



→ Saúl Evelio Castellanos lives in Puente Nacional (Santander) in a house so far from the town (two hours on a dirt track) that it seems like the furthest corner of the world. He spends his time pruning pine trees, milking cows, and looking after his tiny vegetable patch.





→ John Núñez and Adriana Díaz live in the Villa del Café neighborhood in Armenia with their nine-year-old twins Dayana and Juan Esteban.

CHAPTER 1

COLOMBIAN LONGITUDINAL SURVEY (ELCA) BY UNIVERSIDAD DE LOS ANDES 2010-2013

1.1. BACKGROUND

→ The Colombian Longitudinal Survey (ELCA) by Universidad de los Andes is an ambitious project implemented by the School of Economics, whose goal is to follow over 10 thousand households in rural and urban areas in Colombia over a period of a decade. It is the first longitudinal survey of this magnitude carried out in Colombia. The survey sheds light on the dynamics of the households included, their evolution in the job market, the development of children, their vulnerability to shocks and the mechanisms they have at their disposal to mitigate their effects, access to financial services, the dynamics of home ownership, land tenure and production in the rural areas, among other aspects.

The first wave of ELCA was carried out in the first semester of 2010. Nearly 80 people —among which survey takers, supervisors and psychologists in charge of undertaking the field tests— visited and surveyed 10,164 households. Five thousand four hundred and forty-six were located in the urban areas of five regions (Atlantic, Pacific,¹ Central, Eastern and Bogotá); they belonged to socio-economic strata levels one to four and were representative of urban households at the national level. The remaining 4,718 households were of small farmers in four rural micro-regions (Mid-Atlantic, Coffee Region, Cundiboyacá, Center-East). In addition, a further 509 sur-

veys were completed in urban communities (*barrios* or neighborhoods) and 199 in rural communities (rural settlements) in which information was gathered from various community leaders on the context of the participating households, the institutional offerings, security, infrastructure, among others.

The collection of the first wave, or baseline, provided a thorough characterization of the conditions of the Colombian households. *Colombia in Motion 2010-2013* presents a descriptive analysis of some of the ELCA 2010 results,² which, in April 2013, were made available to the public. Today, by having pre-registered, any person who pledges to make adequate use of the information can access it for her or his own analyses without any type of I.D. (completely anonymous).³ Also, the audiovisual series of videos and photos offer a view of the evolution of the Colombian households through the eyes of the ELCA protagonists.⁴

In 2010, the Survey design established that those followed by ELCA for each surveyed household would initially be: the household head, spouses, and children under the age of ten. Comprehensive information on such participants was gathered first in 2010, and their dynamics will be studied over time.



→ In 2010, the Núñez Díaz family had five members in their household and one son living independently. In 2013, the eldest daughter, Leidy (on the far left), formed a new household.

Colombia in Motion 2010-2013 presents a descriptive analysis of some of the ELCA 2010 results.

1. The ELCA sample was designed to be independently representative for the Pacific Region and for the Pacific basin. Due to budget restraints, it has not been possible to gather the information from the Pacific basin region.
 2. The ELCA digital series, Circulation Bulletins, expanded the descriptive analysis and other innovative themes, which can be studied through the ELCA. Both publications are available and can be consulted at: <http://encuestalongitudinal.uniandes.edu.co/>
 3. For having special reserve, the modules on infant children, lands and production, location of the households, and communities of the municipality are confidential and therefore not available to the public.
 4. The communication team at Universidad de los Andes produced the photos published in this book and the videos on the ELCA families, available at <http://www.uniandes.edu.co/elca>

1.2. FOLLOW-UP RESULTS

1.2.1. FOLLOWED HOUSEHOLDS AND INDIVIDUALS

The main goal insofar as following the households and the individuals is to understand their dynamics over time. Thus, it was decided that the people selected to be followed should not be over the age of 65.⁵ The urban sample was made up of 5,275 households and the rural one, of 4,555.

