"They Didn't Pay Us For Our Memories"

Environmental Racism, Forced Displacement, and the Industrial Buyout of Mossville, Louisiana

UNIVERSITY NETWORK FOR HUMAN RIGHTS

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Acknowledgements and Notes

This report by the University Network for Human Rights (UNHR) is the result of a two-year engagement with current and former residents of Mossville, Louisiana. The project was led and overseen by Ruhan Nagra.[1] The authors of the report are Joshua Petersen,[2] Ruhan Nagra, and Margot Lurie.[3]

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Table of Contents

1. EXECUTIVE SUMMARY

Founded in 1790 by formerly enslaved people and their families, the community of Mossville, Louisiana is one of the earliest pre-Civil War settlements of free Black people in the South. Since the 1940s, at least fourteen industrial facilities—including the South African chemical company Sasol—have steadily encroached on the community's historic boundaries.

In December 2012, Sasol announced plans to expand its Louisiana complex with the addition of two new facilities—an ethylene cracker and a gas-to-liquid plant. Sasol began approaching property owners whose property was considered essential for the planned expansion. The company engaged in one-on-one negotiations with these property owners, who were predominantly white, to acquire their properties. In July 2013, Sasol announced the launch of its Voluntary Property Purchase Program (VPPP), a buyout scheme through which residents of two areas—Mossville, which was 90% Black, and Brentwood, which was 90% white—could sell their properties to the company through a fixed and formulaic process that did not allow for negotiations of property sale values.

Over the next few years, most Mossville residents participated in the VPPP and relocated. Touting its buyout program as "the most generous in history," Sasol has developed a sophisticated messaging campaign and largely controlled the narrative about the industrial buyout of Mossville. According to a local elected official at the time, "if you were to write a handbook about how to do what is right in a community or for a community, Sasol has written that handbook."

This report by the University Network for Human Rights is the result of a two-year investigation of the Sasol buyout of Mossville. We sought to understand and document (1) how Mossville residents experienced the VPPP; (2) the potential role of race in determining relative buyout offers for Mossville residents and residents of predominantly white areas; (3) whether the Sasol buyout of Mossville conformed with international guidelines and best practices for industrial buyouts; and (4) whether the Sasol buyout was, indeed, "the most generous in history" and how it compares with other industrial buyouts.

First, through qualitative analysis of in-depth, semi-structured interviews with former Mossville residents from 32 households who participated in the VPPP and relocated, we found that (1) interviewees from 22 households experienced the VPPP as forced displacement; (2) interviewees from 22 households were unsatisfied with the amount of financial compensation they received, and for a number of these interviewees, compensation was insufficient for relocation to a home of similar quality; and (3) interviewees from 20 households experienced emotional and psychological distress as a result of the VPPP, and this distress was often rooted in feelings of profound loss and injustice. As one interviewee said, "They didn't pay us for our memories."

Second, through quantitative analysis of all sales of residential property to Sasol during the buyout period, we found that (1) outside the VPPP area—that is, in the predominantly white areas where property owners were able to negotiate their sale prices—property transaction amounts were, on average, about 82% higher than those in Mossville; (2) in Brentwood—that is, the 90% white area that was part of the VPPP along with Mossville—property transaction amounts were, on average, about 88% higher than those in Mossville; and (3) there was no statistically significant difference between average property transaction amounts in Brentwood and outside the VPPP area. When considered alongside social science literature on the contemporary housing appraisal system, these data strongly suggest that the VPPP was racially discriminatory. Moreover, we conclude that the VPPP's use of appraisals based on comparable properties (the "comps-based" approach) may have resulted in buyout offers that did not reflect the true value of homes in Mossville.

Third, we found that Sasol failed to adhere to international norms, standards, and best practices for industrial buyouts, which include (1) community consultation; (2) individual negotiation and compensation at full replacement cost; (3) an option for community resettlement; (4) livelihood restoration and improvement; (5) a right to project benefits; and (6) respect for marginalized groups.

Fourth, we found that, far from being "the most generous buyout in history," Sasol's buyout was on par with other industrial buyouts in Louisiana and less generous than some buyouts in other parts of the United States and around the world.

2. MOSSVILLE'S HISTORY

Mossville is a small community in southwest Louisiana's Calcasieu Parish, approximately 35 miles from the Louisiana-Texas border. The community is about five square miles in area, and through 2008, it was home to at least 375 households.[5,6]

In this section, we examine Mossville and Calcasieu Parish over the course of their political, environmental, and industrial development. Throughout its history, Mossville has been caught between two worlds. First, the self-sufficient community has been a safe haven for Black Americans even prior to Louisiana's incorporation into the United States. Founded by families of formerly enslaved people, the centuries-old town has come to represent the long struggle for Black independence and equal treatment in the US. At the same time, parish and state governmental bodies have consistently denied Mossville full political autonomy, and as such, the community was unable to stave off the encroachment and influence of industry, particularly petrochemicals. Increasingly over the last century, the petroleum, chemical, and energy sectors have contaminated Mossville's environment. Despite the tenacious activism of community leaders and environmental advocates, local, state, and federal officials have both failed to right past environmental wrongs and failed to prevent new polluting bodies from entering the area.

It is against the backdrop of this history that Sasol—the South African fossil fuel company heavily involved in apartheid-era industrialism[7]—chose to launch a massive facility expansion at the fenceline of one of Louisiana's oldest historically Black communities.

A. Introduction to Mossville

Mossville holds special significance in Louisiana's African American history. Formerly enslaved people and their families founded the town in 1790, [8] and many of Mossville's residents can still trace their lineage back to one or more of the community's original settlers. Named for Jim

[5] The square mileage estimate is based on historic boundaries given in: Lisa Jordan and Devin Lowell, "Comments on 2020 Louisiana Annual Monitoring Network Plan," Tulane Environmental Law Clinic (2020); Walker and Harden (2008; see next footnote).

[6] Nathalie Walker and Monique Harden, "Second Amended Petition Petitioners' Observations on the Government's Reply Concerning the United States Government's Failure to Protect the Human Rights of the Residents of Mossville," Petition Submitted to the Inter-American Commission on Human Rights, Petition Number: P-242-05, (2008).

[7] Stephen John Sparks, *Apartheid Modern: South Africa's Oil from Coal Project and the history of a South African company town*, (2012). https://deepblue.lib.umich.edu/bitstream/handle/2027.42/91528/sparkss_1.pdf?sequence=1&isAllowed=y.

[8] Walker and Harden (2008)

Moss, one of its founding members,[9] Mossville is one of the earliest pre-Civil War settlements of free Black people in the South.[10]

For decades, the Mossville community served as a refuge for Black people—a place where they could experience "genuine freedom from White oppression,"[11] including the vestiges of slavery, lynching, the Ku Klux Klan, and Jim Crow. Known as "Freedom Colonies" or "Freedmans' Towns," Black-founded Southern communities such as Mossville maintain cultural importance and historical gravity within contemporary African American life. In such Freedmans' Towns, Black people could seek "economic opportunities … the chance to live with members of their own group and be in charge of their own destiny, the prospect of personal and family safety, and freedom from White domination."[12] These towns were "enclaves [of] racial fulfillment and self-realization"[13] where Black people could "live largely self-sustaining, independent lives on their own property."[14] Today, Black-founded towns remain safe havens for Black Americans, and the descendants of their founders frequently retain cultural attachments to these rural communities, even if the descendants have since moved away.[15] In many ways, Freedmans' Towns such as Mossville symbolize and memorialize for their residents the centuries-long struggle for freedom, autonomy, and equal protections for Black people in the United States.[16] As such, Mossville and its graveyards, churches, and squares form a site of immovable cultural property and an "irreplaceable resource … provid[ing] the underpinning of a group identity in a spatial and temporal context."[17] As cultural law experts Sherry Hutt and Timothy McKeown have noted, access to such cultural property is a human right, as these pieces of history serve "as a bond against enslaving people by diminishing the importance of their existence."[18] In other words: Mossville's living history is a cultural testament to the history and struggle of all Black Americans.

For nearly two centuries, Mossville was a thriving, self-sufficient community. By the early 1900s, Mossville had its own post office and businesses, despite the state's refusal to confer official recognition of the town.[19] Until a few decades ago, many Mossville residents still relied on subsistence agriculture, fishing, and hunting.[20] The nearby Calcasieu Estuary provided the

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[9] Tim Murphy, *A Massive Chemical Plant is Poised to Wipe This Louisiana Town off the Map*, (2014). https://www.motherjones.com/environment/2014/03/sasol-mossville-louisiana/.

[10] Heather Rogers, *Erasing Mossville: How Pollution Killed a Louisiana Town*, (2015). https://theintercept.com/2015/11/04/erasing-mossville-how-pollution-killed-a-louisiana-town/.

[11] William J. McAuley, *History, Race, and Attachment to Place Among Elders in the Rural All-Black Towns of Oklahoma*, Journal of Gerontology: Social Sciences, 53B (1): S35-S45, (1998), p. 38

[12] *ibid*

[13] *ibid*

[14] Andrea Roberts, *Saving Texas Freedom Colonies*, Preservation Texas, (2020), p. 1.

[15] Andrea Roberts and Melina Matos, *Adaptive liminality: Bridging and bonding social capital between urban and rural Black meccas*, Journal of Urban Affairs, (2020).

[16] Roberts (2020); Roberts and Matos (2020); McAuley (1998).

[17] Sherry Hutt and Timothy McKeown, "Control of Cultural Property as Human Rights Law," The Arizona State Law Journal (1998).

[18] Hutt and McKeown, (1998)

[19] Heather Rogers, *Erasing Mossville: How Pollution Killed a Louisiana Town*, (2015).

[20] Shirley Andrus and Carolyn Marshall, Mossville Oral History Project;

town abundant natural resources. Residents still speak fondly of a time when they pulled fish out of the nearby water, raised livestock, and tended gardens. As one community member recalls, "we grew our own vegetables […a]nd most of the meat and stuff. Chicken, cows, pigs."[21] Residents remember a close-knit community in which neighbors took care of one another: "[Mossville residents] lived off the land and most of their living was through helping one another in the community."[22] Many residents speak of a community in which "everybody knew everybody"[23] and "[in] everything that we did we looked out for each other."[24] Mossville was a "safe haven for African Americans."[25] Residents cherished their way of life in Mossville, which was distinct from that of many surrounding communities in southwestern Louisiana. In many ways, Mossville was unique and irreplaceable, shaped by nearly two centuries of the struggle for civil rights, liberation, and Black self-sufficiency in the US South.

B. Political history of Mossville

Despite its residents' long history of self-governance, Mossville has long been subject to the influence of powerful external political forces, including state government, local bodies, and—more recently—industrial entities.[26] Because administrative forces have not recognized Mossville's political incorporation, the town has often lacked recourse when faced with obstacles or rights abuse.[27] In particular, Mossville's inability to self-regulate its own local matters has had major political-economic and environmental effects. Mossville has little control over its political economy, as outside government actors at the parish and state level determine matters such as zoning and taxes.[28] Relatedly, Mossville lacks the power to regulate the presence of polluting industries in the town, which have had severe effects on residents' physical and mental health.[29]

One may trace Mossville's lack of political autonomy to the town's origins. At the time of Mossville's settlement, France still controlled the surrounding territory.[30] While the French allowed Black people to hold property, they prohibited Black communities from incorporating – that is, forming a legally-recognized, and thereby autonomous, community. Following the Louisiana Purchase in 1803, the Louisiana government—now under the domain of the United States—continued to deny Black towns the right to incorporate.[31] When Louisiana became a state in 1846, "[t]he [state] legislature also passed racial restrictions on the election of police

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Rebecca Johnson, *The Exodus of the People of Mossville*, Race, Poverty, and the Environment 21(2), (2017), p. 75

[21] Carolyn Marshall, Mossville Oral History Project.

[22] Christine Bennett, Mossville Oral History Project.

[23] Lenoria Ambrose, Evelyn Gasaway Shelton (in combined interview with Dorothy Felix), Christine Bennett, Mossville Oral History Project.

[24] Christine Bennett, Mossville Oral History Project

[25] Dorothy Felix, Mossville Oral History Project, see also Christine Bennett, Mossville Oral History Project

[26] Rebecca Johnson, *The Exodus of the People of Mossville*, Race, Poverty, and the Environment 21(2), (2017), p. 75

[27] Walker and Harden (2008)

[28] Walker and Harden (2008)

[29] Jordan and Lowell (2020)

[30] Johnson (2017)

[31] Quigley and Zaki, *The Significance of Race: Legislative Racial Discrimination in Louisiana, 1803-1865, (*1997).

jurors, town council members and on the creation of towns."[32] Due to its unincorporated status, Mossville was denied representation in local government, lacked the ability to levy local taxes, and could not regulate town matters such as zoning. Decisions concerning the town were made by all-white governing bodies rather than by Mossville's own residents. This largely remains true today.[33]

Throughout the US South, white legislatures and municipalities frequently denied Black towns the right to incorporate as a tool of political subjugation following the Civil War. [34] This political strategy was particularly common in rural Black settlements adjacent to white municipalities. Allowing Black towns to incorporate could have changed the regional balance of power by giving formal voice to Black communities. Furthermore, incorporation would have required white municipalities to extend services, such as water and electricity, to peripheral Black towns. Instead, "Black exclusion and white economic interests… converge[d] around issues of commercial and residential zoning, racial gerrymandering… and the provision or denial of public services in fringe neighborhoods with a large black or poor population."[35] In Mossville, the Calcasieu Parish Police Jury[36] (similar to a county commission) made zoning decisions that facilitated the rapid expansion of industrial activity.[37] As an unincorporated entity, Mossville lacked the capacity to regulate against industrial encroachment or pollution. To this day, the Calcasieu Parish Police Jury continues to make decisions that affect Mossville residents but are neither checked nor balanced by a formal Mossville government.[38] These observations underscore how the racial caste system of the eighteenth-century still echoes through the present, continuing to prevent Mossville residents from fully controlling their own destiny.

C. Industrial history of Mossville

The petrochemical industry entered Mossville in the 1940s, and through a series of decisions at the local and state level, continued to steadily encroached upon the community without the input and consent of its residents. [39] The 1901 discovery of oil in Jennings piqued the petroleum industry's interest in Louisiana. In a matter of years, several companies started to extract oil statewide. To accommodate industry's interest in the region, the Calcasieu Ship Channel was

[32] *Ibid* p. 191-92.; source cites Acts of Feb 9 1846 of First Legislature of Louisiana, Act No. 148.
[33] Walker and Harden (2008)
[34] Daniel Lichter, Dominico Parisi, Steven Grice, and Michael Taquino, "Racial Segregation in Small Towns: Municipal Unbounding and Racial Exclusion", Urban Sociology (2007).
[35] Lichter et al. (2007), p.50.
[36] Police juries themselves have a strong historical connection to the racial subjugation of Black Americans. The state act establishing police juries in 1811 assigns the jury the duty to maintain "a gendarmerie whose duty it shall be specially to go after runaway negroes and to maintain good order among the slaves."
Source: *Acts Passed at the First Session of the Second Legislature of the Territory of Orleans: Begun and Held in the City of New-Orleans, on Monday, the Eighteenth Day of January, in the Year of Our Lord, One Thousand Eight Hundred and Eight, and of the Independence of the United States of America, the Thirty-second*, (1808), p 180.
[37] Johnson (2017); Walker and Harden (2008)
[38] Walker and Harden (2008)
[39] Johnson (2017); Walker and Harden (2008)

opened in 1926, which connected Lake Charles to the Gulf of Mexico.[40] The channel was used so widely that the port of Lake Charles required expansion; the channel was widened and deepened by 1938.[41] The region's significant transportation infrastructure made the Mossville area an attractive location for the petrochemical industry. Moreover, in 1936 the state passed a 10-year industrial tax exemption to attract companies to the area.[42] The tax exemption remains in place today, and corporations can effectively make use of its terms indefinitely—each time a facility expands or makes improvements, it is eligible to reapply for the exemption anew.[43] Sasol made use of this 10-year exemption for its recent expansion. The state awarded the corporation up to $257 million in incentives, including an industrial property tax abatement.[44] In fact, Calcasieu Parish contains the second-highest number of industrial facilities that receive tax exemptions in all of Louisiana.[45] Additionally, the all-white Calcasieu Parish Police Jury has repeatedly re-zoned parts of Mossville for hazardous industrial development and heavy industry, despite their proximity to residential areas.[46]

D. Health and environmental effects of the petrochemical industry

Mossville is the most industrialized part of Calcasieu Parish.[47] There are four industrial facilities within the historic boundaries of the community and many more within a one-half mile radius of the town.[48] At least fourteen facilities have encroached on the community's historic boundaries over time.[49] The proximity of these facilities to residential areas has gravely harmed the Mossville community.

Parish- and state-facilitated industrial growth has had wide-ranging environmental and health effects in Calcasieu Parish and Mossville in particular. Many of the chemicals released in Mossville have known, adverse human health effects, including elevated cancer risks, mental health impacts, and effects on "immune, respiratory, cardiovascular, nervous, and reproductive systems."[50] In 2019, industrial facilities released over 12,600,000 pounds (6,300 tons) of toxic chemicals within 5 miles of Mossville alone (See Table 1) (TRI).[51]

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[40] Rick Mullin, *Mossville's end*, (2016).
[41] Port of Lake Charles, *Why the Calcasieu Ship Channel is Vital to the Region's Economic Success*, (2014).
[42] Walker and Harden (2008); Johnson 2017
[43] "The exemption applies to all improvements to land, buildings, machinery, equipment, and any other property that is part of the manufacturing process."
[44] Richard Thompson, "Giving Away Louisiana"*,* The Advocate, Dec. 11 2014; Mullin (2016).
[45] Walker and Harden (2008), p. 37
[46] Walker and Harden (2008), p. 33-34
[47] Lisa Jordan and Devin Lowell, "Comments on 2020 Louisiana Annual Monitoring Network Plan," Tulane Environmental Law Clinic (2020)
[48] Walker and Harden (2008)
[49] Lisa Jordan, "Comments on Part 70 operating permit renewal and modification, Ethylene Unit, Lake Charles Chemical Complex, Sasol Chemicals (USA) LLC, Westlake, Calcasieu Parish, Louisiana," (Public Comment), Tulane Environmental Law Clinic (2020)
[50] Walker and Harden (2008), p. 3
[51] Toxics Release Inventory (search: Mossville, LA, facilities within 5 miles).

Table 1 below summarizes the chemicals released near Mossville in 2019.

Table 1. Chemicals released in Mossville, 2019 (TRI)

Chemical	Total Releases	Percent of Total
Manganese and manganese compounds	4,012,817	31.8%
Hexane, n-	434,459	3.4%
Nitrate compounds	2,525,517	20%
Ethylene	1,996,503	15.8%
Hydrogen cyanide	168,072	1.3%
Sulfuric acid	341,266	2.7%
Propylene	752,426	6%
Barium and barium compounds	373,890	3%
Ammonia	258,590	2%
Vanadium and vanadium compounds	260,490	2.1%
Others	1,508,882	11.9%

The EPA's Toxic Release Inventory (TRI) relies on data self-reported by industry. Studies show that industry-reported data tend to systematically underreport emissions, so there is reason to believe that emissions in and around Mossville are even higher than the TRI suggests.[52] In addition, some chemicals released by industrial facilities are not regulated by existing environmental laws and therefore go unreported.[53] Finally, existing environmental regulations do not consider the cumulative effects of the release of many different chemicals in a single area.[54] In other words, a particular geographic area may be exposed to cumulatively unsafe levels of pollutants even if no particular facility is emitting illegal levels of a pollutant. As a result of these legal and regulatory gaps, facilities continue to receive permits to pollute despite strong evidence of Mossville's already-high pollution burden.[55]

According to the EPA's National Air Toxics Assessment (NATA), which estimates health risks from air pollution in the United States, Mossville is in the 99th percentile for risk of cancer and risk of respiratory hazard nationwide and in the 96th percentile for these risks at the state level.[56]

The EPA's Risk-Screening Environmental Indicators (RSEI) model scores pollutants according to their "potential for chronic human health risk." Higher scores correspond to higher health risks. According to the EPA, if one chemical's RSEI score is ten times higher than another, then that

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[52] Walker and Harden (2008), p. 69

[53] Jordan (2020)

[54] *Ibid*

[55] *Ibid*

[56] EPA EJScreen search of Mossville, Louisiana: https://ejscreen.epa.gov/mapper/

chemical has a ten times greater health risk. The tables below outline the most toxic chemicals released in Mossville, according to their RSEI Score (Table 2) and the potential health effects of the most common and most toxic chemicals released in Mossville (Table 3).

Table 2. Chemicals Released in Mossville with the Highest RSEI Score[57] in 2019 (TRI)

Chemical	RSEI Score	Percent of Total
Ethylene oxide	464,991	46.8%
Dichloroethane, 1,2-	76,509	7.7%
Butadiene, 1,3-	47,957	4.8%
Hydrazine	59,820	6%
Benzene	37,092	3.7%
Dioxin and dioxin-like compounds	155,936	15.7%
Polycyclic aromatic compounds	39,302	4%
Chromium and chromium compounds	16,588	1.7%
Chlorine	14,121	1.4%
Sulfuric acid	12,341	1.2%
Others	68,706	6.9%

Table 3. Potential Health Effects of Chemicals Released (TRI)[58]

Chemicals	Potential Health Effects
Manganese and manganese compounds	Neurological
Hexane, n-	Neurological
Nitrate compounds	Developmental, Hematological
Ethylene	-
Hydrogen cyanide	Endocrine, Hematological, Neurological, Reproductive
Sulfuric acid	Respiratory
Propylene	Respiratory
Barium and barium compounds	Cardiovascular, Renal
Ammonia	Ocular, Other Systemic, Respiratory
Vanadium and vanadium compounds	Hematological, Respiratory
Ethylene oxide	Cancer, Neurological, Renal
Dichloroethane, 1,2-	Cancer, Hepatic, Renal
Butadiene, 1,3-	Cancer, Developmental, Reproductive
Hydrazine	Cancer, Endocrine, Hepatic

[57] The RSEI Score is a measure "of the size of the chemical release, the fate and transport of the chemical through the environment, the size and location of the exposed population, and the chemical's toxicity." The chart indicates that the chemicals of most concern in Mossville are not necessarily those released in the highest quantities (as reported in Table 1). Source: EPA, "Understanding RSEI Results"
[58] Toxics Release Inventory, "Potential Health Effects" (search: Mossville, Louisiana, facilities within 5 miles)

Benzene	Cancer, Developmental, Hematological, Immunological, Reproductive
Dioxin and dioxin-like compounds	Body Weight, Cancer, Cardiovascular, Hematological, Hepatic, Immunological, Other Systemic, Respiratory
Polycyclic aromatic compounds	Cancer
Chromium and chromium compounds	Cancer, Gastrointestinal, Hematological, Respiratory
Chlorine	Ocular, Respiratory
Sulfuric acid	Respiratory

The data in Tables 1, 2, and 3 show that Mossville's pollution burden is high and poses serious health risks.

There is a long history of community-based environmental activism in Mossville. In 1992, Mossville residents organized to "address gas flares and illnesses caused by industrial pollution," and in 1994, after ethylene dichloride leaked from pipes at the adjacent Condea Vista plant into the groundwater, local residents took further action to address toxic pollution by forming the community group "Mossville Environmental Action Now" (MEAN).[59] As awareness of the effects of industrial pollution continued to grow, Condea Vista reached a nearly $14 million settlement with 206 Mossville homeowners in 1998.[60] The Condea Vista settlement reflected a growing recognition among government and industry actors in the 1990s that they had to respond to Mossville residents' concerns. A few years later, Sasol and Georgia Gulf would acquire Condea Vista.[61]

The work of MEAN and other community groups also prompted a series of studies and investigations into environmental and health conditions in and around Mossville. In 1997, the US Agency for Toxic Substances and Disease Registry (ATSDR), at the request of EPA Region 6 and MEAN, conducted a study to measure dioxin levels in Mossville residents' blood.[62] Dioxins are a class of persistent organic pollutants suspected of causing cancers, thyroid disorders, developmental disorders, gastrointestinal disorders, reproductive damage, and metabolic disorders.[63] Because Mossville is located near a large vinyl chloride monomer plant—a known emitter of dioxins and dioxin-like PCBs—the EPA and MEAN strongly suspected that Mossville residents were at high risk of dioxin exposure.[64] There are also other known sources of dioxins in Mossville, including hazardous waste incinerators, flares that burn chlorine-containing

[59] MEAN Timeline, (2013). https://meannow.files.wordpress.com/2013/12/mean-historical-timeline.pdf
[60] Joe Mathews, *Paying neighbors to move Mossville*, (1998). https://www.baltimoresun.com/news/bs-xpm-1998-12-06-1998340009-story.html.
[61] Walker and Harden (2008)
[62] US Health and Human Services: ASTDR, "Follow-Up Exposure Investigation, Calcasieu Estuary a/k/a Mossville" (2006).
[63] World Health Organization, "Fact Sheet: Dioxins and their effects on health" (2016).
[64] ATSDR (2006)

materials, and regeneration of petroleum refining catalysts, further increasing the cause for concern.[65]

The ASTDR's preliminary survey suggested that petrochemical industries were exposing Mossville residents to potentially unsafe levels of dioxins. In its initial survey, the ATSDR analyzed blood samples from 11 Mossville residents. After finding elevated blood dioxin levels, the ATSDR conducted an exposure investigation in 1998, which not only sampled the blood of 28 residents but also investigated dioxin levels in various environmental features, including soil and local eggs.[66] The investigation revealed that Mossville residents' blood "carries an average concentration of dioxins… that is more than three times higher than the average concentration of the 'background' level represented by ATSDR's comparison group."[67] The particular dioxins and PCBs found in Mossville residents' blood also differed from those found in the comparison group, suggesting that the exposure was from local industrial sources.[68] The ATSDR also found elevated dioxin levels in Mossville's soil and local eggs.[69]

In 2001, ATSDR carried out a follow-up investigation, resampling the blood dioxin levels of those tested in 1997 and 1998.[70] ATSDR resampled 22 people (out of the 39 initial participants). While average blood dioxin concentration and toxicity decreased, some individuals continued to exhibit elevated dioxin levels,[71] suggesting ongoing above-average exposure to dioxins in Mossville. Since the 1970s, industrial releases of dioxins have decreased by about 75%. As the ATSDR argued, unless Mossville residents had continued to experience "unusual or elevated exposures [to dioxins]" in the time since the initial 1998 study, their dioxin levels should have fallen between the 1998 and 2001 studies.[72] Moreover, the ATSDR found that the documented decline in average toxicity was not statistically significant, and as such, residents remained as at-risk of experiencing the toxic effects of dioxins as they were in 1998.[73] Moreover, even though average dioxin levels decreased, the levels were still three times higher than those of the reference populations.[74] In the 2001 follow-up study, the ATSDR again sampled a number of environmental features, including soil, dust, fruits, and fish; however, the ATSDR failed to sample the air for dioxins.[75] Despite clear evidence of Mossville residents' elevated blood dioxin

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[65] Pat Costner, "Dioxin and PCB Contamination in Mossville, Louisiana: A Review of the Exposure Investigation by ATSDR," Greenpeace. (2000).
[66] ATSDR Report (2006)
[67] Costner (2000) p. 1
[68] *Ibid,* p. 1
[69] *Ibid*, p. 1
[70] ATSDR Report (2006)
[71] Comparing these studies presents inherent limitations, unfortunately: the sample size decreased significantly between the 1998 and 2001 surveys; dioxin levels tend to increase with age, but the 2001 survey doesn't break down samples by age; residents' dioxin levels did not decline at expected rates given known half-lives of the test congeners, which may also suggest continued exposure, but the study as such limits definitive conclusions.
[72] ATSDR Report (2006), p. 2
[73] *Ibid* p. iv
[74] Mossville Environmental Action Now, Inc. et al, *Industrial Sources of Dioxin Poisoning in Mossville, Louisiana : A Report Based on the Government's Own Data*, (2007), p. 6.
[75] Rogers (2015)

levels, the ATSDR report concluded that dioxin levels in Mossville residents' blood and in the environment were not high enough to warrant action.[76]

Shortly after the conclusion of the ATSDR study, MEAN and other environmental activists raised concerns that the investigation and its conclusions were inadequate and that environmental and health contamination in Mossville was worse than the studies indicated.[77] The 2001 follow-up study had failed to sample the air, for example,[78] even though ATSDR's own scientists had called for air sampling upon concluding in the 1998 investigation that the dioxins found in residents' blood were generated locally.[79] Furthermore, the ATSDR failed to cross-check the particular types of dioxins found in residents' blood with those known to be released by local chemical plants. Such cross-checking would have enabled investigators to determine the particular plants responsible for the increased exposures.[80]

In response, MEAN conducted its own assessment of local sources of dioxin. In Mossville, known dioxin emitters included the Conoco Phillips refinery, the Entergy power plant, Georgia Gulf vinyl manufacturing, Lyondell chemical manufacturing, PPG Industries vinyl manufacturing, and Sasol chemical manufacturing.[81] MEAN found that "five dioxin compounds comprise 77% of the dioxins detected in the blood of Mossville residents," all five of which were known to be released by local industrial sources.[82] The average concentration of dioxins found in the soil and dust samples also exceeded the EPA's own clean-up goals for contaminated soil, undermining ATSDR's claim that the dioxin levels in the soil and dust were not high enough to warrant intervention.[83] A separate health survey conducted by the University of Texas at Galveston in 1998 found that Mossville residents were 2-3 times more likely to experience health problems than the national comparison group.[84] In particular, Mossville residents experienced very high rates of ear, nose, and throat illness; central nervous system-related symptoms; cardiovascular problems; respiratory illness among nonsmokers; skin problems; digestive illnesses; immune deficiency; and endocrine disorders.[85] Many of these symptoms are associated with dioxin exposure (Table 3).[86]

ATSDR's record in other communities also raises doubts about both the reliability of its findings in Mossville and its independence as a research body.[87] Nationwide, ATSDR consistently found "results that obfuscate a possible link between toxic contaminants and disease among local

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[76] ASTDR (2006)
[77] Mossville Environmental Action Now, Inc. et al, (2007).
[78] ASTDR (2006)
[79] Rogers (2015)
[80] Mossville Environmental Action Now, Inc. et al , (2007), p. 6
[81] *Ibid*
[82] *Ibid* p. 7
[83] *Ibid*, p. 10
[84] Walker and Harden (2008)
[85] Walker and Harden (2008), p. 75
[86] *Ibid*
[87] Rogers (2015)

residents."[88] A congressional probe into ATSDR's investigations revealed patterns of poor research design and a general inability to find connections between local toxins and illness.[89] The probe also found that ATSDR had a history of easing off investigations whenever the agency found potentially "condemnatory data" because it was under political pressures not to incriminate industry.[90] In Mossville, ATSDR's 2001 follow-up investigation results emphasized that Mossville residents' average blood dioxin levels had decreased rather than acknowledging that their dioxin concentrations were still three times higher than that of the comparison population.[91] Additionally, ATSDR failed to notify Mossville residents about their elevated dioxin levels after its 1998 survey; instead, the agency alerted only industry and local government.[92] Residents learned the results of the investigation through local media coverage.[93] ATSDR disavowed Dr. Peter Orris, who worked on the 1998 investigation, when he made clear that the dioxins in Mossville residents' blood were generated locally and necessitated an immediate investigation of the area's industrial facilities.[94] ATSDR did not report on the outcome of its 2001 follow-up investigation until 2006, raising concerns that the agency attempted to reframe and delay results that may have incriminated industry.[95] This pattern of behavior suggests that pollution and its health effects in Mossville are even worse than the ASTDR studies indicated.

The Clean Air Act identifies six air pollutants of national concern: ozone, particulate matter ($PM_{2.5}$ and PM_{10}), carbon monoxide, lead, sulfur dioxide, and nitrogen dioxide. Calcasieu Parish has the highest statewide emissions for every criteria pollutant except PM_{10} and lead.[96,97] The parish "represents only 2% of the land area of Louisiana, yet it is overburdened with 10% or more of statewide emissions for [NOx, VOCs, CO]."[98] The adverse health effects of these criteria pollutants are well-known and include respiratory disease and cardiovascular disease, among other health effects.[99,100] Despite well-documented air pollution in Calcasieu Parish, the Louisiana Department of Environmental Quality (LDEQ) has removed air monitors in the area while continuing to permit increased emissions in Mossville in recent years.[101]

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[88] *Ibid*
[89] *Ibid*
[90] *Ibid*
[91] "Industrial Sources of Dioxin Polluting in Mossville, Louisiana: A Report Based on the Government's on Data," Mossville Environmental Action Now, Subra, and Advocates for Environmental Human Rights (2007)
[92] Rogers (2015)
[93] *Ibid*
[94] *Ibid*
[95] Mossville Environmental Action Now, Inc. et al (2007), p. 4
[96] Criteria pollutants are six specific pollutants regulated by the National Ambient Air Quality Standards (NAAQS) as required by the Clean Air Act. The six pollutants are ozone, particulate matter, carbon monoxide, lead, sulfur dioxide, and nitrogen dioxide (https://www.epa.gov/criteria-air-pollutants)
[97] Jordan and Lowell (2020), p. 1-2
[98] Jordan and Lowell (2020), p. 6
[99] There is a concern that the NAAQS's permitted emissions of criteria pollutants may already exceed levels safe for human health; the World Health Organization recommends lower emission levels of some criteria pollutants than the NAAQS (Source: Jordan 2020, p. 13)
[100] Jordan and Lowell (2020), pp. 6, 10, 23
[101] *Ibid* p. 1

Throughout the early 2000s, environmental activism brought renewed attention to Mossville's exceptionally high pollution burden. Despite this growing public consciousness, however, South African petrochemical company Sasol still moved to expand its Lake Charles complex in 2012 with the addition of an ethane cracker and a gas-to-liquid facility. [102] This proposed expansion would lie within or near the historic boundary of Mossville, placing many residents even closer to industrial sites. Even before the expansion began, Sasol's emissions of criteria pollutants were already very close to the maximum allowable limits. [103] Nevertheless, LDEQ issued new permits for Sasol's expansion, allowing Sasol to emit even higher amounts of four of the six criteria pollutants regulated by the Clean Air Act. [104] The Sasol complex in Mossville was recently named the #2 "super polluter" in the country,[105] and the EPA recently ranked Sasol in the top 0.8% for public health risk in the entire US, as measured by the RSEI.[106] Early community pushback against the environmental consequences of Sasol's expansion proved strongly warranted: the expansion project is associated with a significant local increase in toxins since 2014. [107]

E. Conclusions

Throughout its history, Mossville has been a sanctuary for Black southerners. The close-knit community thrived on a subsistence lifestyle for nearly two centuries. Because Mossville, like other historically Black towns in Louisiana, was denied the right to incorporate, the community has lacked recourse to protect its internal affairs from external forces. Local and state governmental officials facilitated the petrochemical industry's arrival and encroachment on Mossville in the 20th century—a continued process with lasting effects on Mossville's environment and its residents' health to this day.

