

Land Market and Women in Colombia: A Perspective from the Care Economy

Andrea MARÍN-SALAZAR, Johan AVENDAÑO, Joseph CUPITRA, Mauricio CORTÉS and Daniela HERRERA, Colombia

Key words: land market, gender, care economy, Colombia, property rights

SUMMARY

Land tenure is one of the most representative socioeconomic factors of structural inequality in Latin America, and Colombia is no exception (OXFAM, 2017; IGAC, 2024). Pachón (2021) highlights that the concentration of rural property in the country remains an unresolved historical problem, exacerbated by armed conflict and unequal agrarian dynamics. Unequal access to land is not only an economic issue, but it is also deeply influenced by gender. Rural women face greater barriers in accessing, controlling, and benefiting from land, a reality that reflects unequal historical and cultural power relations in the country (DANE-MADR, 2021). This research explores how gender inequalities in caregiving responsibilities impact women's access to the land market and land tenure. From a conceptual perspective, it examines how unpaid activities performed primarily by women limit their purchasing power and savings capacity, thereby restricting their participation in land transactions. Additionally, cultural biases that undervalue care as a form of productive labor reinforce male predominance in inheritance and household leadership, perpetuating gender gaps in women's access to land. Methodologically, the study employs traditional cadastral data and notary and registry transactions, processing information from 20 million property-holder records and 70 million real estate transactions carried out between 2015 and 2023. A machine learning algorithm predicted the sex of property holders based on identification number patterns. The findings reveal significant inequalities: women own less land in rural areas, participate less in the real estate market, and are disadvantaged in transactions such as purchases, inheritances, marital liquidations, and allocation of state-owned lands. These dynamics reinforce a cycle of limited land access, heavier caregiving burdens, and reduced economic autonomy, highlighting persistent gender gaps in land markets in Colombia.

RESUMEN

La tenencia de la tierra es uno de los factores socioeconómicos más representativos de la desigualdad estructural en América Latina, y Colombia no es una excepción (OXFAM, 2017; IGAC, 2024). Pachón (2021) señala que la concentración de la propiedad rural en el país es un problema histórico aún sin resolver, exacerbado por el conflicto armado y las dinámicas agrarias desiguales. El acceso inequitativo a la tierra no es solo una cuestión económica, sino que también está profundamente influenciado por factores de género. Las mujeres rurales enfrentan mayores barreras para acceder, controlar y usufructuar la tierra, una realidad que refleja las relaciones desiguales de poder históricas y culturales en el país (DANE-MADR, 2021). En este marco, la investigación explora cómo las desigualdades de género en las responsabilidades de cuidado impactan en el acceso de las mujeres al mercado inmobiliario y

a la tenencia de la tierra. Desde un enfoque conceptual, se analiza cómo las actividades no remuneradas realizadas principalmente por mujeres limitan su poder adquisitivo y capacidad de ahorro, afectando su participación en las transacciones de tierra. Además, los sesgos culturales que subestiman el cuidado como forma de explotación productiva refuerzan la predominancia masculina en herencias y jefaturas, perpetuando las brechas de acceso a la tierra para las mujeres. Metodológicamente, el estudio utiliza bases catastrales tradicionales y datos de transacciones de notariado y registro, procesando información de 20 millones de registros de interesados en predios y 70 millones de transacciones inmobiliarias realizadas entre 2015 y 2023. Un algoritmo de *machine learning* predijo el sexo de los interesados a partir de patrones en números de identificación. Los resultados revelan marcadas desigualdades: las mujeres poseen menos tierra en zonas rurales, participan menos en el mercado inmobiliario y se ven desfavorecidas en transacciones como compras, herencias, liquidaciones conyugales y titulaciones de baldíos. Estas dinámicas refuerzan un ciclo de menor acceso a la tierra, mayores cargas de cuidado y menor autonomía económica, evidenciando brechas persistentes en el mercado de tierras en Colombia.

Land Market and Women in Colombia: A Perspective from the Care Economy

Andrea MARÍN SALAZAR, Johan AVENDAÑO ARIAS, Joseph CUPITRA, Mauricio CORTÉS and Daniela HERRERA, Colombia

1. INTRODUCTION

In Colombia, the unequal distribution of land not only reflects entrenched gender gaps in society but also illustrates how unpaid care responsibilities influence women's access to, tenure of, and accumulation of land. Deere (2011) and Guereña (2017) emphasize that these barriers are linked to customary practices, familistic approaches in social and agrarian policies, and the limited implementation of regulations promoting gender equity. Moreover, intersectionality exacerbates these inequalities, disproportionately affecting Indigenous women, Afro-descendants, and other ethnic minorities.

According to the National Time Use Survey (ENUT, 2021), rural women devote an average of 8 hours and 33 minutes per day to unpaid care work, while men dedicate only 3 hours and 6 minutes, revealing a daily gap of more than five hours. This disproportionate burden of domestic and care work restricts women's opportunities to access education, participate in productive processes, or hold formal land rights. These time burdens are compounded by structural property access gaps: in the traditional rural cadastre, only 36.3% of parcels with a single owner are registered in women's names, compared to 63.7% registered to men (DANE, 2022). In contrast, IGAC estimates show that in urban areas women's share of individual land ownership rises to 48.7% (IGAC, 2024).

This contrast reveals a double inequality: both gender and territorial. Rural women face greater obstacles to formalizing their relationship with land, since in addition to dedicating more time to care work, they are often associated with smaller plots of lower economic value and higher levels of informality (DANE, 2022). These limitations, largely overlooked in public policy, reflect a development model and cultural practices that still fail to fully acknowledge the contributions of rural women, or the structural impact of the care economy on their opportunities for land access and tenure security.

This scenario is further aggravated by the lack of sex-disaggregated data in cadastral records and property transactions, which makes it difficult to identify patterns and trends in women's autonomy regarding land and, consequently, to design effective public policies.

Within this framework, the present study aims to analyze how the care economy influences land market dynamics in Colombia, identifying the ways in which unpaid care responsibilities affect women's access to, tenure of, and use of land, with the objective of highlighting existing gender gaps and proposing public policy strategies to address them.