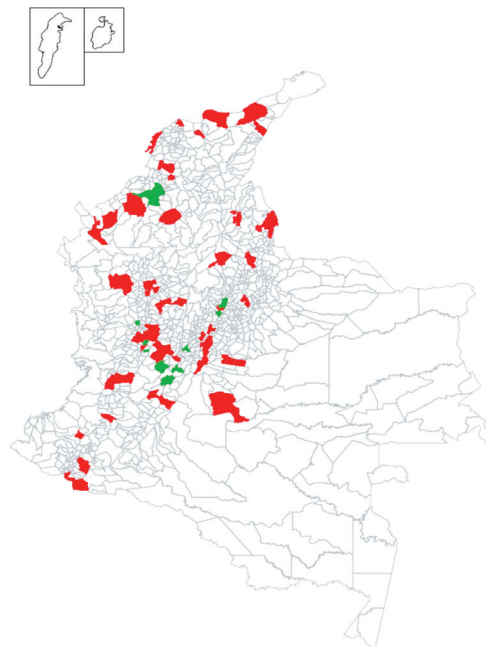
It was determined that the sample of followed participants⁶ would be made up by the household head, spouse (if one exists) and children under the age of ten in 2010 who were the sons, daughters, stepchildren, grandchildren or great grandchildren of the household head or of the spouse (a total of 25,228 people, 12,852 in the urban areas and 12,376 in the rural area). In cases where, in 2013, these participants were no longer in the same households in which they were surveyed in 2010, they and those who made up their new households were sought out and surveyed in their new location. In each new household, those being followed (head, spouse and the children, grandchildren and great grandchildren, under the age of 13, of one or both of them) entered into the ELCA for future follow-up.

For the case of migrations to other towns —either of the entire household or individual members— search criteria were established based on the time it would take the survey takers to travel to the par-

FIGURE 1.1.

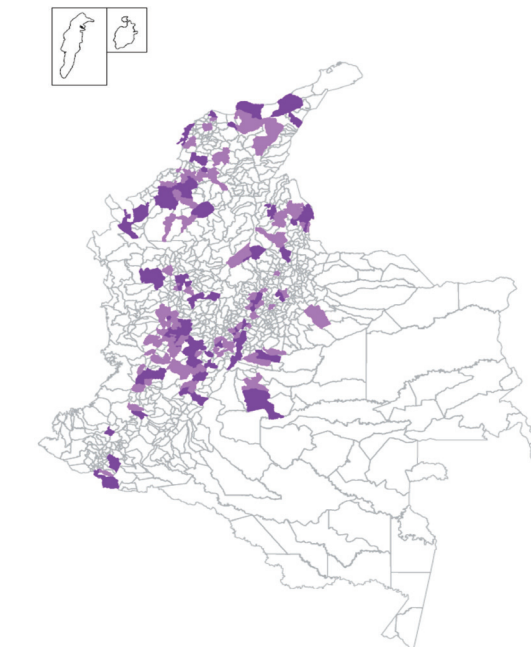
GEOGRAPHIC DISTRIBUTION OF THE MUNICIPALITIES SURVEYED THROUGH ELCA.

ELCA SAMPLE 2010



■ ELCA 2010 Rural sample
■ ELCA 2010 Urban sample

ELCA SAMPLE 2013



■ New municipalities surveyed ELCA 2013
■ ELCA 2010 Surveyed sample

Sample: Calculations based on ELCA 2010 and 2013

ticipants' new location and the number of surveyed households in the nearby areas. If the followed household or one of its members moved to a town approximately one hour away via public transport in the operations route, this household or individual would be visited.

Or, in cases whereby the household or individual has moved further away, there has to be at least five feasible households to survey in that location to justify the visit. In practice, however, these criteria were made flexible in order to reach the greatest possible number of followed households and individuals.

5. Households whose head of the household and spouse were older than 65 years of age and who did not have children to be followed (younger than 10 years of age) were excluded from the study. The elimination of these households represented a 3% reduction in the sample (171 households in the urban sample and 163 households in the rural sample). This implied a relatively balanced elimination between regions and economic strata.

6. Being classified as a "followed participant" implies that all possible efforts will be made to locate and survey the person and household where they lived in 2013, whether that is in the original household or in another.