In the following section, we investigate more closely Sasol's history, its connections with Louisiana, and the conditions surrounding its 2012 announcement of expansion and subsequent buyout. As this report argues, the Sasol expansion has forcibly displaced Mossville's residents, dissolved social and community ties, and decimated a once-thriving historically Black community of deep significance for Louisiana and the US. But while Sasol's buyout has had egregious effects, a long view of Mossville's history makes clear that numerous decisions by predominantly white local and state officials abetted the petrochemical industry's decades-long encroachment and pollution. Sasol's buyout is only the most recent instance of industrial and political forces conspiring to shape the trajectory of Mossville—a community that has fought its systematic disenfranchisement for over 200 years.

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[102] Sasol, "Voluntary Property Purchase Program (hereafter simply cited as 'VPPP'), (2012), p. 4
[103] Jordan and Lowell (2020), p. 6-7
[104] *Ibid*, p. 18; those pollutants include $PM_{2.5}$, NO_x, VOCs, CO. NO_x, VOCs, and CO are all ozone precursors, meaning they contribute to the formation of ground-level ozone (another criteria pollutant), p. 6.
[105] Jordan (2020), p. 3
[106] https://www.epa.gov/rsei/rsei-results-map: Sasol had the 149th highest RSEI score in the country out of 18,559 facilities. The RSEI estimates a facility's health risk to the public weighted by exposure and affected population.
[107] Jordan and Lowell (2020), p. 6

3. SASOL AND ITS ROLE IN CALCASIEU PARISH

Sasol is a South African synthetic fuel ("synthfuel") company that emerged from the intimate relationship between modernization and racialized apartheid in South Africa.[108] Predicated on the cheap labor of Black African miners, Sasol eventually expanded its focus beyond South Africa as apartheid dissolved. By 2001, the corporation began operations in Louisiana, and in 2012, it sought to expand its US-based facilities. The state of Louisiana provided Sasol with significant economic incentives to bring its expansion to the state and to the Lake Charles area in particular. To achieve its expansion, however, Sasol acquired a significant amount of residential property across the parish, including almost all of historic Mossville. In this section, we outline the specific details of Sasol's Voluntary Property Purchase Program, the buyout scheme announced to Mossville residents in July 2013. Despite its significant accrual of property across Calcasieu Parish, Sasol was unable to fully realize its planned expansion, creating significant debts for the company.

A. SASOL – From South Africa to Southwest Louisiana

In 1950s South Africa, white Afrikaner nationalists sought to create a state-led synthetic fuel company—which would create petroleum from coal—for several reasons. The newly elected nationalists thought that the project could bring South Africa international recognition while providing the state with economic security after the end of World War II. Synthfuel processes, originally pioneered by Nazi German scientists[109], were popular elsewhere in the world but succeeded most prominently in South Africa. Indeed, the coal-to-oil project was particularly viable in South Africa due to the "cheapness of black labor in the early apartheid period."[110] Even in its early years, Sasol's leaders made comments explicitly linking the firm's success to "South African conditions"—that is, the abusive, racist practices that enabled cheap labor at the time.[111]

Sasol's connections with apartheid only continued to deepen. As one historian notes, "Sasol became metonymic with the survival of white South Africa" and "white supremacy."[112] Sasol eventually created a company town, called Sasolburg, where white citizens enjoyed a modern life built on the backs of Black domestic workers, miners, constructions workers, and other unskilled laborers.[113] Sasol worked purposefully to sustain a township where low-skilled Black workers could live near enough to Sasolburg without living next to whites. As one memorandum put it at the time, "it would be to our [Sasol's] advantage if all these [Black]

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108 Stephen John Sparks, *Apartheid Modern: South Africa's Oil from Coal Project and the history of a South African company town*, Dissertation at the University of Michigan (2012)
109 Daniel Gross, "Thanks for the Cheap Gas, Mr. Hitler!," *Slate*, October 3, 2006.
110 Sparks (2012), p. 45
111 *Ibid*, p. 60
112 *Ibid* p. 64 and pg. 106
113 *Ibid*, Chapter 5

workers were under our direct control and not in a loose native township."[114] The historic mindset that Black people could be uprooted from native townships and re-directed under Sasol's control for the benefits of whites bears reconsideration in the context of the corporation's activities decades later in Calcasieu Parish.

As international actors continued to apply pressure to South Africa through embargoes and sanctions, Sasol's ability to create crude oil within national boundaries helped the nation weather anti-apartheid actions.[115] With the fall of apartheid, Sasol privatized and eventually began doing significant business outside South Africa. In 2001, Sasol entered Louisiana with its purchase of Condea Vista, and by 2004, Sasol moved research and development teams to the Lake Charles complex.[116]

In December of 2012, Sasol announced plans to expand its existing facility in Lake Charles, Louisiana.[117] This announcement followed years of planning and negotiations with Louisiana officials.[118] The state had been recruiting industries for decades with offers of grant packages, tax incentives, and lax environmental regulations.[119] Towards the end of the first decade of the 2000s, the price of natural gas became competitive with the price of oil.[120] By 2009, Louisiana entered into conversations with Sasol about bringing a gas-to-liquid (GTL) facility to the state.[121] Gas-to-liquid technology uses natural gas to create liquid fuel, so as the price of natural gas continued to sink, this GTL project may have appeared, at first glance, to be economically viable for both parties.

In 2011, Louisiana's Business Expansion and Retention Group (BERG) "partnered with the Southwest Louisiana Economic Development Alliance and the Port of Lake Charles to identify potential sites for Sasol in Southwest Louisiana."[122] The team identified a 650-acre site adjacent to Sasol's existing Lake Charles-area complex for the project. [123] In December of 2012, then-Governor Jindal announced the proposed expansion, calling it "one of the most significant economic development wins our state—and nation—has ever recorded."[124]

The final expansion plan had two major components. In addition to the new GTL facility, Sasol planned to build an ethane cracker.[125] While the GTL facility would convert natural gas into

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[114] *Ibid*, p. 181
[115] David Pilling, "Apartheid-era Siege Mentality Still Drives South African Innovation," OZY.com (2019)
[116] Sasol, "History," Sasolnorthamerica.com, accessed November 14, 2021.
[117] Clifford Krauss, *South African Company to Build U.S. Plant to Convert Gas to Liquid Fuels*, The New York Times, (2012)
[118] Louisiana Economic Development (LED), *Sasol Announces Largest Manufacturing Investment In Louisiana History, Creating More Than 7,000 Direct And Indirect Jobs*, (2012).
[119] Arlie Russell Hochschild, *Why Louisiana Loves Fracking*, The Progressive Magazine, (2016).
[120] LED (2012)
[121] *Ibid*
[122] "GIS Mapping Pinpoints Ideal Site for Sasol," Louisiana Economic Development (LED) (2013)
[123] *Ibid*
[124] LED (2012)
[125] LED (2013)

liquid fuel (specifically diesel), the ethane cracker would produce ethylene, "one of the chemical industry's key building blocks for alcohol- and plastics-based products, including solvents, surfactants and polymers."[126]

GTL facilities can be financially risky investments.[127] There are very few GTL plants in the world: they are expensive to build and maintain, and they remain profitable only if natural gas prices are low enough relative to conventional oil and diesel prices.[128] If the price of crude oil (and thereby diesel) were to drop significantly, then it would no longer be financially viable to produce diesel from the more expensive natural gas, thus making the GTL facility a stranded asset. In other words, the success of GTL facilities is tightly bound to the international oil market.

Despite knowable financial risks, Louisiana offered Sasol a generous incentive package to secure the project.[129] The incentives totaled $257 million, $115 million of which came in the form of grants.[130] The expansion was also eligible for Louisiana's Industrial Tax Exemption Program (ITEP), which would allow Sasol to avoid about $2 billion in property taxes over ten years after construction began.[131] At the time, the state legislature's chief economist estimated that, at best, the state could break even, but that the project would not improve the state's finances.[132] Louisiana justified the incentive package and tax abatement by referring to the facility's potential to create jobs: Sasol promised the expansion would bring 1,253 direct jobs, 7,000 construction jobs, and 5,886 indirect jobs.[133] Sasol's expansion was expected to be the largest manufacturing investment in the state's history with a projected cost between $16 billion and $21 billion.[134]

In theory, industrial investment is good for local governments when it brings an influx of tax revenue to the region. Because of the ITEP, however, local governments in Southwest Louisiana would not receive any tax revenue from the project for many years, if ever.[135] Nevertheless, some local leaders lent strong support to the expansion, claiming that gaps in tax revenue

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[126] LED (2012)
[127] Krauss (2012)
[128] *Ibid*
[129] There is little evidence to suggest that incentive packages actually draw companies to particular sites. Most often, companies select sites based on other factors, such as business costs, access to transportation routes, and workforce readiness (See: Richard Thompson, *Giving Away Louisiana: Industrial tax incentives*, The Advocate, (2014)
[130] Thompson (2014)
[131] The ITEP has been reformed somewhat since Sasol first announced its expansion. Local governments now have more discretion to accept or reject ITEP-eligible projects (See ITEP, *Louisiana Industrial Ad Valorem Tax Exemption Program (ITEP),* (2017)
[132] Thompson (2014)
[133] Direct jobs are permanent jobs at the new facilities, construction jobs are temporary positions, and indirect jobs are those created in other sectors (i.e. service industry, hospitality, etc) due to the influx of new economic activity in the area (See: *Sasol Announces Largest Manufacturing Investment In Louisiana History, Creating More Than 7,000 Direct And Indirect Jobs*, Louisiana Economic Development, 2012).
[134] LED (2012)
[135] Thompson (2014)

would be offset by population growth and increased spending.[136] Les Farnum, President of the Calcasieu Parish Police Jury, stated, "the announcement of this project by Sasol for its Calcasieu Parish complex is wonderful news for our area."[137]

Sasol did not ultimately make good on the original economic promise of the planned expansion. In 2017, as oil prices fell worldwide, the company abandoned its plans to build a GTL facility.[138] Of course, Sasol's promise of jobs in no way justified the proposed expansion and ensuing forced displacement of Mossville residents; however, it is notable that the promise did not even materialize.

B. The Voluntary Property Purchase Program

To construct the GTL and ethane cracker facilities, Sasol sought property that was either (a) occupied or (b) proximate to occupied residential or commercial property.[139] To facilitate its expansion, Sasol pursued two main strategies for property acquisition. First, the corporation entered into one-on-one negotiations, primarily in and around the predominantly white community of Westlake. For other properties, Sasol initiated a corporate buyout program known as the Voluntary Property Purchase Program (VPPP). The VPPP affected residents of (1) the approximately 90% Black community of Mossville and (2) the approximately 90% white neighborhood of Brentwood, located to the northeast of Mossville.[140] In this section, we outline the history of Sasol's property acquisition and explain the details of its Voluntary Property Purchase Program—the program that would dissolve much of Mossville, Louisiana.

History

After Sasol's announcement of plans to conduct feasibility studies for its potential expansion in 2011, the corporation began approaching individuals whose property was deemed necessary because it lay in the footprint of the planned expansion.[141] For such properties, Sasol dealt with property owners on a one-on-one basis. These property owners negotiated with Sasol to determine the final values of their sales—presumably, in some cases, with the help of lawyers or other representation. Many such purchases took place in or around the community of Westlake, a predominantly white community in Calcasieu Parish.

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[136] *Ibid*

[137] *Ibid*

[138] *Sasol pulls plug on $13-$15 bln US GTL project, to divest from Canadian shale*, Reuters, (2017)

[139] Sasol's expansion and the pattern of both negotiated and non-negotiated buyouts demonstrate the need for this land.

[140] Demographic data obtained from https://data.census.gov/cedsci/

[141] In August 2013, a Sasol representative noted that the company had already purchased all of the necessary property for its expansion. The VPPP, he claimed, differed from previous purchases in that it affected only inessential properties. See: "Sasol says it has no plans to expand west," *The American Press*, Aug. 25 2013. Kim Cusimano, Government and Public Affairs Manager for Sasol, reaffirmed this stance in an interview with UNHR researchers on September 8, 2021.

In July of 2013, Sasol officially announced its Voluntary Property Purchase Program. In a letter to the community, the company explained that "[i]n the spirit of being a good neighbor to those residents that will be affected by our growth plans, we are pleased to offer our residential neighbors to the west and northwest of our existing operations an opportunity to sell their properties to Sasol through a voluntary property purchase program."[142]

The VPPP affected two areas: Mossville, which was about 90% Black, and a much smaller neighborhood to the northeast called Brentwood, which was about 90% white. Sasol maintains that the properties in the VPPP (and thus, in Mossville) were non-essential for its expansion, stating as recently as 2019 that it "neither need[ed] nor want[ed]" the property acquired by the VPPP. [143] The company claims that it initiated the buyout in response to local community members' requests to be relocated. [144] Community members contest these claims. Larry Allison, a long-time Mossville resident, explained, "They [Sasol] say the preachers and everybody else said it's okay to sell Mossville, but nobody came up here and said anything to us."[145]

Company statements suggest that Sasol did not develop the buyout program due to safety concerns or the desire to create a "buffer zone" around the site of the proposed expansion. According to Mike Hayes, a spokesperson for Sasol at the time, "[w]e don't think that our facility is going to represent an environmental harm, an environmental hazard, a safety harm or safety hazard, but just by virtue of how close we will be to those neighborhoods, we felt it appropriate to honor the request to give those individuals the opportunity to move."[146] Outside observers suspect, however, that Sasol was attempting to create a buffer zone around the plant, as "companies stand to save millions of dollars in lower costs on property and casualty insurance premiums by creating a buffer zone."[147]

While Sasol maintained an open dialogue with the Westlake community and its leaders throughout the expansion and buyout, Mossville residents claim that Sasol failed to adequately communicate with them.[148] At least one Sasol official blamed the corporation's lack of engagement with Mossville on the town's unincorporated status.[149] Sasol spokesman Mike Hayes explained that "Westlake is an incorporated community with good leadership [...] the focus is on schools, jobs, and business development. They as an organized community have a very different focus than the disparate community in Mossville."[150] According to Hayes, in Mossville, Sasol's community outreach efforts had to target individuals and community organizations rather than local government officials or other representatives.[151] While

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142 VPPP, 4

143 Sasol, "Myths and Facts about Sasol and Mossville," (2019), accessed Nov 2021.

144 Katherine Sayre, *Closing Costs: As a chemical plant expands, Mossville, Louisiana, vanishes*, NOLA, (2017).

145 Rick Mullin, *Mossville's end: As Sasol's huge petrochemical project lifts Southwest Louisiana, an environmental justice community dissolves in its shadow*, Chemical & Engineering News, (2016).

146 *Ibid*

147 Sayre (2017)

148 Mullin (2016)

149 *Ibid*

150 *Ibid*

151 *Ibid*

Mossville lacked a central governing body that Sasol could approach, Mossville residents dispute Hayes' claim that Sasol sought to engage individuals.[152] Residents reported that they were not included in any discussions about the planned expansion and learned of Sasol's plans through local news reporting.[153]

Sasol's expansion would not have been possible without the support of local governing bodies, which acquired and rezoned land throughout the expansion area. In 2011, the Lake Charles Harbor and Terminal District (District) helped Sasol acquire and rezone 600 acres of land it needed for the expansion.[154] In November of 2014, when Sasol was unable to acquire some of the privately-held land it needed for construction, the District's Board of Commissioners passed a resolution authorizing the District "to take all steps deemed necessary and appropriate" to acquire the remaining property.[155] If the District failed to reach voluntary purchase agreements, the District authorized the use of eminent domain to expropriate property, which it would then lease to Sasol.[156] The District's attempt to expropriate land was challenged by two property owners in court.[157]

In addition, the Calcasieu Parish Police Jury approved Sasol's request to rezone much of the property it purchased—including some property acquired through the VPPP—from residential, agricultural, commercial, and light industrial to heavy industrial so that Sasol could use the land for its expansion.[158] Today, the vast majority of Mossville is zoned for heavy industrial use.[159] That Sasol collaborated with local government to rezone portions of Mossville as late as 2014 casts doubt on the claim that Sasol neither wanted nor needed the property it acquired through the VPPP.[160] It is certainly not obvious why Sasol would work to rezone land as "heavy industrial" if the corporation did not, at the very least, consider the land potentially useful to its business interests.

The Structure of the VPPP

The VPPP began in early August 2013.[161] The VPPP was available to those who, as of July 12, 2013: a) "owned and held good title to residential Property in the Program Area (Property Owner, as defined)" or b) "are a tenant occupying a residential Property in the Program Area (Tenant, as defined) **and** your landlord participates in the Program."[162] The Program Area encompassed the majority, though not the entirety, of Mossville (see figure 1).

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152 *Ibid*
153 Mossville Environmental Action Now et al. (2007)
154 Ryan et al. v. Calcasieu Parish Police Jury et al., 256 So. 3d 1044 (La. Ct. App. 2018)
155 *Ibid*
156 *Ibid*
157 *Ibid*
158 *CPPJ approves Sasol's request to rezone*, KPLC News, (2014); Sasol, Lake Charles Cracker Project & Gas-to-Liquids Project Rezoning Application (2014); Mossville Environmental Action Now et al. (2007)
159 See: Calcasieu Parish interactive map: http://cppj.totaland.com/#
160 "Sasol Takes Another Step Towards Expansion," *The American Press*, May 20, 2014.
161 VPPP, 4
162 VPPP, 5 (emphasis in original)

The VPPP applied only to residential properties. Owners of commercial property or places of worship were able to negotiate buyouts separately with Sasol. [163] Crucially, VPPP offers were not negotiated but rather set by a pre-determined formula.[164] If a property owner was interested in selling their home but their VPPP offer was too low to equitably do so, their only options were to refuse to sell or to accept the low offer.

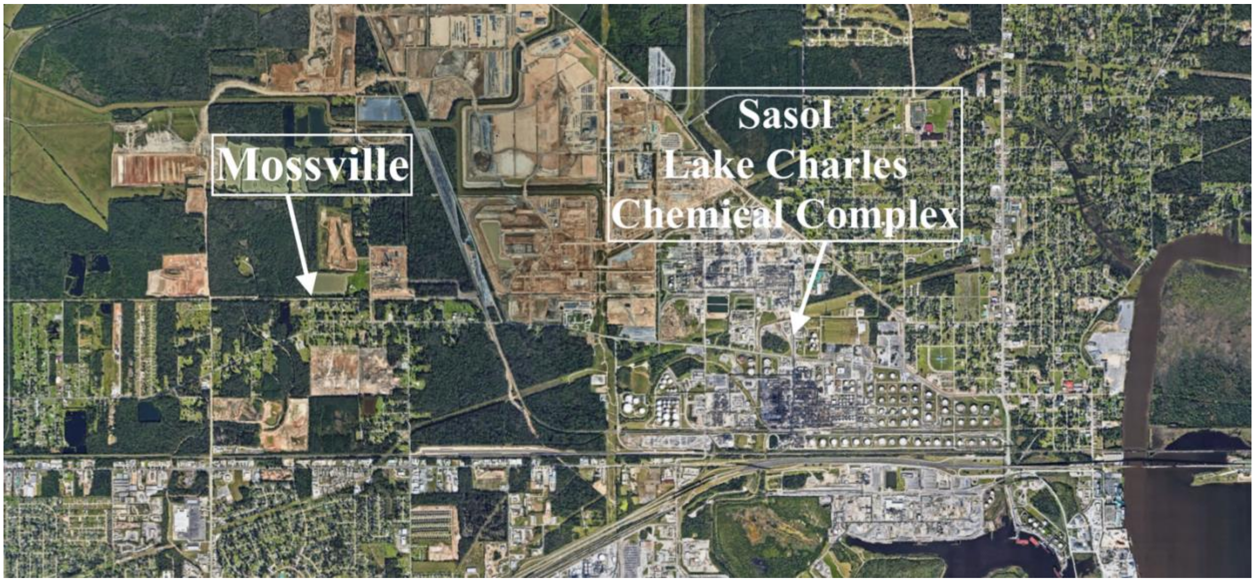

Figure 1: Satellite Map of Mossville and Sasol's Lake Charles Complex (adapted from Google, 2021)

[163] VPPP, 7
[164] VPPP

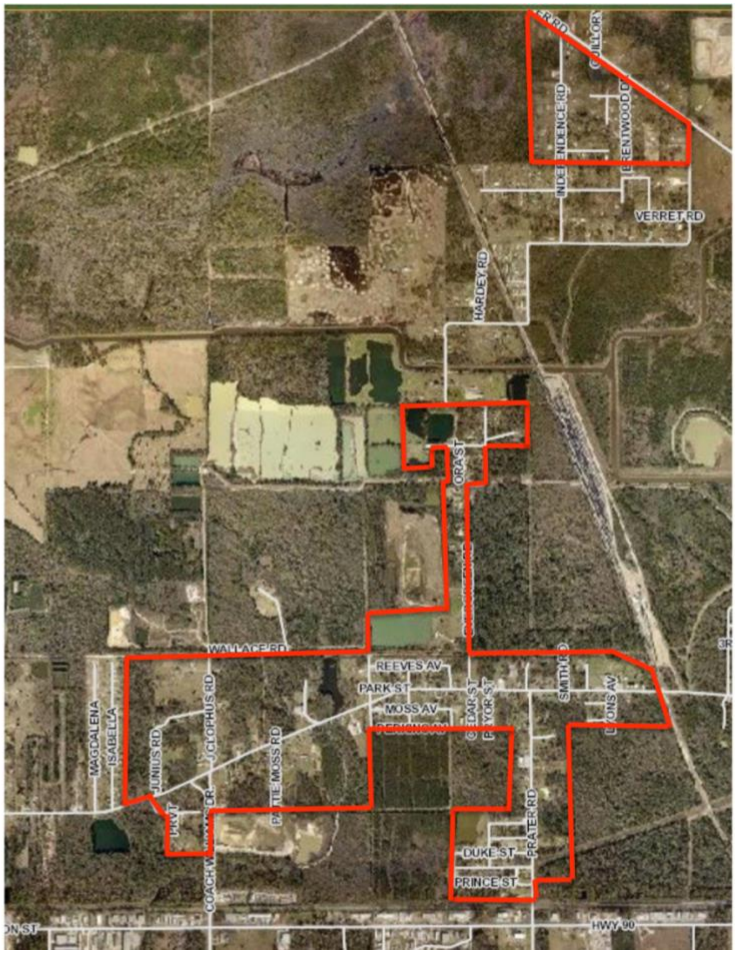

Figure 2: Zoomed-in Map of the VPPP Program Area (from VPPP, p.8). The lower region comprises Mossville and the upper region comprises Brentwood.

Sasol determined the offer values for properties using a set of formulas, which in turn, relied on the average value of a property's appraisals (see Table 1). Owner-occupants (i.e. homeowners) were guaranteed $100,000 plus 60% of the average appraised price of their home.[165] Owners of rental property were guaranteed $75,000 plus 50% of the average appraised price of their property, regardless of whether or not the property was occupied at the time.[166] The owners of unimproved property (i.e. empty plots of land) were guaranteed $5,000 plus 40% of the average appraised price of their property.[167]

Sasol designated three different categories of property owners under the VPPP: 1) Owner Occupants, those who "own, hold good title and occupy an Improved Property"; 2) Rental Property Owners, those who "own, hold good title to and lease and Improved Property to a third party or if such Improved Property is vacant"; and 3) Unimproved Property Owners, those

[165] VPPP, 16
[166] *Ibid*
[167] *Ibid*

who "own and hold good title to an Unimproved Property."[168] If a property owner was eligible for the buyout (i.e. they owned improved and/or unimproved property within the Program Area) and interested in pursuing it, they would move through the following steps:

1. Eligible property owners were given until December 4, 2013 to register their interest in the VPPP.[169] Those who registered their interest before October 4, 2013 would receive a $1,000 early sign-up bonus at closing.[170] Registering interest did not obligate a property owner to sell their property to Sasol; it simply initiated the appraisal process.

2. Once a property owner registered their interest, initiating the appraisal process, they would select three appraisers: two primary appraisers and one reserve appraiser.[171] Sasol provided a list of 40 local appraisers to choose from; however, residents were also able to nominate their own appraiser, assuming the appraiser met certain requirements stipulated by Sasol.[172]

3. The two primary appraisers would independently estimate the value of the owner's property. The reserve appraiser was not used unless "the difference between the appraised prices from the two (2) primary appraisers is not equal to, or less than 10% of the higher appraisal."[173] Appraisals were based on property sales "in nearby towns such as Carlyss, Sulphur, and Moss Bluff. Appraisals are impossible in Mossville as there have been no recent home sales."[174] Sasol covered the costs of appraisal, even if the property owner chose an appraiser who was not on Sasol's original list.

4. To arrive at the Average Appraised Price, Sasol either averaged the two primary appraisals or the two highest appraisals when three appraisals were needed.[175] Sasol set a Minimum Appraised Price of $100,000 for Owner Occupants, $75,000 for Rental Property Owners, and $5,000 for Unimproved Property Owners.[176] If the Average Appraised Price was less than the Minimum Appraised Price, Sasol would make an offer

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[168] VPPP, p. 9
[169] VPPP, 10
[170] *Ibid*
[171] *Ibid*
[172] "You may nominate an appraiser that is not on the list, and the nominated appraiser will be accepted by Sasol so long as the nominated appraiser meets all of the following requirements:
• full-time real estate appraiser that is licensed by the State of Louisiana; and
• holding either a Certified General Appraiser License or a Certified Residential Appraiser License; and
• member of the local Multiple Listing Service and has additional access to recent comparable sales; and
• willing to prepare the appraisal of your residential Property in accordance with the appraiser instructions, as described in this Handbook." (VPPP, 10)
[173] VPPP, 10.
[174] Mullins (2016)
[175] VPPP, 11
[176] VPPP, 16

as though the property were appraised at the Minimum Appraised Price.[177]

5. Sasol presented the property owner with a non-negotiable Purchase and Sale Agreement.[178] Sasol would pay all Owner Occupants a 60% premium over the Average Appraised Price.[179] Rental Property Owners received a 50% premium and Unimproved Property Owners received a 40% premium.[180] For example, if the Average Appraised Price of an Owner Occupant's home was $110,000, then Sasol would offer the property owner $176,000 for their home.[181] Alternatively, if the Average Appraised Price of an Owner Occupant's home was $40,000, Sasol would offer the property owner $124,000 for their home.[182] The Purchase and Sale Agreement also set out the requirements for a property owner to receive certain bonuses at closing.[183]

6. The property owner had 90 days from the time of Sasol's offer to accept or reject it.[184]

7. The property owner had six (6) months to close unless they requested and were granted an extension.[185]

8. Before closing, owners had to verify that their titles were clean. That is, the succession of property had to be clear, and owners could not have outstanding liens on the property. Sasol subtracted outstanding liens from the money that owners ultimately received in-hand.

9. The final price paid by Sasol to the property owner depended on their eligibility for particular bonuses, such as the Early Sign-Up Bonus and the Clear Site Bonus (see Table 1 below).[186] Some bonuses, such as the Closing Cost Assistance Allowance and the Curative Title Work Allowance, were paid directly to third parties rather than to homeowners.[187] Individuals could receive advances on their home equity, which was the sale price remaining after all mortgages, liens, and loans were cleared.[188]

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[177] VPPP, p. 17
[178] VPPP, p. 12
[179] VPPP, p. 16-17
[180] *Ibid*
[181] Calculation: 110,000 + .6(110,000) = 176,000
[182] Calculation: 100,000 (Min Appraised Price) + .6(90,000) = 154,000
[183] VPPP, p. 12
[184] *Ibid*
[185] VPPP, p. 13
[186] VPPP, p. 12 and 16
[187] VPPP, p. 18-19
[188] VPPP, p. 28

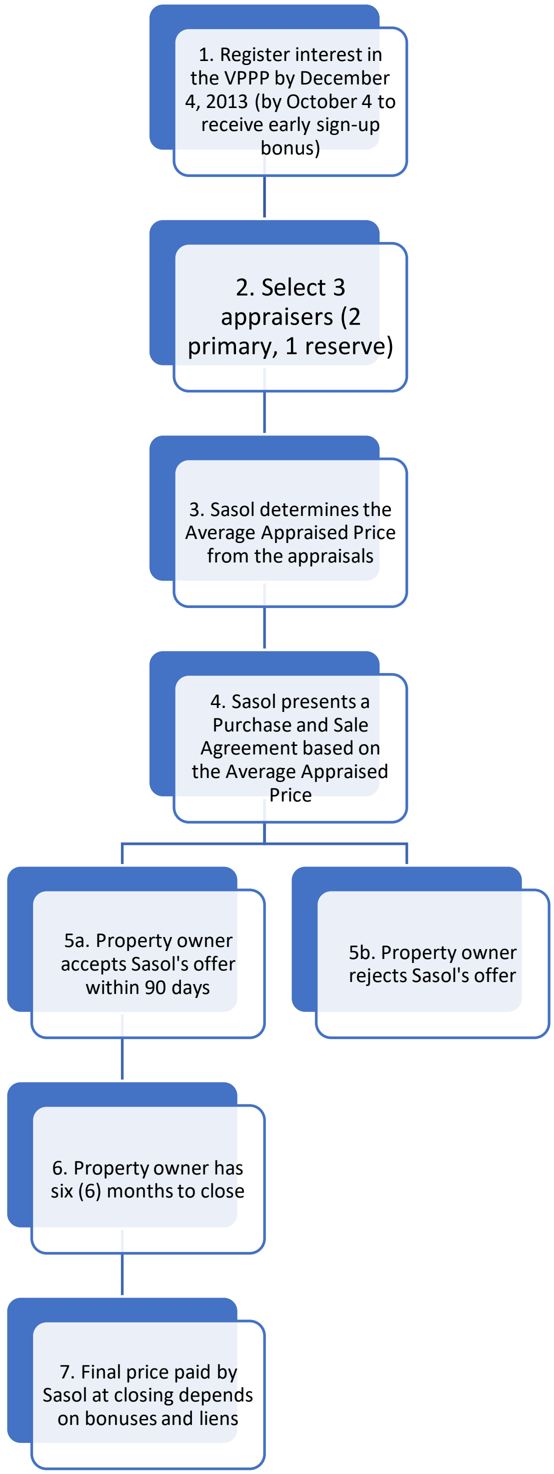

Figure 3: Flowchart depicting sale flow for owner-occupied property

Program Benefit	Owner Occupant	Rental Property Owner	Unimproved Property Owner	Tenant
Minimum Appraised Price	$100,000	$75,000	$5,000	N/A
Premium Payment over Average Appraised Price	60%	50%	40%	N/A
Early Sign-Up Bonus	$1,000	$1,000	$1,000	$1,000
Miscellaneous Expense Allowance	$8,000	N/A	N/A	$4,000
Rent Disruption Allow-ance	$1,000 [1]	$1,000	N/A	N/A
Professional Advice Allowance	$500	$500	$500	$500
Closing Cost Assistance Allowance (maximum)	$5,000	N/A	N/A	$5,000
Curative Title Work Al-lowance (maximum)	$5,000	$5,000	$5,000	N/A
Clear Site Bonus (maxi-mum)	$15,000	$15,000	$15,000	N/A
Advances	Equity	N/A	N/A	Benefits
Home Finding Assistance	Eligible	Eligible	Eligible	Eligible
Normal Seller Closing Cost [2]	Paid by Sasol	Paid by Sasol	Paid by Sasol	N/A

Table 1. Payments and benefits available to different eligible groups (from VPPP, p. 16).

C. Conclusions

Ultimately, most Mossville residents accepted Sasol's buyout offer. According to Sasol, as of July 1, 2020, the company made 779 offers on parcels through the VPPP, of which 584 have been accepted and 195 rejected.[189] Though the exact number of people still living in Mossville is unclear, few residents appear to remain.[190] As we detail in the following section, many Mossville residents experienced the VPPP as a form of forced displacement, did not receive sufficient compensation to be able to relocate to a home of similar quality, and/or have suffered trauma and psychological harm as a result of the buyout.

[189] SASOL VPPP Homepage, accessed Nov 13 2021.