In Colombia, the land market is conceived as the set of transactions or agreements, free of coercion, through which property rights (use, enjoyment, and disposition) are partially or fully exchanged (UPRA, 2019). These market dynamics may positively or negatively affect socio-spatial distribution, depending on the context and the policies implemented (Garin Contreras, Salvo Garrido, & Bravo Araneda, 2009). According to the Rural Agricultural Planning Unit (UPRA, 2019), 36.8 million hectares within the agricultural frontier have no restrictions on land market transactions, while 16.9% are subject to environmental or risk management

conditions, or to special regulations such as peasant reserve zones and borderland properties, which limit or condition such transactions and agricultural development activities. International studies consistently point out that tenure security, conflict reduction, and greater women’s access to land depend not only on the existence of a formal land registry but also on the surrounding sociocultural and gender conditions. In Ethiopia, for example, land registration programs have contributed to tenure security and promoted investment, though challenges remain in data updating and institutional capacity (Ayano, 2018). In Uganda, social and cultural values create tensions between collective land protection and its fragmentation for individual uses (Médard & Golaz, 2018). Similarly, in Ghana, gender relations influence access to land and food, highlighting barriers to women’s food security (Twum, Asiama, Ayer & Asante, 2020), while in Zimbabwe traditional norms limit women’s property rights in peri-urban communal areas (Ingwani, 2021). Finally, in China, gender factors and marital matching dynamics have been shown to shape housing distribution and the real estate market (He, Zou & Li, 2024).

In sum, understanding the role of the care economy in shaping land markets is essential to designing interventions that promote gender equality in Colombia. Incorporating the sex variable into cadastral databases and considering care dynamics in territorial analysis are critical steps for developing policies that ensure women’s effective participation and contribute to poverty reduction and inequality reduction.

2. METHODOLOGY

2.1 Study Area

The research was conducted in Colombia, a country characterized by marked territorial and gender inequalities in access to and formalization of land.

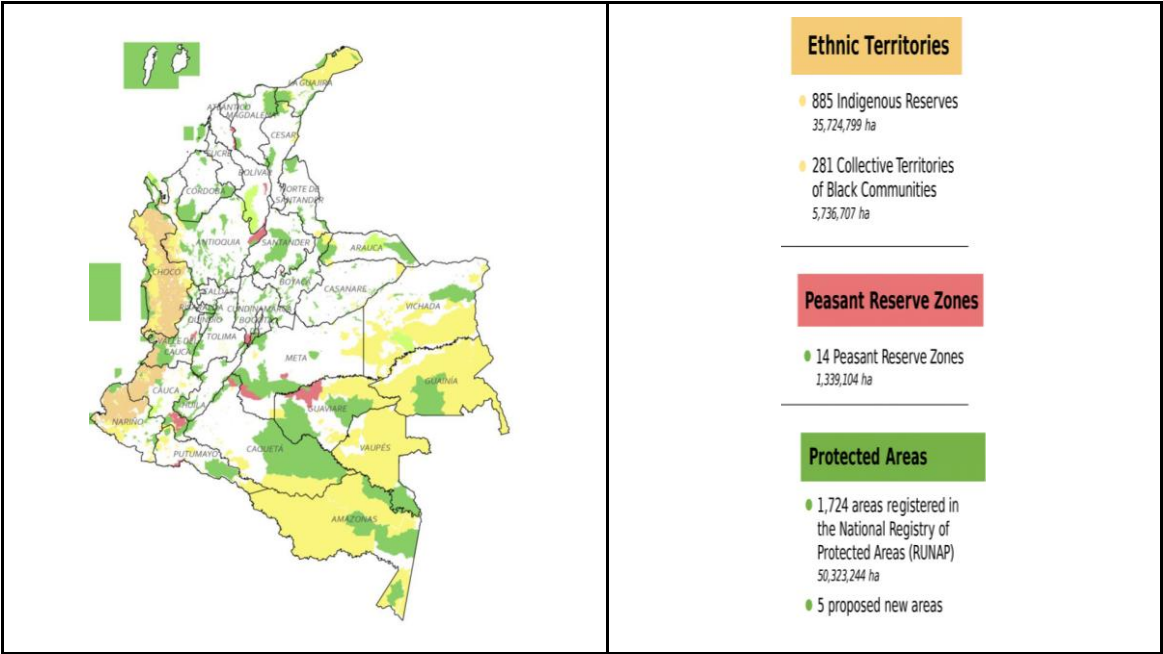


Figure 1. Map of territorial diversity in Colombia. Data: Indigenous Reserves and Afro-Colombian Community Lands formalized up to July 2, 2024.

Source: National Land Agency – Directorate of Ethnic Affairs; National Registry of Biological Collections – RNC; and the Single Registry of Protected Areas – RUNAP, updated by National Natural Parks of Colombia.

The study focuses on rural parcels, where the rate of informality is estimated at over 60% (IGAC estimate, 2024). This context is defined by the coexistence of multiple property regimes and special land administration figures.

2.2 Data

2.2.1 Traditional Rural Cadastre Database

A dataset of rural land records was cleaned and processed by the IGAC’s Land Concentration Analysis Group, comprising a total of 5,677,314 property records. Of these, 76.6% are associated with a national identification card (cédula de ciudadanía), 7.0% with a Tax Identification Number (NIT), and 13.8% lack any owner identification number. A detailed classification by type of identification is presented in Table 1. This database was key to characterizing rural land tenure, with emphasis on sex disaggregation through prediction techniques.

Table 1. Classification of records by type of identification document. Source: Rural cadastral database, 2023 (IGAC).

Type	Total	Percentage
National ID (Cédula de ciudadanía)	4,404,738	78.1%
Foreigner ID	3,317	0.1%
Tax Identification Number (NIT)	394,728	7.0%
Passport	1,631	0.0%
Identity Card	15,911	0.3%
Sequential Codes	36,739	0.7%
No Identification	785,820	13.9%
Other	34,430	0.6%

2.2.2 2018 National Population and Housing Census

Through the Redatam system, municipal-level data were extracted on two variables: (i) female household headship, and (ii) women’s unpaid domestic work. This source allowed the analysis of demographic and social organization dynamics linked to care, in order to explore correlations with land tenure, patterns observed in the cadastre.

2.2.3 Multipurpose Cadastre Updated Municipalities

A total of 37 municipalities were included: 11 updated in 2023 and 26 in 2024. These municipalities use LADM-COL data models that incorporate the sex variable, making it possible to identify landholders by gender in cadastral records. This dataset served as a critical reference (“mirror”) to evaluate the performance of the gender-prediction algorithm against territories that do not yet explicitly incorporate sex in their models.

2.2.4 Notary and Registry Transactions Database (2015–2024)

This dataset was structured from 1,120 municipal-level databases, consolidated into 72,450,000 records. After excluding 7,108,217 null records (no identification), the valid dataset comprised 65,351,150 records. A sub-database of 43,037,564 transactions associated with national ID cards was created, which was further divided into IDs issued before 2006 (23,570,131) and after 2006 (19,467,433).

Table 2. Classification of transactions by type of identification. Source: Authors’ elaboration based on Notary and Registry database.

