













Methodology

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7.1. General Overview



This research study is a hybrid type IV study combining quantitative analysis -using data from primary and secondary sources-, along with an in-depth examination of the subjective perceptions and unique conditions of older persons based on qualitative information collected in focus groups.

The project consists of two stages. In the first stage, a sequential explanatory methodology was employed, where preliminary quantitative results were obtained to inform the development of qualitative research instruments. The second stage involved developing the quantitative and qualitative components simultaneously, aiming to triangulate the results and gain a comprehensive understanding of the situation of older persons. This comprehensive understanding was then used to generate recommendations for public policies.

Additionally, the second stage included a quasi-experiment to investigate changes in the perceptions of ageing and old age.

7.2.Literature Review



The literature review for this project involved identifying relevant sources by designing systematic search strategies. An objective approach was used (Hausner, E., et al., 2016) to identify the structural components of the research questions addressed and the thesaurus terms from the Virtual Health Library (DeCs), MEDLINE (MeSH), EMBASE (EMTREE), and the American Psychological Association (Thesaurus of Psychological Index Terms®) were selected accordingly.

Complementary to the selection of terms, commonly used terms were identified in the abstracts of previously known and categorized references that were considered relevant by the researchers. This process involved both manual review and automated processing using the MeSH on Demand tool (U.S. National Library of Medicine, 2021). Additional terms were also identified by conducting test search strings through the PubMed interface using the PubMed PubReMiner tool (Koster, J., 2014), and through feedback from researchers and project staff.

A repository of search strings linked to relevant thematic axes was generated. This dynamic strategy allowed for optimized search times, updated results, and exploring information sources as the fieldwork progressed. The combined search strings were executed in databases such as MEDLINE (PubMed), PsycArticles (PsycNet), EMBASE (EMBASE), EconLit (Ovid), and LILACS (LILACS). No language restrictions were applied, and the results were limited to the past five years. No search filters were used. A professional with experience in systematic literature search conducted all the searches. The results were then screened bu the literature review team and selected based on their relevance in meeting the project's objectives.

7.3. Quantitative Methodology



Misión Colombia Envejece - Una
Investigación Viva employs quantitative
methodologies for collecting and organizing
data from selected information sources.
These methodologies addressed the
research inquiries outlined in each chapter,
considering insights from the literature review
and the latest advancements in the field.

7.3.1. Sample Selection and Size

Census stratified probability samples of Colombia's population using cluster analysis.

7.3.2.Inclusion and Exclusion Criteria

Population living in Colombia.

7.3.3. Data Processing

The information collected and the databases were analyzed using Stata 17 software to conduct descriptive and comparative analyses of sociodemographic data.

7.3.4. Types of Quantitative Procedures

In particular, the quantitative procedures were descriptive and correlative. Descriptive procedures were used to analyze and synthesize the variables of interest, calculating measures such as central tendency, dispersion, proportions, and frequencies. Correlational procedures were used to examine statistical relationships between two or more variables, identify trends, discriminate patterns in the data, and explore the connections relevant to the project. Furthermore, cross-sectional linear regression, logistic regression, and fixed

effects regression for panel data were conducted in the chapters on Physical and Mental Health, and Social Participation and Well-being. These regressions aimed to characterize the relationships and covariances between selected independent and dependent variables.

The descriptive and correlational procedures were applied directly and indirectly. For direct application, researchers processed data obtained directly from primary sources of statistical information. In the case of anonymized surveys with complex sample designs involving probabilistic, multistage, and stratified sampling, as well as simple random selection of elements within each stratum, the descriptive and correlational analyses incorporated the appropriate expansion factors. For household surveys conducted by the National Administrative Department of Statistics (DANE), researchers utilized calibrated expansion factors derived from the latest National Population and Housing Census data.

Indirect application involved interpreting and analyzing descriptive and correlational data from publicly available secondary sources, including scientific articles published in indexed journals and official publications such as bulletins and reports from national and international governmental and non-governmental organizations.

7.3.5. Information Sources

A combination of primary and secondary sources of information was utilized in this research. The primary sources encompassed censuses, samples, administrative records, the System of

National Accounts, and international databases. Secondary sources included studies and publications, which were appropriately cited within each chapter.

In the following chart is a brief description of each of the primary sources used:

Table 1. Sources of Primary Information

Туре	Name	Purpose	Data producing entity	Years
Census	National Population and Housing Census 2018 (CNPV 2018)	Characterize the population, households, and housing in order to inform planning, management, and public policy decisions at national, territorial, and local levels.	National Administrative Department of Statistics (DANE)	2018
	Great Integrated Household Survey (GEIH)	Provide information on labor market indicators, such as employment rate, informality, unemployment and underemployment rates, and income from labor and other sources, among others.	National Administrative Department of Statistics (DANE)	2019-2021
Sample	National Quality of Life Survey (ECNV)	Collect information on the living conditions of Colombians. Its representativeness extends to the nation's 33 departments, including Bogotá as the Capital District.	National Administrative Department of Statistics (DANE)	2015-2020
	National Time Use Survey (ENUT)	Provide strategic information on the time spent by the population aged 10 years and older on work and personal activities.	National Administrative Department of Statistics (DANE)	2016-2017; 2020-2021
	National Survey of Health, Well- Being and Ageing (SABE)	Generate information on health conditions, use of health services, behaviors and practices of older adults, physical environment, work conditions and income generation.	Ministry of Health and Social Protection	2015

Туре	Name	Purpose	Data producing entity	Years
	National Demographic and Health Survey (ENDS)	Establish demographic changes in the Colombian population over a five-year period (2010-2015) and gather updated information on the knowledge, attitudes, and practices regarding sexual and reproductive health among women and men of childbearing age.	Ministry of Health and Social Protection– Profamilia	1990, 2000, 2010, 2015
	Microbusiness Survey (EMICRON)	Provide information on sales, size, location, age, and other characteristics to quantify and characterize economic units with up to 10 people employed in the economic sectors.	National Administrative Department of Statistics (DANE)	2020
Sample	World Survey on Values in Colombia (EMV-C)	Provide relevant information on three fundamental components of cultural change: the values, beliefs, and motivations of a representative sample of citizens.	Antioquia Family Compensation Fund - Comfama	1995-2019
	Colombia Values in Crisis Survey (VEC)	Understand the current challenges and opportunities in Colombian regions in the context of the COVID-19 pandemic.	Family Compensation Fund of Antioquia - Comfama	2020
	Social Pulse Survey	Produce information related to consumer confidence, subjective well-being, household support networks, the well-being of households with children and adolescents, and knowledge of and access to national and local policies supporting households.	National Administrative Department of Statistics (DANE)	2020-2021
Administrative records	Integrated System of Information for Social Protection (SISPRO)	Provide epidemiological and statistical information and analysis tools to facilitate and target management and decision-making. SISPRO has four components: 1. Health. 2. Pensions. 3. Occupational Risks. 4. Social Promotion.	Ministry of Health and Social Protection	2015-2019
. 555. 45	Voluntary Pension Funds	Provide information on the coverage of the contributory pension systems, characteristics of the population covered and the amount of pension benefits.	Financial Superintendency of Colombia	2015-2021