[190] *Sasol pulls plug on $13-$15 bln US GTL project, to divest from Canadian shale*, Reuters, (2017).

QUALITATIVE ANALYSIS

Overview and Methodology

Our engagement in Mossville began in November 2019 through a series of community meetings with current Mossville residents. In those meetings, Mossville residents expressed serious concerns about the VPPP, including the process by which it was undertaken, its financial impact on those who ultimately sold their properties to Sasol, and its emotional and psychological impact on those who sold their properties as well as on those who did not. The information gathered in these community meetings informed the development of four overarching questions that we sought to answer through interviews with former Mossville residents who had participated in the VPPP and sold their properties to Sasol:

I. Why did the interviewee participate in the VPPP and ultimately accept Sasol's buyout offer?
II. What was the interviewee's experience with the VPPP process?
III. What was the financial impact of the VPPP on the interviewee? Specifically, how does the interviewee feel about the amount of compensation they received, and does the interviewee believe they materially benefitted from the VPPP?
IV. How has the interviewee experienced the VPPP and its aftermath emotionally and psychologically?

The following qualitative analysis is based on semi-structured, in-depth interviews with former Mossville residents from 32 different households who participated in the VPPP and ultimately accepted Sasol's buyout offer. Of these 32 transactions, 27 involved homestead properties (properties that were the primary residences of the interviewees); 2 involved rental properties (properties that were rented out by the interviewees); 2 involved undeveloped properties (land only); and 1 involved tenants (interviewees who rented the property from its owner). For 31 of the 32 transactions, we interviewed member(s) of the household who participated in the transaction. For 1 transaction, we interviewed a non-household member about her now-deceased mother's experience with the buyout.

Interviewees from 30 of 32 households were identified by snowball sampling. Initially, current Mossville residents referred us to people they knew who had accepted Sasol's buyout offer through the VPPP and relocated. When we began interviewing these former Mossville residents, they referred us to others. We found that the snowball sampling method did not result in selection bias, as we might have expected; interviewees often referred us to people with views and experiences that diverged greatly from their own. This is because, typically, interviewees focused on referring us to *anyone* they knew who had participated in the VPPP. Interviewees were generally not invested in ensuring that we heard a particular perspective. We also began—but did not complete—a process to systematically identify and locate as many VPPP participants as possible by using property records and Whitepages. Interviewees from 2 of the 32 households were identified using this method, which was far less successful than the snowball sampling method due to the difficulty of finding up-to-date contact information for VPPP participants. Anecdotally, we learned through interviews and community meetings that many VPPP participants are now deceased (a number of interviewees described a pattern of deaths among elderly VPPP participants shortly after moving and attributed this pattern to the trauma of dislocation, as described below), so this may have contributed to the difficulty we experienced in locating people.

We are confident that our data set captures the range of Mossville residents' experiences with the VPPP. First, interviewees expressed a range of sentiments and had divergent experiences with the Sasol buyout. Second, the sentiments and experiences we learned about through interviews—both positive and negative—were consistent with the preliminary information gathering we did through community meetings and informal conversations.

We interviewed former Mossville residents in January, February, and March 2020, until the onset of the COVID-19 pandemic prevented us from conducting additional in-person interviews. Interviews were then transcribed and coded. The results of this analysis—organized by the four overarching questions that we sought to answer—follow. Themes and sub-themes that emerged from interviewees' responses to each of the four questions below are listed and described in order of their prevalence across the data set.

Results

<u>Question I: Why did interviewees participate in the VPPP and ultimately accept Sasol's buyout offer?</u>

Theme 1: *"We were forced to leave."*

When asked why they ultimately accepted Sasol's buyout offer, former Mossville residents from **22 of the 32 households (over two-thirds)** told us that participation in Sasol's Voluntary Property Purchase Program did not, in fact, feel voluntary. These interviewees felt "uprooted" and "forced," as many of them put it, to participate in the VPPP and relocate. As one interviewee told us, "They don't realize that they put us through a lot of trauma, they put us through a lot of things that we did that we really didn't want to do, but what was our choice? …We were forced in a sneaky way." Interviewees experienced the VPPP as forced displacement for various reasons (and sometimes for multiple reasons), described below in order of prevalence.

Sub-theme (a): *"I was going to stay and die or leave and try to hope to live, you know?"*

The most common reason provided for this experience of forced displacement was that interviewees were confronted with an impossible choice—move or face the consequences of a massive plant expansion that would bring industry even closer to the community's fenceline ("too close for comfort," as multiple interviewees put it). Interviewees from **11 households** cited this impossible choice as a key reason that they experienced the VPPP as a form of forced displacement. As one of them said, "You had to leave, or you were going to be faced with what's going on now."

The health and safety impacts of living near industry were all too familiar to interviewees. Thus, community members' fears of the Sasol facility expansion were often informed by their lifelong experiences of environmental injustice. "We know what the plants was capable of, so how could it be voluntary?" said one interviewee, who continued:

I don't want to [move], but then what would my life be like if I stay? But then I had been here all my life. But they really didn't give us a choice—they just made it look like it was our choice but it wasn't. Because they know that everybody knew how the plants was releasing all kinds of stuff anyway, exploding through the night with the big old flames and black smoke and all that. They knew. They were really trying to get us out because we were suing [industry] all the time because of all the stuff that's getting out in the air…I don't think it was worth the money to be honest with you, but I had no choice. I was going to stay and die or leave and try to hope to live, you know? …They knew if you come with a plant—oh, they're getting out of there. Because people are afraid of explosions because once something blow, it can blow the whole town up. And everybody's gone anyway. Best thing you can do is just leave. Voluntarily leave because you might save your life. One way or the other, with the diseases or with the explosions. Either way, you got to go.

Another interviewee used an analogy to describe the impossible choice she faced: "I think of it like cancer—you could either have cancer, or take this chemo that can kill you. What? Excuse me? That's my choices? Which one can I live with? There's no guarantee for either. So I have to pick the better poison?"

Several interviewees expressed that "if we don't move, they'll just build around us"; "if you stay, then you're on your own" to deal with the health, safety, and lifestyle impacts of the plant expansion; and "we're either gonna take [the buyout offer], or we're gonna be stuck." As one interviewee said, "They could've fenced us in and built all around our house. They could have done that if we wouldn't have moved. It sounded like pushing you out."

Even as the buyout process was unfolding, various construction activities had begun, according to interviewees. These activities were described as extremely disruptive, causing high volumes of truck traffic and other changes that "made life a pain." One interviewee said he and his wife began thinking of moving because "neighbors start moving, just moving out, getting out, saying the plant was chemicals, strong chemicals, and you would hear the boom and we were there when they were building at the time, and we heard a bunch of noise and the neighbors start moving and getting out." His wife added, "Those big trucks was just rolling in. Rolling in. Every day."

Some people felt that these construction activities and associated changes were intended to make residents feel that they had no choice but to move. According to one interviewee, "it felt like you were pushed, due to the things they were building around you. 'Ok, we're going to make you uncomfortable. You go ahead and stay there, but we're going to make you uncomfortable. Whatever we're building, we're going to build it right around you.' Basically." Another interviewee told us she knew she had to move when a truck hit her granddaughter's car outside the house and totaled the vehicle: "Our traffic had just gotten that bad. And I said okay, this is it, I'm leaving. It was just becoming too dangerous…we were uprooted. If we had decided that on our own, hey I'm going to leave here, this is what I want to do, it probably would have been a whole lot different, but knowing that in essence, we were kinda pushed out."

> Sub-theme (b): *"They say, 'you don't have to move' but your whole community is dissipating and you're on a back street by yourself. How you think an elderly person would take that?"*

Some interviewees described feeling forced to move because "everyone else" was moving. One elderly interviewee said that she "took it like it was a must that I moved since they were buying everybody out." Some feared for their safety: "A lot of our neighbors had already sold out, and I didn't want to be back there by myself for safety reasons." The daughter of a now-deceased elderly woman said of her mother, "My mama was never scared. I was surprised when my mama told me she was scared. Just this uprooting of her—making her move when she didn't have to. They say 'you don't have to move' but your whole community is dissipating and you're on a back street by yourself. How you think an elderly person would take that?" As another interviewee said, "We did not want to move. We were going to stay, but if the town leaves, then everything starts happening. My husband wasn't the scared type, yet you don't—everyone is moving, you don't want to be the one to stay."

In addition to safety concerns, several interviewees feared that neighboring properties that had been sold to Sasol would go "back to nature" and they would be left to live in an unmaintained area if they stayed: "They kept saying that the grass was going to grow, they weren't going to cut nothing, they weren't going to clean up nothing, they weren't gonna do nothing. The grass would have just growed up to the trees and everything around you if you would have stayed…they weren't going to take care of them lots no more." Several interviewees told us they would have stayed in Mossville if their neighbors and other community members had stayed.

> Sub-theme (c): "*I heard—it was either them said it or someone told me about what they said—like if you don't accept the offer then they will enforce eminent domain."*

Some interviewees said they moved in part because of their perception that "if you don't accept the offer then they will enforce eminent domain." Residents feared that if they did not sell their property to Sasol, their property might be forcibly seized in the future through eminent domain. At that point, interviewees said, "you gotta take what they give you" as compensation for the property, so they felt that they might as well sell while they still could. As one interviewee told us, "When I spoke to my godfather, he said 'well if you don't go now, when they come back they'll give you anything they want and you'll still have to leave.' So that scared me. Because I just got through paying off my house, and they're gonna *tell* me I got to go?"

This perception—that if people held out, their properties might be seized through eminent domain—appeared widespread and was also mentioned by interviewees who did not ultimately cite it as a reason for their participation in the VPPP.

> Sub-theme (d): *"They were talking about building a man camp there, so I felt scared…I think they were just scare tactics to get us out of there. Because none of that has transpired."*

Some interviewees told us that they felt forced to move because Sasol planned to build a man camp in close proximity to their homes. "I'm single, I'm by myself. Man camp that close? That was scary," explained one interviewee. As another interviewee told us, "I said 'I can't stay here if they're gonna have a man camp right there across the street from me.' So that was my basic decision to move." People also noted that the man camp was never actually built and felt that the specter of the man camp was used as a threat to force their relocation: "I think they were just using scare tactics to get us out of there. Because none of that has transpired."

> Sub-theme (e): *"We felt like it was either you take [the offer], or if you stay there and you didn't sell out to them, the value would be nothing because of the plant. So it was like you're damned if you do and damned if you don't."*

Some owners of undeveloped and rental properties told us that they felt forced to sell because their properties would retain no value after the plant expansion and no one would want to rent the properties. As an owner of an undeveloped property said, "We felt like it was either you take [the offer], or if you stay there and you didn't sell out to them, the value would be nothing because of the plant. So it was like you're damned if you do and damned if you don't." One rental property owner with generations-long roots in Mossville resisted selling his properties until 2019, after experiencing the impact of the Sasol facility expansion in the preceding years: "As time went along in between '13 and '19, I couldn't find anybody to rent those places. Nobody wanted to deal with the traffic, nobody wanted to deal with all the dust and trash on the road, and the dump trucks and this and that. So I was having problems…we were constantly told that it was a voluntary buyout, which it really was not. It was forced. It was forced. We were forced to do it."

Theme 2: *"[We decided] we may as well go on and sell and get it over with, simply because the family was being torn apart."*

Interviewees from **5 households** explained that they participated in the VPPP because they faced pressure to do so from family members. In some cases, interviewees co-owned heir property with relatives who lived elsewhere and wanted to sell. Although the resident of the heir property did not want to sell—because of attachment to Mossville, the financial implications of selling heir property and splitting the buyout amount among multiple family members, or both of these reasons—the resident felt that they had no choice because the alternative was the destruction of the family. As one heir property owner told us, "We had sisters living out of town…we still saw Mossville as Mossville, but they saw the plant closing in on us, and they said 'you might as well sell and get the money and leave,' so family was being torn apart. So [we decided] we may as well go on and sell and get it over with, simply because the family was being torn apart." As another heir property owner said, "My family wanted to sell because none of them was coming back to this area, so I was forced to sell because I was the only one."

Other interviewees described caving to pressure from their spouses or children. One interviewee, for example, recalled storming out of a meeting with Community Interaction Consulting, Inc. (CIC)—the consulting firm that Sasol hired to manage and implement the VPPP—and having to be convinced by his wife and children to ultimately accept Sasol's buyout offer: "They talked to me when I got home and tried to calm my nerves down. But if it was just up to me, I wouldn't have. I still would have been over there." Another interviewee who lived with her elderly grandmother recalled her discussions with her grandmother about the VPPP: "She didn't want to move. We had to convince her to move. She said 'I've been here too long.' And we were like, 'but you have to—if you don't move, they said this plant's going to be dangerous. So if you don't move we're going to be in it.' And she was like 'they said I can stay,' and we said 'but you're not going to want to stay when you're the only one here and the plant's right across the street.' So she was forced to move because we were all moving—because *we* were forced. It wasn't voluntary at all."

Theme 3: *"I was ready to move…we wanted something better."*

Interviewees from **5 households** told us they participated in the VPPP because they wanted to move for "something better" or "something different"—a newer or better home, for example. At least initially, these interviewees saw the VPPP as an opportunity to achieve this goal. Whether or not the VPPP panned out the way these interviewees hoped is a separate matter (see Question III, below).

Theme 4: *"When they told me how much money I was going to get, that money sounded real good to me."*

Interviewees from **4 households** said they decided to sell their properties in part because they felt that their buyout offers would benefit them financially. Whether or not this turned out to be the case is a separate matter (see Question III, below).

Theme 5: *"The releases and all of that stuff that was going on, the flares at night, the stuff that nobody knew about that was releasing into the air at night. From the other plants and all that. To me, it seemed like it was getting dangerous."*

Interviewees from **3 households** said they saw the VPPP as an opportunity to get out of a polluted industrial area. As discussed above (see Theme 1, Sub-theme (a)), many interviewees' experiences of forced displacement stemmed from fears of Sasol's planned expansion—fears that were often rooted in their community's lived experience with decades of environmental injustice. Interviewees who saw the VPPP as their chance to extricate themselves from a dangerous environment were primarily concerned with accumulated air, soil, and water contamination from the area's industrial facilities over the years rather than with the Sasol facility expansion in particular. As one interviewee said, "at first, I thought, 'okay it's a good move' because of what has been happening. The releases and all of that stuff that was going on, the flares at night, the stuff that nobody knew about that was releasing into the air at night. From the other plants and all that. To me, it seemed like it was getting dangerous." Another interviewee told us,

Why would you stay there and take your chances? You've already done bathed, done drunk, done cooked in that water—that contaminated water. Ever seen some of that water? It's black. Why would you want to stay there? …And my parents had been living there for 60-70 years, and it killed a lot of people. A lot of people have been dying. A lot of people. They ain't going to say what it's from, but it's from the cancer, and it's from that pollution that they had…This was my chance to get out. And not stay in a polluted area like that. Who wants to stay in an industrial area anyway? Let's be real.

Another interviewee described how "there was always some explosion" or spill, "you'd get up and your car had stuff on it," and "there was a smog or bad odor." His health had been in steady decline over the last few years before he moved from Mossville, and he attributed this to his environment. "I didn't want to leave," he told us, but "your health is worth more."

Question II: What were interviewees' experiences with the VPPP process?

Each interviewee was asked to walk us through the VPPP process and their experience with it. We use the term "process" to refer to the nuts and bolts of the VPPP and its implementation—not to the program's outcomes or impacts. Thus, discussion of financial and emotional/psychological impacts is reserved for later sections (see Question III and Question IV, below), except to the extent that these impacts pertain directly to the implementation of the

VPPP. The themes that emerged from discussion of the VPPP process are listed and elaborated below in order of prevalence.

> Theme 1: *"It really took a toll on me." "It was a slap in the face the way they did the process."*

Interviewees from **11 of 32 households** described the VPPP process as extremely stressful. Frequently used words and phrases included "stress," "red tape," "headache," "misinformation," and "took a toll." One interviewee suffered a mental health breakdown during the VPPP process and attributed it in part to the stress of the process. Her son told us, "I think Sasol was like the boiling point that put her over." Interviewees from several households said the process was so frustrating that they simply gave up at some point and accepted whatever was in front of them: "At that point I was just so mentally exhausted that I'm like 'ok whatever.'" Other themes (see below) shed light on why interviewees experienced the VPPP process in this manner.

> Theme 2: *"They were rushing us." "You didn't have time to think, you know? You didn't have time to sit down and think."*

Interviewees from **11 households** told us they felt rushed and pressured to move quickly through the VPPP process—often far too quickly to make informed decisions. Several interviewees described how representatives from CIC made them feel like it was "now or never" ("she stayed on us— 'if you don't do it now, it's not gonna happen, I'm telling you'") and life-altering decisions of enormous consequence were made in an atmosphere of extreme pressure. Interviewees from 2 households used the word "harassment" to describe the actions of CIC representatives. One interviewee recalled:

There was very much of a rush. When [my mother] wasn't at home and they couldn't get in touch with her, they would call me at work and they would say, "hey what's the update on this, I know you were looking at this," and it was like constant calls—every day or multiple times a day asking you "what stuff do you have on this, do you have this, your deadline is coming up soon." They never said what would happen if you didn't make the deadline. They talked to you like, "if you go past the deadline, you face penalty fees where you lose money and stuff like that." They didn't ***say*** *that, but it was implied by the harassment calls—by the rushing of everything…I kind of kept them at bay for a few days, but then it got to the point where I was like "I have to tell them something because they are killing me."*

The interviewee went on to describe how the VPPP process was rushed when he and his mother needed time to make decisions, but prolonged and delayed when they asked for help or resources to navigate the process (see Theme 3, below): "It was like they were rushing you but they made the process—it was a prolonged process—but then it went really fast at the same time so you got confused in the process of doing everything…You didn't really have time to read over the papers."

Interviewees from a number of households told us that they would have made different decisions if they had had more time to research their options or find a new home. Some interviewees said they would not have moved at all if they had had more time to think: "You didn't have time to think, you know? You didn't have time to sit down and think. Why did I sell that?" Others—unhappy with their new surroundings for various reasons, including experiences with racist neighbors—would have chosen to live elsewhere if they had had more time to search for a new home: "We were forced to move, but if we had more time, we might have found a good neighborhood where we really wanted to live, but they really didn't give us a choice. They were giving us a time limit and all this other crap."

Another interviewee said that he and his wife would not have chosen to purchase a lot and then build their own home if they had had more time to find a built house or to thoroughly research the costs and challenges of building a home on a vacant lot. Initially, "we were looking at homes that we could just buy outright—that's what we spent 90% of our time on." After their intended home purchase fell through, the couple decided to buy a lot and build their own home rather than trying to find another built house, fearing that after a drawn-out purchase process, the deal could collapse again. "We just didn't have enough time. We had deadlines for every step. We were inexperienced, and we didn't have time to do the homework to see what all was involved." He continued:

Personally, I feel like they should have given us more time to research what it would cost to build a house. More time to—you only had an allocated amount of time to either accept it or deny it or whatever. We didn't really know what we were getting into when we started this. We just jumped in—we didn't have a choice. Time was running out…We just didn't have enough time to research everything and plan everything. We just had to shoot from the hip…We would have never bought this lot if we had the time to research it. We didn't know what it would take to get a house built in this location.

Another interviewee regretted buying a home and wished she had moved her Mossville home to a new location instead, but "there wasn't time enough":

It was a sturdy house. Helped me raise them five children, that's for sure. So I really wanted to take it. And again, they had us scared—we didn't know really which way to go. You've got to move, once you say yes you have three months. All this was said, so there was no way we can stop and freeze and say we're going to take that house because we didn't know what kind of timing we had…They rushed us. Because I wish I would've—many of them say that same thing over: we wish we wouldn't have rushed so much that we didn't take our house.

Theme 3: *"There was a lot of stuff we didn't know. They didn't have any classes or anything to explain these processes to you."*

Interviewees from **10 households** said they felt alone and "in the dark" as they navigated the VPPP process, lacking access to sufficient information and resources to make informed decisions.

A number of interviewees told us that since they had lived in Mossville their entire lives, they were not familiar with the housing market or the homebuying process and were taken advantage of as a result. One interviewee who unknowingly purchased a termite-infested home said, “I should have had inspectors—I wasn’t used to all that…I had been [in Mossville] 60-something years! And that’s all I knew. You’re kind of green to the outside—you don’t have to deal with certain stuff. A lot of things I should have done different, but I didn’t know. And like they say, ignorance of the law don’t make it better, but if you don’t know, you don’t know.” As another interviewee said, “You’re not sure if you’re doing the right thing or not, if you’re picking the right house, or if something is really wrong with it that you have to fix…And the trouble is, we don’t know everything there is to know about it business-wise and stuff like that. They kind of pulled the wool over your eyes because you really don’t know.”

An elderly interviewee who also unknowingly purchased a home with serious defects told us that her “ex-husband used to handle all the business, so I really wasn’t sure whether [the buyout offer] was enough or not. But I accepted it, so…” Several others said they knew their buyout offers “[weren’t] right,” but “not knowing no better, what could we say?”

One interviewee discussed at length the difficulty he experienced in accessing resources that Sasol had said would be made available: “You had to do it on your own. They were supposed to have realtors to help you, people to talk to you about home ownership, mortgages, all this other stuff—nobody ever reached out, you could never get in touch with a realtor to get anything done.” Ultimately, he felt that he did not know what he was signing:

And then they didn’t have no one to explain the paperwork to you—it was just like we need to sign here, here, and here. But they didn’t tell you what you were signing and this and that. You didn’t know if you were signing something that was relinquishing rights or paying hidden fees that you didn’t know about and stuff like that…We went through the process and I hardly understood it…It’s like they weren’t trying to explain nothing, like if you didn’t ask questions, you didn’t get explained and if you did ask questions, it was kind of just generic answer or they would talk around the question—you never got a straight answer from them.

Theme 4: *“They told us one thing, but that is **not** what happened.”*

Interviewees from **6 households** said that Sasol presented a false picture of the VPPP and that the process did not pan out the way they were led to believe it would: “It didn’t happen like they said,” one person told us. “They sugarcoated everything to make it sound good,” said another. According to one interviewee, “They made it seem like the process was going to be straightforward—we’re going to buy out your property, we’re going to give you a check, and you go take care of your business the way you want to.” Instead, the interviewee experienced the process as extremely taxing, cumbersome, and disempowering.

Another interviewee focused on the discrepancy between what she had been led to believe about the outcome of the VPPP and what actually occurred, telling us, “the idea they

[Sasol/CIC] had given us is that we would have something comparable [to what we had in Mossville]…Say like if you lived in a three-bedroom house, they would give you enough money for that. That is *not* what happened." This particular interviewee received about $44,000 from Sasol (see Question III, below).

According to a number of interviewees, it was not clear to them that various deductions would be made from their buyout amounts until it was "too late" in the process for them to reconsider their options. These interviewees believed they would receive a certain amount of money for their properties based on Sasol's initial buyout offer and were caught off-guard by the final amount they received. As one interviewee told us,

It was all the little things, hidden things, and then we had to pay for the lawyers. Some things—they had liens on your name or something like that in the courthouse. They didn't tell us all that was coming out of there until we got ready to sign, and you couldn't sign without all that's taken out…child support, student loans, you name it. But they didn't say all of that when they made the offer…When they make the offer, you say fine. But when it gets to the title company before you make the final signing, they call you and say this has to come out, this has to come out. And it has to come out because you're not going to be able to sign.

Theme 5: *"We didn't like the way they paid the money out." "Sasol wouldn't let us handle our own money."*

Interviewees from **3 households** expressed frustration with Sasol's process of disbursing their buyout money in piecemeal fashion, through equity advances, rather than disbursing all or most of the money at one time and enabling people to manage it for themselves. Some felt that Sasol's approach was insulting and patronizing. Others emphasized that Sasol's approach created significant burdens for them. One interviewee, for example, could not salvage anything—wooden floors, light fixtures, etc.—from her newly remodeled home because she could not afford to move those items and could not receive remaining funds from Sasol until her home had been torn down and her property cleared: "I couldn't take none of it with me because I couldn't get my money—what was left off of what they were giving me—until the house was either torn down or taken off that land." Another interviewee who built his own home explained how the piecemeal process of receiving money for each individual expense created planning and decision-making burdens, prolonged the homebuilding process, and preventing him from simply hiring a contractor to build the home:

It took about three years to build this, the way they issued the money out. First, they gave us enough to buy the land. Then after we bought the land, we had to come up with the money to clear the land…Then we had the slab poured—they gave us some more money. Then we had it framed up—some more. That was the way it went. Instead of us getting a contractor to come and say 'hey let's just complete the whole thing.' Because they wouldn't give him the money neither. The money had to come through us and then they had to come out and do inspections…We could have done a lot better if they had given us all the money at one time. We could have made some real decisions, I feel.

Theme 6: *"I said, 'come on now, there's no accountability? None at all?' No, no accountability."*

Interviewees from **2 households** expressed frustration that Sasol took no responsibility when things went wrong, including when the elderly were taken advantage of by third parties during the VPPP process. One elderly man who got his house moved to a new location recounted how the mover—who had to remove the roof before moving the house and then replace the roof once the house was relocated—badly damaged the roof during the process. The interviewee tried unsuccessfully for two years to get the mover to return and fix the issue; meanwhile, the roof continued to leak. "I called Sasol—I called [the CIC representative]—and she said 'we don't have nothing to do with that. Now y'all gone.' I said, 'come on now, there's no accountability? None at all?' No, no accountability. They should have had a group to go to these homes that was moved to see if everything was satisfied. None. They didn't care. All they wanted was to get [us] the hell out."

Another interviewee shared her elderly mother's experience. The contractor who was receiving checks from Sasol to build her mother's new home took the money and fled in the middle of construction. "They were supposed to police that. She was too old. She was nervous and distraught. She had a stroke over that…I think for them elderly people like that, they should have looked after them better than what they did," the interviewee said.

<u>Question III: What were the financial impacts of the VPPP on interviewees? Specifically, how do interviewees feel about the amount of compensation they received, and do interviewees believe they materially benefitted from the VPPP?</u>

<u>Dissatisfaction with financial compensation</u>

Interviewees from **22 of 32 households** expressed dissatisfaction with the financial compensation they received for their properties through the VPPP. A number of themes emerged from interviewees' articulations of their dissatisfaction. These themes are described below in order of prevalence.

Theme 1: *"I should've been compensated where I could have gotten something just as nice. That's all I ask."*

Interviewees from **8 households** said they received insufficient compensation to be able to relocate to a residence of similar or better quality. "Most of [the homes in Mossville] was paid for, so when you offer a set amount of money, and then you have to go and relocate for that amount? It's not going to work," one person said. An elderly interviewee who owned a home in Mossville received about $44,000 from Sasol (as verified by our team after obtaining the interviewee's buyout documents). After searching far and wide for a property to purchase, she realized that she would not be able to afford any of the properties on the market without taking out a mortgage or renting instead of buying. At her age, she explained, she could not assume the financial risk of a mortgage or rent payments. She ended up purchasing a mobile home for $30,000.

Several interviewees purchased homes with serious defects, including termite infestation, roofs and doors that needed replacement, floors that started to cave in, water lines that burst, and hot water heaters that exploded. Interviewees told us they spent more on the repairs than the balance of their buyout money—sometimes much more. "The five, six years I've been here, it's been nothing but an expense," said one interviewee. Another interviewee, who was very elderly, had to borrow $2,000 for repairs. "I'm still paying that," she said. "And that puts me in a bind because I just get a [social security] check once a month and I have to pay all the bills."

An interviewee who could afford only a fixer-upper estimates that he has spent $75,000 on repairs so far—on materials only, since he has been making the repairs himself—with more work on the house still needed. He estimates that he has spent $38,000 more than his buyout amount on fixing up the house. To pay for the repairs, he has had to work part-time jobs during his retirement. "I don't have no [mortgage] note, but it's just like I got a note because I have expenses—a lot of expenses every month," he said. Still, he considers himself lucky because he is able to fix up his house himself since he used to be a handyman; if labor costs were involved, repair work on his house would be unaffordable.

Theme 2: *"They didn't pay us for our memories."*

Interviewees from **7 households** felt that compensation was insufficient because Sasol failed to consider the historical significance of the community and many residents' generations-old roots in Mossville. One interviewee told us he "let them know that Mossville was a historical village, and whenever one company or corporation tried to buy a historical area, they have to pay for that purpose." Sasol's formula did not account for the forced displacement of Mossville residents from their ancestral home, interviewees said: "They didn't pay us for our memories." The word "memories" surfaced repeatedly. "I felt like [the money] should have been more because I've been there all my life and you're taking my memories—you're taking everything from me," said one interviewee. "It's the memories that got me," said another. "What's hurting me is the memory—all them children raised out there…The memories hurt" (see also, Question IV, below).

Some interviewees also said Sasol should have considered its long history of environmental contamination in Mossville[191] when determining buyout amounts: "I think they should have paid more money. People ended up with cancer, and now I have breast cancer. And I was at the hospital, and there were three or four others from that area coming in with the same sickness. At MD Anderson. And [hospital staff] were asking where we was living at, what kind of chemicals we was by. And I thought maybe by people being sickly, [Sasol] should have done more, but they didn't."

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[191] Sasol bought the Condea Vista chemical facility in Lake Charles in 2000. Condea Vista was responsible for a massive ethylene dichloride leak that contaminated Mossville's soil and groundwater in the 1980s.

Theme 3: *"This was paid for—it was guaranteed housing, and everything, for the rest of your life. It feels like we made a mistake. Big mistake."*

Interviewees from **5 households** told us that, as a result of the VPPP, they no longer own property and have lost their most significant investment. Several people lamented the loss of financial security— "guaranteed housing for the rest of your life"—and regretted their decisions to sell: "It feels like we made a mistake. Big mistake." Others remembered the sacrifices their parents had made to buy property that could be passed down over generations: "I know how hard my parents worked to get that property and to keep it up. And to just give it away, it still hurts me."

Theme 4: *"With twelve, thirteen people in the family, they give you $100,000—it's nothing."*

Interviewees from **5 households** owned heir property. After splitting the buyout amount in several—or more than several—directions, these interviewees did not have sufficient funds to relocate. One elderly man, for example, owned two houses in Mossville along with his twelve siblings. When the approximately $200,000 they received was divided thirteen ways (with slightly more for his sister and him, the occupants of the houses), he recalls that he walked away with about $36,000. Although he moved his Mossville home rather than trying to buy another home, the move still left him "broke," he told us. He recalled that he paid $12,500 for a piece of land, $8,000 to clear the land, $1,600 on hauling in dirt and spreading it down, $500 on elevation surveys, $8,400 to move the home, $4,500 to remove the roof before the move and replace it after the move, and $5,000 for plumbing, among other expenses. "I had $4,000 that I was saving in Merrill Lynch and I had to go get that," he told us. "I spent at least $45,000 to get to the point where I am now. $45,000. I didn't have no $45,000—all I got was 36. And probably more, I probably spent more."

Theme 5: *"It was wrong for them to do the people what they did for Road Home."*

Interviewees from **5 households** had to pay back grant money they had received through the federal Road Home program and/or had liens that were deducted from their buyout amounts, leaving them with insufficient funds to relocate.

Many Mossville residents received Road Home funds to rebuild or repair their homes after Hurricane Rita in 2005 and/or, more recently, to elevate their homes if they lived in a flood-prone area. Although this was grant—not loan—money, a number of interviewees (including several who were satisfied with their buyout amounts) told us that some or all of their Road Home funds were deducted from their buyout amounts. This happened for various reasons, according to interviewees, including if residents had not lived in their home for the required length of time by the time the VPPP was announced or if residents could not provide receipts of home repairs. The consequences of losing Road Home funds were financially devastating for some interviewees. An interviewee mentioned above (see Theme 1) owned heir property along with her two siblings. Sasol determined that she was eligible for about $66,000 from the sale of her home. This amount would have been insufficient for relocation even barring any further deductions; however, an additional $22,000 of Road Home liens were deducted, leaving the interviewee with about $44,000 in hand. (These figures have been verified by our team after obtaining the interviewee's buyout documents.)

Other interviewees had mortgages or other liens that were deducted from their buyout amounts. One interviewee explained that her $47,000 mortgage, a $1,500 lien that she was not even aware of, and her husband's child support payments from 30 years ago were all deducted. Although she understood why her mortgage would need to be paid out of her buyout money, deduction of the other liens as well as Sasol's overall disregard for people's individual financial circumstances were frustrating to her: "My problem is, I don't really think Sasol fought for the people. I don't think they were fair. Because they give you this big picture…but it's the fine print…To me, they should have fought for the people, [sorted out] some of that stuff. There was more that could have been done."

Satisfaction with financial compensation

Interviewees from **10 of 32 households** expressed overall satisfaction or contentment with the financial compensation they received through the VPPP. In two cases, for example, the buyout enabled interviewees to relocate from a house on which they still owed a mortgage to a house they were able to buy outright (in stark contrast to other Mossville residents who experienced the reverse, i.e., owned their properties in Mossville and had to take out a mortgage note or pay rent upon relocation).

In speaking with interviewees, we sought to understand the factors that accounted for divergent experiences with the financial consequences of the VPPP. Why did the VPPP work out well for some (a minority of) interviewees and not for others (the majority)? We found that, often, buyout amounts were satisfactory to interviewees under one or more of the following conditions: (1) the interviewee sold multiple properties to Sasol through the VPPP; (2) the interviewee purchased a new property from a close friend who gave the interviewee a good deal; (3) and/or the interviewee built houses for a living and could therefore build a new home with minimal labor costs.