Category	Number of records
Initial records	72,450,000
Null records	7,108,217
Valid records (cleaned)	65,351,150
Subset: National ID card transactions	43,037,564
Transactions with IDs issued before 2006	23,570,131
Transactions with IDs issued after 2006	19,467,433

2.3 Methods

2.3.1 Step 1. Gender prediction from names

The methodology develops a model to predict individuals’ sex from their names. The model builds on an algorithm previously developed by the National Administrative Department of Statistics (DANE) in 2022, adapted with updated multipurpose cadastre data from Boyacá. Additional methods used ID number patterns to strengthen accuracy. The goal was to transfer this algorithm to IGAC for automated pre-filling of the sex variable in the LADM-COL model and validation of field-collected data.

2.3.2 Step 2. Cleaning and constructing the name database

The dataset was cleaned to optimize model performance. Names were excluded if they had ≥ 5 words, contained special characters or digits, or had fewer than three letters. Articles such as *el, del, de, los, las* were also removed. Compound names were concatenated (e.g., “María José”) to improve classification accuracy.

2.3.3 Step 3. ID pattern recognition

Analysis of ID numbers revealed segmentation between pre-2006 and post-2006 IDs. From 39,425 records in Boyacá, 23,417 valid IDs were used. A confusion matrix showed an accuracy of 97.5%, with minor error rates between predicted and actual sex categories (see Table 3).

2.3.4 Step 4. Name-based prediction

Applying the initial algorithm to Boyacá data yielded 98% accuracy, though 14.27% of records remained unclassified due to rare or culturally specific names (e.g., *Suso*, *Leonisa*, *Anacely*). A complementary model was trained specifically on these “unique Colombian names” to improve performance.

2.3.5 Step 5. Variable transformations for training

Eight transformations were applied to optimize model learning:

- First and last letters (3–5 characters each)
- Vowel endings (general and open vowels)
- Name length
- Class weights to address gender imbalance in compound vs. simple names

The dataset was split into 90% training and 10% testing sets. Four classification models were compared: Quadratic Discriminant Analysis (QDA), Fisher’s Linear Discriminant Analysis (LDA), K-Nearest Neighbors (KNN), and Logistic Regression. Accuracy was used as the evaluation metric, with results showing the best performance from the combined approach.

3. RESULTS: GENDER GAPS IN THE LAND MARKET

3.1 Land Sales

The land market in Colombia faces high transaction costs, which limit the exchange of agricultural land and reduce the efficiency of the formal market. According to Muñoz (2003), these costs restrict land transfers, hindering productivity and economic development in rural regions. This phenomenon not only reduces the number of agricultural properties that change hands but also reinforces informality, generating a vicious cycle of exclusion.

In rural areas, informal land markets perpetuate structural problems such as inequality and social exclusion. As Sitko (2011) notes, although property rights are essential for economic development, the persistence of informality in these markets undermines development goals, consolidating existing inequalities. This dynamic has a disproportionate impact on women, who, due to gender-based discrimination and unpaid care work, face greater barriers to accessing land. This perpetuates a system in which power and wealth remain concentrated in the hands of a few individuals or families.

In 2022, analysis of the rural land market in Colombia revealed a persistent gender disparity in land sales. Nationally, women participated in a smaller percentage of land transactions compared to men, with this inequality particularly evident in several key regions.

For example, in the department of Antioquia, land sales made by women accounted for **38.02%**, compared to **61.98%** by men. This pattern is repeated in other departments such as Santander, where women participated in **51.69%** of land sales versus **48.31%** for men. In contrast, in specific cases such as Boyacá, women led the market with **55.28%**, surpassing male participation.

These results show that while progress exists in some areas, significant challenges remain in terms of gender equity in land tenure. The inclusion of gender-sensitive public policies and the promotion of mechanisms to reduce barriers to access are essential to close these gaps and move towards a more equitable distribution of agrarian resources.

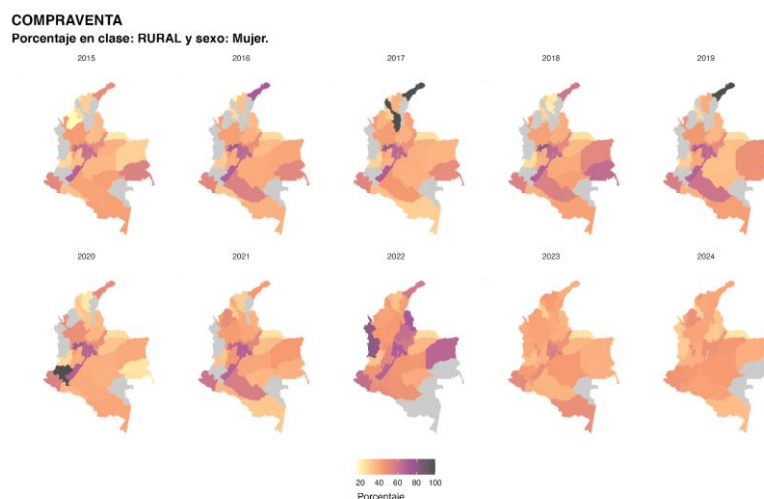


Figure 2. Rural women’s land sales 2015–2024. Source: Authors’ elaboration based on SNR transactions.

It is important to highlight that regions with the largest disparities, such as Arauca, reflect structural limitations that perpetuate barriers to women’s access. In this department, land sales made by women accounted for only **20.83%**, while men represented a staggering **79.17%** of transactions.

3.1.1 Trends in Women’s Participation (2015–2023)

Figure 3 illustrates these trends, showing both acceleration and setbacks in women’s participation at the national level. Between 2015 and 2023, the overall trend was one of growth, though with significant fluctuations in certain years:

- **Initial increase (2015–2017):** Women’s participation in land sales rose from 34.96% in 2015 to 37.09% in 2017, with a notable increase of 1.40% in 2017, possibly linked to initiatives promoting women’s participation in land acquisition.
- **Temporary decline (2018):** In 2018, there was a significant drop of 1.42%, potentially associated with structural barriers or changes in land access policies.
- **Recovery and sustained growth (2019–2022):** From 2019 onwards, women’s participation resumed a moderate but steady upward trend, reaching 38.02% in 2022. This may reflect increased institutional efforts to reduce gender gaps in land access.
- **Significant acceleration (2023):** In 2023, women’s participation rose sharply to 42.52%, a growth of 4.50% compared to the previous year. This may reflect the positive impact of more inclusive public policies or greater awareness of gender inequalities in land access.