Туре	Name	Purpose	Data producing entity	Years
	Senior Colombia (Colombia Mayor) and BEPS	Provide information on the characteristics of the population covered by both programs, trends in BEPS savings and the amount of the Senior Colombia (Colombia Mayor) subsidy.	Department for Social Prosperity (DPS) and Colpensiones	2020
Administrative records	Single Affiliates Database (BDUA)	Provide information of the fully identified affiliates of the different regimes of the General System of Social Security in Health (Contributive Regime, Subsidized Regime, Exceptional and Special Regimes and Voluntary Health Plan providers).	Administrator of Resources of the General System of Social Security in Health (ADRES)	2015-2019
System of National Accounts	National Transfer Accounts (CNT)	Measure the generational economy by examining economic indicators through an age-based perspective. This is crucial in a rapidly evolving population with shifting age demographics.	National Administrative Department of Statistics (DANE)	2021
Other databases	Global Entrepreneurship Monitor (GEM)	Provide information to understand the role of entrepreneurial activity in countries' economic growth and competitiveness from the perspective of two agents: new and established firms.	Colombia GEM Consortium: Universidad del Norte, Universidad Icesi, Universidad de los Andes, Pontificia Universidad Javeriana in Cali. These are the current members of GEM Colombia: Universidad Icesi, Pontificia Universidad Javeriana de Cali, Universidad del Norte, Institución Universitaria Americana, Universidad EAN and iNNNpulsa Colombia.	2017

7.4. Qualitative Methodology



Oualitative research was selected as one of the study methods due to its unique characteristics that enable understanding people's perceptions of old age and their experiences during the SARS-CoV-2 pandemic. Qualitative research offers flexibility, allowing the researchers to adapt the methodology to the specific context being studied. It allows for exploring different interpretations of the social world, providing insights into how it is understood, experienced, and shaped by individuals. The analysis and interpretation of findings in qualitative research are grounded in the specific details and context from which the information emerges (Vasilachis de Gialdino, 2006).

The research employed two main strategies: focus groups and in-depth interviews. These complementary approaches, combined with the findings from quantitative analysis, enhanced the validity and reliability of the research. The integration of these methods strengthened the conclusions drawn from the study, enabling the formulation of policy recommendations to improve the current and future conditions for older people in the country.

The following methodological strategy

was implemented to analyze the qualitative information collected in the field:

7.4.1. Paradigm

This research study adopts a mixed paradigm, integrating critical theory and constructivism perspectives. The critical theory allows for examining power dynamics within vulnerable populations, such as the older population. At the same time, constructivism acknowledges that reality is socially constructed, with individuals shaping their norms and values.

7.4.2. Theoretical Approach

The research adopts a theoretical approach, utilizing interpretative phenomenology to explore the meanings that participants ascribe to the growing old process and their experience of old age. In addition, neurolinguistic techniques are employed during data collection, incorporating the framework of ethnomethodology to understand the interactions of social life within specific contextual settings.

Interpretative phenomenology was considered because it aims to study the phenomenon on its own terms, while critically reflecting on methodological strategies, personal knowledge, and the social context. This approach allows for a deeper understanding of the phenomenon by considering theoretical and perceptual

aspects that influence the assessment of data and the interpretation of the phenomenon.

The conceptual framework of interpretative phenomenology encompasses several elements that facilitate the exploration of the phenomenon, particularly regarding the perceptions, expectations, and understanding of well-being among the older population in post-pandemic and sociopolitical contexts in Colombia. Some notable elements include the following identified by Sherryl Conroy, as referenced by Gómez, A (2010):

- Understanding participants' world through significant immersion in their world.
- Establishing shared understanding between the researcher and the participants.
- Embracing the hermeneutic circle through an iterative process of inquiry.
- Uncovering hidden narratives and interpreting them based on the collective understanding of the participants and the researcher.
- Maintaining a constant questioning attitude in the search for different, inaccurate, incomplete or more deep interpretations.
- Navigating in a circular progression between different aspects, such as the parts and the whole, the visible and the concealed, and the perspectives of

- participants and researchers.
- Actively involving participants in the research process, both in its implementation and interpretation.
- Encouraging self-reflective practice among participants through their engagement in the research process and presentation of the researchers' interpretations.
- Treating each participant's account as an interpretation influenced by their background.
- Considering that each participant's account is significant for him or her.
- Recognizing the meaningfulness of each account as having its own internal logic and significance, regardless of whether it emerges consciously or unconsciously.
- Accessing and making explicit participants' understanding or interpretation by respecting their unique modes of existence and engagement with the world.

On the other hand, as previously noted, ethnomethodology serves to understand how social order is established through social interaction. It provides a framework for capturing the dynamics of language and gestures when contextual situations provoke changes. As highlighted by Urbano Gil (Urbano Gil, 2007):

"Language plays a crucial role in the ethnomethodological approach, serving a fundamental purpose.

By focusing on facts and the lived experiences of individuals, the ethnomethodological researcher prioritizes giving voice to the actor and the contextual circumstances surrounding their actions. This emphasis ensures the authenticity of the facts, oral expression, and the unique style in which they emerge. Consequently, in the ethnomethodological exploration of reality, it is essential to consider all the elements and circumstances in which gestures and actions take place. Through abundant words, the actor endeavors to personalize their actions, allowing listeners to discern the specific gestures or practices performed within distinctive contexts by particular individuals (Urbano Gil, p. 90).

7.4.3. Field Collection

The field collection phase took place from February 14 to July 31, 2022. During this period, group sessions were conducted using a non-directive methodology that encouraged participants to freely express their concepts and attitudes on the topics of interest. Experienced researchers were responsible for moderating the discussions and ensuring the participants remained focused on the predetermined objectives (see Annex 3).