Overall, one or more of these circumstances applied to interviewees from 8 of the 10 'satisfied' households. Interviewees from 6 of these households sold multiple properties to Sasol, and several of them acknowledged that they "would have been stuck" and that "there is no way in the world [they] would have gotten" a sufficient amount of compensation had they not owned multiple properties. Interviewees from 3 of these households bought new properties from close, decades-old friends and secured favorable deals for their property as a result, escaping the "price-gouging" that so many other Mossville residents experienced (see "Additional Themes," below). One interviewee sold four lots to Sasol, bought land from a friend of 30 years, and built his own house since he built houses for a living. He acknowledged the decisive role these circumstances played in his positive experience with the VPPP.

Additional themes

The following additional themes emerged across the entire data set, among interviewees who were unsatisfied as well as satisfied with the amount of financial compensation they received.

> *"Because of everybody knowing that Mossville was going to be sold out, the price-gouging was unreal."*

Interviewees from **18 of 32 households** said that property values in the areas surrounding Mossville shot up as a result of the VPPP. As one person told us, "Because of everybody knowing that Mossville was going to be sold out, the price-gouging was unreal." Many of these interviewees said that searching for a new property they could afford became extremely challenging. Several interviewees began trying to hide the fact that they were from Mossville after the first few property owners they encountered raised prices on them, believing them to be loaded as a result of the buyout.

Interviewees also discussed other ways in which third parties (including real estate agents) took advantage of the situation and preyed on Mossville residents—particularly the elderly and other vulnerable members of the community—as they searched for new homes. One interviewee described the "camouflaging" of homes: "They were fixing up homes and making them seem like they were worth more, and they had damages." Several interviewees unknowingly purchased homes with serious defects and ended up spending significantly more than the balance of their buyout amount on repairs, as discussed above.

> *"It's my house but it really ain't—because the year I don't have the $1,200 [to pay property taxes] then it's not going to be my house no more."*

Interviewees from **6 of 32 households** told us that, unlike their Mossville property, their new property did not qualify for the homestead tax exemption and property taxes presented a huge financial burden and source of stress for them. One interviewee described property taxes as her "biggest concern": "We didn't pay taxes where we were. That's what I worry about. It's my house but it really ain't—because the year I don't have the $1,200 [to pay property taxes] then it's not going to be my house no more. Me and my husband do good, but to say the rest of my life I have to pay that, and if I lose him, where do I go then? I'd rather have stayed right there in Mossville." Another interviewee who now pays $1,400 in property taxes asked, "So did y'all [Sasol] give money for that? Do you give money for the future years we're gonna have to pay something we didn't pay before? With our same jobs? That was cutting it before, but now it's not cutting it."

Question IV: How did interviewees experience the VPPP and its aftermath emotionally and psychologically?

Emotional and psychological distress

Interviewees from **20 of 32 households** experienced emotional and psychological distress as a result of the VPPP. Their feelings about the Sasol buyout are overwhelmingly negative and rooted in feelings of profound loss and injustice.

> Theme 1: *"Sometimes it's not about money. It's about freedom. Being free. We came from a freed slave community. Freedom is what we based our life on...Now we're in a strange land."*

Interviewees from **19 households** attach feelings of profound loss to the Sasol buyout. Many of these interviewees had generations-old roots in Mossville and remembered it as a self-sufficient, thriving community and a safe haven. Several interviewees talked about the pain of separation from their ancestors who were buried in Mossville. Others spoke of how they would never be able to show their children where they grew up or where they went to school. The word "freedom" surfaced repeatedly in our interviews, as people told us how they felt free in Mossville and could never feel free anywhere else:

Sometimes it's not about money. It's about freedom. Being free. We came from a freed slave community. Freedom is what we based our life on. Freedom. We were free to do. We were free to laugh. We were free to give family gatherings. We were free to shoot fireworks. We were free to walk down the street, we were free to go to the park, we were free to go to the swimming pool and swim, we were free…Now we're in a strange land.

Interviewees from **10 households** raised the prospect of community resettlement and said that Sasol should have collectively relocated community members. As one interviewee told us, "This is what they should have done—Sasol should have bought land somewhere else; they should have put in streets, sewer, lighting, put our baseball park, put our recreation center, put our swimming pool, put everything there. They should have picked up Mossville and put it somewhere else, and gave people the opportunity [to move there]." Another said, "Y'all took us all as family away from each other—why don't you put us back? Big piece of property, like a whole little community, and it would be all of us and everybody would have been happy."

> Theme 2: *"After it was over, it felt like I was cheated."*

Interviewees from **16 households** associated the Sasol buyout with feelings of indignity at having been "cheated" or "swindled," as some put it. Interviewees felt that they had been forced to give away their property: "Even though it's been a while, it still hurts—they really, really had me *give* my property." Sasol had, in turn, "taken" from them. As one person said, "They took a lot of our happiness, our peace of mind, our love for our family, our love for our surroundings—everything that they took we can't get back." Others said simply, "we lost everything."

A number of interviewees discussed the unfairness of not being able to negotiate their buyout offers, especially given that people in predominantly white areas were able to do so. One interviewee told us, "Some coworkers of mine lived on the backside—Houston River Road—of Sasol, and they were basically a white community. They had negotiation rights. That was a red flag right there. I said 'so you were able to negotiate with these people and then they come to this side and it's a voluntary thing?' What kinda bs is that?"

Interviewees also spoke of Sasol's broken promises with respect to jobs and other benefits to the community. As one interviewee said, "They even promised people, 'if you're from Mossville and you want to go to work, we gonna give y'all first opportunity.' I didn't know nobody that worked there. It was just a bunch of bs that was thrown around to try to get people to, you know…".

Interviewees widely perceived that Sasol's goal was to remove as many people as possible from Mossville: "They just wanted us out." Interviewees from **6 households** expressed the view that Sasol achieved this aim by "dividing and conquering" the community. Specifically, people felt that Sasol worked with some members of the community to represent Sasol's interests among community members and convince others to participate in the VPPP (and, as one interviewee put it, "I have no proof, I can't say, but I figure they got their hands greased a bit").

> Theme 3: *"They came in on us because we're Black…They just saw some poor Black people that they was just gonna come in and get them out."*

Interviewees from **14 households** associated the Sasol buyout with racism and the targeting of Mossville because it was a Black community. As one interviewee said,

They're from South Africa somewhere—don't know their ass from the holy ground but they came in on us because we're Black…They just saw some poor Black people that they was just gonna come in and get them out…They took a lot from us, that they didn't really realize what they done, but they didn't care either, because if they did, they would have thought about all that before they came to us. But we're Black. So they figure, "they're already poor, so they're going to move." But it wasn't that—we felt our life was in danger. That's why we really left.

Others echoed the sentiment that Sasol "thought money would excite us." One interviewee told us that the destruction of the community and the separation of community members from one another "felt like modern day slavery. Mothers and fathers—children and mothers go this way and fathers go this way. That's how I feel. Like modern day slavery…It felt like the Black Wall Street in Tulsa, Oklahoma. That's what it felt like, but it was Mossville. Even though they got ran out by the burning and all of this, we got ran out by the chemical plant."

Some spoke of how "we were treated like children." Interviewees also spoke frequently of Sasol's apparent callousness: the phrase "they didn't care" surfaced repeatedly. "They don't care for our health or our life!" said one interviewee.

Several interviewees also told us how Sasol treated predominantly white areas differently, including by allowing people in those areas to negotiate the value of their properties: "There were people further in the back, Caucasian, they presented them with a price they could not refuse. But when it came down to Mossville, the Black people, they tipped around, they shot down, they did everything they could to not pay us what we were worth."

> Theme 4: *"I was crying all the time. I was missing my mom, I was missing my hometown, I was missing my families. I don't know if I made the wrong move or not because I wasn't happy at all."*

Interviewees from **10 households** described trauma and mental health impacts as a result of their relocation. As one interviewee told us,

People don't realize what effect it has on us. We don't laugh like we used to…We don't even see the stars anymore. I can't say the last time I sat outside and looked at the stars. I don't even know if they have stars in the sky anymore…I understand how animals feel when they get caged in. Maya Angelou said "why the caged bird can't sing?" Because it lost its freedom. Yes, yes. When the Israelite was captured and they went into exile, they hung up their harps on the willow tree. They could not make music anymore, they could not dance anymore, because they were in a strange land. They lost their joy. And a lot of us lost our joy. We're here, yes, this is where we moved, but our freedom and joy is not here. We had to hang up our harps on the willow tree. Not only it was a willow tree, but it was a weeping willow tree. And that's the way we felt. We was relating ourselves to a weeping willow tree.

Another interviewee recalled her first few months in her new home, away from Mossville:

My mom and them were still living in Mossville, so every day when I would get off [work] I would go to Mossville, see them, and come back home. Well every time I would come home, I would go sit on the patio, and right when it started to get dusk dark, I would just cry. Every single day. And then my youngest son would come to me and say "mama, it's going to be okay." But I just couldn't see where it was going to get better. Because I was crying all the time, I was missing my mom, I was missing my hometown, I was missing my families. I don't know if I made the wrong move or not because I wasn't happy at all. I was sad, sad, sad. I said, "maybe I'm gonna have to learn to love it some kind of way, because now I'm here"…So it's kind of like I'm living far away from my family and I feel lost as a goose. That's how I feel.

Another interviewee began suffering panic attacks immediately after her relocation. Several interviewees described their elderly parents as distraught and traumatized by the VPPP process, dislocation from the community where they had spent their entire lives, and separation from family and lifelong friends.

Theme 5: *"It tore my mama apart. That's what destroyed her—that's what killed her."*

Interviewees from **4 households** either experienced or knew others who experienced physical health impacts attributed to the stress of the VPPP process and relocation from Mossville. Interviewees from 3 households suffered strokes in the middle of the VPPP process. One of them attributed her stroke to "all the pressure, all the running, the stress. I had known already two ladies that had died—they had just died before they even moved. It was sad. I told God I'm not gonna let this kill me." Another interviewee told us her grandmother had a stroke four months after moving "because she was stressing out about [the buyout] bad." A third interviewee (discussed above, see Question 2) attributed her mother's deteriorating health, stroke, and ultimate death to the stress and trauma of the VPPP process, during which a contractor failed to complete her home and fled with her money. One interviewee told us about a neighbor who went to the hospital for chest pain after learning that Road Home money would be deducted from his buyout amount.

Interviewees from **10 households** mentioned that many former Mossville residents they knew—mostly elderly—died within months or a year of moving. These deaths were widely attributed to the trauma of dislocation.

<u>Happiness or contentment</u>

Interviewees from **6 of 32 households** expressed emotional satisfaction or happiness with the VPPP and its aftermath. All of these interviewees had also expressed satisfaction with the amount of financial compensation they received. The reasons for their contentment were one or more of the following: (1) being able to move out of an industrial area; (2) living in a home that was better than what they left behind; and (3) feeling that they benefitted financially from the VPPP.

<u>Mixed/complicated emotional and psychological impacts</u>

Interviewees from **6 of the 32 households** expressed ambivalence about the emotional and psychological impact of the VPPP. Words and phrases that surfaced repeatedly included "blessing and a curse" and "bittersweet." As one interviewee explained it, "The 'sweet' is that you were removed from contamination. The 'bitter' is because at one time you came to a wooded area, and through blood and sweat you built a community. You have lost all of that." Another interviewee told us that his health had improved dramatically after relocation. He attributed this to his cleaner environment. At the same time, the amount of financial compensation he received was insufficient for him to relocate to a home of similar quality, and he felt that the VPPP was an injustice.

Conclusion

The results of our qualitative analysis contain the following key findings:

- Many Mossville residents experienced the VPPP as a form of forced displacement.
- For many Mossville residents, the financial compensation they received through the VPPP was insufficient for relocation to a residence of similar or better quality.
- Many Mossville residents experienced emotional and psychological harm, including trauma, as a result of the VPPP and its aftermath. These harms were rooted in feelings of profound loss and injustice.

We also found that some Mossville residents had positive experiences with the VPPP; however, we underscore the experiences of the majority of people we interviewed—experiences of forced displacement, insufficient financial compensation, and emotional and psychological harm—not only because of their much greater prevalence in our data set, but also because these findings contradict the narrative that Sasol has crafted about its Voluntary Property Purchase Program and confirm that Sasol did not adhere to international guidelines and best practices for industrial buyouts.

Finally, we note that when current Mossville residents with whom we spoke articulated their reasons for not participating in the VPPP, those reasons closely tracked the experiences of many residents who participated in the program and relocated. Current residents told us they chose to remain in Mossville because they felt that the financial compensation offered was insufficient for them to relocate to a residence of similar quality; because Road Home funds would have been deducted from their buyout amount, leaving them with a very small balance; and/or because they owned heir property and would have had to split the buyout amount with a number of family members.

INVESTIGATING RACIAL INEQUITIES IN SASOL'S VPPP: A QUANTITATIVE APPROACH

A. Introduction

To better understand the effects of the VPPP, this quantitative analysis examines all sales of residential property to Sasol between 2011 and 2020.[192] The data support the following claims:

1. Transactions within the Voluntary Property Purchase Program ("VPPP") received significantly[193] lower prices than transactions completed outside of the program during the same period.

2. VPPP transactions in Mossville had significantly lower sale prices than did VPPP transactions in Brentwood, the neighborhood to the northeast of Mossville with a 90% white demographic makeup.

3. Buyout prices are associated with regional differences in racial makeup: Mossville, a 90% Black community, exhibited lower average buyout values than both Brentwood (90% white) and the area outside the VPPP (predominantly white).

These data, considered together with an analysis of contemporary social science, suggest:

1. The VPPP was racially discriminatory and did not constitute fair treatment.

2. The VPPP's design was insufficient to replace, at the same quality or standards, the homes purchased through the program. As such, the data suggest that the VPPP may not have provided its participants with full replacement value, a finding echoed throughout our qualitative study.[194]

3. The VPPP's use of comps-based appraisals was insufficient to mitigate against negative discriminatory impacts. Mossville's lack of an active housing market, implicit bias, and appraisers' possible unfamiliarity with historically Black communities may have resulted in buyout prices which did not adequately reflect the true value of Mossville's homes. Given Mossville's unique position as a historically Black community with high cultural value, we make the considered judgment that the comps-based approach was inapposite and should have been avoided altogether.

This section seeks to substantiate these claims through an analysis of publicly available data and an intensive review of the contemporary social science affecting the appraisal industry.

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[192] As explained in part B of this section, the data analyzed look at sale values on the level of *sales*. We note that this does not reflect the price paid for individual *properties,* as such data were not available through the public record. Nevertheless, the sale-level data are a useful heuristic for estimating prices. See the Limitations subsection of this section for further discussion.
[193] Throughout this section 'significant' refers to statistical significance; it does not refer to size or strength.
[194] See Section 4 of this report.

B. Methodology

In this subsection, we describe the methodology used to collect, categorize, and analyze sale data and we justify our analysis's design. Throughout the following, the term 'conveyance' refers to a transfer of real property from one party to another. The Calcasieu Parish public record documents all conveyances, listing vendors (sellers), vendees (buyers), date sold, the price of purchase, and the legal description of the property in question. Conveyance records may also include any encumbrances or liens a property retains. They may also document issues related to probate, succession, or power of attorney. Together, these details clearly indicate what properties were sold, by whom, to whom, and for how much money.

All properties purchased through the VPPP reside within Calcasieu Parish, therefore the Calcasieu Clerk of Court maintains records documenting each VPPP sale. Conveyances do not note whether a particular transaction took place under the VPPP agreement. As mentioned earlier in this report, Sasol also purchased additional residential property outside of the VPPP, likely before, during, and after its duration. The VPPP began in mid-2013, though SASOL first announced expansion plans in 2011 and SASOL also purchased many residential properties across Calcasieu Parish between 2011 and 2013.

For these reasons, we collected all conveyances for property sales to Sasol between January 1, 2011 and December 31, 2020. In total, we identified 735 <u>records</u> of conveyance transactions to SASOL in this period. **Crucially, note that a particular record of property transfer may document the simultaneous transfer of more than one parcel of property, and thus, may include a sale value that represents the composite value of multiple properties.** While this is a limitation of this study, an analysis on the transaction-level can still act as a useful guide in ascertaining patterns within the VPPP's sale structure (see Limitations).

Of these 735 records, we identified 644 <u>records</u> of transfers of <u>residential</u> properties. After a review of these 644 records, we identified that some sales occurred in partial shares — that is, there might exist two conveyance records for a single property or group of properties. To resolve these duplicated records, we matched the sales by the legal descriptions of their properties.[195] After this matching, we were left with 524 <u>unique sales</u> of <u>residential</u> property.[196] In some transactions, Sasol purchased more than one parcel of property. Nevertheless, the available conveyance records are not itemized — i.e., for transactions documenting the sale of more than one parcel, individual sale prices are not given for each parcel — so the analysis proceeds on the <u>transaction-level</u> and <u>not</u> on the parcel-level. **In other words, our analysis**

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[195] This matching is necessary as to avoid the artificial de-valuation of properties in our dataset. For example, if property A were sold in two shares of $50,000, the data need to reflect that the A was actually worth $100,000. Where a single record contains multiple properties, however, it is impossible to separate their values. Thus, as we discussion in the limitations section, some sales may appear overvalued relative to the market values of the properties they include. Again, one must keep in mind throughout this section that our analysis occurs on the level of *sales* and *not* on the level of individual properties.

[196] By 'residential,' we mean property that is personally owned. In other words, residential property is neither government owned nor corporate owned. We do not mean 'residential' to imply that a piece of property is, in fact, the primary or secondary residence of its owner. It is simply property owned by a person.

seeks to answer the question: for the unique clusters of property purchased by SASOL between 1/1/2011 and 12/31/2020, what was the average sale price per property cluster?

After we determined that 524 unique residential transactions occurred between the dates in question, we then moved to determine (a) which items were sold through the VPPP and (b) whether a particular item was a homestead property or not. We characterized sales of transactions into one of two categories: homestead property and secondary property. "Homestead property" refers to properties which were used as someone's primary residence at the time of sale by SASOL. "Secondary property" refers to all property which is not homestead property, i.e., property not used as a primary residence at the time of sale. Secondary property may include both developed and undeveloped land.

The conveyance records themselves do not indicate whether a particular transaction included homestead property. Nevertheless, we were able to infer which transactions included homestead property by looking at the total sale value. Recall that SASOL guaranteed at least $100,000 for all lived-in property. Thus, we considered any sale of less than $100,000 to be secondary property. Transactions in this category (< $100,000) were more likely to be sales of small-to-moderately sized pieces of land with no or few additional modifications. If a sale recorded $100,000 or more, then we considered that particular transaction as a sale of homestead property.

This $100,000 demarcation for homestead property is an assumption of this study, though it is supported by the distribution of data and the VPPP's own design. In particular, the distribution of transaction-level sale data is highly bimodal, and few sales cluster around the $100,000 mark. The two clusters of sales occur around $20,000 and $150,000. By looking at the histogram below, one sees that there is a clearly demarcated "uptick" of properties around $100,000. This accords with Sasol's own formula guaranteeing no less than $100,000 for owner-occupied property. The shape of the transaction-level data allows us to proceed on the reasonable assumption that there is a meaningful difference between properties sold more and less than $100,000, respectively.

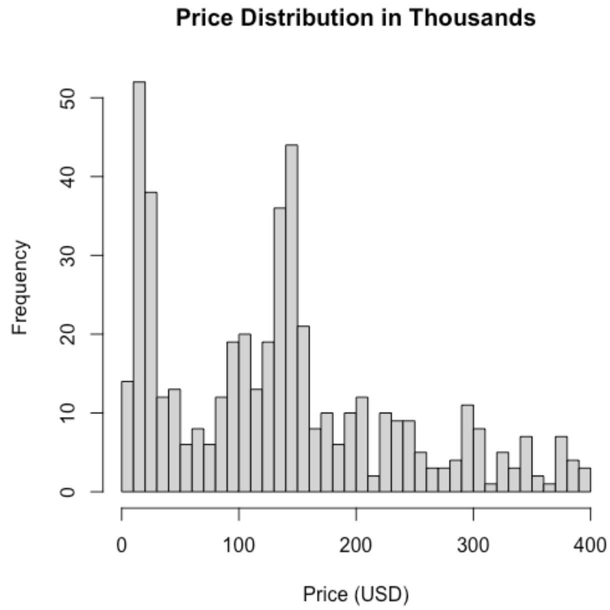


Figure 5: Distribution of transaction-level sale values, in thousands of dollars.

The sale of homestead properties is of particular importance to this analysis. The previous section of this report highlighted individuals who had to change primary residence because of the VPPP. Secondly, the sale of one's primary residence is, generally, more disruptive than the sale of a secondary property. Third, home ownership represents most Americans' primary form of capital investment.[197] Fourth, as we discuss later in this section, implicit bias and structural racism are known to disproportionately lower home appraisals for Black Americans. Finally, home prices vary more widely than property prices; thus, there is greater concern that racially discriminatory home buyouts will exacerbate disparities between white and Black individuals. While disparities between both homestead and secondary properties are important areas of analysis, homestead property represents a unique and important class — and, as we will argue, a site of unequal and unfair treatment through Sasol's Voluntary Property Purchase Program.

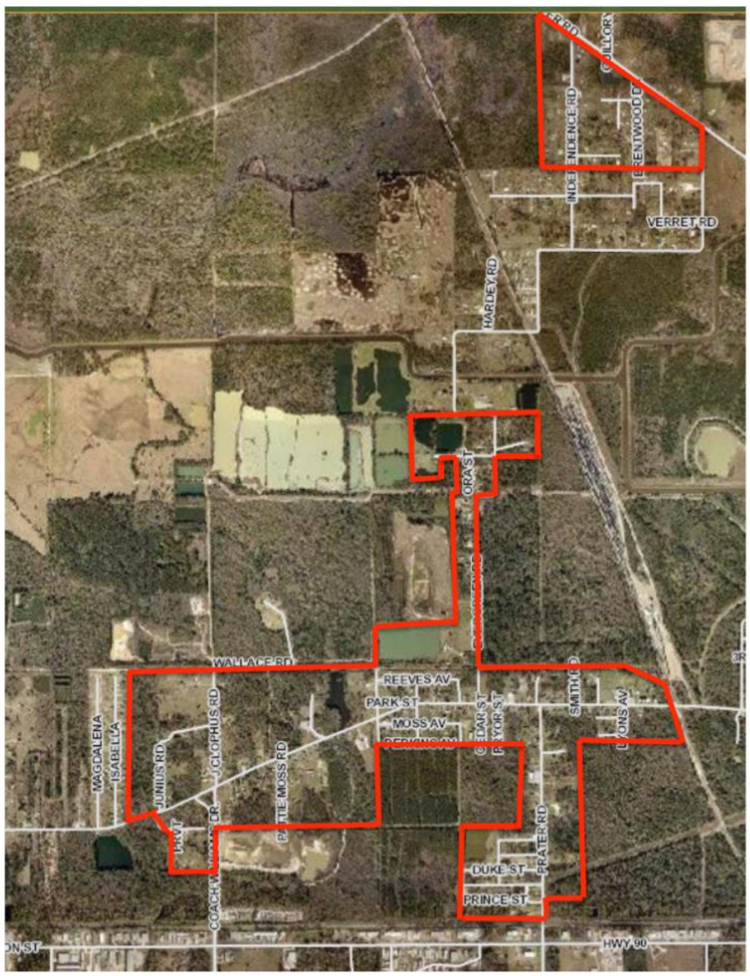
Locating Properties

After identifying the 524 transactions mentioned above, we classified each transaction on a second axis of categorization, namely whether the transaction took place through the VPPP or not. During the time period in question, there were two mutually exclusive ways an individual could sell their property to Sasol. First, if one's property lay in the buyout zone shown below, then one was required to sell one's property through the Voluntary Property Purchase Program

[197] See: Hays, Donald and Sullivan, Briana. *Gaps in the Wealth of Americans by Household Type in 2017, U.S. Census Bureau, (2020)*; Neal, Michael. *Homeownership Remains a Key Component of Household Wealth*, National Association of Home Builders, (2013); Charles Hurst, *Social Inequality: Forms, Causes, and Consequences*, Pearson Education, Inc. (2007), p. 31; Juliana Menasce Horowitz, Ruth Igielnik And Rakesh Kochhar, *Trends in Income and Wealth Inequality*, Pew Research, (2020); Pew Research, Income and Wealth Inequality by Income Tier (2012).

(if one sold at all). As described in the previous section, Sasol determined the sale price for VPPP transactions through a preset formula (see section 3 of this report). Sasol did not allow deviations from this formula, and the company was similarly closed to individualized negotiations for VPPP sales. In other words, VPPP sales were a “take-it-or-leave-it” offer. This was not the case for individuals who sold property outside of the VPPP. Individuals whose property (a) lay outside of the buyout zone or (b) was sold before August of 2013 were able to sell their property in a more traditional fashion, negotiating offers and counteroffers with Sasol, possibly with the help of representation (e.g., real estate agents or lawyers).[198]

Figure 6: Sasol’s VPPP Map (reprinted from Section 3 of this report)



Publicly available conveyance data does not state whether a particular transaction occurred through the VPPP or one-on-one negotiations. Thus, it was necessary to infer whether each transaction was sold through the VPPP through other available information. To determine a transactions status as belonging to the VPPP or not, we completed the following. For each

[198] This paragraph reiterates information contained in Section 3 of this report.

transaction, we acquired through the public record (a) the date of sale and (b) the legal description for each property sold. If the date of sale preceded August 1, 2013, then necessarily, the transaction occurred outside of the VPPP and was coded as such. If the transaction occurred August 1, 2013 or later, then we referred to the legal descriptions of the properties sold. Using GIS tools, we mapped each parcel sold and then determined whether that parcel was within the VPPP boundaries given by Sasol (see figure 6 above). In some cases, we referred to tax assessment documents to acquire street addresses for otherwise indeterminable parcels. In the rare case that a transaction included parcels both within and outside the VPPP zone, we coded this transaction as a VPPP transaction as a conservative measure.[199] Of the 524 unique residential transactions identified, we were able to confidently determine the buyout status of 510 transactions using this method (97.3%). We have omitted the remaining 14 transactions from this analysis.

The VPPP buyout area consists of two distinct portions: a larger portion that encompasses the vast majority of historic Mossville and a smaller area to the Northeast that encompasses a smaller neighborhood known as Brentwood (See figure 6). After determining whether a transaction's parcels lay in the buyout zone, we further determined whether these parcels were enclosed in the Mossville subsection or the Brentwood subsection.

Thus, at the conclusion of our records collection, we coded each transaction in two ways: first, we determined whether a transaction occurred outside the VPPP framework, inside the VPPP within Mossville ('MV'), or inside the VPPP within Brentwood ("BW"). More specifically, if a transaction occurred within the VPPP, we also determined whether that property was in Mossville (also 'MV') or Brentwood ('BW'). Secondly, we determined whether the transaction was likely a sale of homestead (occupied) property or secondary (non-occupied) property. Following this method, we coded all 510 transactions, producing the following matrix.

Figure 7. Distribution of transactions by homestead/secondary and VPPP/non-VPPP

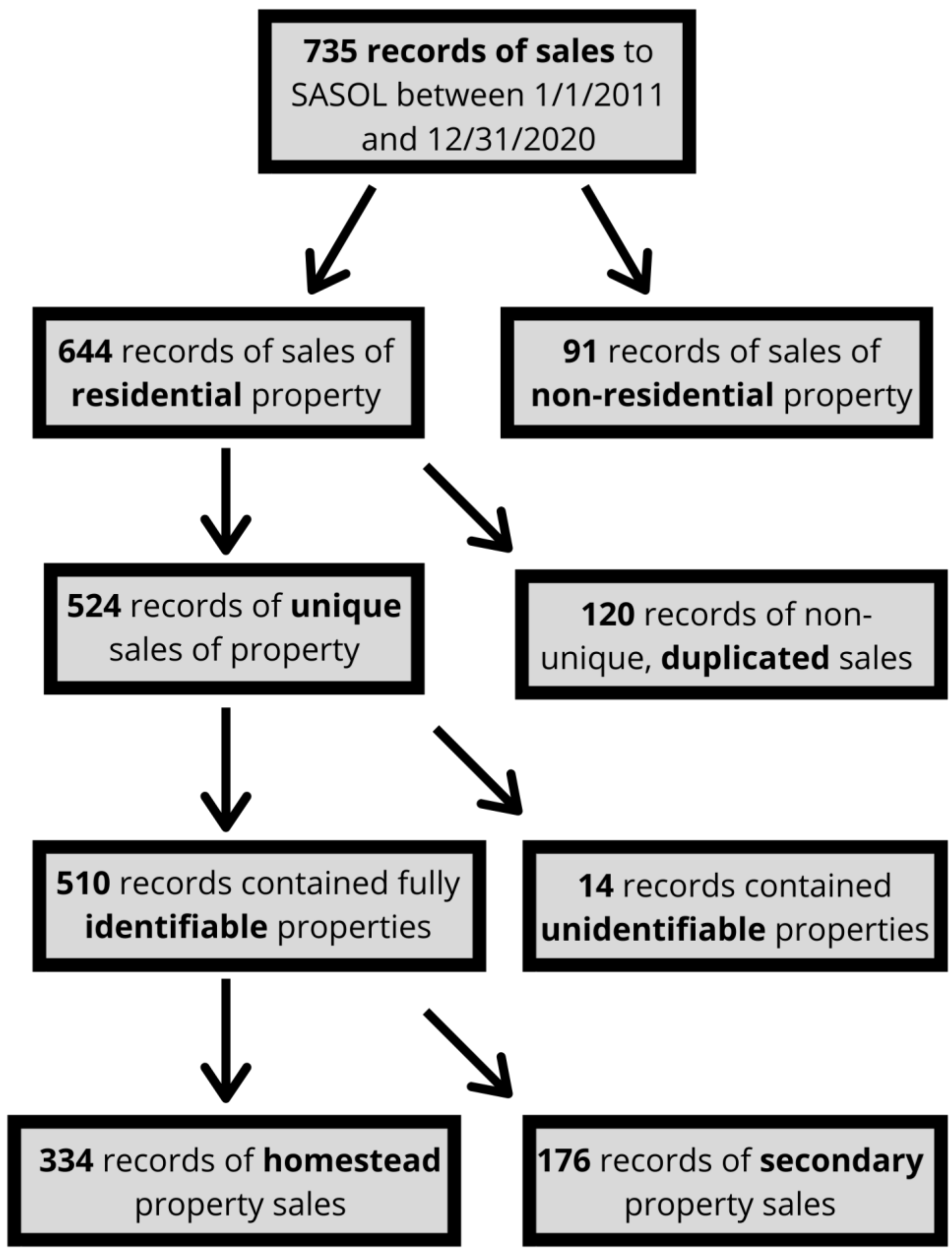
	Homestead ($100k+)	**Secondary ($1-$99,999)**	**Total**
VPPP (MV)	155	115	270
VPPP (BW)	38	6	44
Non-VPPP	141	55	196
Total	**334**	**176**	**510**

[199] This is indeed a conservative measure since, having more than one property in a transaction tends to correlate with a higher sale value.

Finally, for each property transaction, we were also able to determine the number of legal persons amongst whom the sale price was split at the time of sale. We used this number to determine a *per capita* sale price for each transaction by dividing the sale price by the number of listed vendors. For example, if three unmarried individuals were listed as vendors for a sale of $60,000, then the *per capita* sale price of that transaction would be $20,000.

The following flowchart (figure 8) depicts this methodology in a graphical format:

Figure 8: Flowchart depicting coding of publicly available data in this study



C. Questions for Analysis

The previous subsection explained how our analysis proceeds from publicly available conveyance records to a study of transaction sale values. From these data, we now compare the sale values resulting from VPPP and non-VPPP property sales to Sasol. Through our analysis, we attempt to discern if the VPPP buyout disadvantaged the Mossville community. We orient our analysis around the following research questions.

Questions:

Were there statistically significant differences in the average sale prices for the following comparisons of **homestead property transactions:**

1. VPPP homestead transactions v. non-VPPP homestead transactions?
2. Mossville homestead transactions v. non-VPPP homestead transactions?
3. Mossville homestead transactions vs. Brentwood homestead transactions?
4. Brentwood homestead transactions vs. non-VPPP homestead transactions?

Were there statistically significant differences in the average ***per capita*** sale prices for the following comparisons of **homestead property transactions**:

5. VPPP homestead transactions v. non-VPPP homestead transactions?
6. Mossville homestead transactions v. non-VPPP homestead transactions?
7. Mossville homestead transactions vs. Brentwood homestead transactions?
8. Brentwood homestead transactions vs. non-VPPP homestead transactions?

Were there statistically significant differences in the average sale prices for the following comparisons of **secondary property transactions:**

9. VPPP secondary transactions vs. non-VPPP secondary transactions?
10. Mossville secondary property vs. non-VPPP secondary property?
11. Mossville secondary transactions vs. Brentwood secondary property?
12. Brentwood secondary transactions vs. non-VPPP secondary transactions?

Were there statistically significant differences in the average ***per capita*** sale prices for the following comparisons of **secondary property transactions**:

13. VPPP homestead transactions v. non-VPPP homestead transactions?
14. Mossville homestead transactions v. non-VPPP homestead transactions?
15. Mossville homestead transactions vs. Brentwood homestead transactions?
16. Brentwood homestead transactions vs. non-VPPP homestead transactions?