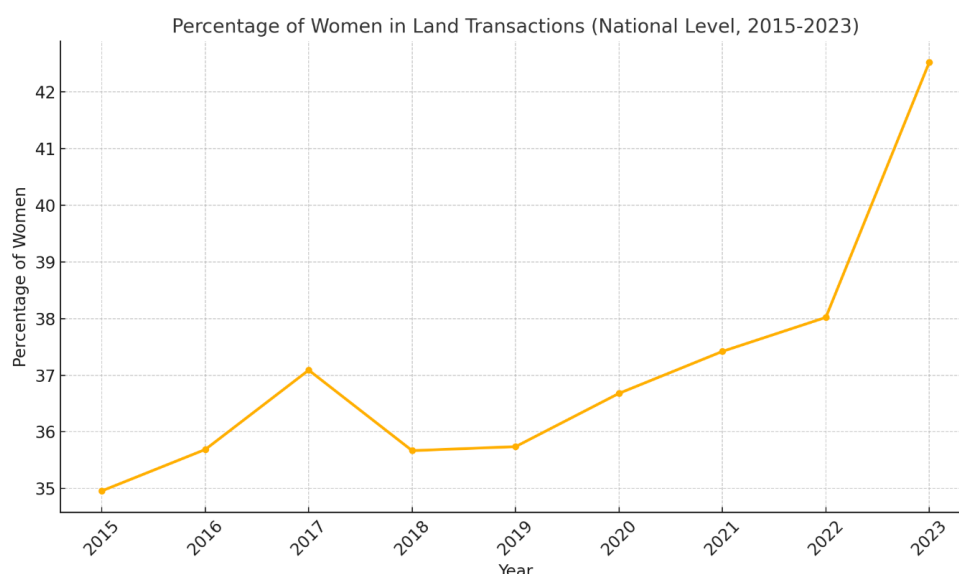


Figure 3. Variation in rural women’s land sales, 2015–2024. Source: Authors’ elaboration based on SNR transactions

3.2 Successions

In 2022, inheritance adjudication transactions in Colombia showed a general trend in which men typically held greater participation compared to women. However, in some departments such as Huila, Tolima, and Cundinamarca, women reached near-parity levels or even surpassed men in the percentage of transactions carried out. In the specific case of the department of Arauca, women represented **56.92%** of inheritance adjudication transactions, while men accounted for **43.08%**. This behavior runs contrary to the national trend and may indicate shifts in social or family dynamics in the department, favoring greater access of women to land ownership.

A historical comparison since 2015 shows that men predominated in adjudications in Arauca. In 2015, men represented **69.22%** of transactions, while women reached only **30.78%**. Over the years, this gap gradually narrowed, and by 2022 it had completely reversed in favor of women. In more recent years, such as 2020, men still held **68.93%** of adjudications, but the percentage of women began to increase, reaching its highest point in 2022. This change may be linked to legal, social, or cultural transformations specific to Arauca’s context. The figures suggest that this department constitutes a unique case within the national landscape.

These variations reflect not only a change in land access dynamics but also the possibility that Arauca is responding to policies or family practices that favor a more equitable distribution of land between men and women. This phenomenon contrasts with other departments such as Santander, Norte de Santander, and Sucre, where in 2022 men continued to dominate inheritance adjudications, with shares exceeding 60%.

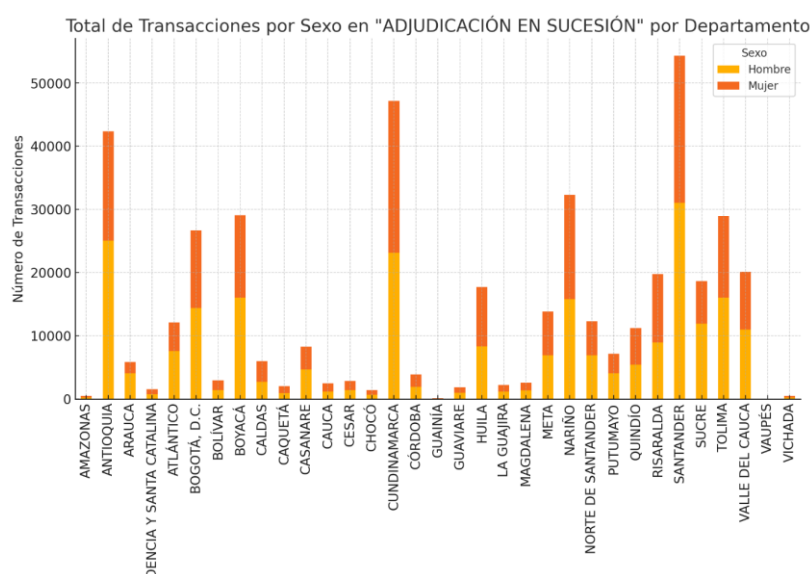


Figure 4. Successions by sex and department – rural women Source: Authors’ elaboration based on SNR transactions.

The relationship between legal norms, traditional practices, and gender inequalities remains a constant in this type of analysis. Previous studies such as those by Myking (2004) and Zeitlhofer (2007) highlight how inheritance rules and land transmission systems have historically consolidated gender inequalities in access to property, limiting women’s economic and social opportunities. This global pattern is also reflected in Colombia, particularly in rural contexts, where traditional succession practices have perpetuated inequities. However, Arauca may be showing a turning point in these dynamics, which represents an opportunity to understand the structural causes behind this change and explore its replicability in other territories.

Despite the progress observed in some departments, most women in Colombia still face significant barriers to accessing land through inheritance, perpetuating historical inequities. Strengthening gender equity policies in inheritance is essential, not only within the legal framework but also in cultural practices, to ensure a fairer and more equitable distribution of assets. It is also crucial to conduct more detailed studies of local dynamics that have enabled women to gain ground in departments such as Arauca, so that these experiences can serve as references for addressing inequalities in other parts of the country.

3.3 Marital Property Divisions

The analysis of land transactions related to the adjudication of marital property divisions, share rights (*derecho de cuota*), and inheritances, across different categories, reveals a scenario of unequal access between men and women in Colombia. These transactions reflect deeply rooted social, cultural, and economic dynamics that perpetuate gender inequities in access to land and patrimonial assets. Over the years, differentiated patterns can be observed according to the type of transaction, department, and year of analysis, highlighting both structural barriers and some advances toward equity.

In the case of adjudication through the liquidation of marital unions, the data suggest that men tend to predominate, a pattern that may be related to social and legal norms that have historically favored their access to assets in cases of separation. However, in some

departments and specific years, women have managed to achieve more equitable levels. For example, in departments such as Cundinamarca and Huila, there is evidence of a trend toward a more balanced participation in this category of transaction, particularly in recent years. This may reflect changes in family dynamics or in the interpretation of legal norms, although inequalities persist in most regions of the country.