7.4.4.Use of Computer Programs for Qualitative Analysis

The analysis of the qualitative results aimed to identify the various sets of meanings and the relationships established within them. This involved considering both the explicit content from the transcribed texts and the implicit information observed in the authorized video recordings and field diaries. NVivo software (QSR International Pty Ltd, 2014) was utilized for this analysis. The analysis focused on the six dimensions examined in this study (see the dictionary of categories in Annex 4).

7.4.5. Type of Sampling and Sampling Strategy

The sampling method employed in this study is Theoretical Sampling, which is based on selecting participants according to their theoretical relevance to the phenomenon being investigated. This approach ensures that the selected individuals can provide valuable information in line with the study's theoretical framework and position.

The sample was collected from seven municipalities, encompassing both urban and rural areas. Colombia Mayor (Senior Colombia) databases and community centers were consulted to invite participants and the snowball technique was used to collect the sample. The sampling process

was sequential and cumulative, meaning that units of analysis were continuously identified and selected. Simultaneously, the analysis of the collected information proceeded iteratively, allowing for the sufficiency of data to guide the process.

7.4.6. Selection Criteria

7.4.6.1. Focus Groups

Specific inclusion and exclusion criteria were established to target participants and achieve the project's objectives effectively. The inclusion criteria allowed individuals over 18 years old to participate, with particular emphasis on including individuals older than 60 years old. On the other hand, individuals with cognitive impairments classified as level 3 in the Global Deterioration Scale (GDS3) and/ or suffering from psychosis-type mental illnesses were excluded. Random selection was employed to ensure that participants did not know each other, and their group characteristics, such as sex, socioeconomic level, age, and Afro-Colombian background, were taken into account. However, it is important to note that the socioeconomic level was not a criterion for targeting participants in the focus groups held in Quibdó and Mitú. In the Capital District, contact was made via Zoom video chat software, while in other cities, contact was made in person with the assistance

of local managers. To target the LGBTIQ+ population, collaboration was established with the Center for Comprehensive Attention to Sexual and Gender Diversity (CAIDSF) and the respective liaisons in each selected municipality.

Each focus group session lasted approximately 90 minutes and included iterative questioning until discourse saturation was reached, indicated by the redundancy of responses. After completing the focus group questions and reaching saturation, a gamification cuasiexperiment was conducted to highlight the most relevant findings. Neuro-linguistic adjustments were made to key phrases through a Socratic dialogue exercise aimed at generating perceptual modifications, which would later be evaluated during the data analysis phase. The focus groups were facilitated by two trained researchers who had rehearsed to ensure effective information collection. Audio and/or video recordings were made using electronic devices, and the audio recordings were subsequently transcribed by a trained professional, including capturing silences and changes in tone of voice.

Participants' identities were protected throughout the focus group sessions, and their involvement was entirely voluntary. Participants received an informed consent form to read and sign to ensure compliance (see Annex 1). Additionally,

at the beginning of each focus group, characterization questions were asked to gather relevant information about the interviewees.

7.4.6.2. In-depth Interviews

The selection of participants for the in-depth interviews focused on decision-makers at the state level and thematic experts. An evocative instrument was used for this purpose, consisting of three initial questions tailored to each expert's specific approach, aiming to explore their perceptions regarding the situation of older persons in Colombia during the pandemic. These initial questions paved the way for additional inquiries and probing by the interviewer, enabling a more profound exploration of the subject matter.

The majority of the interviews were conducted using the Zoom video chat software. At the outset of each interview, the expert was requested to complete an informed consent form either online or, in some instances, on paper (see Annex 2). At the end of each interview, participants were thanked for their contribution and invited to stay informed about future findings through the research dissemination venues. The interviews were conducted by a trained researcher who had rehearsed to ensure an adequate data collection process. Electronic devices were used to record the interviews, and a trained professional later transcribed

the audio recordings. The transcription captured not only the spoken words but also silences and changes in voice tones, among other details. Among the individuals interviewed were Elisa Dulcey Ruiz, Carlos Alberto Cano, Diana Matallana, Carmen Curcio, Cecilia López Montaño, Mireya González, Moisés Wasserman, Rudolf Hommes, and Magda Camelo.

7.4.7. Categories Saturation

Qualitative studies often grapple with questions about how much information can be collected and analyzed. How many interviews or focus groups should be conducted? How much data should be coded? Guest, Namey, and Chen (2020) note that earlier studies, such as the one conducted by Guest, Bunce, and Johnson (2006), indicate that 12 interviews could cover 92% of the proposed analysis categories. While the insights from Guest, Bunce, and Johnson's research remain valuable in many investigations, ongoing debates surrounding category saturation need to be explored to ensure the optimal study of data.

The sections developed through interviews and focus groups in Misión Colombia Envejece - Una Investigación Viva align with these methodological discussions. They acknowledge that the grounded theory is referenced when theoretical saturation is reached, i.e., no

new information emerges regarding the analysis categories, and the theoretical model becomes stable. However, it is also important to consider data saturation, where the data yield little or no new information that addresses the research question. Metaanalytical approaches can be employed to evaluate data saturation, considering the prevalence of the topic in the population, the desired instances of topic occurrence, and the desired statistical power of the study. However, this approach faces three limitations during the operationalization process: lack of compatibility between metrics, reliance on theoretical probability or random sampling, and evaluating saturation once the coding is complete. For these reasons, Misión Colombia Envejece - Una Investigación Viva opted for the thematic saturation model, which is further explained below.

7.4.8. Thematic Saturation

According to Guest, Namey, and Chen (2020), the bootstrapping analysis is a precise method to quantify qualitative saturation from participants' perspectives. This approach involves dividing the number of themes identified by the researchers by the new themes expressed by the participants. When the result of this division is equal to or less than 5, it indicates saturation based on statistical significance, which the authors refer to

as the "information threshold." By using this method, Guest, Namey, and Chen (2020) aim to quantify the saturation of information, which was previously assessed subjectively by researchers.