D. Results[200]

Our analysis suggests that the VPPP buyout disadvantaged the community of Mossville. We find evidence to support the claim that transaction-level buyout prices in Mossville were significantly lower than transaction-level sale values in either Brentwood or outside of the

[200] Findings in this section are rounded to the nearest dollar or percentage. Small discrepancies in values may be the result of rounding procedures.

VPPP. We also find evidence to suggest that transaction-level sale prices in Brentwood are not significantly different from non-VPPP prices. Across the board, transactions within Mossville had sale values between approximately 40% ***lower*** than those either in Brentwood or outside of the VPPP. Additionally, these discrepancies cannot be explained by chance alone. In support of this conclusion, we find answers to the questions listed above, which are further explained in the following subsection.

1. The average **homestead** buyout (transaction) price was significantly lower inside the VPPP than outside of the VPPP. The median VPPP buyout price was 43% lower[201] than the non-VPPP median. Additionally, the difference in means was significant, with $p < .001$.[202,203,204,205]
2. The average **homestead** buyout price was significantly lower in Mossville than outside of the VPPP. The median Mossville buyout price was 45% lower than the median non-VPPP buyout price. Additionally, the difference in means was statistically significant, with $p < .05$.
3. The average **homestead** buyout price was significantly lower in Mossville than in Brentwood. The **median** buyout price in Mossville was more than 47% lower than the median price in Brentwood. Additionally, the difference in means was statistically significant, with $p < .05$.
4. The average **homestead** buyout price in Brentwood **was not** statistically significantly different than non-VPPP properties. The median Brentwood price was only about 4% higher than the median non-VPPP price. Additionally, the difference in means was **not** statistically significant, with $p > .2$.

5. The average **homestead** price *per capita* was significantly lower inside the VPPP than outside of the VPPP. The median VPPP price *per capita* was 41% lower than the non-VPPP median. Additionally, the difference in means was significant, with $p < .05$
6. The average **homestead** per capita buyout price was significantly lower in Mossville than outside of the VPPP. The median Mossville per capita buyout price was 44% lower than the median non-VPPP per capita buyout price. Additionally, the difference in means was statistically significant, with $p < .05$.
7. The average **homestead** per capita buyout price was significantly lower in Mossville than in Brentwood. The **median** buyout price in Mossville was 52% lower than the median price in Brentwood. Additionally, the difference in means was statistically significant, with $p < .05$.

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[201] Throughout this section, we report percent differences in values in the most conservative way possible, i.e. ((higher value – lower value) ÷ higher value).
[202] The numbering of answers corresponds to respectively numbered questions above.
[203] For the purposes of our analysis, we take a difference in means to be statistically significant if and only if the associate p-value of the relevant t-test is less than .05.
[204] Framed alternatively, property transaction values in Brentwood and outside the VPPP were, on average, over 80% higher than transaction values in Mossville (about 88% and 82%, respectively).
[205] Percent difference = ((higher value – lower value) ÷ higher value).

8. The average **homestead** per capita buyout price in Brentwood **was not** statistically significantly different than non-VPPP properties. The median Brentwood price was about 14% higher than the median non-VPPP price. Additionally, the difference in means was **not** statistically significant, with $p > .5$

9. The average **secondary property** buyout price was significantly lower for VPPP properties than for non-VPPP properties. The median VPPP price was 20% lower than the non-VPPP median. Additionally, the difference in means was not significant with $p > .05$.
10. The average **secondary property** buyout price was significantly lower for Mossville properties than for non-VPPP properties. The median Mossville price was 23% lower than the non-VPPP median. Additionally, the difference in means was significant, with $p < .05$.
11. Our sample size is not large enough to meaningfully answer Question 11. Please see the *Limitations* section for further details.
12. Our sample size is not large enough to meaningfully answer Question 12. Please see the *Limitations* section for further details.

13. The average **secondary property** buyout price was not significantly lower for VPPP properties than for non-VPPP properties. The difference in median sale values for these two groups was about 5.8%. The difference in means was not statistically significant, with $p > .5$.
14. The average **secondary property** per capita buyout price was significantly lower for Mossville properties than for non-VPPP properties. While the median Mossville per capita buyout price was about 3% lower than the median non-VPPP per capita price, their means differed by 34%. This difference is statistically significant, with $p < .05$.
15. Our sample size is not large enough to answer Question 15. Please see the *Limitations* section for further details.
16. Our sample size is not large enough to answer Question 16. Please see the *Limitations* section for further details.

Taken together, these findings suggest that Sasol's Voluntary Property Purchase Program paid significantly less money, on average, to Mossville residents (per transaction) **than it did to residents of Brentwood or to individuals who were able to negotiate property purchases outside of the Purchase Program** (per transaction).

1. ***Statistical Preliminaries***

Before detailing the specifics of our analysis, we first outline its structure and cover a few basic statistical preliminaries for understanding its findings. As detailed above, our analysis seeks to answer one overarching question: were sale prices[206] within the VPPP significantly different than those outside of the VPPP? To answer this question, we divide the data into subgroups

[206] As is mentioned extensively in previous subsections of this section, our analysis occurs on the transaction-level. Thus, whenever we refer to "sale prices," this should be read as "sale prices of each transaction."

and make statistical comparisons between and amongst them. We will compare *measures of central tendency* (also called 'average' measures), such as the *median* and the *mean*. Comparing both the mean and median is important. The median is not affected by outliers, and so in some cases, it is a more robust measure. Nevertheless, it may be difficult to know whether the difference between two medians is *statistically significant* — in other words, if that difference can be explained by chance alone. Thus, to provide a more robust picture of our findings, we will also compare *mean* values. Using two-sample t-tests, we're able to discern whether or not the difference between two means is statistically significant or not. Thus, comparing both median and mean provides us with a fuller picture of sale price discrepancies in this buyout process. Statistical significance is reported using a parameter known as a *p-value*. In this analysis, we refer to p-values using the simple variable 'p'. We say a difference in means is statistically significant when $p < .05$; this is the standard threshold used throughout the social sciences.[207] When $p \geq .05$, then we cannot say that the two means are significantly different, though it is important to note that this is *not* equivalent to their being significantly similar.

In addition to measures of central tendency, we will also refer to measures of *spread* or *dispersion*. The measures of spread tell us how spread out a particular dataset is. Generally, we will refer to the *standard deviation* or 'SD'. The standard deviation tells us, on average, how far away a dataset's points are from its mean. As an example, if a dataset has a large standard deviation, its points are very spread out, and its bigger and smaller values are far away from the mean. If a dataset has a small standard deviation, then most of its points are fairly close to the mean. We also refer to the *median absolute deviation* or 'MAD.' The MAD is less sensitive to outliers than the SD is, so we include both to provide a more robust picture of our datasets' spread. In short: if the SD and MAD are large, there are a greater number of values far away from the mean.

We are interested in the spread of price data as it may provide some weak evidence that the negotiation ability of non-VPPP sellers affected their offer prices. It seems intuitive that those who could negotiate their sale values would receive more extreme prices than those who cannot. Conversely, if VPPP sales have low dispersion, this may suggest that the VPPP appraisal formula "locked in" participants do a narrow range of values, thereby depriving them of larger profits from their sales. Inverse results would provide weak evidence disproving these hypotheses. Thus, we include measures of dispersion to gain possible insight into the spread of values across housing markets and the relationship between negotiation and final price.

2. Homestead Property (Questions 1-8)

We begin by investigating sales of homestead property. Using the procedure described in the previous subsections, we identified 334 unique transactions with sale prices greater than or equal to $100,000, i.e., likely homestead properties. We determined that, of these, 141 likely took place outside of the VPPP and 193 likely took place within the VPPP. Of the 193 likely VPPP transactions, 155 transactions contained Mossville properties ("MV") while 38 contained

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[207] Due to the technical importance of the term, we reserve use of the term 'significant' to always mean "statistically significant" for the remainder of this section.

Brentwood ("BW") properties exclusively. The following analysis supports the findings that (a) homestead transactions had significantly lower sale prices within the VPPP when compared to non-VPPP transactions and (b) homestead transactions in Mossville had significantly lower prices when compared to Brentwood and non-VPPP sales. Crucially, we also find that sale prices in Brentwood do not differ significantly from non-VPPP prices. In other words, even though Brentwood was a part of the VPPP, its sale prices are much more similar to non-VPPP transactions than to the Mossville's sales.

Figure 9: Number of Transactions by Category (VPPP v. Outside VPPP)

VPPP	*N* = 193
Outside VPPP	*N* = 141

Figure 10: Number of Transactions by Category (Mossville, Brentwood, and Outside VPPP)

VPPP–Mossville	*N* = 155
VPPP–Brentwood	*N* = 38
Outside VPPP	*N* = 141

We begin by comparing homestead VPPP transactions to non-VPPP transactions of homesteads.

Question 1: Were there statistically significant differences between the average sale prices for VPPP homestead transactions and non-VPPP homestead transactions?

The median sale price for VPPP homestead transactions was $146,325. The median sale price for non-VPPP homestead transactions was $260,000. Thus, the median VPPP sale price was approximately 43% lower than the non-VPPP price. The mean VPPP sale price was slightly higher than the median, approximately $178,975. The mean non-VPPP sale price also exceeded its median at approximately $305,895. Thus, the mean VPPP sale price was approximately 41% lower than the non-VPPP mean price. This difference in means is extremely statistically significant, with $p < .5 \times 10^{-11}$. In other words, there is a less than .00000001% chance that the differences between the mean VPPP and non-VPPP sale prices was due to chance alone.

Notably, the non-VPPP values exhibit much greater spread than the non-VPPP homestead values. The SD and MAD of the VPPP group were about $87,000 and $28,000, respectively, while the SD and MAD of the non-VPPP group were about $190,000 and $140,500, respectively. In other words, a greater proportion of non-VPPP homesteads received extremely high values than did VPPP homesteads, which all received mostly similar sale offers. Two possible explanations stand out here. First, perhaps the spread of home values outside the VPPP was simply much greater than the spread of home values inside the VPPP. Alternatively, however, it's possible that through negotiations, non-VPPP sellers were able to achieve more extreme sale prices for their property while non-VPPP sellers were "locked in" to a price by the strict appraisal formula — thus explaining the greater dispersion outside of the VPPP.

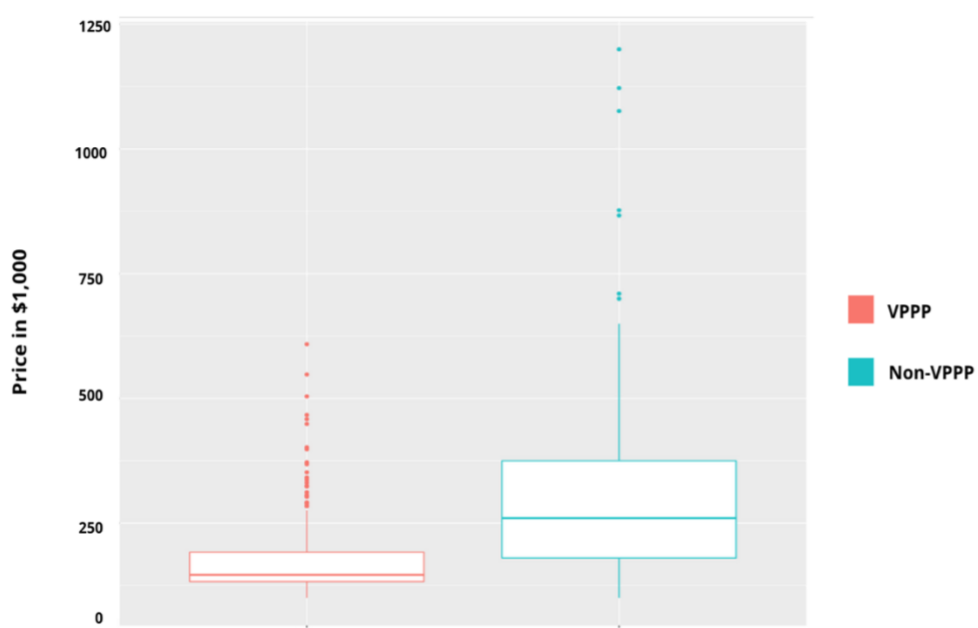
The following table compares key statistical measures for the VPPP and non-VPPP homestead transactions, rounded to the nearest whole number.

Figure 11: Summary Statistics for Question 1

	N	mean	Median	SD	MAD
VPPP	193	$178,975	$146,325	$87,056	$27,984
non-VPPP	141	$305,895	$260,000	$190,139	$140,580

The following figure below depicts the distribution of the VPPP and non-VPPP sale prices. The figure shows that the VPPP sale prices were, on average, much lower than the non-VPPP prices. Additionally, the VPPP prices were much less spread out, while the non-VPPP prices are quite dispersed. This may suggest that the ability to negotiate allowed non-VPPP sellers the ability to achieve more extreme sale prices for their homes.

Figure 12: Boxplot of transaction prices, in thousands of dollars, VPPP v. non-VPPP



Answer to Question 1: In light of these data, we find that the average homestead sale price within the VPPP was significantly lower than the average non-VPPP homestead price.

We now turn to compare the average homestead prices for Mossville properties, Brentwood properties, and non-VPPP properties. As previously mentioned, 155 of the VPPP transactions involved Mossville properties and 38 involved Brentwood properties. We will answer questions 2-4 at the same time, beginning with a comparison between Mossville and non-VPPP transactions.

Question 2: Were there statistically significant differences between the average sale prices for Mossville homestead transactions and non-VPPP homestead transactions?

Question 3: Were there statistically significant differences between the average sale prices for Mossville homestead transactions and Brentwood homestead transactions?

Question 4: Were there statistically significant differences between the average sale prices for Brentwood homestead transactions and non-VPPP homestead transactions?

The median sale price for Mossville homestead properties was $142,420. The median sale price for non-VPPP homestead properties was $260,000. Thus, the median Mossville homestead price was approximately 45% lower than the non-VPPP homestead median. The mean Mossville homestead price was approximately $156,182. The mean non-VPPP price was approximately $305,895. Thus, the mean Mossville homestead price was approximately 49% lower than the non-VPPP mean. This difference in means is statistically significant, which $p < .0001$. That is, there is a less than .01% chance that the differences in observed mean sale values is due to random chance.

The median sale price for Mossville homestead properties was $142,240. The median sale price for Brentwood homestead properties was $269,875. Thus, the median Mossville homestead price was approximately 47% lower than the Brentwood median. The mean Mossville homestead price was 156,182. The mean Brentwood homestead price was $271,943. Thus, the mean Mossville homestead price was approximately 43% lower than the mean Brentwood price. This difference in means is statistically significant, which $p < .0001$. That is, there is a less than .01% chance that the differences in observed mean sale values is due to random chance.

The median sale price for Brentwood homestead properties was $269,875. The median sale price for non-VPPP homestead properties was $260,000. Thus, the Brentwood median price was only approximately 4% higher than the non-VPPP median. The mean Brentwood homestead price was approximately $271,943. The mean non-VPPP homestead price was approximately $305,895. This difference in means is **not** statistically significant. Thus, we cannot say with confidence that the observed difference in central tendency is not simply due to random chance.

We now turn to compare the spread of all three samples. The Mossville homestead prices exhibit far less spread than the non-VPPP homestead prices. The SD and MAD of the Mossville homestead prices were approximately $47,500 and $22,200, respectively. The SD and MAD of the non-VPPP prices were approximately $190,000 and $140,500. Thus, the Mossville prices are, on average, much closer together and constrained within a central range than the non-VPPP prices. This is *not* the case for Brentwood prices, which exhibit a spread much more similar to the non-VPPP prices. The SD and MAD of Brentwood are around $137,000 and $176,000, respectively.

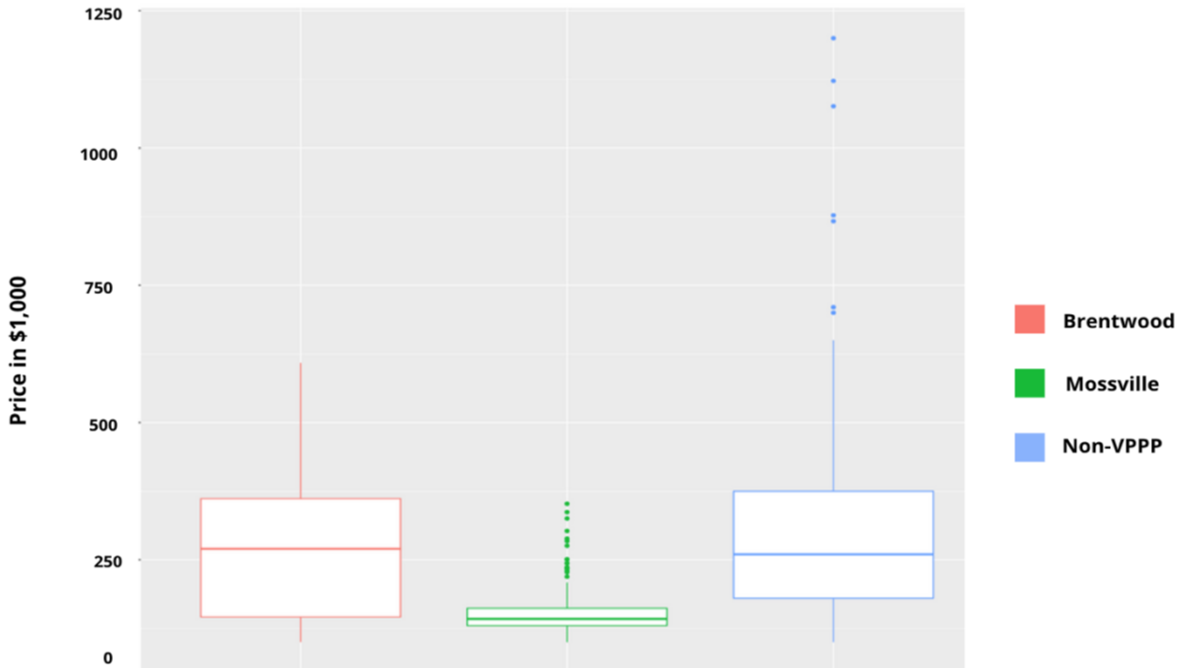
This strikes us as remarkable — though Brentwood's homestead prices were set using the exact same formula as Mossville's homestead prices, Brentwood's exhibit much larger spread. One potential explanation for this is that prices in Brentwood *just are* more spread out than those in Mossville. While this is possible, another explanation is worthy of serious consideration. It could also be that the appraisal procedures used to set VPPP sale prices were racially biased. In particular, if appraisers prejudicially deflated their appraisal values for Mossville, a predominantly Black community, while prejudicially inflating their values for Brentwood, a predominantly white community, then we should expect to see both these differences in measures of central tendency and spread, particularly if appraisers were more likely to give extremely high values in only the predominantly white area of Brentwood. We return to a more systematic exploration of potential bias in home appraisals at the end of this section.

The figures below summarize our findings for Questions 2-4, depicting the measures of central tendency and spread for Mossville, Brentwood, and non-VPPP transactions of $100,000 or greater. As the figures show, Brentwood and non-VPPP transactions were extremely similar overall, with comparable medians and spread. The Mossville prices are clearly significantly lower than either Brentwood or non-VPPP property, and much less spread out. These observations support the claims that, in general, Sasol paid significantly less for Mossville homestead property than it did for either Brentwood property or non-VPPP property.

Figure 13: Summary Statistics for Questions 2-4

	N	mean	median	SD	MAD
Mossville	155	$156,183	$142,420	$47,534	$22,195
Brentwood	38	$271,943	$269,875	$137,372	$176,289
Outside	141	$305,895	$260,000	$190,140	$140,580

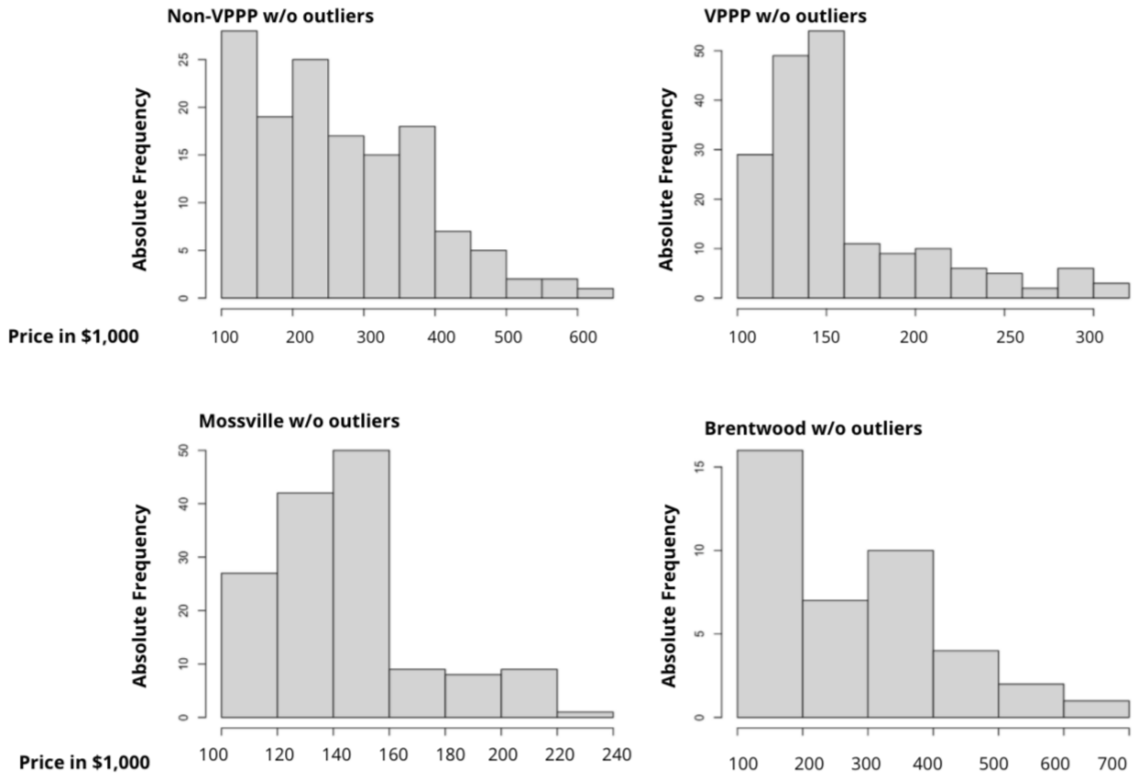
Figure 14: Boxplot of transaction prices, in thousands of dollars, BW v. MV v. Non-VPPP



To end this section, we compare the distribution of all four groups under consideration – the properties **inside** the VPPP; its subgroups of Mossville and Brentwood; and the properties outside the VPPP. By looking at the four histograms below, we see that the majority of Mossville homestead transactions occurred for less than $160,000. In contrast, we see that the majority of homestead transactions outside of the VPPP and in Brentwood occurred for over $200,000. These histograms display the stark differences between the sale prices for Mossville and the other groups. The first histogram displays the distribution of non-VPPP sale prices, i.e., the height of each bar (Y-axis) represents the number of transactions within a particular price range (the X-axis). The first and fourth histogram, representing non-VPPP and Brentwood transactions, are shaped very similarly — even though Brentwood homes were set using the VPPP formula. Each histogram has a long right tail, suggesting that more homes received more extreme values both outside the VPPP and within Brentwood. The histogram of Mossville's prices, however, tells a different story. In the third histogram, one can clearly see that the most common sale prices were between $140-$160k. After $160k, there is a stark drop-off in prices, suggesting that, for some reason, appraisers were very hesitant to appraise Mossville properties at any values above $100,000.[208]

[208] Recall the VPPP formula was a $100,000 + .6(appraisal value). Thus, a $100,000 appraisal value would result in a transaction sale price of $160,000.

Figure 15: Absolute Frequency Histograms for Price, VPPP, non-VPPP, MV, and BW



The preponderance of statistical evidence, taken together, suggest the following answers to Questions 2,3 and 4.

Answer to Question 2: We find that the average homestead sale price within the Mossville was significantly lower than the average non-VPPP homestead price.

Answer to Question 3: We find that the average homestead price within Mossville was significantly lower than average Brentwood homestead price.

Answer to Question 4: We find that the average homestead price within Brentwood *was <u>not</u>* significantly different than the average non-VPPP homestead price.

The discrepancies between the transaction prices paid for Mossville, Brentwood, and non-VPPP property appear corroborated by further evidence when one considers the *per capita* price paid within these transactions. In other words, those who sold VPPP homes in Mossville received far less money per (legal) person than those who sold in Brentwood or outside of the VPPP. This further supports the conclusion that Sasol failed to consider individual circumstances in their determinations of appropriate buyout prices. To address this issue more specifically, we turn to Questions 5-8.

Question 5: Were there statistically significant differences in the average *per capita* sale prices between VPPP and non-VPPP homestead transactions?

Next, we turn to consider the average per capita sale price within and outside of the VPPP. To determine the per capita sale price, we considered the separate number of legal persons identified on each conveyance for each set of properties. In other words, we determined, how much did each individual seller get on average for their property.

The data support the finding that, on average, the per capita sale price within the VPPP was lower than, on average, was the per capita sale price outside of the VPPP. The median per capita sale price for homestead properties within the VPPP was $135,600. The median per capita sale price for homestead properties outside of the VPPP was $231,407. Thus, the VPPP median per capita sale price was nearly 41% lower than the non-VPPP per capita sale price.

The mean per capita sale price within the VPPP was slightly higher at approximately $146,488. The mean per capita sale price outside of the VPPP was $277,549. Thus, the mean per capita sale price within the VPPP was approximately 47% lower than it was outside of the VPPP. This difference in means is statistically significant with $p < .0001$. Thus, we conclude that there is a statistically significant difference, on average, in the per capita sale price between the VPPP and non-VPPP properties in the period analyzed.

Answer to Question 5: We find that the average per capita sale price within the VPPP was significantly lower than the average non-VPPP per capita sale price.

After comparing the per capita sale prices in the VPPP and outside of the VPPP, we turn to investigate the per capita sale price discrepancies between Mossville, Brentwood, and non-VPPP properties. As we have already argued, Mossville homesteads received, on average, lower sale prices than their Brentwood and non-VPPP counterparts. We now turn to show that, due to Mossville's unique situation, this discrepancy appears further corroborated when one compares per capita values. First, recall Questions 6, 7, and 8:

Question 6: Were there statistically significant differences in the average *per capita* sale prices between Mossville and non-VPPP homestead transactions?

Question 7: Were there statistically significant differences in the average *per capita* sale prices between Mossville and Brentwood homestead transactions?

Question 8: Were there statistically significant differences in the average *per capita* sale prices between VPPP and non-VPPP homestead transactions?

In Brentwood, 92% of homestead sales (35 of 38) listed only one vendor.[209] For non-VPPP transactions, around 82% of sales (116 of 141) listed only one vendor. In Mossville, this number drops significantly — only 65% of transactions (100 out of 155) listed a single vendor. In other words, nearly one in every three Mossville homestead property was sold by more than one person, and therefore involved a split buyout cost.

In Brentwood, the mean number of vendors per transaction was 1.13. Outside of the VPPP, the mean number of vendors per transaction was 1.7. In Mossville, the mean number of vendors per transaction was 2.9 — nearly 2.5x the Brentwood mean. Both differences between the Mossville and Brentwood means and the Mossville and non-VPPP means are statistically significant, with $p < .05$. In other words, we can confidently say that the profits from sales in Mossville were split between significantly more people than those in either Brentwood or outside of the VPPP. Nevertheless, the price-setting formula of the VPPP did not take these differences into account.

As one would expect, the differing number of average vendors per transaction significantly affects the average per capita sale price for each subgroup. The median per capita sale price in Mossville was $130,650. With their far fewer number of split transactions, the average per capita sale prices in Brentwood and outside of the VPPP are much higher: $269,875 and $231,406, respectively. Thus, Mossville's median per capita sale price was nearly 52% lower than Brentwood's and nearly 44% lower than that of the non-VPPP transactions.

The mean *per capita* sale price in Mossville was even lower, around $117,420. The mean *per capita* sale price in Brentwood and outside of the VPPP were $265,052 and $277,549, respectively. Thus, the mean per capita sale price for homestead property in Mossville was 56% lower than that of Brentwood and 58% lower than that of non-VPPP transactions.

In other words, the mean per capita sale price in Mossville was only about **forty cents on the dollar** compared to Brentwood or the non-VPPP transactions.

The differences in means between Mossville and Brentwood and Mossville and the non-VPPP homestead transactions were statistically significant, with respective p-values of $1.3*10^{-15}$ and $3.3*10^{-7}$, respectively. Thus, Mossville's lower average per capita price cannot be explained by chance alone. Interestingly, the difference between Brentwood's and non-VPPP's per capita sale price are not statistically significantly different, with $p > .65$. Thus, on the level of per capita sale prices, we find again the surprising result that Brentwood's buyout more closely resembled the non-VPPP sales than it did the Mossville sales, despite its purportedly being subject to the same buyout procedure.

[209] We use 'single vendor' to mean an individual or an individual and their legal spouse. As an example, if three siblings sold a home in equal shares, then that transaction would include three vendors. If a man and his wife sold a home belonging originally to the man, then that transaction lists only one vendor.

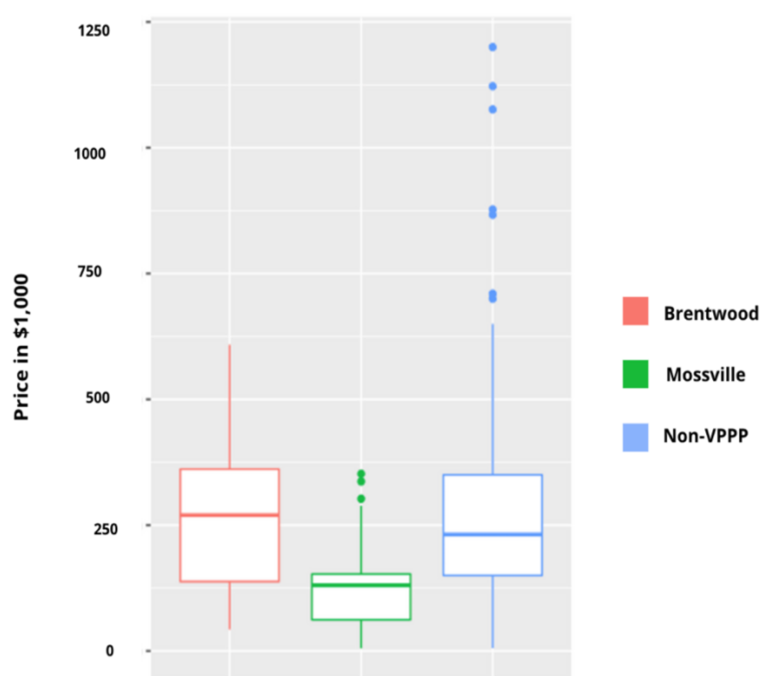
As was the case for average total price, the dataset for Mossville per capita sale price displays much less spread than either Brentwood or the non-VPPP data do. The SD and MAD of Mossville per capita sale prices was about $71,000 and $68,000. The SD and MAD for Brentwood was much higher, about $146,000 and $188,000, respectively. Finally, the SD and MAD for the non-VPPP per capita prices were about $205,000 and $136,000, respectively. Again, we find a much narrower, less extreme price range for the Mossville homestead sales.

The following table and graph depict the average per capita sale price and the distribution of sale prices for each of the Mossville, Brentwood, and non-VPPP homestead sets.

Figure 16: Summary Statistics for per capita sale price

	N	mean	median	SD	MAD
Brentwood	38	$265,053	$269,875	$145,597	$187,771
Mossville	155	$117,421	$130,650	$71,376	$68,185
Outside	141	$277,549	$231,407	$204,584	$135,519

Figure 17: Boxplot of per capita prices, in thousands of dollars, BW v. MV v. Non-VPPP



Again, the preponderance of statistical evidence strongly suggests that Mossville transactions received significantly lower per capita sale prices than did either Brentwood or the non-VPPP transactions. Thus, we provide the following answers for Questions 6-8.

Answer to Question 6: We find that the average per capita homestead sale price within Mossville was significantly lower than the average non-VPPP per capita homestead price.

Answer to Question 7: We find that the average per capita homestead sale price within Mossville was significantly lower than the average Brentwood per capita homestead price.

Answer to Question 8: We find that the average per capita homestead price within Brentwood *was <u>not</u>* significantly different than the average per capita non-VPPP homestead price.

<u>Intermediate Conclusions</u>

The answers to Questions 1 through 8 strongly suggest that transaction of homestead properties in the VPPP received less money than transactions of homestead properties outside of the VPPP did, both on the transaction-level and on the per-capita-level. When we distinguish between Brentwood and Mossville, however, it becomes clear that the deflated prices observed in Mossville are responsible for this difference. Mossville's homestead prices were even lower than the VPPP prices, and Brentwood homestead prices did not display significant differences when compared to the non-VPPP prices.

Non-Homestead Property (Questions 9-16)

Now we turn to consider property transactions with sale prices below $100,000, what we have also called "secondary property transactions." As previously mentioned, these are likely sales of non-homestead property, i.e. property that was not used as a primary residence at the time of purchase. This could include both undeveloped and developed land. 176 transactions fit these parameters, with 121 occurring within the buyout area and 55 occurring outside of the buyout area. Of the 121 VPPP transactions, 115 were Mossville transactions and 6 were Brentwood transactions. The following chart summarizes the secondary properties.