For adjudications in inheritance and liquidation of marital or de facto patrimonial unions, women generally face greater barriers to land ownership, a pattern consistent with international studies highlighting how inheritance rules and land transfer systems have historically marginalized women. Although in recent years some departments, such as Arauca and Nariño, have shown significant advances in the proportion of women beneficiaries, this improvement is more the exception than the rule. For instance, in Arauca in 2022, women surpassed men in inheritance-related adjudications, reaching 56.92%, while in other departments such as Santander and Sucre, men maintained shares above 60%, evidencing persistent inequality.

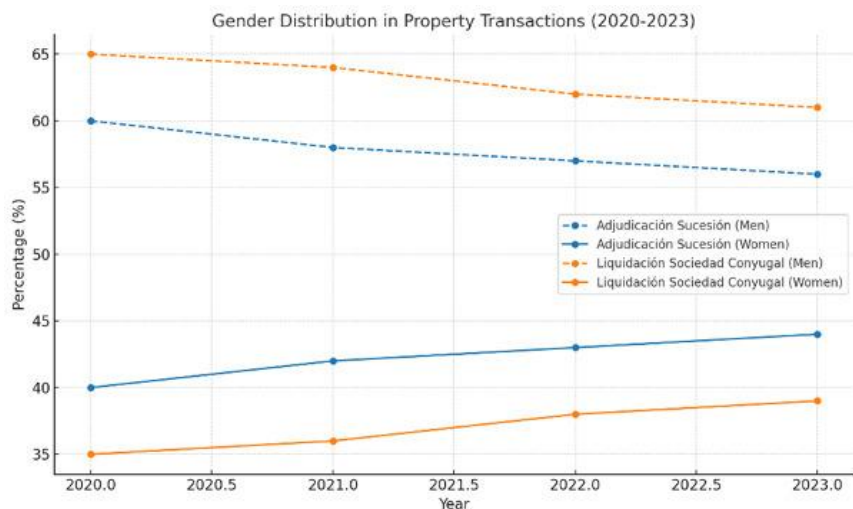


Figure 5. Marital property division– rural women. Source: Authors’ elaboration based on SNR transactions.

The share rights (*derecho de cuota*) category also reflects similar patterns, with men generally having greater participation, although with notable variability between departments and years. In some cases, this category reveals a smaller gender gap compared to inheritance adjudications, possibly due to the specific characteristics of share transactions, which may involve more balanced decision-making within families or patrimonial partnerships.

Overall, the figures reflect that despite some advances in certain departments and transaction categories, Colombian women continue to face significant barriers in accessing land and patrimonial assets through liquidation and adjudication processes. These barriers perpetuate historical gender inequities that manifest in limited access to economic and social opportunities, especially in rural contexts. Studies such as Myking (2004) and Zeitlhofer (2007) have shown how legal restrictions and property systems have consolidated these inequalities globally, and Colombia is no exception.

To address these inequities, it is essential to strengthen gender equity policies in the processes of adjudication and liquidation of patrimonial assets, in addition to promoting cultural changes that recognize women’s roles as landowners and managers. It is also a priority to further investigate the factors that have enabled progress in departments such as Arauca and

Nariño, in order to replicate these good practices in other regions of the country. These efforts must be accompanied by legal and educational reforms that promote a more equitable distribution of assets and property in all contexts, laying the foundation for greater equity and social justice in land access.

3.4 Mortgages

The analysis of mortgage data, considering the gender dimension in this type of transaction, shows how women have gradually increased their participation, although gender gaps with men persist. Across the years analyzed, men continue to represent the majority of mortgage holders, reflecting the traditional predominance of men in financial transactions linked to property. However, the proportion of women participating in mortgage ownership has been rising, signaling a gradual change in dynamics of access to mortgage credit.

Looking at the most recent data from 2022 and 2023, women's participation in mortgages stands out in some rural departments such as Arauca, Caquetá, and Nariño, where the female share of transactions has shown a more significant increase compared to previous years. This could be linked to social and economic changes in which women are using their properties not only as means of cultivation or economic subsistence, but also as financial assets. This phenomenon may also relate to intergenerational care practices, where women access mortgage loans to support their families or invest in activities tied to household well-being.

In general, although women's participation remains lower than men's, they are increasingly accessing mortgage credit as a way to capitalize on their properties. This pattern is also evident in departments with high economic activity such as Cundinamarca and Valle del Cauca, although gender gaps are more pronounced in these urbanized regions. In these departments, women represent around **30–40%** of mortgage transactions, where access is more closely linked to economic factors and their role within household economies.

It is important to note that women who participate in mortgages often face limitations in access to financial and economic resources. Many depend on their roles as primary caregivers, which affects their ability to generate independent income. This situation reinforces gender inequalities in credit markets and land access, perpetuating barriers that have historically constrained women's ability to consolidate economic autonomy.

In sum, the analysis reveals both progress and challenges in women's participation in mortgages. While gradual increases have been observed in women's access to these transactions, gender gaps persist, reflecting the influence of cultural, economic, and social factors. At the same time, the findings reaffirm that women do not only use mortgages as an economic resource, but also as a means to sustain and strengthen their roles within the family and community. The intersection between intergenerational care and access to mortgage credit deserves special attention in public policies aimed at fostering equity in access to financial and property resources.

3.5 Allocation of State-Owned Lands

The analysis of state land allocations highlights the importance of ensuring justice and sustainability in land registration systems, particularly for including the most vulnerable groups such as women and migrants, as emphasized by Toulmin (2009). Historically, land adjudications (*adjudicación de baldíos*) have been a key mechanism for formalizing land ownership in Colombia. However, gender gaps and the exclusion of marginalized populations have limited their potential as a tool for social equity.

Data show that, on average, women have represented a smaller share of land adjudication beneficiaries, with percentages ranging between **30% and 40%** of the total. This pattern has persisted over the years and in most of the departments analyzed, although significant regional differences exist. In departments with high agricultural activity, such as Meta, Caquetá, and Nariño, gender gaps are more pronounced. This is partly due to traditional gender roles that associate land ownership and control with men, perpetuating the exclusion of women from landholding.

In the cases of Arauca and Guaviare—two departments with particular histories of colonization and armed conflict—women’s participation in land adjudications has shown slight increases in recent years. This may be linked to institutional efforts to prioritize female-headed households and displaced populations as beneficiaries in land formalization processes. Nevertheless, these advances remain insufficient to close the structural gaps that hinder equitable land access.

Women’s unequal access to state lands reflects systematic barriers, including lack of access to financial resources, underrepresentation in decision-making processes, and traditional gender roles that limit autonomy. Moreover, in many rural communities, cultural practices and customary norms hinder women’s ability to obtain formal land titles, even when they meet the legal requirements.

The inclusion of migrants and displaced populations also represents a challenge in the context of land adjudications. Despite advances in regulations that aim to prioritize these groups, administrative barriers and lack of adequate information continue to limit their access. This is especially problematic in border regions and areas affected by armed conflict, where land is not only a means of subsistence but also a foundation for economic and social stability.