While Guest, Namey, and Chen (2020) provide valuable insights for determining the required number of interviews and focus groups, other studies, such as Lowe et al. (2018), use statistical models to assess saturation. However, the authors also acknowledge certain limitations that need to be considered. One of these limitations is related to the different perspectives adopted in studies, which influence the approach to achieving saturation. Inductive studies, for instance, aim to attain saturation by exploring the relationships among the categories derived from the collected data, whereas deductive studies rely on pre-established theoretical categories that serve as constraints for information. Consequently, Guest, Namey, and Chen (2020) emphasize that the same saturation method should not be used in all data analysis.

Taking into account the limitations highlighted by the authors mentioned above, it is essential to consider that there are pre-existing categories, such as health and caregiving, in the context of Misión Colombia Envejece - Una Investigación Viva. These categories were formulated before the

qualitative data collection process, indicating a deductive analysis approach as the basis for assessing information saturation. Therefore, it is important to incorporate the insights of Saunders et al. (2018) into the mission's methodology. Saunders et al. propose four types of saturation in qualitative research, which vary depending on the type of study being conducted. These include theoretical saturation, which signifies the point at which data analysis should cease due to divergences from central categories; inductive saturation, which reveals new codes and their relationships; a priori saturation, in which researchers select important concepts; and data saturation, which is determined by the redundancy of the obtained analyses.

Based on the various saturation approaches discussed by Saunders et al. (2018), this research proposes conducting theoretical saturation based on the concept trees developed in each chapter of Misión Colombia Envejece - Una Investigación **Viva**. In Chapter 1, for instance, saturation will be achieved when sufficient information is obtained regarding demographic transition, ageing, and self-perception, the primary concepts explored in this section. Similarly, in Chapter 4, theoretical saturation will be established based on terms such as social relationships, formal care, informal care, and Basic Activities of Daily Living (BADL). This process will be repeated

for each subsequent section, employing techniques such as word frequencies and analyst judgment. Thus, saturation may occur when data is obtained from six to seven sources of information per chapter, including interviews, focus groups, and field diaries, as suggested by previously mentioned authors (Guest, Namey, and Chen, 2020; Saunders et al., 2018).

7.4.9. Analysis Phases

The analysis process is divided into several phases, each with specific objectives. While these phases are presented in a particular order, it should be noted that they may overlap and involve iterative exercises (Mieles, Tonon & Alvarado, 2012).

7.4.9.1. Becoming Familiar with the Data - Information-

This phase involves transcribing, reading, and rereading the material, and making annotations about general ideas. During this initial phase, a thorough reading is conducted to understand the structures and meanings present in the discourse.

7.4.9.2. Generating Initial Categories or Codes

In this phase, the information is categorized into groups with similar meanings or codes. The guidelines proposed by Braun and Clarke (2006), as referenced by Mieles, Tonon and Alvarado (2012), are

taken into consideration:

- Coding as many patterns in the information as possible.
- Ensuring that each code incorporates enough information to retain the contextual perspective.
- Recognizing that the same data extract can be coded multiple times.

The coding process is deductive and theoretical, as it starts with initial categories derived from theory and the research objectives.

7.4.9.3. Searching for Themes

A theme refers to information pertinent to the research question that describes, organizes, and interprets the phenomenon at stake.

7.4.9.4. Reviewing Themes

New themes are identified and recodified. It is important to ensure they are appropriately represented without excessive emphasis.

7.4.9.5. Defining and Naming Themes

The themes and their essence are defined in this phase, and hierarchies are developed for each theme.

7.4.9.6. Producing the Final Report

Once the research team has comprehended and interpreted the information, they articulate the findings

to build a well-supported argument.

These findings are then translated into a comprehensive and easily understandable narrative.

Figure 1. Analysis Process



Source: Prepared by the authors.

7.4.9.7. Analysis Process

The principal researchers and the research team conducted the analysis process by triangulating the data. This approach aimed to overcome the limitations of a single researcher's perspective.

Specifically, two researchers independently analyzed the information, and their findings were subsequently triangulated.

7.4.10. Strategies Description

7.4.10.1. Focus Groups

Focus groups were strategically conducted in predefined areas from the early stages of the research. The data collection instrument, known as a focal group instrument, was designed to concentrate solely on the project's objective. The aim was to establish trust with the participants and gather valuable insights into their perspectives on old age and ageing. This approach created a space for exchanging ideas, facilitating diverse meanings, symbols, and opinions surrounding the topic.

Small groups of individuals, accompanied by a moderator and a co-moderator, were invited to guide the discussions. The moderator's role was to steer the participants' opinions toward the focal topic, ensuring that relevant information for the research could be extracted. The co-moderator

provided support by taking notes and jointly assessing the level of discourse saturation. Group sizes were determined to encourage participant interaction and a sense of freedom to express their perceptions, leading to the emergence of actions, emotions, beliefs, and reactions that may not have surfaced through other methods (Escobar & Bonilla-Jiménez, 2009).

In this research, focus groups served as a valuable tool for comprehending the experiences, challenges, perceptions, and expectations of older adults concerning the study's key dimensions. These focus groups were conducted across four regions of Colombia. Some groups were segregated by gender to facilitate interaction and identify potential differences between men and women, while mixed-gender groups were also formed. Additionally, the groups were organized based on age groups and socioeconomic stratification.

Table 2. Distribution of Focus Groups by Municipality

Type of Strategy	Collection Strategy	Gender	Age Groups	Socioeconomic level	Geographic location
	Municipality	Mixed gender	18 to 40 years old	3 and 4	Urban
		Mixed gender	41 to 59 years old	1 and 2	Urban
		Mixed gender	41 to 59 years old	3 and 4	Urban
		Men	Older than 60	1 and 2	Urban
Focus Groups		Men	Older than 60	3 and 4	Urban
		Women	Older than 60	1 and 2	Urban
		Women	Older than 60	3 and 4	Urban
		Mixed gender	Intergenerational	1 and 2	Urban
		Mixed gender	Afro-descendants	3 and 4	Urban

Source: Prepared by the authors

7.4.10.2. Defining the Locations

When determining the research locations, the selection process involved considering the 23 major cities in the country according to DANE classification. Each city was characterized using data from the 2019 records of the Multidimensional Index of Social and Productive Inclusion of the Fundación Saldarriaga Concha. Additionally, projected values for 2035 were taken into account for factors such as the

dependency rate, demographic dependency rate, ageing index, and estimated average age. Furthermore, the selection process also considered whether the cities had participated in the Misión Colombia Envejece 2015.