Figure 18: Number of secondary property transactions in each category

Secondary Property	**Mossville**	**Brentwood**	**Non-VPPP**
N	115	6	55

Following the structure of our analysis of Questions 1-8, we begin by analyzing the total sale prices for secondary properties in each of these groups before turning to analyze their per capita sale prices. As the following analysis shows, the data suggest that secondary VPPP properties received, on average, significantly lower offers from Sasol than non-VPPP secondary properties. This differential is larger when one only considers properties within Mossville. The data suggest a significant difference also exists on the per capita level.

Question 9: Were there statistically significant differences between the average sale prices for VPPP secondary property transactions and non-VPPP secondary property transactions?

The median sale price for VPPP secondary property transactions was $24,080. The median sale price for non-VPPP transactions was $30,000. Thus, the median VPPP price was approximately 20% lower than the non-VPPP price for secondary properties. Before analyzing means, we notice that the VPPP sample has a number of significant outliers.[210] To compare means, we remove these outliers from consideration. The mean sale price, excluding outliers, for VPPP secondary property transactions was approximately $30,843. The non-VPPP sample had not outliers. The mean sale price for non-VPPP secondary transactions was approximately $39,328. The difference between the means not significant, although the p-value is right on the threshold of significance with p = .05776. Despite the moderate difference between median values, we cannot say with certainty that the observed differences in means is statistically significant.

Answer to Question 9: While we find a moderate difference in median values, we cannot affirm that the difference in means is statistically significant.

We were unable to answer question 9 with statistical certainty. This may be because the VPPP included properties both in Mossville and Brentwood. In the following question, we disaggregate Mossville from Brentwood and repeat these analyses. We find significant results.

Question 10: Were there statistically significant differences between the average sale prices for Mossville secondary property transactions and non-VPPP secondary property transactions?

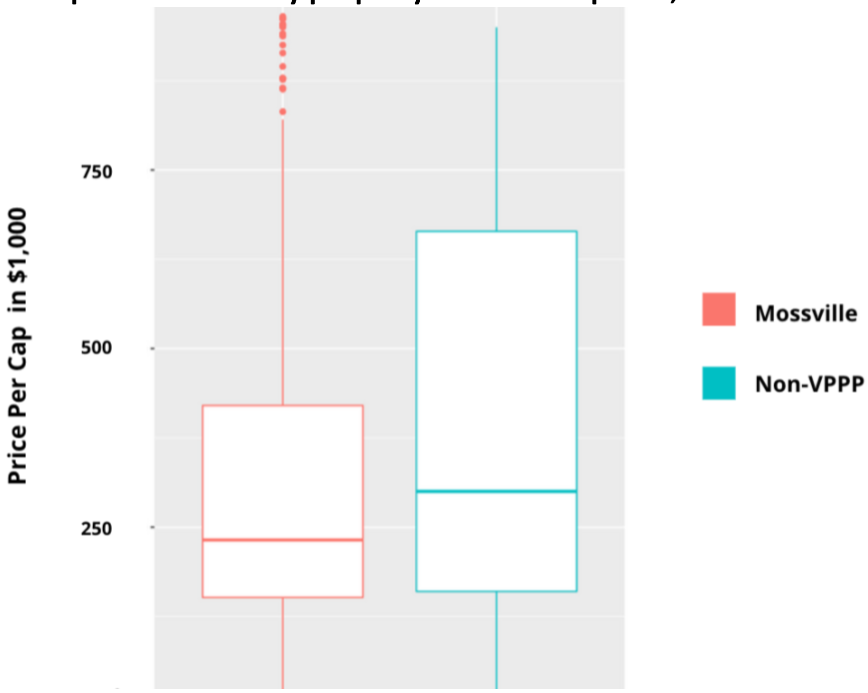
The median sale price for Mossville secondary properties was $23,205. The median sale price for non-VPPP transactions was $30,000. Thus, the median Mossville price was about 23% lower than the non-VPPP price.

Before embarking on our comparisons of the mean values, we notice that the Mossville dataset has a number of extreme outliers. In the boxplot below, outliers are symbolized by dots. The non-VPPP dataset contains no outliers, while Mossville contains many. The mean is very sensitive to outliers (the median is not). So to compare means, we first remove these 19 outliers from consideration.

Once we do so, we can more accurately compare the mean values of the two groups under consideration.

[210] We define outliers in a standard manner. Namely, some value is an outlier if and only if that value lies at a distance from the mean of at least 1.5x the interquartile range, (i.e. $\overline{x}$ + 1.5*IQR).

Figure 19: Boxplot of secondary property transaction prices, Mossville vs. non-VPPP



Excluding outliers, there are 96 Mossville transactions and 55 non-VPPP transactions of secondary property. The mean Mossville price in this subset was approximately $24,055. The mean non-VPPP sale price in this subgroup was approximately $39,328. Thus, the mean Mossville price was approximately 39% lower than the mean non-VPPP price. The difference in means is significant, with $p < .0005$. The Mossville transactions exhibit much lower spread, with a standard deviation of $14,587 and a mean absolute deviation $8,303. The non-VPPP transactions had a standard deviation nearly twice that, approximately $28,105 and a mean absolute deviation of $29,652. The following table below summarizes the data excluding outliers.

Figure 20: Summary statistics for secondary property transactions, excluding outliers

	N	mean	median	SD	MAD
Mossville	96	$24,055	$19,565	$14,587	$8,303
Non-VPPP	55	$39,328	$30,000	$28,105	$29,652

Answer to Question 10: We find that the average secondary property sale price for Mossville was significantly lower than the average non-VPPP price for secondary properties.

Question 11: Were there statistically significant differences between the average sale prices for Mossville secondary property transactions and Brentwood secondary property transactions?

Question 12: Were there statistically significant differences between the average sale prices for Brentwood secondary property transactions and non-VPPP secondary property transactions?

We are able to answer neither Questions 11 nor 12 with statistical confidence. We identified only six sales fitting our definition for secondary property within Brentwood. A sample size of six is too few to make confident statistical comparisons. Thus, we can neither affirm nor deny that there are significant differences in the average secondary prices between Mossville and Brentwood or Brentwood and properties outside of the VPPP.

Answer to Question 11: The sample size is not large enough to answer Question 11.

Answer to Question 12: The sample size is not large enough to answer Question 12.

Next, we turn to analyze the average *per capita* sale price for these subsets to answer Questions 13-16.

Question 13: Were there statistically significant differences in the average per capita sale price for VPPP secondary property transactions and non-VPPP secondary property transactions?

The data neither support nor refute the claim that there is a statistically significant difference between the average price per capita for secondary properties inside and outside of the VPPP. The median per capita sale price inside of the VPPP was $15,925. The median per capita sale price outside of the VPPP was $15,000, a difference of about 5.8%. The comparison of means is **not** statistically significant, with $p > .6$. Thus, we cannot say if the difference in price for secondary property is meaningful. This may be because the VPPP includes both properties in Mossville and Brentwood, two areas with distinct sale profiles. For this reason, we now turn to distinguish Mossville, Brentwood, and the non-VPPP properties in the analysis of per capita sale prices for secondary properties.

Answer to Question 13: We find that the average per capita sale values for secondary property were not statistically significantly different between the VPPP and non-VPPP sales.

Question 14: Were there statistically significant differences in the average per capita sale price for Mossville secondary property transactions and non-VPPP secondary property transactions?

The data moderately support the finding that the average per capita sale price for secondary property in Mossville was significantly lower than outside of the VPPP, excluding outliers. The median per capita Mossville price in this category was $14,600. The median per capita price outside of the VPPP in this category was only about 3% higher, at $15,000. The comparison of means, however, suggests that the differences between the Mossville and non-VPPP transactions may be statistically significant. Excluding outliers, the mean per capita sale price for secondary properties within Mossville was $16,852. The mean non-VPPP per capita sale price was $25,636. Thus, the Mossville mean was approximately 34% lower than the non-VPPP mean. This difference is statistically significant, with p = .02.

We can look to the spread of these data to explain why there exists a wide gap in the mean values but not the median values. The distribution of sale values in Mossville is fairly symmetric with low variation. In other words, most people in Mossville got around the same amount of money for their property. Outside of Mossville, however, variation is comparatively high, and the data are skewed right. In other words, outside of Mossville, there were a greater number of individuals who received very high values for their property. The difference in variation suggests that, outside of Mossville, appraisers were willing to consider more frequently high property values than they were inside of Mossville. We discuss possible reasons for this discrepancy in *Discussion* of this subsection.

Answer to Question 14: We find moderate support for the conclusion that Mossville's average per capita sale price for secondary property was lower than the mean per capita sale price for secondary property outside of the VPPP.

Question 15: Were there statistically significant differences between the average per capita sale prices for Mossville secondary property transactions and Brentwood secondary property transactions?

Question 16: Were there statistically significant differences between the average sale prices for Brentwood secondary property transactions and non-VPPP secondary property transactions?

We can answer neither Question 15 nor 16 with statistical confidence. We identified only six sales fitting our definition for secondary property within Brentwood. A sample size of six is too few to make confident statistical comparisons. Thus, we can neither affirm nor deny that there are significant differences in the average secondary prices between Mossville and Brentwood or Brentwood and properties outside of the VPPP.

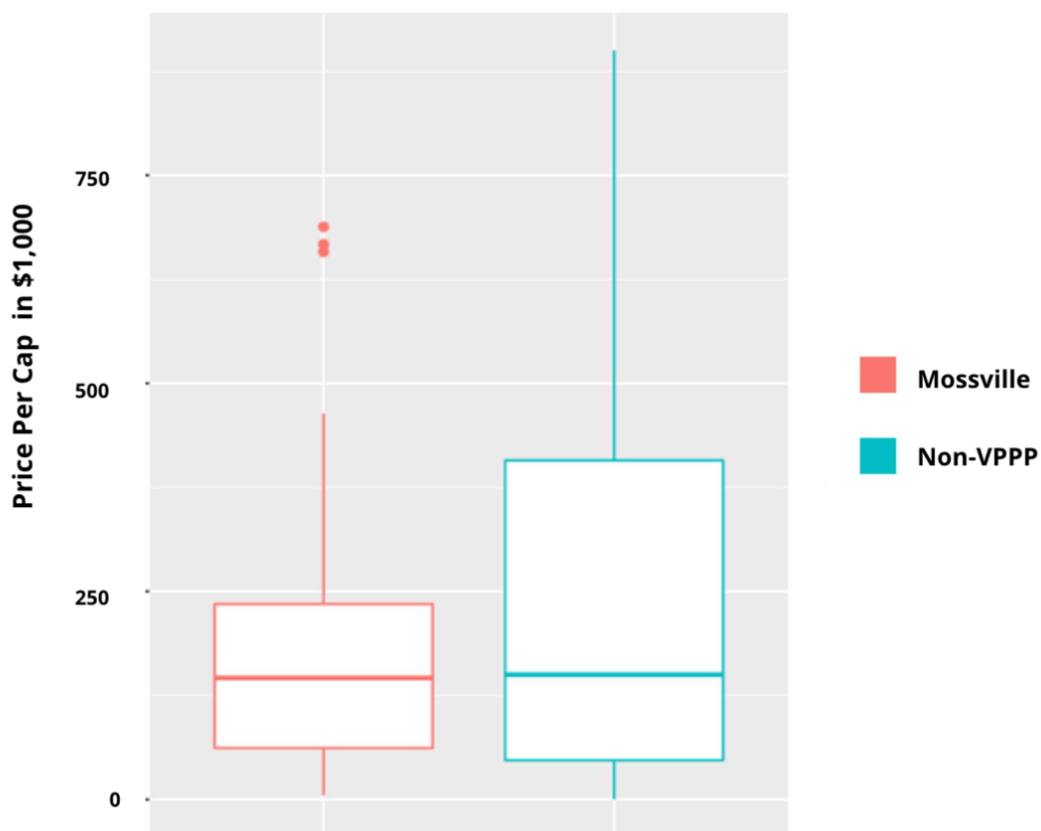
While there are inherent limitations to our analysis of secondary property, namely the limited sample size of Brentwood, there is moderate evidence for the findings (1) that the non-VPPP secondary property received both higher sale prices and higher per capita sale prices than did the VPPP secondary property, and (2) that non-VPPP secondary property received both higher sales prices and higher per capita sale prices than did Mossville secondary property.

The following table and boxplot summarize the *per capita* sale data, ignoring the same outliers as the previous figure did. As the boxplot demonstrates, both the Mossville and non-VPPP sales had similar median values, but the range of the non-VPPP *per capita* sale prices was significantly wider with a much longer right tail — in other words, more people outside of the VPPP got higher *per capita* sale prices compared to the Mossville sales, helping to explain the statistically significant difference between mean *per capita* sale values. The difference in spread is similarly reflected in the significant difference in standard deviation: $14,273 for Mossville and 26,901 for non-VPPP properties with respect to *per capita* sale prices.

Figure 21: Summary statistics for secondary prices, per capita, MV v. Non-VPPP

	N	mean	median	SD	MAD
Mossville	96	$16,852	$14,600	$14,274	$12,774
Non-VPPP	55	$25,636	$15,000	$26,902	$17,843

Figure 22: Boxplot for per capita prices, secondary transactions, MV v. non-VPPP, w/o outliers



E. Discussion

The previous analysis suggests that Sasol paid significantly less for Mossville properties, on average per transaction, than it did for properties in Brentwood or in areas outside of the VPPP. The analysis also finds strong evidence to suggest that the prices paid within Mossville all fell within a relatively narrow band when compared to prices paid within Brentwood or outside of the VPPP.

In this section, we consider potential reasons why this might have been the case. In particular, we consider empirical arguments related to racial discrimination within the housing appraisal industry. We further consider the specific setup of the VPPP price scheme, arguing that its reliance on the comps-based approach and its failure to allow negotiated sale prices within Mossville may have deflated the area's average sale prices when compared to non-VPPP properties. Furthermore, a failure to duly consider the specifics of heirs' property and succession pattern in Mossville could have partially resulted in the lower per capita price for Mossville properties when compared to either Brentwood or non-VPPP properties.

In light of this discussion, the following themes emerge:

- The home appraisal industry is vulnerable to implicit bias and systematic discrimination. Social scientific research strongly suggests that appraisers may not be familiar enough with historically Black communities to appropriately assess their worth and that personal implicit bias may negatively affect appraisals of Black-owned property.

- There is evidence to suggest that the housing market in Mossville was too inactive to make meaningful assessments or comparisons amongst appraisals. At the very least, Mossville's inactive housing market would make it difficult to independently assess the appraisals undertaken through the VPPP.

- Historically Black communities frequently are affected by unique circumstances not captured by standard appraisals. Because the VPPP did not allow for negotiations, these facts could not be reflected in final offers made through the VPPP.

- It is difficult, if not impossible, to disentangle the American housing, mortgage, and appraisal industries from their roots in anti-Black discrimination. Decades of racist, discriminatory policy have resulted in Black Americans' owning lower-grade housing stock, and thus, lower amounts of real wealth. Thus, even "fair" housing appraisals of Black property are affected by decades of redlining and wealth segregation.

- **These possibilities significantly call into question the equitability of comps-based appraisal framework used by the VPPP.** In particular, one could reasonably conclude from the following discussion that such systematic bias would disfavors Black residents relative to their white peers, and moreover, casts doubt on the idea that residents of Mossville could receive a high enough replacement value for their property as to not experience as significant reduction in quality or welfare.

1. *Differences in Negotiation Power*

We begin with a discussion of price negotiations in relation to our findings. Qualitative interviews support the finding that VPPP participants had no ability to negotiate their buyout offers while non-VPPP sellers did. We argue that this difference in negotiation power may partially explain the observed difference in average sale prices between the VPPP and non-VPPP properties.

Individuals selling property inside of the VPPP were not allowed to negotiate the sale prices for their homes.[211] Individuals outside of the VPPP, however, sold their properties in the traditional manner, with the ability to negotiate sale prices with Sasol before reaching a closing value. Qualitative interviews support the claim that individuals outside of the VPPP hired representation — either lawyers or real estate agents — to assist them in the sales of their homes. This discrepancy in negotiating power may partially explain the price discrepancies observed in our quantitative analysis: even if Sasol approached individuals outside of the buyout area with opening offers on par with its VPPP offers, the non-VPP sellers may have negotiated up to what they viewed as higher, fairer prices.

Thus, the following hypothesis may explain the price differentials seen in our analysis: because individuals outside of the VPPP were able to negotiate their prices and non-VPPP sellers were not, VPPP sellers, including Mossville residents, received lower prices, on average, for their property.

This hypothesis fits well with a second observation from the previous section, namely the increased variance observed outside of the VPPP. Consistently, sale prices outside of the VPPP exhibited higher measures of spread, such as standard deviation and mean absolute deviation. In other words, prices within Mossville fell within a narrow band, while prices outside of the VPPP were often highly variable.

The ability (and inability) to negotiate could also explain the observed difference in spread in a number of ways. First, individuals naturally vary in terms of negotiation ability — some individuals are better at negotiating, some are worse, some may have more leverage, and some less. Thus, those with strong leverage and good negotiating power might have secured especially good offers (i.e., extreme values) for their homes through negotiation, while those without such leverage would not. Extreme values increase measures of spread, so we should expect that good negotiators would also increase observed spread.

Secondly, individuals also vary naturally in terms of individual circumstances. Some people are particularly attached to their properties, have strong community ties, or need to live locally for their jobs. Others may be retired or have weak community ties. We could expect that the former group of people would only take an offer from Sasol if they negotiated a particularly high price, while the latter group may have been more willing to sell and therefore less aggressive in their negotiating. If certain individuals outside of the buyout took a more aggressive negotiating stance due to their individual circumstances, we should also expect that this would result in more extreme values, and thus, greater observed spread.

Finally, from a purely statistical standpoint, we should expect that the ability to negotiation should increase both the average price and the spread of the price distribution. In general, the ability to negotiate won't make a seller worse off — the final negotiated price is rarely, if ever, lower than an opening offer. Thus, as non-VPPP sellers were able to negotiate, they achieved

[211] VPPP

only higher sale prices than they would've otherwise. This shifted the average price higher than it would've been otherwise. Likewise, negotiations push sale values higher and higher, resulting in more extreme values. For negotiated regions, we should expect to see asymmetric distributions with long right-tails, corresponding to precisely this increase in extreme values above the mean. We see precisely this in the distribution of non-VPPP prices. This further supports the hypothesis that the inability to negotiate kept Mossville's prices low and within a narrow band, potentially depriving the region of fair values for their property.

Taken together, this evidence suggests a difference in negotiating power may partially explain why VPPP sellers – and in particular, Mossville sellers – received lower average buyout prices, and less extreme buyout values. As VPPP sellers were not able to negotiate, Sasol may have deprived VPPP sellers of the ability to achieve higher and perhaps fairer values for their property.

But, while the differences in negotiation ability may explain the observed differences in sale prices between Mossville and the non-VPPP property, it cannot fully explain the lack of difference between Brentwood and the non-VPPP homestead. Allegedly, those living within the Brentwood portion of the VPPP also could not negotiate their prices, and yet they received more, on average, than did residents of Mossville. Moreover, the spread of Brentwood prices was much more like the non-VPPP sales than the Mossville sales. If, as purported, Brentwood could not negotiate prices, then we may look to alternative explanations for the trends referenced above. We turn to investigate more closely the appraisals process —– the method by which Sasol derived its buyout offers for VPPP participants.

2. *Anti-Black Discrimination in the Appraisals Process*

In the Voluntary Property Purchase Program (VPPP), Sasol contracted with property appraisers to determine the sale prices for sellers within the buyout zone. There is substantial scholarly evidence to suggest, however, that the property appraisal system is itself racist and introduces anti-Black bias into the sales process. Moreover, because Sasol deprived Mossville residents of the ability to negotiate their offers, Mossville residents would have lacked any recourse to push back against racial bias during the appraisals process. These facts, taken together, suggest that the comps-based appraisal structure of the VPPP itself may have been fundamentally flawed.

Historical Discrimination in the Housing and Mortgage Industry

Home ownership in the United States is inexorably rooted in racial discrimination. In the early part of the twentieth century, banks across the country began systematically excluding Black individuals from the mortgage industry, through a process known as "redlining." [212] The Home Owners Loan Corporation ("HOLC") created "Residential Security" maps of urban areas in the US which categorized neighborhoods into one of four categories, purportedly sorted by

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[212] Bruce Mitchell, *HOLC "Redlining" Maps: The Persistent Structure Of Segregation And Economic Inequality*, National Community Reinvestment Coalition, (2018), p.5.

investment risk.[213] The HOLC most frequently found low-income communities and communities of color to fall into the bottom two categories: yellow ("definitely declining") or red ("hazardous").[214] For decades, the mortgage industry utilized the HOLC maps to estimate property value, justifying loan denials and decreasing home appraisals by referencing the HOLC's maps. Today, Black communities still experience the effects of redlining in myriad ways, including through a continuing lack of access to capital, chronic community disinvestment, and long-term negative health outcomes.[215]

Redlining was neither the end nor the beginning of housing discrimination in the United States, however. Recent research suggests that the mortgage industry regularly shut out Black people from accessing housing capital before the creation of the HOLC.[216] And though redlining is now *de jure* illegal, the home mortgage industry still continues to prey upon Black communities today.[217] Numerous studies have shown that predominantly Black communities were offered subprime mortgages at higher rates than white communities, and as such, felt the impacts of the 2009 housing crisis and recovering from the Great Recession at disproportionate rates when compared to their predominantly white counterparts.[218]

Because of the history of redlining and associated mortgage discrimination, Black Americans have also lacked access to additional equity to maintain or improve their homes. Studies have found that Black Americans today live in older, unrenovated housing stock, further depreciating the value of Black-owned property.[219] Moreover, property in predominantly Black

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[213] Mitchell (2018), p.5
[214] Mitchell (2018) p.5
[215] Mitchell (2018); Richard Rothstein, *The Color of Law,* (2017); Daniel Aaronson, Daniel Hartley, and Bkashkar Mazumder, "The Effects of the 1930s HOLC "Redlining" Maps," *American Economic Journal: Economic Policy* 13(4): 355-392, (2021); McClure, Elizabeth et al., "The legacy of redlining in the effect of foreclosures on Detroit residents' self-rated health," *Health & Place*, Vol. 55: 9-19, (2019); Gee, Gilbert C, "A multilevel analysis of the relationship between institutional and individual racial discrimination and health status", *American journal of public health,* Vol. 98, (2008); Krieger, Nancy et al , "Structural Racism, Historical Redlining, and Risk of Preterm Birth in New York City, 2013–2017*",* American Journal of Public Health, (2020).
[216] Hillier, Amy E. et al., "Redlining and the Homeowners' Loan Corporation," *Journal of Urban History,* Vol. 29(4): 394-420, (2003); Fishback, Price V. et al., *Race, Risk, and the Emergence of Federal Redlining,* National Bureau of Economic Research, (2020).
[217] Nier, Charles L. III, *Perpetuation of Segregation: Toward a New Historical and Legal Interpretation of Redlining Under the Fair Housing Act*, (1999).
[218] Keeanga-Yamahtta Taylor, *Race for profit : how banks and the real estate industry undermined black homeownership*; Jacob W. Faber and Ingrid Gould Ellen, "Race and the Housing Cycle: Differences in Home Equity Trends Among Long-Term Homeowners," *Housing Policy Debate* 26(3): 456-473, (2015); Elora Raymond et al., "Race and uneven recovery: neighborhood home value trajectories in Atlanta before and after the housing crisis" *Housing Studies* 31(3): 324-339, (2015); Justin Steil et al. "The social structure of mortgage discrimination," *Housing Studies* 33(5): 759-776, (2017); Douglas Massey et al., "Riding the Stagecoach to Hell: A Qualitative Analysis of Racial Discrimination in Mortgage Lending," *City & Community* 15(2): 118-136, (2016).
[219] Harry L. Margulis, "Predicting the Growth and Filtering of At-risk Housing: Structure Ageing, Poverty and Redlining," *Urban Studies* 35(8): 1231-1259, (1998); Tina Reponen, "Family and home characteristics correlate with mold in homes", *Environmental Research* 124: 67-70, (2013); David Jacobs, "Environmental Health Disparities in Housing," *American Journal of Public Health* 101(51): S115-S122, (2011).

neighborhoods appreciates at a slower rate than in predominantly white neighborhoods.[220] Over time, these racist practices have compounded, creating a racialized gap in the property values of Black and white homes — only exacerbating the broader Black-white wealth gap in the US. Thus, even if we assumed that the modern-day appraisal industry was "fair" — i.e. that it accurately represented the market value of Black-owned property relative to white-owned property, these fair assessments would still reflect the effects of decades of financial discrimination. Yet, there is strong evidence to suggest that the appraisal industry is not "fair" to Black Americans, even by this relatively weak standard.

Discrimination in Today's Mortgage and Appraisal Industry

Housing discrimination is not a relic of the past. Numerous studies support the finding that, even today, the demographic breakdown of a neighborhood significantly influences the property values of that community — even controlling for confounding variables like home age, access to public utilities, and so on.[221] Black neighborhoods have, on average, lower property values than comparable white neighborhoods, and as a neighborhood grows in the proportion of its Black residents, its rate of property appreciation decreases.[222] A recent study showed that, even in some of the wealthiest, best educated communities in the US, an increase in Black population results in lowering home equity or property appreciation.[223] That is, increases in Black population may be associated with home equity depreciation even in the most "sought after" neighborhoods — reflecting the pernicious racism latent in the US.

In other words, evidence suggests that anti-Black financial discrimination occurs ***above and beyond*** the effects of historic redlining. We now turn to investigate how the appraisal process forms the centerpiece of anti-Black discrimination in today's housing market.

The Role of the Modern-Day Appraisals Process in Ongoing Housing Discrimination

One might be tempted to explain the "property value gap" between Blacks and whites merely in reference to the effects of historical segregation practices, *viz.* redlining. This, however, is an oversimplification. In other words, the lower property value of Black Americans cannot be fully

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[220] Flippen, Chenoa, "Unequal Returns to Housing Investment? A Study of Real Housing Appreciation among Black, White, and Hispanic Households"*, Social Forces*, Vol. 82(4): 1523–1551, (2004).
[221] Junia Howell and Elizabeth Korver-Glenn, "Neighborhoods, Race, and the Twenty-first-century Housing Appraisal Industry", *Sociology of Race and Ethnicity* 4(4): 473-490, (2018); Junia Howell and Elizabeth Korver-Glenn, "The Increasing Effect of Neighborhood Racial Composition on Housing Values, 1980–2015," *Social Problems* (2020).
[222] David R. Harris, ""Property Values Drop When Blacks Move in, Because...": Racial and Socioeconomic Determinants of Neighborhood Desirability"", *American Sociological Review* 64(3): 461-479, (1999); Richard Moye, "Neighborhood racial–ethnic change and home value appreciation: evidence from Philadelphia", *Urban Geography,* 35(2): 236-263, (2013). Chenoa Flippen, "Unequal Returns to Housing Investments? A Study of Real Housing Appreciation among Black, White, and Hispanic Households," *Social Forces* 82(4): 1523-1551, (2004).
[223] Coate, Douglas and Schwester, Richard*,* "Black-White Appreciation of Owner-Occupied Homes in Upper Income Suburban Integrated Communities: The Cases of Maplewood and Montclair, New Jersey*," Journal of Housing Research,* Vol. 20(2): 127-139, (2020).

explained by reference to past housing discrimination. Instead, we must look to the modern-day real estate and mortgage industry to understand fully why Black Americans still receive less money than their white counterparts even when they own extremely similar property.

We look to the role of the appraiser in the contemporary real estate sale process. Both scholarly and journalistic sources strongly support the finding that appraisers' anti-Black attitudes result in lower appraisals — and thus lower property values — for Black Americans.[224] Appraisers work with little oversight, and while there are guidelines and best practices meant to mitigate bias, much of the process is still left to appraisers' discretion. A deeper investigation of the contemporary appraisal system will allow us to see how the role of appraisers in Sasol's Voluntary Purchase Property Program may explain why Mossville residents received significantly less for their property than did Brentwood or non-VPPP residents. Moreover, given that Brentwood is predominantly white, this hypothesis serves to partially explain why Brentwood may have had significantly higher prices than Mossville despite its being part of the same buyout. If the home appraisals process used during the VPPP did discriminate on the basis of race, then one could see Sasol's VPPP as re-entrenching pre-existing, pernicious wealth inequalities between whites and Blacks in the United States.

The Appraiser's Role in the Contemporary Real Estate Industry

We begin by surveying recent pieces of journalism that document anti-Black discrimination in home appraisals before turning to social scientific literature which also supports this finding. Before this, however, we explain the concrete role of the appraiser in real property sales. To fully understand this phenomenon, one must both understand the latitude appraisers are given during the valuation process and its potential for misuse, consciously or not.

In theory, an appraiser's job is simple. Using their supposed expertise in real estate and the local market, they are meant to take note of home's condition and estimate its current value on the real estate market. Prior to the passing of the Fair Housing Act, appraisers frequently made use of race-based maps to make appraisals. In the last few decades, appraisers have largely shifted to a methodology wherein they use a record of "comparable properties," also known as "comps," to estimate the market value of a particular property. By looking at the sale prices of homes similar to the one under appraisal, an appraiser may come to a better estimate.

Choosing comps is more of an art than a science, however. There are no federal requirements dictating how appraisers must choose comps in all cases. Appraisers may select comps for any number of reasons, though they must be able to justify their selections. Despite these weak limitations, appraisers may still utilize great discretion in choosing comps — and thus, appraisers have great power over the estimate of a property's value.

The appraisal process typically goes as follows: under the "comps" method, an appraiser aims to find the value of a home by looking toward recent sales of comparable properties. These

[224] Howell and Korver-Glenn (2018); Howell and Korver-Glenn (2020).

"comps" are meant to help the appraiser get a sense of current market conditions in the area. An appraiser takes note of significant features of a particular property, including its year of build, its general condition, its square footage, its number of bedrooms and bathrooms, any additional features (e.g., a swimming pool), any improvements on the property, and so on. Then, to estimate the value of the home, the appraiser attempts to find recently sold properties that are "comparable" to the property under appraisal. Ideally, the comparable properties are nearby, were sold relatively recently, and are fairly similar to the property under appraisal – that is, the comparable properties selected should have roughly the same square footage, should be roughly the same age, have the same improvements, and so on. Once the comparable properties are selected, then the appraiser will use their recent sale values to determine a price for the property under appraisal. Using their own knowledge about the market and considering the relevant differences between the "comps" and the property under appraisal, the appraiser may adjust their estimates up or down. Ultimately, the appraiser bases their final valuation on these adjusted estimates. The appraiser reports their process, and the property owner can then use the appraisal to refinance, access a home equity loan, or in Sasol's case, to set the price of non-negotiable buyout offers.

Appraisals do not happen in a vacuum, and appraisers are only human. Appraisers frequently meet the owners of the property they evaluate, and appraisers may have pre-conceived (especially racially informed) notions about the "quality" of particular neighborhoods. They may face pressure from their corporate clients to ensure that their final estimates are not too low or too high. [225] Some appraisers may simply hold racist beliefs about the socioeconomic status of minorities. These human factors, we suggest, may have affected the buyout process in Calcasieu Parish.

Anti-Black Bias in Home Appraisals: Recent Journalism

Recently, several journalists have documented cases of anti-Black discrimination in contemporary appraisal processes. As this issue gains wider acknowledgement in the public sphere, leading policymakers in all levels of government have considered new anti-discrimination regulations for the appraisals system. To help motivate and explain the claim that appraiser's racial biases may affect "comp" selection and, ultimately, home appraisal value, we review several recent cases of anti-Black discrimination in appraisals.