To move toward more inclusive and sustainable land registration systems, it is essential to implement policies that reduce barriers to access for women and migrants. This includes ensuring transparent and equitable adjudication processes, promoting training and awareness programs on property rights, and strengthening institutional capacities to identify and prioritize vulnerable groups in land formalization processes.

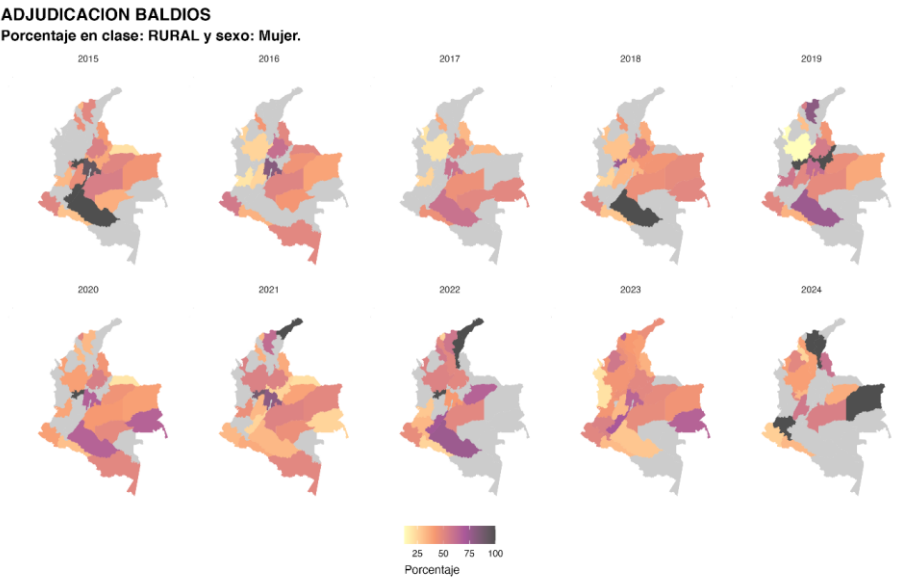


Figure 6. Allocation of state-owned lands to rural women, 2015–2024. Source: Authors’ elaboration based on SNR transactions.

3.6 Why do gender gaps persist? A perspective from the care economy

The analysis of gender gaps in land tenure, from the perspective of the care economy, reveals how structural inequalities persist in Colombia and in other international contexts. Women are overrepresented in lower-skilled jobs and assume the majority of unpaid care work, which limits their access to productive resources and their economic autonomy. In countries such as Ethiopia, research shows that although women participate in agricultural activities, their limited access to resources such as land reduces their productivity compared to men (Gebrehiwot & Ndinda, 2024).

In Colombia, the unequal distribution of land both reflects and perpetuates these gender inequalities. Rural women face significant barriers to accessing, owning, and controlling land, a situation exacerbated by cultural practices and policies that prioritize men as property holders. This unequal access restricts women's economic opportunities and perpetuates rural poverty. Furthermore, the absence of sex-disaggregated data in cadastral databases and real estate transactions hinders a precise understanding of these disparities, limiting the ability to design effective policies to address these inequities.

The inclusion of gender variables in traditional cadastral databases and real estate transactions is crucial to identify patterns of inequality and propose specific solutions. Previous studies have shown that women own less land, both in quantity and quality, which reduces their income-generating capacity and perpetuates inequity (Deere & León, 2003; Guereña, 2017). This lack of information also impedes progress toward achieving the Sustainable Development Goals (SDGs), particularly SDG 5, which calls for gender equality and the empowerment of women.

The implementation of the Final Peace Agreement further underscores the need for a multipurpose cadastre to formalize land ownership. However, women face additional barriers due to patriarchal practices that make it difficult to prove their relationship with property. This highlights the urgency of identifying and recognizing diverse forms of tenure in the national cadastre to ensure that women equitably access the benefits of land formalization.

Land registration systems in Colombia reproduce these inequalities by prioritizing men as representatives in property records, overlooking women's economic and social contributions. These barriers not only reflect entrenched cultural norms but also the absence of institutional frameworks that promote gender equity in land tenure, despite a robust legal framework that includes laws such as Law 160 of 1994, Law 1257 of 2008, and Law 1448 of 2011, among others.

This research seeks to close these gaps by collecting sex-disaggregated data to better understand and address disparities in land tenure. Updated empirical information will serve as a baseline to monitor progress in the multipurpose cadastre and to design inclusive public policies. Moreover, it will contribute to fulfilling both international and national commitments, including the SDGs, by promoting equitable access to land as a tool for inclusive and sustainable development in Colombia. Guaranteeing women's rights in this domain is a necessary condition for advancing social justice, reducing poverty, and strengthening territorial cohesion.

4. DISCUSSION - TERRITORIAL ANDROCENTRISM AND CARE WORK: INEQUALITIES IN LAND TENURE IN COLOMBIA

Colombian rurality has historically been shaped by institutional exclusion, territorial conflict, and patriarchal structures that produce an unequal distribution of land (Botero & Serrano, 2021). These factors are reflected not only in forced dispossession or state abandonment (Bedoya, 2013; Martínez, 2021) but also in structural and everyday practices that limit women's access to property rights, particularly when their economic contributions are neither recognized nor valued in current urban and rural cultural contexts (Moreno, 2017; Amariles, 2019).

As noted by Meertens (2016) and Gómez & Sanabria (2020), land dispossession and the lack of legal recognition of women's rights are not isolated events but the result of cultural and legal patterns that have historically subordinated the feminine through an androcentric order. The care economy, understood as the set of unpaid activities oriented toward sustaining life, becomes an invisible yet structural axis of this exclusion. As this study demonstrates, there is an inverse correlation between the intensity of unpaid care work and women's land ownership: the greater the burden of domestic and care work, the fewer the opportunities for women to formalize land rights. This relationship is sustained by at least three interconnected factors: first, the lack of remuneration for this labor limits women's ability to save; second, this financial constraint reduces their purchasing power; and third, this economic limitation restricts their participation in the land market, whether through acquisition or formalization via sales transactions (Deere, Lastarria-Cornhiel & Ranaboldo, 2011). In addition, women face further barriers in inheritance processes. As León and Deere (2000) emphasize, women are less likely to inherit land due to perceptions that they are incapable of managing productive landholdings, as well as social practices that reinforce this exclusion by denying them ownership on the grounds of presumed incapacity.