To weigh these factors, the following formula was utilized:

30% Double exclusion + 20% Dependency rate + 20% Demographic dependency rate of population over 65 + 20% Ageing index + 10%

participation in 2015 Mission Colombia: An Ageing Society.

Based on the results obtained, the study selected the seven cities with the highest weighted values, namely Bogota, Medellin, Manizales, Pereira, Armenia, and Pasto. Since Medellín, Manizales, Pereira, and Armenia are geographically close, the decision was made to choose one of these cities. Taking logistical factors into consideration, Manizales was ultimately selected.

The remaining city selections were guided by a focus on geographical and cultural diversity. The objective was to capture the wide range of processes related to old age and ageing throughout the country, while also including cities with a high projection of the ageing index. With these criteria in mind, along with considerations of logistical feasibility and statistical representativeness in household surveys, the study chose the cities of Quibdó, Barranquilla, Bogotá, Tunja, Guachucal, Manizales, and Mitú to participate in the study.

7.4.10.3. In-depth Interviews

For the in-depth interviews, the research team selected two experts for each topic. These experts were provided with predetermined questions to answer, aiming to gather comprehensive information regarding their opinions, perceptions,

and experiences. In addition to experts, government officials and members of the local population were interviewed to gain insights into the operation and context of programs targeted toward older persons.

7.5. A Gamified Social Quasi-Experiment



Social quasi-experiments provide valuable insights into intra- and inter-individual change processes, specifically in a crosssectional context (Cabré, 2012). This allows us to explore cognition surrounding the ageing process and old age, encompassing thoughts, feelings, emotions, and behaviors towards others and influenced by empathy and motivation. It also enables acknowledging that complex cognitive processes are influenced by the theory of moral judgments, which shapes perceptions of others based on identity conceptions. Consequently, studying judgments using traditional methodologies may introduce bias, as they are subject to modification by reasoning and social norms (Schweitzer & Waytz, 2021). This research study uses gamification and gaming as a naturalistic

methodology to elicit verbal reports on these perceptions (and any subsequent changes).

During the focus group sessions, specific time was allocated at the end for implementing a social quasi-experiment.

This experiment utilized gamification through a custom-created game of snakes

and ladders, accessible at https://view.genial.ly/620575906c016d00116779a0/ interactive-content-la-escalera-de-la-vida (see Figure 2). Through this interactive activity, participants had the opportunity to reshape their perception of the ageing process and old age.

Figure 2. Gamified Quasi-Experiment Created in Genial.lu



This exercise draws upon three theoretical foundations: social cognition, moral judgments, and gamification. In terms of social cognition, it involves the process of mental perception, which comprises two dimensions. The experiential dimension relates to the capacity to experience sensations such as pain and pleasure, as well as emotions that can be either innate or acquired. The agency capacity, on the other hand, refers to selfcontrol, planning, and memory (Schweitzer & Waytz, 2021). Perception plays a central role in the theory of dehumanization, which involves considering other humans as less human and denying their mental processes. It is important to distinguish perception from theory of mind and perspectivetaking.

There are different ways to measure perception, including studying the mentalization network in neuroscience (involving the medial prefrontal cortex, posterior cingulate cortex, and temporoparietal junction), the implicit association test, self-report measures, and the connection between perception and moral judgment. Linguistics, too, explores the relationship between language usage and perception measures. For instance, pronoun usage, shifts from "we" to "they" and vice versa, capturing mental processes in spontaneous forms, implicit responses of perception, mental attribution scales,

measures of dehumanization, the use of the first person, and available vocabulary all contribute to changes in perception and its measurement (Schweitzer & Waytz, 2021).

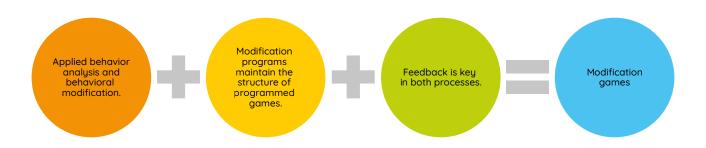
Moral judgments are significant in measuring changes in perception regarding old age and older persons for several reasons. Firstly, moral judgments in this specific population group have not been extensively explored, and there are differences in cognitive and affective processing between young and older individuals. Secondly, moral judgment dilemmas have primarily been studied in university populations under 30 years old. Thirdly, globally, older people occupy positions of high importance in political decision-making across various sectors, making their moral decision-making processes of utmost importance and relevance (McNair, Okan, Hadjichristidis, Bruine de Bruin, 2019). In fact, research has shown that older people tend to make more deontological judgments (avoiding harm to others). They also exhibit heightened intensity in negative affect when making moral judgments. Furthermore, there is a correlation between age and moral judgments, with older persons embracing more idealistic moral principles.

Lastly, gamification refers to applying game elements in non-game contexts to encourage motivation and engagement in learning processes. It serves a

pedagogical purpose by offering a remedy in training scenarios (Alsawaier, 2018). In the case of Misión Colombia Envejece - Una Investigación Viva, this approach is utilized from a behavioral psychology standpoint, aiming to create scenarios that can modify perception. In fact, according to Walz & Deterding (2015), those who embrace gamification

and a world where play is possible often envision a future where life and work are enjoyable, game-like, and rewarding. This future entails solving the world's problems through mass collaboration in game-like activities, stimulating individuals and providing alternative approaches for research, organizations, and industries (p. 81).

Figure 3. Gamification as a Behavioral Psychology Model



Source: Prepared by the authors.

Misión Colombia Envejece - Una Investigación Viva included a gamified social quasi-experiment that induced real-time changes in participants' perceptions of ageing and old age, which is why it is deemed as a living research study.

The perception-modifying game was designed as follows: (1) Selecting the target for modification, i.e., the perception of ageing; (2) Determining how to evaluate responses through session recordings and language analysis; (3) Intrinsic motivation, the personification of older persons and game conditions; (4) Value and control questions were incorporated, along with games, questions, and information related to the six chapters of Misión Colombia Envejece - Una Investigación Viva; (5) Feedback was provided progressively throughout the game, with long-term rewards for the winner of the ladder.

7.6. Triangulations



7.6.1. Thematic Triangulation

The thematic triangulation aimed to analyze and describe the findings of each chapter in order to identify similarities and differences between the themes covered, identify emerging themes, and assess the validity of the conclusions and recommendations, considering the conceptual and practical interrelationships and the heterogeneity across the chapters. Thematic triangulation is based on a dialogic, deliberative, and collaborative process that helps minimize biases and enhance the credibility of the synthesized results.