Carlette Duffy is a Black homeowner in Indianapolis, Indiana. In 2017, she purchased a home for $100,000. Her sister owns a home in the same neighborhood which was valued for around $190,000 in 2019. In 2020, Duffy approached two appraisers to find an accurate valuation for her new home. Both appraisers found her home to be worth $125,000 or less. Confused by the

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[225] Studies show that contracted appraisers are affected by pressure from their employers, and as the size of their business grows with a particular employer, so too does the influence of that employer on the appraisers' ultimate valuations. See: Kinnard Jr., William et al., "Client Pressure in the Commercial Appraisal Industry: How Prevalent is it?," *Real Issues in Real Estate*, Vol. 9, (2003); Wolverton, Marvin and Gallimore, Paul, "Client Feedback and the Role of the Appraiser," *Journal of Real Estate Research* Vol. 18(3), (1999); Julia Freybote et al., "Residential Real Estate Appraisal Bias in the Absence of Client Feedback," *Journal of Housing Research*, Vol. 23, No.2, (2014).

discrepancy in value between her home and her sister's, Duffy approached a third appraiser. For her third appraisal, Duffy withheld information about her race, avoided meeting her appraiser, and removed all family photos from her home while the appraiser was visiting her home. Duffy's "race blind" appraisal came in around $260,000, about twice the original value. Her first two appraisers chose "comps" more than a mile away from Duffy's home in predominantly Black areas. Her third appraiser chose "comps" which were closer and more similar to Duffy's home, a choice that ultimately led to the higher appraisal. Duffy has filed a federal lawsuit against her first two appraisers, claiming that they violated federal fair housing laws by discriminating on the basis of race.[226]

Tenisha Tate Austin and her husband Paul Austin purchased a home in Marin City, California, in 2016. The Austins, who are both Black, planned to renovate their new home. Prior to beginning renovations, they had their home appraised for around $890,000. The couple estimated that they spent around $400,000 on home repairs, and they added nearly 1000 square feet to their home. Nevertheless, their post-renovation appraisal came in at $989,000 — only $100,000 more than their pre-renovation valuation. The Austins sought a third appraisal in 2021. For this appraisal, they put up photos of a white friend's family, and the white friend met the realtor onsite. This third appraisal came in at $1,482,000, or nearly half a million dollars higher than their original post-renovation appraisal.[227]

Braunz Courtney, a Black homeowner, purchased an East Oakland home for renovations in 2016. The home sits in a predominantly Black neighborhood. In 2019, Courtney had the home appraised prior to beginning renovations to build a new 500 square foot Additional Dwelling Unit (ADU), which he planned to use as an Airbnb. Prior to renovations, his home appraised for $631,000. After renovations, the home appraised for $575,000. In other words, the appraiser had found that the renovations *reduced* the overall value of the home. Courtney contested the second appraisal after viewing the appraiser's report — Courtney argued that the comps selected were in poorer shape than his own home and otherwise dissimilar to his property. Ultimately, Courtney got a new appraisal, which Courtney claimed used closer, more similar comps. The new appraisal came back at $730,000 and doubled the value assigned to the ADU. Courtney claims that the first appraiser's implicit biases about East Oakland – a predominantly Black and Latinx area – led to the low appraisal value.[228]

Gwen and Lorenzo Mitchell are homeowners in Denver, Colorado. The couple sought to refinance their home after the city experienced property value growth of nearly 20% between 2017 and 2020. The couple estimated that their home was worth about $500,000 after looking into recent sales in their neighborhood. Lorenzo, who is Black, met their appraiser at their

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[226] Alexandria Burress, *Black homeowner had a white friend stand in for third appraisal. Her home value doubled.*, Indianapolis Star, (2021); *Black homeowner says her appraisal doubled after she didn't declare her race*, The Guardian, (2021).
[227] Julian Glover, *Black California couple lowballed by $500K in home appraisal, believe race was a factor*, ABC7 News, (2021).
[228] Glover, Julian, *Black East Oakland homeowner beats system after lowballed $155k in appraisal*, ABC7 News, (2021).

home. Their appraiser valued their home at $405,000, significantly lower than what the Mitchells had expected. When the Mitchells looked at the comps chosen, however, they were surprised. The couple claims that the appraiser did not choose comps in their neighborhood, despite the fact that recent sales had occurred there. Instead, the appraiser selected comps in a predominantly Black neighborhood on the opposite side of Martin Luther King Blvd., a major road in Denver. The couple hired a second appraiser, and during this appraisal, only Gwen – who is white – remained at home. This appraisal was much higher, around $550,000.[229]

In 2020, **Stephen Richmond** sought an appraisal for his Hartford, Connecticut home. Richmond, who is Black, was dissatisfied with his first appraisal. For his second appraisal, he removed all family photos and references to traditionally Black culture and media from his home. His second appraisal came in $40,000 higher than his first though it occurred only weeks later. [230]

Abena and Alex Horton own a large four-bedroom, four-bathroom in Jacksonville, Florida. Looking to refinance in June of 2020, they sought a home appraisal. The couple estimated that most homes in their neighborhood had recently sold for between $350,000 and $550,000. Their refinancing appraisal was outside of this range, however, coming in at $330,000. Even the couple's bank took issue with the appraisal, urging the Hortons to seek a second appraiser. Before the second appraiser arrived, the couple removed all family photos replaced them with portraits of white people. They also removed books by Black authors and other pieces of traditional Black media. Alex Horton, who is white, remained at home during the appraisal while his wife, who is Black, took their child to a local retail store. The second appraisal returned a much higher value: $465,000. The Hortons ultimately filed a racial discrimination claim with the Department of Housing and Urban Development, which assigned the case to the Jacksonville Human Rights Commission.[231]

Christina Jordan is a Black condominium owner in Chicago. Wanting to refinance, she got an appraisal for her condo. Her appraisal value was $278,000, which was less than Jordan paid for the condo when she bought it six years prior. After undergoing a second appraisal, her condo received a revised valuation of $340,000. Jordan did not disclose her race during her second appraisal process. Jordan's second appraisers used significantly different comps than her first. Her first appraiser drew on three comps, each of which sold for between $277,000 and $279,000. Her second appraiser drew on sales between $336,000 and $364,000.[232]

Erica and Aaron Parker are Black homeowners in Ohio. Their first appraiser made significant errors in their original report. Despite these errors, the appraiser refused to revise his ultimate estimate. The Parker's removed family photos from their home and sought a new "race blind" appraisal. The second appraisal came in about $92,000 higher than the first.[233]

[229] Troy McMullen, *For Black homeowners, a common conundrum with appraisals*, Washington Post, (2021).
[230] Kamin, Debra, *Black Homeowners Face Discrimination in Appraisals*, New York Times, (2020).
[231] *Ibid*
[232] Elvia Malagón, *Black homeowner, 2 appraisals, $62,000 difference*, Chicago Sun Times, (2020).
[233] Niara Savage, "Washing my house in whiteness," *Atlanta Black Star*, Aug 25 2021

These likely represent only a sliver of recent cases of anti-Black discrimination in the appraisals process. As Debra Kamin of the New York Times puts it: "Home appraisers, who work under codes of ethics but with little regulation and oversight, are often all that stands between the accumulation of home equity and the destruction of it for Black Americans."[234]

Non-Black appraisers may simply be too unknowledgeable about the specifics of Black communities to assess adequately their value. Chicago-based appraiser Andre Lanier explained how appraisers with little-to-no knowledge of predominantly Black neighborhoods may fail to appraise some homes correctly: "What happens sometimes is that when you are not geographically competent, the [comparable sales] might look like a comparable [sale]," Lanier said ,"if you don't know the areas, if you haven't lived in them, walked into those streets, worked with buyers, how do you really know from an objective standpoint what buyers find as appealing?"[235] Given Mossville's unique status as a site of cultural importance to Black Americans, one could reasonably assume that external appraisers could not be adequately positioned to assess the full scope of its value.

Even appraisers themselves have acknowledged the anti-Black bias of the property appraisal system. As Philadelphia NPR reports, "John Russell, a representative for the American Society of Appraisers, acknowledges that the industry has a race issue and the organization began training its members to combat unconscious bias in January […] 'they may have unconscious biases that they are unaware of that may influence the comparable homes they select when they do a sales comparison approach,' Russell said."[236] Recently, Black appraisers themselves have called for increased diversity in their own profession in order to combat what they see as a "racial issue" within the profession, namely a lack of knowledge regarding Black communities.[237]

A growing consciousness of this problem has led lawmakers at all levels of government to begin addressing implicit bias and explicit discrimination within the appraisals process. The Philadelphia City Council has proposed measures to protect Black homeowners from discriminatory appraisers.[238] In New Jersey, Assemblywoman McKnight has proposed legislation meant to inform homeowners of their protections against racist appraisals.[239] At the national level, dozens of lawmakers recently called on the Federal Financial Institutions Examination Council to institute new protections for minority homeowners during the appraisals process.[240] On April 20th 2021, the House Financial Services Committee approved HR 2553 to study further the "racial disparities at both the borrower and community level in the valuation and price of the residential real estate." [241] As of November 2021, the bill, also known as the Real Estate

[234] *Black homeowners have their houses appraised for less*, New York Times, (2020).
[235] Malagón, New York Times (2020)
[236] Taylor Allen, *Philly Council moves to hold hearings on home appraisal race gap*, WHYY Philadelphia (2021).
[237] Safia Ali, "Black appraisers call out industry's racial bias and need for systemic change," NBC News, June 2021.
[238] Allen, WHYY (2021)
[239] *McKnight Introduces Bill to Discourage Discriminatory Appraisals of Homes Based on Race, National Origin*, New Jersey Assembly Democrats, (2020).
[240] Sylvan Lane, *Democrats ask watchdog to tackle racial bias in home appraisals*, The Hill, (2021).
[241] Real Estate Valuation Fairness and Improvement Act of 2021, H.R.2553, 117th Cong. (2021)

Valuation Fairness and Improvement Act of 2021, awaits a full House vote. In September of 2021, California became the first state in the US to pass a Fair Appraisals Act.[242] The law seeks to counter anti-Black discrimination by appraisers through increased data collection and analysis and individual trainings.

More and more, lawmakers, appraisers, and homeowners themselves have come to see the biases within the appraisal system — biases that are not merely artefacts of redlining or historical discrimination, but anti-Black discrimination that infects appraisers' choice of comparable homes and their adjustment processes.

Anti-Black Bias in Home Appraisals: Social Scientific Evidence

In this subsection, we outline a growing body of social scientific research suggesting that appraisers may introduce anti-Black bias into their judgments, and as such, deflate the property value of Blacks relative to their white peers with comparable property.

Two recent studies from Dr. Junia Howell and Dr. Elizabeth Korver-Glenn attempt to quantify how appraisers' perceptions of race may cause professional appraisers to assign otherwise comparable Black- and white-owned property significantly different property values.[243] In their 2018 study, the authors used 2015 tax appraisal data from Harris County, Texas, the county containing Houston. The authors' model controlled for a number of confounding variables, including neighborhood housing stock, a neighborhood's socioeconomic status, local amenities, and housing demand. Even after controlling for these variables, the authors found that property in predominantly Black areas was appraised at, on average, $162,000 less than very similar property in predominantly white areas.

In light of these data, the Howell and Korver-Glenn found "systematic differences in home value by neighborhood racial composition, above and beyond measures of individual home features and quality as well as neighborhood housing stock, socioeconomic status, amenities, and housing demand."[244] Informed by qualitative interviews with a number of Harris County appraisers, the authors infer that these systematic biases slip into the appraisals process through the use of the comparable property method. When appraising property in predominantly Black areas, appraisers were less likely to choose comps in white neighborhoods, even if the white-owned property was closer, sold more recently, and was more comparable than comps in predominantly Black neighborhoods farther away. The authors conclude that "in our interviews and ethnographic field work, it became clear that appraisers often perceive comparable houses as those in communities with similar racial demographics, even if these comparable communities were further away or had drastically different socioeconomic characteristics." They place blame for this on the lack of oversight for

[242] "What is the fair appraisal act? New California Law Hopes to Tackle 'Redlining 2.0' to End Anti-Black Bias In Home Appraisal Process," *Yahoo News*, Nov. 2021
[243] Howell and Korver-Glenn (2018); Howell and Korver-Glenn (2020)
[244] Howell and Korver-Glenn (2018), p. 2

appraisers. “The lack of standardization [in appraisals] enables appraisers’ racialized assumptions to influence the assessment of home value.”

The same authors replicated their findings in a much larger study published two years later.[245] In the second study, the authors took national data of appraisals from 1980 to 2015, covering approximately 50,000 census tracts in a total of 107 metropolitan areas. The authors controlled for salient factors (including the year a home was built, its number of bedrooms, socioeconomic status, mean commute time, etc.). Additionally, the authors controlled for historical housing discrimination, i.e. by controlling for a history of low appraisals in the past. The authors find that, even holding constant previous appraised values, “new appraisals are still influenced by contemporary neighborhood racial composition.” In other words, modern-day appraisals still discriminate against homes in predominantly Black areas.

Even in their much larger analysis, the authors find that anti-minority bias significantly decreases the value of homes in majority-minority neighborhoods when compared to equivalent homes in white neighborhoods. The authors ultimately conclude that:

> “Despite starting with the same average appraised value, values in the increasingly Black and/or Latinx communities fall by over $22,000 (in 2015 dollars) while those in the community with a decreasing proportion of Black and/Latinx residents rise by $73,000. As the racial composition of these neighborhoods changes, their values sharply diverge, creating a nearly $100,000 difference in the average home appraisal. In short, even when we take into consideration that appraised values of previous sales influence current appraisals, contemporary racial composition in the neighborhood shapes assigned appraisals. This suggests that the sales comparison approach—the most used method for contemporary residential appraisals—perpetuates inequities through maintaining historical hierarchies and current racialized definitions of comparability.”[246]

Their analysis ultimately supports the finding that “contemporary appraising practices contribute to ongoing inequality […] appraisers continue to use neighborhood racial composition to help determine which homes are comparable. In this way … contemporary appraisers are constructing a racialized housing market and exacerbating racial inequality.”[247]

Korver-Glenn complements these analyses with an ethnographic study of Houston-area appraisers, which revealed widespread racial biases and a shared implicit understanding of Houston’s racial hierarchy within the real estate industry.[248] While Korver-Glenn’s ethnography is location-specific, it may still illuminate racialized dynamics within the appraisal industry at

[245] Howell and Korver-Glenn (2020)
[246] *Ibid*, p 17
[247] *Ibid* p 18ff.
[248] Elizabeth Korver-Glenn, “Appraising Value,” *Race Brokers: Housing Markets and Segregation in 21st Century Urban America, 116-142,* (2021).

large.[249] Korver-Glenn's interviews with appraisers reveal the many ways in which appraisers may rely on implicit assumptions about race to make property appraisals.

Korver-Glenn spoke with one appraiser who admitted that two homes he was comparing were "no nicer" than each other. Nevertheless, he found one to be worth "about $50,000 more" merely due to its surrounding neighborhood. [250] When pressed, the appraiser fell back on racial justification and coded language to explain his findings. Explaining his valuation, he said

> "It feels different … houses may look the same on paper, but if you drive around the neighborhood, you can see that the charm goes down a little bit […] it's kind of generalizing, but it seems to me that neighborhoods where I go to [appraise] where there are pockets, where they're very strictly one ethnicity – it just seems like they're generally lower prices, and the overall properties aren't as well-kept."[251]

Another appraiser admitted that he makes assumptions about the race of a homeowner when he enters their home, even if they are not present:

> "Sometimes you can walk in and go, 'Oh, it's obviously a Black person that lives here.' […] I did [appraise] a house one time over in Riverstone. And you walked inside and it was purple, it was Black. I guess he was very ethnic to his race. I thought when I walked in – because [the homeowner wasn't] home – but I thought right away when I walked in, this is a Black guy. I think people want to be near their own kind. And I feel 100 percent about that."[252]

In support of her previous findings regarding racist selection of comparable homes in the appraisal process, Korver-Glenn found that one appraiser, Carl, would frequently use very distant comps merely due to the racial composition of neighborhoods.

> "Carl compared Lindale Park to Quail Valley, a subdivision in a Houston suburb approximately 30 miles away. He believes that because [they] had similar racial demographics, they were more likely to be comparable than similar properties in a neighborhood community with different demographics."[253]

As another appraiser put it:

> "if [neighborhoods] don't directly compete, I don't think they should be used as comparable data […] If I didn't buy this house in Fifth Ward … the demographics are going to dictate that I'm probably going to go to Kashmere Gardens. I'm probably going to go may even a little north of [Interstate] 610 […] But I am going to Second Ward? The demographics are completely different, and I don't think that they directly compete because of that."[254]

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[249] We find the comparison between Houston and SW Louisiana to be a reasonable one. The areas are less than 150 miles apart, both belong to the Greater Gulf, both have significant Black populations, and so on.
[250] Korver-Glenn (2021), p.125 ff.
[251] *Ibid*, p. 126
[252] *Ibid*, p. 129
[253] *Ibid*, p. 133 ff.
[254] *Ibid*, p. 137

Instead of comparing the home under evaluation with the closest, most similar home, the appraiser let substantive assumptions about the relationship between demographics and property competitiveness bias his appraisal. These and Korver-Glenn's many other interviews with appraisers further evidence her claim that appraisers' knowledge of racial demographics do, in fact, bias their appraisals, through their selection of comparable homes.[255]

The case of Mossville aligns neatly with Howell's and Korver-Glenn's analyses. Recall that the median homestead price in Mossville was about $120,000 lower than the median homestead price in either Brentwood or properties outside of the VPPP. Additionally, neighborhood composition is well known in the Calcasieu Parish area — appraisers almost certainly knew that Mossville was predominantly Black, and Brentwood predominantly white. Even if appraisers did not know this, however, they almost certainly met most of their clients in person at the time of appraisal and possibly saw family photos during the appraisal process. Finally, it is not clear that appraisers were knowledge about Mossville's unique position as a site of important Black cultural heritage. In other words, the VPPP appraisers — which Sasol selected in advance – – were not clearly making either "race blind" nor culturally sensitive appraisals.

Other studies support the finding that appraiser bias may negatively affect valuations of Black-owned property. In 2018, the Brookings Institute released a groundbreaking study of property value disparities between Blacks and whites in the US which supports the hypothesis that the appraisal system may work systematically against Black people.[256] The study found that owner-occupied homes in Black neighborhoods are, on average, undervalued by $48,000 dollars across the United States.[257] This represents a nearly 156 billion USD erasure of Black wealth in the United States. As was the case in both of Howell's and Korver-Glenn's studies, the Brookings Institute study controlled for home quality and neighborhood quality, ultimately determining the racial composition of neighborhood explained a 23% difference in valuation between Black- and white-owner-occupied homes.[258]

Redfin, a national real estate brokerage firm, published an internal study in April of 2021 which supports the findings of the Brookings Institute.[259] Analyzing nearly seven million homes sold through Redfin between 2013 and 2020, the company found that Black-owned property was valued at $46,000 less than equivalent white-owned property.[260] Redfin's own analysis found that Baton Rouge had one of the greatest under-valuations of property in Black neighborhoods, finding a nearly 55% difference in property value between similar properties in predominantly white and predominantly Black areas.[261]

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[255] *Ibid*
[256] Perry et al, *The Devaluation of Assets in Black Neighborhoods: The case of residential property*, Brookings Institute, (2018).
[257] *Ibid*
[258] *Ibid*
[259] Dana Anderson, *The Price of Racial Bias: Homes in Black Neighborhoods Are Valued at an Average of $46,000 Less Than Similar Homes in White Neighborhoods,* Redfin, (2021).
[260] *Ibid*
[261] *Ibid*

Additional Biasing Factors: Limited Information and Client Influence

In addition to the racialized assumptions of appraisers, other human factors may also bias the comps-based appraisal system. Dr. Leonard Nakamura, Economist Emeritus at the Federal Reserve Bank of Philadelphia, has also questioned the comps-based appraisal as a valid tool in the mortgage and real estate industry.[262] Just three years before the beginning of the VPPP, Nakamura raised a concern that the appraisal system was systemically biased downward in response to the Great Recession. He wrote that "unfortunately, the appraisal process can go awry and often has."[263] Bias, he writes, is "causing home valuations to be underestimated."[264] In his study, Nakamura finds two reasons why an appraisal may be systematically biased. First, he argues, "the information upon which the house is valued may be very thin; recent nearby comparable house sales may be so few that the price at which the house is likely to be resold may be difficult to predict precisely." Secondly, he finds that the independence of appraisers is not always reliable, particularly if they are reliant on a particular client for future business. "A second reason the appraisal process can go awry is that all parties may not want a genuinely independent appraisal."[265]

In other words, Nakamura argues, that the client-appraiser relationship may bias the appraisal depending on the interests of those hiring the appraisers. Other studies have found similar effects. Agarwal *et al.* found that the client-appraiser relationship can affect appraiser's ability to accurately judge property value, noting that "the bias is more severe when the parties involved (borrowers, intermediaries, and lenders) have a stronger incentive to inflate valuation."[266] In the case of Mossville, however, Sasol had a stronger incentive to deflate the valuations of homes, as lower valuations mean that Sasol would ultimately pay less for their buyout program. Zhu and Pace similarly find that the independence of appraisers affect their objectivity.[267] In their study, these authors found that "court appointed (CA) appraisers exhibit less systematic biases than their customer employed (CE) counterparts."[268] In a study of mortgage lenders, Freybote et al found that, by limiting informational flow between appraisers and clients, one could reduce client-friendly bias in the appraisals process.[269] Through experimental means, Hansz and Dias III found that appraisers may make client-friendly adjustments in response to client feedback.[270] Similarly, Kinnard et al found that larger clients –

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[262] Leonard Nakamura, *How Much Is That Home Really Worth? Appraisal Bias and House-Price Uncertainty,* Federal Reserve Bank of Philadelphia, Business Review Q1 (2010) p. 11-12

[263] *Ibid*, p. 11

[264] *Ibid*

[265] *Ibid*

[266] Agarwal, Sumit et al., "Collateral Valuation and Borrower Financial Constraints: Evidence from the Residential Real Estate Market," *Management Science* 61(9), (2015), p. 18

[267] Shuang Zhu and Pace, R. Kelley, "Distressed Properties: Valuation Bias and Accuracy"*, Journal of Real Estate Finance and Economics*, Vol. 44, No. 1/2, (2012), p. 154

[268] Zhu and Pace (2012), p. 154

[269] Freybote et al. (2014)

[270] J. Andrew Hansz and Diaz III, Julian, "Valuation Bias in Commercial Appraisal: A Transaction Feedback Experiment*", Real Estate Economics* 29(4): 553-565 (2002).

in other words, clients who brought more business to an appraiser – had an even greater ability to bias an appraiser's valuations.[271] As Kinnard and his coauthors write, there is "significant reliable evidence … that client pressure exists in the US commercial appraisal industry."[272]

It would not be unreasonable to conclude that both biasing factors named by Nakamura – lack of information and client influence – may have affected Sasol's buyout process. First of all, Sasol identified, in advance, a number of appraisers for their buyout, and these appraisers were paid by Sasol. While VPPP could identify their own appraisers, it is unknown how many participants used their own appraisers. Thus, this introduces at least the appearance of dependency between appraisers and Sasol. Secondly, Mossville is somewhat geographically isolated from the rest of the Parish, and it is a unique community. Thus, there may not have been many comparable properties for any given subject within Mossville. As Nakamura argues, such factors may make appraisals less accurate. Thus, one might have reason to suspect that the appraisals used during the VPPP may have been biased downward, in favor of Sasol's bottom-line.

Gregory Squires is a scholar of housing policy and has served as a member of leading housing agencies. In 2014, Squires argued that the appraisal industry is unprepared to appraise property in minority communities.[273] Referring to historical inaccuracies in the appraisal process, he wrote that "a common element in both the under- and over-appraisal phenomena is that these practices were concentrated in minority neighborhoods…the appraisal industry has had relatively little inexperience with, and simply does not know how to value property in, non-white communities."[274] Squires recounts that, in 1994, the Cleveland Federal Reserve Bank created a task force to assess appraisers' ability to properly evaluate property in predominantly Black neighborhoods in Cleveland. When tasked with assessing the same property, the four appraisers in the group chose values between $36,000 and $83,500. The original Task Group conceded that this experiment demonstrated that appraisers were not knowledgeable enough about minority neighborhoods to properly assess them.[275]

The lack of diversity within the appraisal profession may partially explain appraisers' inexperience with, and biases against, Black communities. The Appraisal Institute — the professional organization of appraisers in the US — surveys the demographics of the profession. The 2019 survey found that nearly 80% of appraisers were male, 70% were over the age of fifty, and nearly 85%, or 5 out of every 6 appraisers, were white.[276] Only 1.3% of all appraisers are Black. That means that less than one in fifty appraisers in the US are Black. For comparison, only about 13% of the US population is Black.[277]

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271 Kinnard et al. (2003)

272 Kinard et al. (2003), p.240-241

273 Gregory D Squires, *Appraisals: A Missing Link in Fair Housing/Fair Lending Debates*, HuffPost, (2014).

274 *Ibid*

275 Federal Reserve Bank of Cleveland, "Local Solutions, Lasting Change"

276 *U.S. Valuation Profession Fact Sheet,* Appraisal Institute, Q1 (2019).

277 The % given by the 2019 U.S. Census for those who are Black or African American alone is 13.4%. Source: https://www.census.gov/quickfacts/fact/table/US/PST045219

Federal Buyout Programs and Anti-Black Discrimination

While social scientific evidence supports the finding that property appraisals disadvantage Black communities, there is a growing body of evidence suggesting that buyout and relocation schemes also disadvantage communities of color — especially Black communities. Buyout programs that rely upon property value and the real estate industry may uniquely perpetuate and exacerbate the anti-Black biases outlined above.

As such, several authors have critiqued buyout schemes – like Sasol's – which do not take into account the unique circumstances of their communities and the particular needs of Black property owners. Within the context of inundation (flood) mitigation, Hardy *et al.* argue that "colorblind" environmental buyouts are "likely to perpetuate … environmental racism," and note that heirs' property is particularly vulnerable to dispossession through buyout programs.[278,279] Continuing on, they note that equitable buyouts should be sensitive to "historical conditions that led to uneven racial development and vulnerability across social difference [which…] would be not only taken into consideration but treated as equal importance proposals for inundation exposure assessment or economic impacts."[280]

Other authors echo similar concerns about buyout program that fail to be sensitive to the unique historical and social conditions of Black Americans. Marino notes that "buyouts are predicated on the establishment of market value and can disadvantage individuals who … do not own a home, or tribal communities who need to remain together and in relationship to a larger geographical space." [281] Meanwhile, Elliot et al. critique the pure economic logic of such buyouts, noting that "to rely strictly on benefit-cost rations and presumptions of individualized property rights to cut through complexity would be wishful thinking not only in inner-city neighborhoods but also for tribal communities." [282] The concept of a voluntary buyout program, as two authors argue, "obscures these racialized inequities in housing access and assets and instead attempts to position the policy in apolitical terms through its use of cost-benefit analyses to target specific areas, regardless of who lives there. The "voluntary" aspect of the program also serves to obscure its politics, as it privileges individual rights and the idea of

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[278] Dean R. Hardy et al, "Racial coastal formation: The environmental injustice of colorblind adaptation planning for sea-level rise," *Geoforum*, Vol. 87: 62-72, (2017).

[279] Jess Gilbert et al., *The Loss and Persistence of Black-Owned Farms and Farmland, A Review of the Research Literature and Its Implications,* Southern Rural Sociology, Vol 18(2): 1-30, (2002). Gilbert *et al* find that the prevalence of heirs' property is one of the primary drivers of land dispossession among rural Blacks. See Gilbert *et al* for an extensive overview of unique situation of rural Blacks and issues driving land dispossession among rural Blacks in particular.

[280] Hardy (2017), p. 71

[281]Elizabeth Marino, "Adaptation privilege and Voluntary Buyouts: Perspectives on ethnocentrism in sea level rise relocation and retreat policies in the US," *Global Environmental Change*, Vol 49: 10-13, (2018) p. 4,

[282] James R. Elliot, "Racial Inequities in the Federal Buyout of Flood-Prone Homes: A Nationwide Assessment of Environmental Adaptation*", Socius : Sociological Research for a Dynamic World* (2020), p. 12

"choice," allowing the market, rather than the state, to serve as the final arbiter of post-buyout fortunes."[283]

FEMA's Road Home Program –– a federal loan and buyout program responding to Hurricane Katrina –– precisely represents one such "colorblind" buyout. Green and Olshanksy[284] criticize FEMA's Road Home Program ("RHP") for its insensitivity to the unique conditions of those displaced from New Orleans. In particular, the researchers express concern that the RHP's structure failed to consider whether an owner wished to rebuild or resettle. This oversight often left those who wished to rebuild without the means to do so. The program automatically used the estimated value of a home to determine the owner's buyout price. In many cases, this "replacement" value was both insufficient to rebuild in New Orleans or to resettle to a different community. The authors note that this design disproportionately affected Black residents by reproducing anti-Black wealth inequality. This colorblind approach "meant that residents of neighborhoods with lower housing values received less money to rebuild their homes. Advocates of fair housing policies have noted that the policies of the RHP adversely affect minority homeowners since there is a relationship between neighborhood racial characteristics and housing values."[285] Ultimately, the authors conclude that, because of its design, the RHP "may join a long line of disaster recovery programs whose successes were marred by inherent injustices."[286]

Taken together, these studies place the appraisals process at the nexus of past and present forms of anti-Black housing discrimination. On one hand, segregation, redlining, and the exclusion of Black communities from capital access has created Black neighborhoods with low market demand, a history of below-average property sales, an aging, depreciating housing stock, and a lack of access to public utilities and goods. On the other hand, the contemporary home appraisals system may keep Black property values low by drawing on inapposite comps influenced by a particular appraiser's racialized perceptions of similarity in neighborhoods and property value. Even putting aside racial discrimination within the appraisal industry, the potentially biasing effects of the client-appraiser relationship gives reason to question the method's objectivity. Finally, as a disproportionately white, male, and aging profession, it's possible that appraisers simply lack the knowledge of Black communities needed to make fair assessments of Black-owned property. Thus, there is reason to be distrustful of the use of client-appointed appraisers in the determination of home value, especially in communities of color. As such, social scientific research casts doubt on the structure of Sasol's VPPP.

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[283] Kevin Loughran and James Elliot. "Residential buyouts as environmental mobility: examining where homeowners move to illuminate social inequities in climate adaptation," *Population and Environment* 41: 52-70, (2019), p.56

[284] Timothy F. Green and Olshansky, Robert B., "Rebuilding housing in New Orleans: the Road Home Program after the Hurricane Katrina disaster," *Housing Policy Debate*, Vol. 22(1): 75-99, (2012).

[285] Green and Olshansky (2012), p. 84

[286] Green and Olshansky (2012), p. 96

3. ***Appraisals within the VPPP***

In the previous subsection, we outlined numerous ways in which biases have been shown to enter into the appraisals process. In this section, we turn to analyze a select number of appraisals from Sasol's VPPP. Ultimately, we reviewed seventeen appraisal reports from seven VPPP participants, all of whom were located within Mossville. The number of appraisals available to us were limited and not necessarily representative of all VPPP participants. Nevertheless, we found evidence that suggests some appraisals within Mossville may not have conformed to best practices, either due to the biasing influences discussed in the last section or simply due to a lack of appropriate comps within the area. Regardless of the cause, our analysis of VPPP appraisal represents may strengthen the claim that the comps-based approach was an inappropriate process on which to base this buyout program.

A brief note about terminology. This subsection analyzes seventeen appraisal *reports* for seven *properties*. During the course of an appraisal of for a property, an appraiser produces an appraisal report. This report includes the documentation which justifies an appraiser's final estimated value. As has been discussed, appraisers in Mossville used a comps-based approach, which is industry standard. Following the comps approach, an appraiser will usually reference between two and four comps within their appraisal report. In all, the seventeen appraisal reports that we analyzed made reference to fifty-eight comps. All properties received more than one appraisal (each resulting in a unique appraisal report), and each appraisal report referenced more than one comp. Throughout this subsection, we frequently move between references of appraised *properties*, *appraisals* or *appraisals reports*, and *comps*.

We reviewed seventeen appraisal reports from seven different household properties, all of which were located in Mossville. All seven households registered for the VPPP and had their homes appraised, and five of these households ultimately sold their property through the VPPP. By default, each property received two appraisals from appraisers chosen from Sasol's pre-selected list of contractors. If the valuations of these two appraisers differed by more than 10% of the higher amount, then SASOL required a third appraisal. The final value was the average (mean) value of the two highest valuations. Of the documents we reviewed, four homeowners received two appraisals while three homeowners received three appraisals.

For the remainder of this section, we analyze the extent to which these seventeen appraisals conformed to certain best practices. Given the potential for anti-Black bias in the selection of comparable homes during appraisals, we pay particular focus to the comps selected in each of these seventeen appraisals. We assess each comp for its distance from the appraised home, the recency of its sale, and its size and similarity to the home under appraisal. We begin by reviewing the best practices for comparable selection before reviewing particular appraisals against these guidelines.

There are no hard rules for the selection of comparable homes during the appraisals process. Nevertheless, various appraisal and mortgage agencies reference broad principles for the selection of comps. First and foremost, comps should be as similar as possible to the home under appraisal. To facilitate the selection of quality comps, there are additional subsidiary guidelines. In practice, it is sometimes impossible to satisfy all of these guidelines while still choosing similar comps, and appraisers should use their discretion and expertise to determine when particular guidelines are not helpful in selecting quality comps. Nevertheless, the following heuristics are often taken to be useful in selecting comparable homes.[287]

- **Recency**: Ideally, as many comps as possible would have sold within three months of the appraisal date. If quality comps are not available in that time period, then comps should be chosen from within the last calendar year.
- **Distance and Location:** Ideally, comps should be in the same neighborhood or less than one mile away from the home under appraisal. In less urban areas, this radius may be extended to five miles or more. Where possible, comps should not cross significant boundaries or infrastructure, such as rivers, major roads, or railways.
- **Size:** Ideally, comps will have a similar square footage to the homes under appraisal. Additionally, they will have the same number of bedrooms, and if possible, bathrooms.

Mossville's Housing Market

Immediately, the case of Mossville presents a clear problem for a comps-based approach. As Sasol itself admitted, "Appraisals are impossible in Mossville as there have been no recent home sales."[288] Thus, by admission, Sasol's appraisers had to look outside of Mossville for comps. This fact complicates the comps-based approach. While Sasol claims it took measures to mitigate the effects of this problem,[289] the fact remains that Mossville's housing market and circumstances were so unique that Sasol's appraisers had to look beyond the community in order to engage in comps-based appraisals.

Distance and Location

Comparable sales are expected to be located as close to the appraised property as possible without comprising comparability. Ideally, appraisers should not need to cross major infrastructure, such as major highways or railroads.

Within Mossville, comps were located between .37 and 8.23 miles from their respective appraised homes, with an average distance of 4.14 miles and a median distance of 3.92 miles. We found that, out of the 58 comps used in the 17 appraisals, only 7% (n=4) were located within one mile of appraised home. Only 30% (n=17) comps were located within three miles of the appraised home. Around 71% of comps were located within 5 miles of the appraised home. As such, nearly 30% of all comps were located farther than 5 miles away from their respective appraised home.

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[287] For example, see: Jay Vorhees, *Comparable Sales Appraisers Can & CAN'T Use*, JVM Lending, (2019)
[288] Mullin (2016).
[289] Sasol, "Myths and Facts about Sasol and Mossville," (2019), accessed Nov 2021.