These forms of exclusion are not new, but they become more evident when technical instruments are available to map them. The mandatory inclusion of the sex variable in the Multipurpose Cadastre, established by IGAC Resolution 746 of 2024, has made it possible to generate disaggregated data that, for the first time at the parcel scale, reveal the unequal distribution of property by gender. This technical innovation must be understood as a step toward deeper distributive justice, as it transforms the cadastre into a tool not only for territorial management but also for diagnosing structural gaps. Linking the recognition of the care economy, as established in Article 9 of Decree Law 902 of 2017, with formalization processes expands the concept of land use to include women's previously invisible contributions to territorial sustainability.

As Sueli (2017) warns, land policies are the outcome of symbolic and material disputes among multiple actors, where representations of class, ethnicity, age, and gender intersect. Incorporating a feminist and intersectional perspective into cadastral and land policies is not a concession but a necessity to overcome the epistemic inequalities that have historically rendered women's place in the territory invisible. Women's participation in restitution and formalization processes—particularly those who have been victims of armed conflict and territorial dispossession—must be accompanied by reparative actions that recognize both their property rights and the economic and symbolic value of their reproductive labor (Meertens, 2016).

In this regard, the Multipurpose Cadastre not only records the physical-legal status of property but also incorporates a relational and social dimension into territorial analysis. By including gender data, it creates the possibility of aligning territorial planning with public policies sensitive to care, redistributing responsibilities, and strengthening the recognition of women as rights-bearing subjects. This transformation is crucial in a country like Colombia, where the Comprehensive Rural Reform—although pioneering in incorporating a gender perspective

in a peace process—still lacks adequate monitoring tools and citizen oversight to assess its implementation from a differential perspective (Botero & Serrano, 2021).

Finally, by linking this study's findings with theoretical and normative debates, it becomes clear that women's land tenure cannot be separated from the social conditions under which their everyday work takes place. Incorporating the value of care into decisions on formalization, titling, and land use is not only an act of social justice but also a strategy to guarantee the sustainability of rural territories. Only when women recognize themselves and are recognized as rights-bearing subjects, and when the State designs instruments that make their economic and social contributions visible and valued, will it be possible to move toward a more equitable and inclusive territorial contract.

5. CONCLUSIÓN

- Persistence of Gender Gaps in Land Tenure: The analysis shows that women continue to face significant inequalities in access to, control over, and ownership of land in Colombia. These gaps are influenced by cultural, legal, and economic practices that have historically favored men, limiting rural women's economic autonomy and their ability to participate in development processes.
- Impact of the Care Economy: Women are overrepresented in unpaid care activities, which restricts their time and resources to access productive opportunities, including land acquisition and control. This phenomenon perpetuates economic inequities and reinforces women's dependence on family or patriarchal structures.
- Limitations in Sex-Disaggregated Data: The lack of sex-disaggregated cadastral and real estate transaction data hinders a precise understanding of inequality dynamics in land tenure. This information gap limits the ability of the State and other institutions to design effective policies and programs to address these inequities.
- Role of the Multipurpose Cadastre in Reducing Gaps: The implementation of the multipurpose cadastre, within the framework of the Final Peace Agreement, represents a crucial opportunity to advance land formalization with a gender perspective. However, it is necessary to ensure that women are recognized as legitimate landholders, overcoming the legal and cultural barriers that have historically excluded them.
- Evidence for Public Policy Design: The findings highlight the need to strengthen institutional capacities to collect, analyze, and use sex-disaggregated data. This will make it possible to identify inequality patterns and monitor progress toward a more equitable land distribution, aligned with the Sustainable Development Goals, particularly SDG 5.
- Legal and Institutional Implications: Despite a strong legal framework that promotes gender equity in land tenure, implementation remains insufficient. An integrated approach combining public policy changes, legal reforms, and social awareness is required to guarantee women's rights to land ownership and use.
- Importance of Recognizing Diverse Forms of Tenure: To ensure justice and sustainability in land registration systems, it is essential to recognize and include forms of tenure that reflect the social and cultural realities of rural communities, especially those of women.

- Research Contributions: This study provides both empirical and theoretical insights into gender dynamics in land tenure in Colombia, offering a baseline for future research and guidance for the design of more inclusive public policies.

REFERENCES

Agarwal, D. (2003). Gender and land rights revisited: Exploring new prospects via the state, family and market. *International Journal of Urban and Regional Research*, 27(4), 758–781.

Amariles Padilla, V. A., & López Moreno, M. G. (2019). *Cuidados y nueva ruralidad: aportes para la política pública de mujer y género en el municipio de Chía, Cundinamarca*.

Ayano, M. F. (2018). Rural land registration in Ethiopia: Myths and realities. *Law & Society Review*, 52(4), 1060–1092.

Bedoya, M. A. C. (2013). El desplazamiento forzado en Colombia y su ardua reparación. *Araucaria. Revista Iberoamericana de Filosofía, Política y Humanidades*, 15(29), 169–188.

Brondo, K. V. (2013). Land loss and Garifuna women's activism on Honduras' north coast. *Journal of International Women's Studies*, 9(1).

Congreso de Colombia. (2010). Resolución No. 1413: Por medio de la cual se regula la inclusión de la economía del cuidado en el sistema de cuentas nacionales. República de Colombia.

DANE–MADR. (2021). *Nota estadística: Situación de las mujeres rurales*. Bogotá: Departamento Administrativo Nacional de Estadística.

DANE. (2022). *Encuesta Nacional de Uso del Tiempo 2020–2021*. Bogotá: Departamento Administrativo Nacional de Estadística.

DANE. (2018). *Censo Nacional de Población y Vivienda 2018*. Bogotá: Departamento Administrativo Nacional de Estadística.

Deere, C. D. (2011). Tierra y autonomía económica de la mujer rural: Avances y desafíos para la investigación. En *Tierra de mujeres: Reflexiones sobre el acceso de las mujeres rurales a la tierra en América Latina* (pp. 41–69). Santiago: CEPAL.

Deere, C. D., Lastarria-Cornhiel, S., & Ranaboldo, C. (2011). Reflexiones sobre el acceso de las mujeres rurales a la tierra en América Latina. Fundación TIERRA.

Deere, C. D., & León, M. (2000). *Género, propiedad y empoderamiento: tierra, Estado y mercado en América Latina*. Bogotá: Universidad Nacional de Colombia.

Garin Contreras, A., Salvo Garrido, S., & Bravo Araneda, G. (2009). Trends in residential segregation in Chile. *Revista de Ciencias Sociales*, 15(3), 407–418.

Gebrehiwot, N., & Ndinda, C. (2024). Do gender disparities in socioeconomic status affect Teff productivity? A comparative analysis in Ethiopia. *CABI Agriculture and Bioscience*, 5(16).

Guereña, A. (2017). *Radiografía de la desigualdad: Lo que nos dice el último Censo Agropecuario sobre la distribución de la tierra en Colombia*. Bogotá: Oxfam.