1.2.2. BALANCE AND COVERAGE

In accordance with the follow-up standards established for 2013, we expected to apply surveys to 9,830 households, equivalent to at least the 25,228 participants in this study. In total, for ELCA 2013, 9,262 households were included, accounting for 94.2% of the coverage hoped for. The above is the result of great effort and commitment to seek out the members of the families in 2013, even when some individuals had been separated from their original households or had moved to a new location, whether in the same municipality or a different one. In this order of ideas, in 2010, we visited 80 municipalities and in 2013, we visited members of these same households who, three years later, lived in 171 urban and rural municipalities around the country. The left panel of Figure 1.1 shows the geographic distribution of the ELCA sample in 2010. The municipalities in red belong to the urban sample and those in green belong to the rural sample. The panel on the right shows the geographic distribution of the municipalities visited with households surveyed in 2013. The darker color indicates the 80 municipalities visited in 2010, and the lighter color, the 91 additional municipalities visited in the 2013 wave. In many of these municipalities, surveys were applied both in the urban and rural areas according to the location of the households.

TABLE 1.1.
HOUSEHOLD SURVEY COVERAGE BY AREA.

Area	Target households	Followed households surveyed in 2013	ELCA surveys carried out in 2013	Household coverage	Survey coverage	Total households ELCA 2013**
Urban	5.275	4.430	4.681	84,0	88,7	4.911
Rural	4.555	4.418	4.581	97,0	100,6	4.351
Total	9.830	8.848	9.262	90,0	94,2	9.262

*Baseline area (2010) **Baseline zone (2013)

Source: Authors' calculations based on ELCA 2010 and 2013

Column 1 presents the number of households of the study sample in each surveyed area in 2010; 2 indicates how many of these households were surveyed in 2013, regardless of whether they were divided or not; 3 shows the number of total surveyed households including households which presented separations. Columns 4 and 5 show coverage as $(4=2/1)$ and $(5=3/1)$. Column 6 shows the total surveys in each area in 2013, taking into account the rural-urban and urban-rural migrations between 2010 and 2013.

Furthermore, some of the households presented separations. The criteria established indicated that all of the individuals involved in the study would be followed regardless of whether or not they were found in their original place of residence. For this reason, some of the households that were single households in 2010 had been separated into two, three and even four different households. In other less frequent cases, some households that were single households in 2010 had grouped together with others to form a different household in 2013.

Table 1.1 presents the distribution of the surveyed households and the coverage reached in original households and effective households (that take into account the division and union of households) with respect to those surveyed in 2010 by regions and for the urban sample by economic strata (one to four, which are the strata used in the sample). The coverage reached in the urban areas indicates that the effect of the separation of households exceeded the effect of attrition, to reach an effective coverage of 100.6%. In the urban areas, the effective coverage was 88.7%.



→ 2014. The Álvarez Tapias family lives in Chinú (Córdoba); in their neighborhood, almost everyone is related. On this lot there are four houses, which are home to five family units.

The separation of people in the study from their original households meant that for every surveyed household in 2010, there could be more than one surveyed household in 2013. Nevertheless, 1,101 households were lost, meaning that, for a whole host of reasons, it was not possible to follow them. This was mainly due to attrition and loss of contact due to changes in telephone numbers and addresses, making it impossible to locate the household or the family members. This loss, together with the difficulty encountered in finding the people in the study that had separated from their original households, led to a follow-up coverage of 87%.⁷

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7. We also have information on the deaths between 2010 and 2013 of at least 170 people involved in the study.

At the same time, changes in the households due to the arrival of new spouses, of children who previously did not live with their parents, the birth of new family members, etc., led to 6,143 interviews with new participants in 2013. Of these, 3,228 will form part of the future follow-up study due to their age and kinship. In total, 33,779 of the people surveyed in 2013 had also been surveyed in 2010. Table 1.2 presents the number of people surveyed in the study households in 2010 and 2013 and the coverage reached on the person's panel according to kinship and study condition.

At the same time, changes in the households due to the arrival of new spouses, of children who previously did not live with their parents, the birth of new family members, etc., led to 6,143 interviews with new participants in 2013. Of these, 3,228 will form part of the future follow-up study due to their age and kinship.



→ 2010. Inés Álvarez Moreno's (left) home is the meeting place for the family. She has a TV on which the children watch the soap operas.

In 2013, we also surveyed the community leaders in order to understand aspects relating to the neighborhoods and areas where the households are located. The community surveys were applied if and when there were at least five households belonging to the community. This is why a large number of households that migrated to *barrios* and settlements that were not part of the sample in 2010, were also not part of the community survey in 2013. In 2013, a total of 547 urban community surveys and 231 rural community surveys were applied.