Thematic triangulation was conducted in two stages. In the first stage, which took place on June 3rd, researchers met in pairs for intensive three-minute discussions.

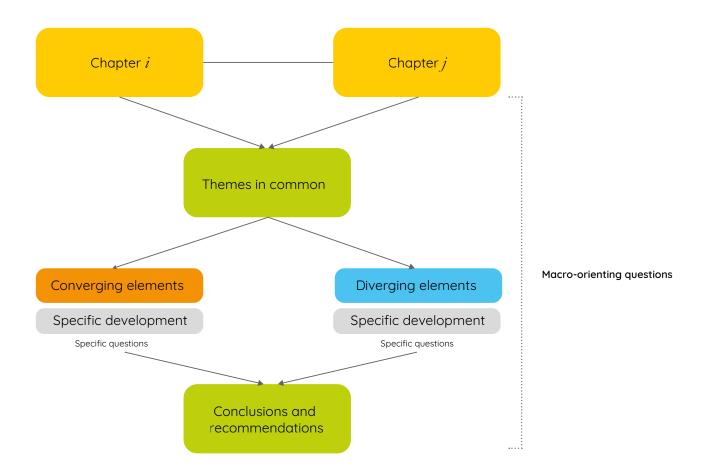
They explored their respective chapters' potential conclusions and recommendations, considering their specialization, theoretical frameworks, and epistemological perspectives while considering the chapters' findings. Due to time constraints, not all chapters were cross-referenced during this initial stage.

The second stage occurred between June 7th and 28th. Building upon the outcomes of the June 3rd meetings, the second stage involved pairwise triangulations among the six chapters, resulting in a total of 15 possible triangulations. This phase lasted two 2-hour meetings.

During the second stage, each meeting was organized around two types of questions: general guiding questions and specific questions tailored to each pair of chapters. The general guiding questions provided an overarching framework

for the triangulation process, while the specific questions addressed the identified converging and diverging elements of the common themes. The interaction between these two types of questions is illustrated in Figure 4.

Figure 4. Methodological Scheme of Thematic Triangulation



Source: Prepared by the authors.

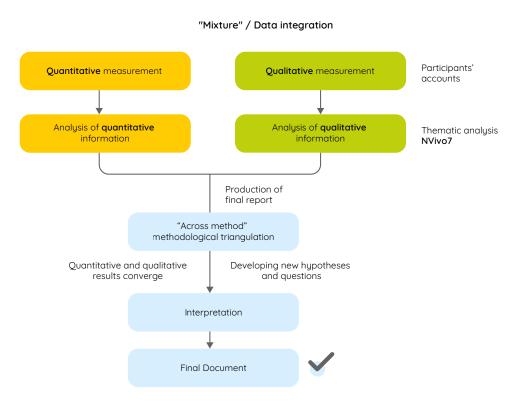
7.6.2. Methodological Triangulation

Methodological triangulation is a crucial aspect of Misión Colombia Envejece - Una Investigación Viva, as it embodies the mixed nature of the study. This research demonstrates the multifaceted nature of aging and old age by employing a fourmodel approach that combines qualitative and quantitative methods in parallel (Creswell, 2015). Data integration occurs through the convergence of results, interpretation, and the

writing of findings, allowing for comparisons, complementary insights, debates, and critical examination of the subject matter.

There are several compelling reasons for embracing mixed methodologies in complex research endeavors. Firstly, opting for a single methodology may provide insufficient information to comprehensively understand the research problem. Secondly, it is crucial to acknowledge the strengths and limitations of each method and seek synergies and complementarities between them (Creswell, 2015).

Figure 5. Methodological Triangulation



Source: Prepared by the authors.

The methodological triangulation phase took place from July to August 2022, involving meetings between each chapter's quantitative and qualitative teams. The objective was to present and converge on the findings, exploring complementarities and addressing any discrepancies or issues one methodology may have captured that the other may have missed. Within each chapter, the results were organized into three categories: firstly, issues where both methodologies aligned

based on the available data; secondly, quantitative findings that were not included in the qualitative analysis; and thirdly, qualitative insights that did not show up in quantitative data. Subsequently, the triangulated findings were shared and discussed between the teams responsible for the different chapters, enriching the methodological diversity and enhancing the validity of the results. Finally, this phase culminated in the formulation of recommendations and conclusions.

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7.9. Annexes



7.9.1. Annex 1. Informed Consent Form for Focus Group Participants.

Dear Sir/Madam:

The Saldarriaga Concha Foundation, DANE, Fedesarrollo, and ICESI University cordially invite you to take part in the research project titled **Misión Colombia Envejece - Una Investigación Viva**, which aims to understand the perceptions of older people regarding old age and their own experience growing old during the pandemic.

Procedure: We kindly request your participation in a discussion group where you will have the opportunity to share your opinions and experiences related to old age. It is important to note that there are no right or wrong answers; we are simply interested in hearing your viewpoint on this subject.

The discussion group will last approximately one and a half hour. To ensure accurate information collection, the discussions will be recorded solely for analysis purposes.

Confidentiality: Please be assured that all information provided for this study will be treated with strict confidentiality. It will be solely accessible to the research team involved in this project and will not be used for any other purposes. The study's results will be published for scientific purposes, but your identity will remain anonymous.

Voluntary Participation/Compensation: Participating in this study is entirely voluntary, and you are free to decline or withdraw your participation at any time. If any questions or topics discussed during the group make you uncomfortable, you have the right to abstain from commenting. It is important to note that there will be no financial compensation for participating in the discussion group, and there will be no cost to you.

Please find below a form that requires you to submit your personal information. By completing the form, it is understood that you voluntarily agree to participate in the focus group and accept the terms stated above:

Informed Consent Clause

I hereby freely and voluntarily certify that:

- I understand the objectives and procedures of the focus groups for the research project

 Misión Colombia Envejece Una Investigación Viva.
- I agree to participate in one of the focus groups of Misión Colombia Envejece Una Investigación Viva.

Data Authorization Clause

I willingly and voluntarily authorize the Saldarriaga Concha Foundation and Fedesarrollo to:

- Handle my personal data in accordance with the principles, rights, and obligations established by Law 1581 of 2012, which governs the protection of personal data.
- Use my answers and comments in Misión Colombia Envejece Una Investigación Viva.
- Utilize my images, voice, or statements in their written or digital publications without any expectation of compensation or remuneration.