Gómez Mendoza, M. J., & Sanabria Torres, L. P. (2020). Las mujeres rurales y su derecho a la tierra: Retos de la política pública en Colombia. *Trabajo Social*, 22(1), 85–104. Bogotá: Universidad Nacional de Colombia.

IGAC. (2024). *Concentración de la propiedad de la tierra en Colombia*. Bogotá: Instituto Geográfico Agustín Codazzi.

IGAC. (2023). *Bases de datos catastrales tradicionales y del Catastro Multipropósito*. [Datos internos procesados por la Dirección de Investigación y Prospectiva].

Ingwani, E. (2021). Struggles of women to access and hold land use and other land property rights under the customary tenure system in peri-urban communal areas of Zimbabwe. *Land*, 10(6), 649.

Martínez-Luna, W. F. (2021). Causas del despojo y abandono forzado de tierras en Colombia: Una mirada desde el derecho privado. *Vniversitas*, 70.

Marín, A. M. F. (2024). El cuidado no remunerado, ese trabajo invisibilizado que sustenta la vida y que es capaz de poner en jaque nuestro futuro. *Observatorio Económico*, 185, 6–8.

Meertens, D. (2016). Entre el despojo y la restitución: Reflexiones sobre género, justicia y retorno en la costa Caribe colombiana. *Revista Colombiana de Antropología*, 52(2), 45–71.

Meertens, D. (2016). Tierra, mujer y posconflicto: Desafíos para la reparación y la restitución. *Revista de Estudios Sociales*, 55, 50–63.

Ministerio de Agricultura. (2024). Decreto 1396 de 2024: Programa especial de adjudicación de tierras para las mujeres rurales.

Moreno Salamanca, E. N. (2017). *La economía invisible: División social y sexual del trabajo doméstico y de cuidado no remunerado y uso del tiempo de las mujeres en Bogotá*. [Tesis doctoral].

Myking, J. R. (2004). Attractive marriage partners? Tenant widows and remarriages in western Norway in the seventeenth and eighteenth century. *Scandinavian Journal of History*, 29(3–4), 233–252.

Oxfam. (2017). *Radiografía de la desigualdad: Lo que nos dice el último Censo Agropecuario sobre la distribución de la tierra en Colombia*. Bogotá: Oxfam América.

Parques Nacionales Naturales. (2024). *Registro Único de Áreas Protegidas – RUNAP*.

Prosnitz, B. (2023). Indebtedness to care: Land, loans, and love in financializing Nepal. *The Journal of Peasant Studies*, 51(2), 318–338.

Resguardos Indígenas y TCN Formalizados. (2024). Agencia Nacional de Tierras – Dirección de Asuntos Étnicos. *Colombia en Mapas*.

Resolución IGAC 746 de 2024. Por la cual se establece la obligatoriedad de la variable sexo en el modelo de datos del componente jurídico catastral. Instituto Geográfico Agustín Codazzi.

Sitko, N. J. (2011). Fractured governance and local frictions: The exclusionary nature of a clandestine land market in Southern Zambia. *Africa*, 80(1), 36–55.

Sánchez, R. E. S. (2024). La invisibilización del trabajo doméstico no remunerado y el continuum de violencia contra las mujeres. En *Voces de lo invisible: Comisarias de familia y casos de violencias de pareja* (p. 119).

Van Rompaey, E., & Scavino Solari, S. (2020). La “trampa de género” en la invisibilización de la dimensión emocional en el trabajo remunerado de cuidados. *Ciudadanías. Revista de Políticas Sociales Urbanas*, 7.

Zeitlhofer, H. (2007). Land, family and the transmission of property in a rural society of South Bohemia, 1651–1840. *Continuity and Change*, 22(3), 489–518.

BIOGRAPHICAL NOTES

Andrea Marín Salazar

PhD candidate in Demography at the National University of Córdoba (Argentina). She holds a master's degree in Population Studies from the Externado University of Colombia, a Specialization in Demographic Methods Analysis, and a Specialization in Remote Sensing and GIS from the National University of Luján (Argentina). She is also a Cadastral and Geodesy Engineer from the Francisco José de Caldas District University.

ORCID: <https://orcid.org/0000-0002-4649-438X>

Johan Avendaño Arias

PhD in Development, Territory and Society from the School of Advanced Studies in Social Sciences (EHESS), Paris, France. Director of Research and Foresight at the Agustín Codazzi Geographic Institute. Research Professor at the Francisco José de Caldas District University.

Email: jaavendanoa@correo.udistrital.edu.co

ORCID: <https://orcid.org/0000-0002-7193-2070>

Joseph Cupitra

Is a cadastral engineer and geodesist. His experience focuses on training processes in property recognition and on the design of courses within the framework of multipurpose cadastre. He has participated in supporting social projects aimed at community education and the strengthening of local capacities.

ORCID: 0009-0002-1165-7262

Mauricio Cortés

Specialist in Geography and Environmental Land Management and a Cadastral and Geodetic Engineer. Her professional training enables her to generate, analyze, and manage spatial information to support decision-making in the planning and use of natural resources and human activities for sustainable development. She is well-prepared to work with modern geoinformation and geomatics technologies, particularly Geographic Information Systems (GIS).

<https://orcid.org/0009-0000-7289-2202>

Daniela Herrera

Architect with a specialization in Geography and Environmental Management of the Territory, with experience in research projects, the development of urban and architectural projects, as well as in the evaluation, monitoring, and formulation of land-use planning strategies.

ORCID iD: 0009-0007-9664-5514

CONTACTS**Yenny Andrea Marín Salazar**

Instituto Geográfico Agustín Codazzi y Universidad Distrital Francisco José de Caldas
Bogotá

COLOMBIA

E-mail: Andrea.marin.salazar@mi.umc.edu.ar

<https://www.linkedin.com/in/yenny-andrea-marin-salazar-a86a46331/>

Johan Andrés Avendaño

Instituto Geográfico Agustín Codazzi
Bogotá

COLOMBIA

E-mail: Johan.avendano@igac.gov.co

<https://www.linkedin.com/in/johan-avenda%C3%B1o-arias-b5657a34/>

Joseph Steven Rodriguez Cupitra

Instituto Geográfico Agustín Codazzi
Bogotá

COLOMBIA

E-mail: joseph.rodriguez@igac.gov.co

<https://www.linkedin.com/in/joseph-steven-rodriguez-cupitra-968763275/>

Daniela Fernanda Herrera Vargas

Instituto Geográfico Agustín Codazzi
Bogotá

COLOMBIA

E-mail: dherrerav.arq@gmail.com

<https://www.linkedin.com/in/daniela-herrera-/>