílago de café, Investigación Participativa” - Centro Nacional de Investigaciones de Café (Cenifcafe).
5. “Informe Final Cosecha Manual Asistida con Canguaro Investigación Participativa” -
Líder: Cesar A. Ramirez Gomez, Responsable: Juan Daniel Buenaventura A.
6. “Relación de Proyectos de Investigación Estudiantes Federación Nacional de Cafeteros”
A Table prepared by the FNC Cauca Office to document FNC Extension Agents’ Research
7. “Servicio de Extensión de la Federación impresiona a observadores” Luis Fernando Samper (Chief Communications and Marketing Officer, FNC).
8. “Una Examen Externo a Nuestro Servicio de Extensión” – Carlos Armando Uribe F. (Gerente Técnico de la FNC).