By signing this document, I confirm my agreement with the information provided to participate in the focus group (informed consent) and my authorization for personal data processing.

Full name	Identification number	Telephone (optional)	Signature

7.9.2. Annex 2: Informed Consent Form for Experts Participating in In-Depth Interviews

Dear Sir/Madam:

We extend our invitation to you on behalf of the Saldarriaga Concha Foundation, DANE, Fedesarrollo, and ICESI University to participate in the research project **Misión Colombia**Envejece - Una Investigación Viva. The objective of this project is to understand the well-being perception among elderly individuals in Colombia. Therefore, we would like to invite you to take part in an in-depth interview where we can learn from your opinions and experiences regarding the elderly population in the context of the SARS-COV-2 pandemic.

The interview is expected to last approximately 60 to 90 minutes. All answers provided during the interview will be recorded solely for the purpose of documenting the information and conducting analysis. It is important to emphasize that there are no right or wrong answers; we simply seek to understand your perspective on this topic.

Data Authorization Form

In accordance with the Personal Data Protection Law 1581 of 2012, I hereby confirm that the information provided in this electronic registration form identifies me accurately. Acting on my own behalf, I certify that I am participating voluntarily, without any expectation of compensation or remuneration, neither at present nor in the future. I authorize the Saldarriaga Concha Foundation, Fedesarrollo, ICESI, and DANE, as the responsible entities for handling this information, to use the personal data I have shared, including any images, voice recordings (whether in photographic, video, or electronic format), as well as any statements made during the interview (or excerpts from those statements). This authorization is granted for the purpose of publication in newspapers, magazines, or other media, as well as dissemination materials, whether in print or through other media channels such as radio, television, or electronic platforms (including the Internet). These materials will be used to document the activities conducted within the framework of Misión Colombia Envejece - Una Investigación **Viva**. The aforementioned entities and their directors, employees, consultants, operators, contractors, allies, and collaborators are authorized to use this material. The Saldarriaga Concha Foundation, acting as the data controller, is authorized to utilize this information in developing any accompanying activities, training, or visits envisaged during the

project's execution. This authorization is valid for a reasonable and necessary period, commensurate with the purposes that justify the data processing. Furthermore, the use of the collected material within the scope of the project and related initiatives does not require my prior approval.

If you need to access, correct, or request the deletion of the personal data you have provided, you can submit your request via email to protectiondedatos@saldarriagaconcha.org or you can mail it to the following address: Carrera 11 # 94 - 02, Office 502, Bogotá D.C. For further information regarding our privacy policies, your rights as the owner of the information, and how to exercise these rights, please visit our website at www.saldarriagaconcha.org.

By electronically signing this document, I confirm my agreement with the information provided to participate in the in-depth interview and my authorization for personal data processing.

Full name and surnames:	
Citizen identification number:	
Landline/Cellular number (optional):	
Email (optional)	

7.9.3. Annex 3. Focus Group and Interview Guides

7.9.3.1. Focus Group Script Format

Participant profile

Men or women over 60 years old.

Objective of the group

Learn the perceptions of older people regarding old age and their own ageing experience in the context of the SARS-COV-2 pandemic in seven Colombian municipalities.

Script for focus groups

Good morning, everyone! My name is ... Fundación Saldarriaga Concha, in collaboration with DANE, Fedesarrollo, and Universidad ICESI are conducting a research study called Misión Colombia Envejece - Una Investigación Viva. The main purpose of this study is to offer insights into the present state of older people across various stages of their lives.

Fundación Saldarriaga Concha is a Colombian civil society organization dedicated to creating an inclusive society for over 47 years. Its focus lies in supporting people with disabilities, and older people. Today, we are here to engage in a focus group discussion to better understand your perceptions on ageing, old age, and the pandemic.

The methodology we'll be using is simple.

We will ask you a series of questions about ageing, old age, and the pandemic. We encourage you to share your personal and family experiences. We want you to reflect on your own and your families' experiences. We want you to reflect on your own lives, as individuals, during ordinary moments.

Please briefly introduce yourselves by sharing your full name, current age, and place of residence. We'll be recording the audio of your answers. Please let us know if you are comfortable with us recording your responses. I want to assure you that the recordings will be used solely for research purposes and will not be shared with any third parties.

Lastly, I want to emphasize that your input is incredibly valuable to us. There are no right or wrong answers here.

Format N°1 Demographic questions

- 1. Full name and surname
- 2. Who do you live with?
- 3. Are you currently working? In what type of activity?
- 4. What was your main work activity during your life?
- 5. Do you receive a subsidy or pension?
- **6**. What is your favorite food?

Protocol N°2 Qualitative questions for focus groups

Perception of old age

- 1. In one sentence, what does it mean to be an older person?
- 2. What does it mean to grow old or to have grown old in the context of the pandemic?

Physical and mental health in old age

- 3. What does good health mean to you?
- **4**. Do you consider physical health synonymous with good mental health? What do you understand by good mental health?
- 5. In terms of health, how has the pandemic affected you? (If participants do not mention medical appointments, ask about this issue).

Education

- 6. Would you like to learn something new? Why?
- 7. What educational offerings for older adults are available in your city?
 - How can you access them?
 - Have you identified any barriers?
- 8. How can older people participate in literacy processes?
- **9**. How well can you use modern technologies?
- 10. What would you like to teach young people?

Protocol N°2 Qualitative questions for focus groups

Economic protection

11. What are your main income sources?

If most of the participants have a paid job:

- Do you want to continue working?
- If you could choose between being employed or owning your own business, which option would you choose and why?
- 12. Do you think that a pension or a subsidy would help you cope with difficult situations?
- 13. Are you saving money, or have you saved money for old age?
- 14. How has your perception of saving money evolved since the start of the pandemic?
 - What kind of financial assistance has been provided by both public and private organizations during the pandemic?

Social Participation and Well-Being

- **15**. How has the community helped you cope with the pandemic?
- **16**. Which of the activities promoted by the community would you like to participate in?

Caregiving and caregivers

- **17**. Does anyone require your care?
- **18**. How has your self-care changed with the pandemic?
- **19**. If you receive care or provide care to an older person, how has it changed in the pandemic?

7.9.3.2. Script Format for In-depth Interviews

Objective of the interview

Understand your perceptions regarding the situation of older people in Colombia during the pandemic.