1.2.3. THE HOUSEHOLDS' PANEL

These results allowed for the construction of a panel of households, which includes information on each one of the households for 2010 and 2013. The urban panel, including households that remained in the urban area in both waves of the ELCA, is made up of 4,636 households with national representation for strata one to four and for five regions (Atlantic, Pacific⁸, Central, Eastern and Bogotá). The rural panel includes 4,305 rural households, which represent four rural micro-regions (Mid-Atlantic, Coffee Region, Cundiboyacá, Center-East). Similarly, more than three hundred surveyed households migrated between areas, principally from rural areas to urban ones.

TABLE 1.2.

COVERAGE OF SURVEYED PEOPLE IN STUDIED HOUSEHOLDS BY SAMPLE AREAS.

	Total	Urban	Rural Micro-regions
1. Total people 2010	43.125	22.179	20.946
1.1 Total people in the study	25.228	12.852	12.376
1.1.1 Household head and spouse	16.913	8.793	8.120
1.1.2 Children	8.315	4.059	4.256
1.2 Others	17.897	9.327	8.570
2. Total people surveyed in 2013	39.922	20.582	19.340
2.1 Those who participated in 2010	33.779	17.025	16.754
2.1.1 People in the study	22.016	11.012	11.004
2.1.1.1 Household head and spouse	14.604	7.378	7.226
2.1.1.2 Children	7.412	3.634	3.778
2.1.2 Other people	11.763	6.013	5.750
2.2 New	6.143	3.557	2.586
Coverage			
Surveys 2013/ Surveys 2010 [%]	93	93	92
People surveyed in 2010 and 2013 [%]	78	77	80
People in the follow-up study surveyed in 2010 and 2013 [%]	87	86	89
Household head and spouses surveyed in 2010 and 2013 [%]	86	84	89
Children in the follow-up study surveyed in 2010 and 2013 [%]	89	90	89
People who are not part of the follow-up study surveyed in 2010 and 2013 [%]	66	64	67
3. Total surveyed in 2013	39.922	20.582	19.340
People in the follow-up study for 2016	26.166	13.241	12.925

Source: Authors' calculations based on ELCA 2010 and 2013

The coverage is calculated based on the sample to which each person belongs (the area in which they were surveyed in 2010).

8. The ELCA sample was designed to be independently representative of the Pacific Region and of the Pacific basin. Due to budget restraints, the information for the Pacific basin has not yet been gathered.

It is the first time that this sort of longitudinal information that sheds light on the evolution of households and of the people in them is available in Colombia. The type of transversal surveys which have existed up until now, made it possible to comprehensively analyze the characteristics of independent samples at two points in time. This type of analysis can be compared with the kind of information provided by taking two photos of the same place at two different times. The place may be the same but the people or conditions are not necessarily comparable. The panel of ELCA 2010-2013 households and their subsequent analyses can resemble—in accordance with the previous analogy—a video camera following people over time, revealing their 'before and after' conditions. For example, surveys that measure the state of the labor market are common and frequent. At any point in time, it is possible to find out how many people are employed, unemployed or inactive and to find information regarding the quality of jobs in a particular place. Regardless of how frequent and detailed these surveys may be, this is the most photos can offer. The ELCA video, on the other hand, shows people's involvement in the job market, making it possible, for example, to quickly find answers to questions such as: what percentage of people in informal occupations were able to join the formal job market? How many people who were employed in stable jobs lost their employment? How many people who were inactive in the previous period decided to look for work and, of these, how many found employment, and what type, etc.? More in-



→ Only a facial paralysis could break Saúl Castellanos' routine with Lucrecia Martínez over the past three years. Life is slow in Puente Nacional.

depth studies provide answers for other questions related to the determinants of these transitions or, for example, to the impact of certain policies on them, among others.

The example of the labor market is just one of a variety of topics and questions that can be answered based on the information brought to light by ELCA. This information allows an in-depth examination of many socio-economic topics in a way that makes it possible to study the dynamics based on the construction of these videos. This book presents the first analytical approximations of ELCA 2010-2013.

Each of the chapters offers different examples of the way in which longitudinal information allows for a clearer and more unique understanding of the dynamics surrounding households in Colombia.⁹ Each focuses on specific topics—among the many that are yet to be explored—and encourages more in-depth analysis through future research.

In Chapter 2, Carmen Elisa Flórez and Néstor Muñoz carry out a detailed study of the dynamics surrounding Colombian households, the way their structure and composition has changed, and the patterns of migration, among others.