Interview script

Good morning, everyone! My name is ... Fundación Saldarriaga Concha, in collaboration with DANE, Fedesarrollo, and Universidad ICESI are conducting a research study called Misión Colombia Envejece -

Una Investigación Viva. The main purpose of this study is to offer insights into the present situation of older people across various development scenarios.

Fundación Saldarriaga Concha is a Colombian civil society organization dedicated to creating an inclusive society for over 47 years. Its focus lies in supporting individuals with disabilities, older persons, and ageing. We want to conduct a comprehensive interview with you to understand your perspective on the current circumstances of the older population in Colombia amidst the pandemic.

Protocol for qualitative in-depth interview questions

- 1. What is your perception of the changes brought about by the pandemic?
 - Mandatory: How do you think these changes have impacted older people?
- 2. What changes have you identified for older people as a result of the pandemic? Consider your work area and what you experienced with older people closest to you.
- **3**. Based on your experience, what would you recommend to people who will soon become senior citizens?

7.9.4. Annex 4. Categories Dictionary

Demographics and perception of ageing

Level 1

- Ageing: participants' ageing processes.
- Ageing: participants' ageing processes.

Level 2

- Individual: participants' opinions regarding their own ageing process.
- Regarding the household: the household structure (multigenerational, extended and unigenerational households).
- Regarding the population: participants' opinions regarding the ageing process of the Colombian population.
- Demographic impact of the pandemic: participants' opinions regarding how the ageing process and old age affect economic, social, educational and health (healthcare) aspects.
- Regarding old age: participants' perceptions of old age.
- Stereotypes: participants' expectations regarding the ageing process and old age.
- Subjective well-being: assessment of well-being in the ageing process and old age.

- Before the pandemic: Participants' perception of the ageing process and ageing before the pandemic.
- As a result of the pandemic: participants' perceptions of possible changes in the ageing process and ageing due to the pandemic.
- Expectations: participants' views of their employment, economic, educational, and health-related situation in the future.
- Moral judgments: participants' moral opinions about the ageing process and old age.
- Healthy ageing: participants' opinions about the meaning of a healthy ageing process.
- Life satisfaction: participants' perception of their life satisfaction.
- Community life: participants' relationship with the community (family, neighbors, friends, co-workers, etc.).
- Social participation: the spaces and scenarios where interviewees participate in their community.

Physical and mental health

Level 1

- Health costs: participants' perceptions of the costs of health services.
- Physical health: participants' perceptions of their physical health status.
- Mental health: participants' perceptions of their mental health

Level 2

- Health services: participants' perceptions of health services in the pandemic (medical appointments, surgeries, emergency services, among others).
- Retirement: participants' views on health care costs for a retired person.
- Pandemic healthcare costs: participants' views on pandemic healthcare costs.
- Physical well-being: participants' conditions for maintaining and caring for their physical health.
- Comorbidities: the presence of illnesses that affect participants' ability to perform daily activities.
- Changes in physical health due to pandemic: changes in participants' physical health as a result of the pandemic.
- Emotional well-being: participants' opinions of their emotional state to

- cope with situations in their daily life and environment (resilience).
- Emotional distress: participants' opinions about their emotional state and possible associated situations (suffering, worry, sadness, etc.).
- Changes in mental health as a result of the pandemic: participants' views on changes in their mental health as a result of the pandemic.

Level 3

- COVID-19 Contagion: changes in participants' physical health as a result of COVID-19.
- Changes unrelated to COVID-19: changes in participants' physical health unrelated to COVID-19.

Education for Older Persons

- Coverage: identifying the effectiveness of including or receiving older persons in the formal or informal education system.
- Quality: learning about existing educational opportunities for older people focusing on lifelong learning and preserving cognitive abilities.
- Relevance: identifying learning opportunities for older people, according to their contextualized conditions and needs.

Level 2

- Schooling: identify the average number of schooling years older persons completed, disaggregated by educational level, gender, territory, age, literacy level and disability.
- Educational gaps: address the barriers identified by participants to access the educational offer (formal and informal).
- Educational offer: identify the existing educational offer in the city, neighborhood, and community.
- Cognitive skills: learn about cognitive skills and their impact on people's cognitive impairment.
- Motivation: identify what motivates older people to learn something new or to engage in lifelong learning.
- Learning environments: identify what programs (curriculum), materials and formats are used in the education of older people.
- Digital skills: identify what digital skills older people have and what technological means participants used during and as a result of the pandemic.
- Intergenerational strategies: learn about significant intergenerational lifelong learning strategies and their contributions to improving older people's well-being and social inclusion.

Personal well-being, healthy and active ageing: learn what programs exist for older people and their implications.

Caregiving and caregivers of older people

Level 1

- Types of care: identify the types of care received by the older persons interviewed.
- Care needs: identify the basic care that older people need for a dignified existence.
- Caregivers: identify the people responsible for protecting, feeding, and helping others in their mobility.

- Formal care: identify institutional care practices.
- Informal care: identify family- and community-based care for older persons.
- Basic daily living activities: identify the support needed by interviewees to perform essential functional activities (bathing, dressing, eating).
- Instrumental daily living activities: identify activities where participants need help to be independent at home and in the community (using the telephone, shopping, preparing food, using transportation, etc.).

Pandemic needs: identify activities that became caregiving activities as a result of the pandemic.

Economic protection of older persons

Level 1

- Economic protection: existing forms of economic protection for older persons.
- Market participation: economic activities that older people participate in.
- Pandemic impact: the potential impacts of the pandemic on participants' economy.

- Pension: Participants' perceptions regarding pensions, as well as their own possibilities of retiring.
- Savings: Respondents' views on whether they can save money from their income.
- Subsidies: The perception of participants regarding subsidies, as well as their own possibilities of receiving one.
- Barriers to employment: Participants' opinions on employment barriers.
- **)** Employment: identify older persons' type of employment (formal or informal).

- Income and expenditure: participants' purchasing power (work activity, subsidies, pensions, family financial support, etc.).
- Responsibilities: inquire about the economic responsibilities of the participants.
- Economic transfers: economic exchanges made by participants during and as a result of the pandemic.
- > Entrepreneurship: older persons' perceptions regarding self-employment or the creation of income-generating enterprises.

7.10. List of Figures



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7.12. List of Tables



Table 1. Sources of Primary Information

Table 2. Distribution of Focus Groups by Municipality