9. The analyses are unique to each author but have some common elements. In particular, when aspects of households are studied in accordance with socio-economic levels, an index of wealth is used which was created from *Colombia in Motion 2010*, which includes indicators related to quality of life, access to infrastructure and public services and in reference to property, as well as the use of assets and durable goods.

Furthermore, they present the characteristics of the households and how they change, for example, from male household head to female household head, or how the nuclear families are extended to include members of other generations. In Chapter 3, we explore an aspect of ELCA which can only be looked at in-depth using longitudinal data: vulnerability and the effects of destabilizing events that affected households between 2010 and 2013. Ximena Cadena and Claudia Quintero study how the conditions of the households prior to experiencing a shock can affect their vulnerability, and their mechanisms to mitigate the negative effects on their well-being. They also present results on natural disasters and the effects of the winter spell. The first ELCA wave was carried out during the first semester of 2010. Subsequently, at the end of 2010, and once again in 2011-2012, Colombia experienced the effects of La Niña with great intensity. The strong rains caused floods and damage to houses and infrastructure of a large part of the country, and a number of municipalities in the sample —such as Gramalote, whose populations is still in the process of being relocated— were devastated. Other municipalities were hardly affected. In 2013, questions were included to identify the households that were affected by the winter spell. The disturbances caused by natural disasters were investigated, including the effects on households in the communities and on individual people (migration, labor market, education, among others). The survey also includes questions about aid and access to programs that were implemented as a result of the effects of the winter spell.¹⁰

10. Ana María Ibáñez led the design process of the sections related to the winter spell.

11. The design of the module on youths was directed by Ximena Cadena. We would like to thank the generous support of experts at Universidad de los Andes: Enrique Chauz, Elvia Vargas, Sandra García, and to Carolina Lopera at ICFES.

In Chapter 4, Adriana Camacho and Roman D. Zárate analyze poverty in Colombia. The ELCA can use different means to measure poverty and the results can be used to report official data and other ways of understanding the level of life. Longitudinal data allows us, for the first time, to study the transitions of poverty and identify the households that are able to find a way out of poverty and those who, on the contrary, found their standard of living to be decreasing to the point that they fell into poverty over the three years. In Chapter 5, Catherine Rodríguez uses the study's panel of data on the children to make a "video" that allows us to study their dynamics as they grow and begin to face the risks of falling behind and dropping out of school. Given that one of the purposes of the ELCA is to accompany the growing-up process of the children that were under ten in 2010; for 2013, a questionnaire was designed for youths between the ages of ten and thirteen. This refers to those children included in the study who were under ten in 2010 but who had turned 10 or older by 2013 and had begun to face situations that are interesting to follow. The questionnaire includes information on gangs, alcohol and cigarette consumption, use of time, attitudes, behaviors and life plans, among others.¹¹ Chapter 5 presents some of these results, which will be of use for future "videos" that can be extended by using the information resulting from the application of the survey as these youths transition from adolescence to adulthood.



→ The Ballesteros Torres, Felipe, Alicia and Octavio earn their living from farming and agriculture in Susa (Cundinamarca). Above, in 2010. Below, three years later.

To study certain cultural and attitudinal aspects of the Colombians, a module on behavior and politics was created and applied to a random selection of heads of households or spouses. The questions used were related to behaviors and interest in elections, identification of political parties and candidates and their level of interest in politics, use of information sources regarding the situation of the country, etc. Also included were questions regarding the participants' positions and attitudes insofar as social coexistence; for example, related to reciprocity, the use of violence, application of rules, corruption, etc.¹² In Chapter 6, Leopoldo Fergusson and Juan Felipe Riaño exploit the richness of this ELCA module to study the way in which Colombians relate to politics and present some hypotheses regarding the factors that affect clientelism resulting from vote buying. In Chapter 7, Juan Camilo Cárdenas and Paula Sarmiento take an in-depth look at the relationships between Colombians' attitudes insofar as reciprocity and trust, and their social behaviors in terms of associating and helping others or contributing to collective goods. They also study the evolution of such behavior in ELCA households over the three years.

The first ELCA wave included a comprehensive component on lands and production for the rural section. This has become a source of extremely valuable information when it comes to understanding the conditions of land ownership and the agricultural and livestock activities in the four ELCA micro-regions. For 2013, a great wealth of infor-



→ Teresa Narváez and her husband, José Quevedo, of Córdoba (Quindío) raised three daughters. Now they help them raise their grandchildren.

mation on lands and production was maintained and new strategies were implemented to gather information on income and the costs associated with production activities. Information was also gathered on the rural inhabitants' different forms of employment or moneymaking activities, and the module on the use of time as a complement to the questions of rural employment was maintained. Said module had proven to be very effective in the study of employment and other rural activities in 2010. In Chapter 8, Ana María Ibáñez and Laura Montenegro analyze the evolution of living condi-



tions in the ELCA micro-regions and relate them to the dynamics of land ownership, state programs, disturbances and access to credit in the rural areas, as well as their effects on the well-being of the households. Finally, in Chapter 9, Ximena Peña and Camilo Uribe study the changes in men and women's use of time in the rural households between 2010 and 2013. They explore the dynamics of time dedicated to paid labor —both agricultural and non-agricultural— and their implications on their earning potentials. They also analyzed the trends in time spent taking care of the household

12. The design of this module was led by Leopoldo Fergusson and Ximena Cadena. The full ELCA academic committee contributed but especially Raquel Bernal, Adriana Camacho and Juan Camilo Cárdenas as well as professor Marcela Eslava and all those from the School of Economics at Universidad de los Andes. We would also like to express gratitude for the generous comments from the experts consulted here such as professors Felipe Botero, Miguel García and Juan Carlos Rodríguez of the Department of Political Science at Universidad de los Andes, Chap Lawson of the Massachusetts Institute of Technology (MIT), Gabe Lez of the University of California at Berkeley, Gianmarco Leon from Universidad Pompeu Fabra and Jim Snyder of Harvard University.

For 2013, a great wealth of information on lands and production was maintained and new strategies were implemented to gather information on income and the costs associated with production activities.

and free time distribution by gender over the three years.

In addition to these topics that are innovative both in terms of their content and of the possibility to dynamically study them through the very households and people involved, the ELCA is a unique source for the study of children's development. During the first wave, anthropometric tests on children under the age of five and a test on verbal abilities for children between three and nine years of age were carried out. Furthermore, a very detailed questionnaire was applied regarding childcare, the activities undertaken, vaccinations, and their state of health, among others. In 2013, the National Planning De-

partment (DNP) and the Éxito Foundation financed an ELCA component on early childhood in order to use the information as a diagnostic instrument on the situation of the country's children and, in turn, aid the design and implementation of the national support strategy called "De Cero a Siempre" (From Zero to Always). Thus, the module on children was strengthened by including questions on the consumption of different types of foods, interaction with parents, discipline, access to services for pregnancy and newborn infants, among others. A socio-emotional test was also included for children (Ages and Stages, ASQ:SE). Finally, some questions were included on pregnancy in the case of mothers of two year-old children and pregnant women.¹³

ELCA is also a source of information on the demand for financial services, which up until now have not existed in Colombia. Usually, the information regarding access to and use of financial services is taken from bank databases or through surveys applied to bank customers. Before ELCA, there was no source of information from the demand perspective to understand the access to and use of formal and informal financial services at national and regional levels with a wide representation of the population. ELCA includes detailed information about all household-related debts and credits regarding sources of funds, amounts, periods, rates, balances, etc. The savings accounts of the household heads and their spouses were also studied as well as their use of insurance.¹⁴

The CEDE and the School of Economics at Universidad de los Andes are committed to knowledge building in terms of the dynamics of Colombian households which can, in turn, lead to the design and implementation of better policies to improve well-being nationwide. ELCA has proven to be a suitable instrument for studying many of the relevant issues involved in reaching this goal. In this book, we present some simple examples, but more importantly, we hope it serves as a base for academics, policy-makers and all interested parties to deepen their analysis of the national reality in such a way as to achieve better living conditions for all Colombians.

13. Raquel Bernal participated in the strengthening process of the module. We would like to acknowledge the support of the Directorate for the Evaluation of Public Policy (DNP) and the Inter-sectorial Commission on Early Childhood. The Éxito Foundation also financed the publication of a book on the evolution of children in Colombia through the ELCA.

14. Asobancaria contributed to the realization of a book on the evolution of financial services in Colombia, 2010-2013 through the ELCA.