Major infrastructure — including Interstate 10, Route 90, State Highway 27, and the Kansas City Southern Railroad — circumscribes Mossville. We found that appraisers not only chose comps from neighborhoods distant from Mossville, but appraisers frequently had to cross major infrastructure in their comps selection. Over 93% (n=54) comps crossed major infrastructure (e.g. highways, railways**). Only 1 of the 58 comps was both within 1 mile of its appraised home and did not cross major infrastructure**. The three other comps that did not cross major infrastructure were located between 1 and 3 miles from the appraised home.

Thus, of the comps that we analyzed, we find that most comps were not ideal and did not conform to best practices regarding distance and location. Many comps were not located within Mossville, were over five miles from their appraised home, and frequently crossed major infrastructure projects. As our review of the social science literature suggests, it is possible that appraisers' choice of comps was affected by racialized assumptions about the lower value of homes in Mossville compared to other nearby neighborhoods. Regardless of appraisers' conscious or unconscious motivations, appraisers may have simply lacked nearby, comparable housing stock due to a lack of market activity in the area — the appraisal process is intended to determine the current market value of a home, which is difficult to do in a community with no active home sales.

<u>Recency</u>

To best gauge current market conditions, appraisers should use recently sold comps, ideally sold within 90 days of the appraisal date, without comprising comparability of property. Of the appraisal reports reviewed, only 35% (n=19) of comps referenced therein had sold within 90 days of the date of appraisal, and only 78% (n=42) of comps were sold within 180 days of appraisal. This means that, of the appraisals were reviewed, nearly 1 in 4 comps were sold more than six months before the date of appraisal. In one case, one comp sold nearly one full year before the date of appraisal. Again, due to the few home sales occurring within Mossville prior to the VPPP, appraisers looked well beyond a three-month or even six-month window when selecting their comps. That appraisers had to look outside the six-month window suggests that there may have been insufficient similar housing stock near Mossville to complete comps-based appraisals. Housing markets are relatively volatile, so it's reasonable to conclude that comps outside of a three-, six-, or twelve-month window may not accurately represent the market conditions at the date of appraisal.

<u>Square Footage and Design</u>

Best practices suggest that comps should be as similar in size to the appraised home as possible, again without comprising other axes of comparability. Ideally, comps will have a similar number of bedrooms, a similar number of bathrooms, and be similar in square footage. The more similar comps are to appraised homes with regard to these metrics, the less appraisers will have to adjust their valuations.

Of the comps referenced in these appraisal reports, more than 1 in 3 (n=21) had a square footage difference greater than or equal to 10% when compared to the appraised home, and about 5% of comps had a square footage difference greater than or equal to 20% of the appraised home's square footage. In over 40% of all appraisal reports analyzed (n=7), the *average* square footage difference between comps and the appraised home was greater than 10%. In other words, in seven appraisals, appraisers did not merely choose one single aberrant comp — rather, the 3-4 comp panel referenced may have been unrepresentative with regard to square footage. In the case of one appraisal, three of the four comps referenced in the report were 10% smaller than the appraised property. These differences may again suggest that the comps-based appraisal system fell short if appraisers could not find similar homes with comparable square footage.

With regard to bedrooms and bathrooms, we also found significant differences between the appraised homes and their respective comps. Of the analyzed comps, nearly 35% (n=20) of comps had one fewer bedroom than the home under appraisal. Over 50% of comps used (n=31) differed by at least one bedroom or bathroom relative to the home under appraisal. That there were significant differences in the size or number of rooms between comps and appraised homes raises the concern that appraisers had to make subjective adjustments to arrive at the market value of the appraised property.

Adjustments

Despite its limitations due to sample size, our analysis of appraisal documents suggests that there may have been significant differences in the way appraisers approached their adjustments. We found a number of cases in which different appraisers referenced the same comps but adjusted them in significantly different ways. This is further (albeit limited) data that appraisers' subjective adjustments may have introduced bias into the comps process.

For example, appraisers Mark Adams ("MA") and James Abrams ("JA") were both sent to appraise a property within the VPPP. Both MA and JA used a property at 119 Jupiter Street, Sulphur, LA as a comparable home in their appraisal reports. The comp at 119 Jupiter St. originally sold for $45,000. Taking into consideration its age, storage space, the presence of amenities, the size of the land, the HVAC system, its usable living space, and so on, both appraisers adjusted the price of the comp at 119 Jupiter St. to reflect its market value, according to their opinion. In response to these factors, MA adjusted the comp's value down $5,280, to $39,720. Given nearly the exact same criteria, JA adjusted the price *up* $14,140 to $59,140. Thus, MA's and JA's appraisals for the same comp home differed by nearly $19,420 — which is nearly 43% of the original sale price of the comp. If two appraisers evaluating the same home both appraise a comp at a nearly 50% difference, this raises significant concerns about the appraisers' respective abilities to fairly assess property values in the area.

In just the 58 comps we analyzed, we found six pairs of appraisals in which two appraisers adjusted the same comp in significantly different ways. These cases are as follows:

- Home A sold for $45,000. Mark Adams adjusted Home A to $39,720 and James Abrams adjusted Home A to $59,140. These differ by $19,420, or 43.2% of Home A's sale price.
- Home B sold for $37,500. Mark Adams adjusted Home B to $37,560. Kelly Carpenter adjusted Home B 26,450. These differ by $11,110, or 29.6% of Home B's sale price.
- Home C sold for $114,900. Mark Adams adjusted Home C to $105,920. Melvin Elliot adjusted Home C to $94,675. These differ by $11,245, or 9.4% of Home C's sale price.
- Home D sold for $89,900. Mark Adams adjusted Home D to $113,280. Melvin Elliot adjusted Home D to $93,750. These differ by $19,530, or 21.7% of Home D's sale price.
- Home E sold for $195,000. Mark Adams adjusted Home E to $220,300. Paul Newcomb adjusted Home E to $186,110. These differ by $34,190, or 17.5% of Home E's sale price.
- Home F sold for $172,000. Paul Newcomb adjusted Home F to $175,370. Melvin Elliot adjusted Home F to 201,240. These differ by $25,870, or 15% of Home F's sale price.

Thus, we see significant variation in the adjustments for exactly the same comps. Given that the same appraisers were used across Sasol's VPPP, we may expect that these discrepancies appear across many comparisons of comps beyond the fifty-eight analyzed here. In other words, these discrepancies strengthen the finding that appraisers' subjective judgments may have introduced unfairness into the VPPP process.

"The Third Appraisal" — A Shortcoming in the VPPP Design

To achieve a "fair" appraisal value, Sasol's process required a default of two unique appraisals for each property. If these appraisals differed by more than 10%, then this triggered a third appraisal. Only the top two appraisals were considered in Sasol's ultimate offer: they were averaged to determine the final offer value. Problematically, however, Sasol only considered this 10% difference from the *higher* of the two appraisals. For example, imagine Home A was appraised for $100,000 and $110,001. These two appraisals differ by over $10,000, which is greater than 10% of $100,000 (.1 * 100,000 = 10,000). According to Sasol's process, however, this did *not* trigger a third appraisal, because the 10% difference was set using the higher of the two values — in this case, the $110,000 value. If, however, Home A had been appraised for $99,000 and $110,001, then a third appraisal would have been required.

By setting the 10% threshold against the higher appraisal value, Sasol made it more difficult for individuals to get a third appraisal, and thus more difficult to ensure that each appraisal was without bias. Even among the seven properties we analyzed, we found at least one case in which Sasol's arbitrary use of the upper 10% resulted in a property's not receiving a third appraisal. One property was appraised by Mark Adams ("MA") and Melvin Elliot ("ME"). MA appraised the property for $107,000. ME appraised the property for $97,000. These differ by $10,000, which is greater than 10% of $97,000, but $700 less than 10% of $107,000. Due to this scant difference, this property did not receive a third appraisal.

In the appraisals we were able to analyze, a third appraisal always increased the final offer price for VPPP homes. Moreover, because only the highest two appraisals were considered, the third appraisal could never hurt a property owner, only help them. Given the discrepancies already observed in adjustment prices, this raises the concern that Sasol could – and should – have done more to ensure fair appraisals. By only considering 10% of the higher appraisal, rather than 10% of the lower appraisal, Sasol created a system that arbitrarily disadvantaged some homeowners, but worked to Sasol's advantage and failed to adjust for potential biases. In light of this finding, one might wonder: why did Sasol not simply require three appraisals for *all* properties? It could have done so and only considered the higher 2 of 3 appraisals.

Through a limited analysis of available appraisal reports, we find evidence for the claim that the comps-based method was inapposite given Mossville's unique circumstances. Appraisers frequently had to look for comps distant from Mossville, comps which had sold over three months before the appraisal, and comps which differed in size. Furthermore, we find evidence that different appraisers approach their adjustments quite differently. Again, we note that our analysis only considered 17 appraisal reports from 7 properties. Nevertheless, from these 17 reports, one may be reasonably concerned that the comps-method fell short in Mossville.

F. Limitations

Like all quantitative analyses, ours has inherent limitations based on the availability of data, the structure of that data, and our mode of analysis. In this section, we outline these limitations and note their relevance for our conclusions.

First, as was noted throughout this section, we proceeded using a *transaction-level* analysis and not a *property-level* analysis. This was a function of the publicly available data: the conveyances available through the Calcasieu Clerk of Court did not differentiate by properties, but rather by selling parties. Thus, some conveyances included more than one property. Thus, we cannot conclude that **individual properties sold for less inside of the VPPP than they did outside of it**; rather, we conclude that VPPP *transactions* had, on average, lower sale prices than did their non-VPPP counterpart transactions. Thus, our analysis should not be interpreted as proving that individual properties in the VPPP (or Mossville) received less than those outside of the VPPP. Nevertheless, we believe that our transaction-level analysis is still a good *heuristic* for property value. Many transactions did affect only one property, so in many cases, the distinction collapses between transaction-level and property-level price. Moreover, given the systematic differences observed between transactions in and outside of the VPPP, it is, in our opinion, likely that a property-level analysis would have rendered similar conclusions. Absent the complete publication of the final sale price for every property in and outside of the VPPP during the time in question, one could not provide a property-level analysis. It follows directly from this limitation that we cannot control for confounding factors such as the square footage of homes or the year a home was built. This information is not included in the public record and could not be easily cross-referenced.

Relatedly, this was not a *seller-level* analysis, either. In some cases, there were complex webs of sellers across our analysis, such that the same individual appeared on multiple conveyances with multiple other people, in some cases, different co-sellers across different transactions. It was not possible to separate out such buyers without making unrealistic assumptions. Thus, we cannot conclude whether or not individual *people* in Mossville (Brentwood, etc.) received more or less money. We can only proceed with a transaction-level conclusions.

Second, our research team had to determine, to the best of its ability, which properties were and were not inside of the VPPP. In many cases, the legal description of the property provided clear evidence as to whether a property lay inside of the VPPP or not. Nevertheless, in a few number of cases, researchers had to use GIS technology to make evidenced conjectures regarding a property's status. Again, this was a function of the available data –– the conveyances did not list whether a property did or did not fall within the VPPP, so researchers had to make this determination using the totality of available information. As is the case with all analyses, human interventions of this type introduce the possibility of human error. Nevertheless, given the large sample size of our analysis, our results are robust enough such that even if select transactions were mischaracterized, our broad conclusions should hold.

Third, many individuals in Mossville stated in interviews that their ultimate buyout amounts were subject to several post-sale deductions. We were not able to access enough corroborating documents to discern any pattern to these deductions — in particular, if such deductions were reflected in the sale amounts shown on the publicly available conveyances. It is possible that people – especially individuals in Mossville – might have received *less* money than their conveyances listed due to outstanding debts, liens, and other encumbrances. If there were significantly more post-conveyance deductions in Mossville, however, this would only strengthen the conclusion that transactions in Mossville received amounts systematically and significantly lower than those outside of Mossville.

Fourth, in our analysis, we made use of a distinction between "homestead" and "secondary" property. This helped us compare sales of a similar magnitude and ensured that areas with many homesteads or many undeveloped properties did not appear to have sales prices which were artificially high or low. This distinction reflected the structure of the buyout, namely that individuals in homestead properties received at least $100,000. Relatedly, conveyance records did not distinguish which houses were sold to Sasol as primary ("owner-occupied") residences and which were sold as rental properties. Sasol acquired primary and rental residences under slightly different price schemes. Therefore, our study cannot distinguish between transactions that did or did not include rental properties. Our decision to look at two groups in this analysis — transactions above and below $100,000, respectively — was, in some sense, a pragmatic assumption meant to aid the feasibility of this analysis while still respecting key facts about the buyout's structure.

Finally, as with any publicly available dataset, we make numerous assumptions about the available conveyances. We assume that they are approximately complete, correct in what they assert, and without serious typos (except where later corrections appeared in the public record).

Together, these limitations suggest the following. Due to the structure of publicly available data, our analysis had to proceed on a transaction-level approach which was insensitive to individual buyers and was unable to differentiate the exact prices given for every parcel within the buyout. As is the case with any analysis, ours made realistic assumptions based on the structure of Sasol's buyout and the reliability of publicly available data. Thus, we do not (and cannot) claim that our analysis is wholly conclusive. Nevertheless, its thorough nature strongly places the burden on the VPPP to explain observed disparities in transaction value.

Despite these limitations, the preponderance of evidence leads us to believe that the observed differences in prices and price per capita between Mossville and areas outside of Mossville were not a fluke or statistical illusion.

G. Precisely the Opposite of Greed?

In a 2019 a communication titled "Facts and Myths about Sasol and Mossville," Sasol claims that its buyout process represented "precisely the opposite of greed" because it purchased homes at "significantly above market value" as "independent appraisers" estimated "fair prices [established] by comparing the homes to recent sales in high-value areas of Calcasieu Parish."[290]

It is not clear how Sasol can claim, with justification, that Mossville's property values were above fair market value, precisely because Mossville's situation made it incredibly difficult to even establish a fair market value in the first place. As Sasol admits, there was no active housing market in Mossville at the time of the buyout. As we have argued throughout this report, appraisals did not take the unique cultural and historical value of Mossville into account. In numerous ways, no comparable areas to Mossville existed in Calcasieu Parish. Sasol claims that by pulling comps from "high-value" areas, appraisers' estimates should be considered high. But this claim itself relies on the substantive assumption that Mossville itself is not a "high-value area." Certainly, many of its former residents would disagree. If independent appraisers chose comps in high-value areas, this is only more evidence that appraisers viewed Mossville's properties as significant.

More important, however, is that Sasol's defense fails to engage with the shortcomings of the comps-based scheme itself.[291] This section has detailed the numerous ways in which the comps-based scheme falls short. Given the potential for bias in appraisals, in addition to the decades of pre-existing inequality in the housing market, it's not clear that any appraisal-based scheme would have been fair to Mossville's citizens. Moreover, the housing market is a

[290] *Ibid*

[291] Advocates have noted these shortcomings as early as 2002. Michael Lythcott, a well-known Black entrepreneur, wrote at that time that comps-based appraisals in communities near industrial sites were frequently unfairly unfavorable. He wrote that "the Fair Market Value forms the core of any appraisal … the problem with [Fair Market Value] in terms of environmental relocation is that there is no market, fair or otherwise, for homes on the fenceline" of industry.[291] He goes on: "sellers are under great compulsion to act" under fair-market value schemes. See Michael Lythcott, "Neighborhood Relocation: Community Issues, Existing Options and New Ideas," (2002).

dynamic entity. Interviews revealed that, over the course of the buyout, asking prices across Calcasieu Parish rose significantly.[292] The comps-based scheme was unable to foresee its own effects.

H. Conclusions

Our analysis of Sasol's VPPP considered sales within and outside of the predefined buyout zone. As we have seen, however, the term "buyout zone" is itself misleading, as the VPPP considered two separate, discontinuous geographic areas: historic Mossville and Brentwood, a nearly all Black and nearly all white community, respectively. Since 2011, Sasol also purchased many properties across Calcasieu Parish, but primary located in Westlake, a community near Sasol's facility, east of Mossville.

Our transaction-level analysis of sale records from 2011 to 2020 strongly support the finding that, on average, VPPP property transactions in Mossville were valued significantly less than transactions in Brentwood or outside of the VPPP. While an imperfect comparison, this may suggest that the properties themselves in Mossville were valued less than those in non-Black communities. At the very least, we argue, this should spur concern and further investigation about the appraisals process and racially motivated bias.

We cannot offer a definitive explanation for our findings. Nevertheless, the design of VPP presents cause for significant concern. Social scientific supports the finding that appraisers' discriminatory perceptions may result in lower property appraisals for Black homeowners when compared to white homeowners. The client-appraiser relationship may itself exert unfair influence upon the appraisals process. "Raceblind" are not a solution either, as such programs have a history of disadvantaging Black communities, which have specific circumstances and needs. The VPPP occurred after one of the worst mortgage crises in US history — a recession that disproportionately affected Black people in the United States.[293] And, finally, because VPPP participants did not have the ability to negotiate their buyout offers, they lacked the most basic type of recourse to counter anti-Black bias in the appraisals process. All these facts exist against a long backdrop of anti-Black housing discrimination in the United States, dating back nearly a century.

In short, our quantitative and qualitative analyses lead us to conclude that Sasol's buyout scheme may have disproportionately burdened the historically Black community of Mossville; that the scheme failed to account for the unique cultural and historical significance of the community; and that the comps-based appraisal system possibly entrenched and exacerbated pre-existing racial disparities in wealth.

[292] See Section 4.

[293] Christopher Famighetti and Darrick Hamilton, "The Great Recession, education, race, and homeownership," *Economic Policy Institute* (2019).

6. INTERNATIONAL STANDARDS AND VOLUNTARY BUYOUTS: THE CASE FOR A RIGHTS-BASED APPROACH

A. Introduction

In this section, we advance four sets of international norms, standards, and best practices which are particularly relevant to the case of Sasol's treatment of Mossville:

1. Due diligence;
2. Best practices of involuntary resettlement'
3. Non-discrimination;
4. Cultural heritage and participation

Though many of these norms are not legally binding, they make clear recommendations as to the appropriate conduct of international corporations, particularly in conduct that affects the wellbeing of humans.

B. Due Diligence: The Primary Responsibility

Over the last two decades, the UN has increasingly recognized that industry must respect human rights as a matter of course — that is, not merely in special circumstances but rather in everyday business operations. In 2000, the UN Global Compact established the expectation that "[b]usinesses should support and respect the protection of internationally proclaimed human rights."[294] While the Compact's guidelines are not legally binding, participants are nevertheless expected to live up to the Compact's standards. In 2011, the UN released its Guiding Principles on Business and Human Rights ("UNGP"). These state that "[t]he responsibility to respect human rights is a global standard of expected conduct for all business enterprises wherever they operate."[295] Both the Global Compact and the UNGP expect that businesses respect "internationally recognized human rights – understood, at a minimum, as those expressed in the International Bill of Human Rights and the principles concerning fundamental rights set out in the International Labour Organization's Declaration on Fundamental Principles and Rights at Work."[296]

To respect human rights in their everyday matters, businesses both must understand how their operations risk harming or violating human rights and take steps to avoid such harm. Due diligence is the key process by which businesses achieve these aims, and in doing so, show respect for human rights. While there is not universal definition of "due diligence," international bodies generally agree that the process includes "assessing actual and potential

[294]UN Global Compact, Principle 1

[295] UN Guiding Principles on Business and Human Rights (UNGP), Principle 11

[296] UNGP, Principle 12; See also, UN Global Compact, Principle 1: "For the content of human rights, at a minimum, companies should look to the International Bill of Human Rights and the core International Labour Organization (ILO) Conventions."

human rights impacts, integrating and acting upon the findings, tracking responses, and communicating how impacts are addressed"[297] and an "*ongoing* process taken to … account for negative human rights impacts which the company may cause or contribute to through its own activities *or which may be directly linked* to the company's products, operations, or services by a business relationship"[298] (emphasis added).

As stated in the UNGP, businesses should execute due diligence "to identify, prevent, mitigate, and account for how they address their adverse human rights impacts."[299] Similarly, the Global Compact requires that a business "ensure[s] and demonstrate[s] (i.e. know and show) that [it is] meeting its responsibility to respect human rights" through the process of due diligence.[300] In short, before executing business plans, a company should take significant steps to assess how its plans may affect the human rights of others, and it must take steps to mitigate any potential risks. In short, ignorance of harm is no excuse: the burden lies with a corporation to proactively protect human rights.

C. International Standards and (In)Voluntary Relocation

Sasol's Voluntary Property Purchase Program was, by strict definition, a voluntary relocation program. Individuals could choose to enter into the program, and if they found the terms dissatisfactory, they could reject Sasol's offer — at least in theory. As interviews made clear, however, many people felt like they had little to no choice to move.[301] Given this fact, we argue that norms regarding involuntary resettlement may be relevant in this case.

Regarding involuntary resettlement, global industry has generally recognized the norms and best practices established by the World Bank's Operational Policy 4.12 and the International Finance Corporation's (IFC) Performance Standard 5. [302, 303] The International Council on Mining

[297] UNGP, 17
[298] UN Global Compact, Principle 1
[299] UNGP, 17
[300]UN Global Compact, Principle 1
[301] Section Four of this report *Theme 1.*
[302] According to the IFC, "[r]esettlement is considered involuntary when affected persons or communities do not have the right to refuse land acquisition or restrictions on land use that result in physical or economic displacement. This occurs in cases of (i) lawful expropriation or temporary or permanent restrictions on land use and (ii) negotiated settlements in which the buyer can resort to expropriation or impose legal restrictions on land use if negotiations with the seller fail." (IFC Performance Standard ("PS") 5, 1). Though the terms resettlement and relocation are used interchangeably in the World Bank and IFC standards, resettlement is typically used to refer to instances in which an entire community is moved together to a new site, whereas relocation it used to refer to instances in which individual households are compensated for their property and find new housing on their own (Vesalon & Cretan 2012).
[303] Lidewij Van der Ploeg and Frank Vanclay, "Challenges in implementing the corporate responsibility to respect human rights in the context of project-induced displacement and resettlement," *Resources Policy* 55: 210-222 (2018), p. 211 ff. Deanna Kemp, John Owen, and Nina Collins, "Global perspectives on the state of resettlement practice in mining." *Impact Assessment and Project Appraisal* 35(1): 22-33 (2017); John Owen and Deanna Kemp, "Mining-induced displacement and resettlement: a critical appraisal," *Journal of Cleaner Production* 87: 478-488 (2015)

and Metals (ICMM) has also developed a guidebook for involuntary resettlement based on IFC standards and experiences from 41 mining, oil, and gas projects. We use this guidebook to explicate further best practices for industry as to fulfill international standards regarding involuntary resettlement. [304] While the UN Basic Principle and Guidelines on Development-Based Evictions and Displacements (UN DBD) are meant to guide state (and not industrial) actors, we note where these guidelines further echo or support those of the World Bank or IFC, indicating widespread agreement for best practices in cases of resettlement.

The aforementioned bodies establish the following best practices and standards with regarding to involuntary relocation:

1. Community Consultation

To complete proper due diligence, industrial actors must engage with communities affected by their operations. Following the UNGP, due diligence must include "meaningful conversation with potentially affected groups" and must be "ongoing, recognizing that human rights risks can change over time." [305] According to the World Bank, the IFC, and the UN DBD, industry has the responsibility to fully inform and engage affected populations in the planning process for involuntary relocation or community resettlement. Following the World Bank, "displaced persons should be meaningfully consulted and have opportunities to participate in planning and implementing resettlement program." Similarly, the IFC recommends that "resettlement activities [be] implemented with appropriate disclosure of information, consultation, and the informed participation of those affected." The ICMM states that companies should "develop a formal life-of-project stakeholder engagement plan to ensure a comprehensive and consistent approach to engaging with stakeholders, encourage active community participation in project planning from the outset, and throughout the project life cycle."[306]

Numerous bodies, then, support the right of affected communities to be involved meaningfully in the planning and execution of relocation programs.

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[304] International Council on Mining and Minerals (ICMM), *Land acquisition and resettlement: lessons learned* (2015).
[305] According to the UNGP, due diligence must include, "meaningful conversation with potentially affected groups" (18b) and due diligence "[s]hould be ongoing, recognizing that the human rights risks may change over time" (UNGP 17c).
[306] ICMM (2015), p. 24

2. Individual negotiation and compensation at full replacement cost

The World Bank, IFC, and ICMM establish that displaced persons should be compensated at full replacement cost[307] for any losses associated with the project.[308] Moreover, developers are expected to negotiate with each household individually[309] to ensure that the settlements accommodate diverse circumstances and needs. The ICMM maintains, "[t]here should be individual sign-off on RAP [Resettlement Action Plan] packages and group agreements. These should be thoroughly recorded and disclosed in a timely manner."[310] Furthermore, "[a] transparent, participatory approach to determining compensation should be undertaken."[311]

3. Community resettlement

According to World Bank and IFC standards, developers must respect displaced persons' preferences to resettle collectively in "preexisting communities and groups."[312] This concept of "community resettlement" goes beyond the norm that affected people may be allowed merely to move to the same general area post-relocation. Rather, "[t]he relocation of households and communities should preserve existing social networks, livelihoods and maintain community and household cohesion." [313] If a pre-existing neighborhood will not fulfill these criteria, then industry may be obligated to create new infrastructure or new housing stock to enable community resettlement. Moreover, the norm of community resettlement does not require

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[307] "With regard to land and structures, "replacement cost" is defined as follows: For agricultural land, it is the pre-project or pre-displacement, whichever is higher, market value of land of equal productive potential or use located in the vicinity of the affected land, plus the cost of preparing the land to levels similar to those of the affected land, plus the cost of any registration and transfer taxes. For land in urban areas, it is the pre-displacement market value of land of equal size and use, with similar or improved public infrastructure facilities and services and located in the vicinity of the affected land, plus the cost of any registration and transfer taxes. For houses and other structures, it is the market cost of the materials to build a replacement structure with an area and quality similar to or better than those of the affected structure, or to repair a partially affected structure, plus the cost of transporting building materials to the construction site, plus the cost of any labor and contractors' fees, plus the cost of any registration and transfer taxes. In determining the replacement cost, depreciation of the asset and the value of salvage materials are not taken into account, nor is the value of benefits to be derived from the project deducted from the valuation of an affected asset." (From World Bank Operation Policy ("OP") 4.12, Annex A)

[308] "The resettlement plan or resettlement policy framework includes measures to ensure that the displaced persons are… (iii) provided prompt and effective compensation at full replacement cost for losses of assets attributable directly to the project." (WB OP 4.12, 6aiii); "When displacement cannot be avoided, the client will offer displaced communities and persons compensation for loss of assets at full replacement cost and other assistance to help them improve or restore their standards of living or livelihoods" (IFC PS5, 9); "The rate of compensation for lost assets must be calculated at full replacement cost, that is, the market value of the assets plus transaction costs." (ICMM 2015, pp. 36)

[309] "clients are encouraged to use negotiated settlements meeting the requirements of this Performance Standard" (IFC PS5, 3)

[310] ICMM (2016), pp. 25

[311] ICMM (2015), pp. 36

[312] "Patterns of community organization appropriate to the new circumstances are based on choices made by the displaced persons… resettlers' preferences with respect to relocating in preexisting communities and groups are honored." (WB OP 4.12, 13c); "The displaced persons' preferences with respect to relocating in preexisting communities and groups will be taken into consideration." (IFC PS5, 20)

[313] ICMM (2016), pp. 30

that every single community member desire resettlement — if a sufficient desire collective resettlement, then industry should respect those preferences.

4. Livelihood restoration and improvement

Among the bodies surveyed, there is broad agreement that involuntary resettlement must improve the livelihood of displaced communities, and if that is not possible, it must at a minimum restore welfare to pre-displacement levels. In other words, relocation should not make anyone worse off, but rather make them better. [314] According to the UN DBD, displaced communities have the "right to continuous improvement of living conditions," including improvement vis-à-vis infrastructure, public services, housing, land, education, cultural rights, quality of location, and more. [315,316] Industry must also resettle communities to clean and safe land, free from environmental harm, pollution, or other negative health risks. [317]

5. Right to project benefits

The international bodies surveyed are in broad agreement that displaced persons should receive benefits from the projects that displace them. Developers must "provide opportunities to displaced communities and persons to derive appropriate development benefits from the project." [318] As the ICCM writes, companies should "[s]tart skills training of local people during the early stages of the project to prepare them from construction and operation employment opportunities." [319]

6. Respect for marginalized groups

Best practices expect that "particular attention is paid to the needs of vulnerable groups among those displaced, especially those below the poverty line, the landless, the elderly, women and

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[314] "Displaced persons should be assisted in their efforts to improve their livelihoods and standards of living or at least to restore them, in real terms, to pre-displacement levels or to levels prevailing prior to the beginning of project implementation, whichever is higher" (WB OP 4.12, 2c); "Objectives: To improve, or restore, the livelihoods and standards of living of displaced persons." (IFC PS5, 3); "Creating an enabling environment that allows the livelihoods and standard of living of affected people to be improved, or at least restored." (ICMM 2016, pp. 30)
[315] UN Basic Principles on Development Based Evictions and Displacement (UNDBD), 56d
[316] UNDBD, 16: "All persons, groups and communities have the right to resettlement, which includes the right to alternative land of better or e qual quality and housing that must satisfy the following criteria for adequacy: accessibility, affordability, habitability, security of tenure, cultural adequacy, suitability of location, and access to essential services such as health and education." See also WB OP 4.12, 13b; IFC PS5, 3; ICCM, 30.
[317] UNDBD, 56g
[318] IFC PS5, 9; See also: WB OP 4.12, 2b, "resettlement activities should be conceived and executed as sustainable development programs, providing sufficient investment resources to enable the persons displaced by the project to share in project benefits"; ICMM (2015), pp. 41, "support local communities to benefit from the employment and business opportunities offered directly and indirectly by the project."
[319] ICMM (2015), pp. 41

children, indigenous peoples, ethnic minorities."[320] According to the ICMM, "vulnerability to impoverishment should be identified in the resettlement action plan (RAP) baseline studies. This requires special measures to engage with vulnerable groups (eg through focus groups) and ensuring that employees are aware of the distinct needs of these groups (such as the elderly, disabled, etc)."[321]

D. The Right to Equality and Non-Discrimination

Numerous international human rights bodies uphold the right to non-discrimination and equality before the law, particularly as it pertains to discrimination on the basis of race. The Universal Declaration of Human Rights and the International Covenant on the Elimination of All Forms of Racial Discrimination both enumerate the right of citizens and non-citizens alike to be free from racial discrimination before the law. The International Covenant in particular states that individuals, without discrimination on the basis of race, should enjoy the right to housing, health, equal participation in cultural activities, and the right to own and inherit property. As the UN makes clear, while state actors may bear the primary responsibility to uphold rights such as the right to equal treatment, corporate actors may not violate such rights either. Given Mossville's status as a historically Black community with a significant Black population, norms of non-discrimination are particularly relevant to its treatment.

E. A Community Dissolved – the right of cultural preservation

Through both historical research and first-hand interviews, Mossville emerges as an irreplaceable site of historical and cultural heritage. Its churches, schools, and cemeteries were central to the lived culture of generations of Black Louisianians, and local ways of life persisted through these physical sites. The traditions, oral history, and social events of Mossville may reasonably fall under the internationally-recognized category of intangible cultural heritage.[322]

The UN Special Rapporteur in the Field of Cultural Rights has emphasized that international norms protect the "conditions allowing all people, without discrimination, to access, participate in and contribute to cultural life in a continuously developing manner."[323] While not adopted until 2016, United Nations Resolution A/HRC/RES/33/20 makes clear that parties should propose and follow "best practices, at the national, regional and international levels, for the prevention of violations and abuses of cultural rights, and for the prevention and mitigation of damage caused to cultural heritage, both tangible or intangible."[324]

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320 WB OP 4.12, 8; See also, IFC PS5, 8, "paying particular attention to impacts on the poor and vulnerable"; UNGP, 18 "business enterprises should pay special attention to any particular human rights impacts on individuals from groups or populations that may be at heightened risk of vulnerability or marginalization"

321 ICMM (2015), p. 44

322 UN Convention for the Safeguarding of Intangible Cultural Heritage (2003). Per the Convention §1 Art. 2.2, intangible heritage includes "oral traditions and expressions," "social practices," "rituals," and "festive events."

323 *Report of the Special Rapporteur in the field of cultural rights*, A/HRC/31/59, (2016) p. 4

324 *Resolution adopted by the Human Rights Council on 30 September 2016 33/20. Cultural rights and the protection of cultural heritage*, A/HRC/RES/33/20, (2016)

VII. The Most Generous Buyout in History? Reassessing Sasol's Claim

A. Introduction

Sasol, through its Public Affairs Manager, has claimed that its Voluntary Property Purchase Program is the "most generous [buyout] program in history."[325] The historical record casts doubt on this claim, however. In this section, we survey industrial buyouts in Louisiana, the United States, and internationally. In at least some cases, other buyouts appear as generous as Sasol's, if not more so.

B. Par for the course? Sasol's VPPP in the context of Louisiana buyouts

Sasol's VPPP follows a long history of industrial buyouts in Louisiana and could be seen as replicating their methods. As Sasol's program was, in many ways, continuous with previous Louisiana buyouts, it does not appear significantly more generous. Since the late 1980s, the petrochemical industry has used Louisiana — particularly its rural and Black communities — as a testing ground for voluntary relocation strategies.[326] Chemical companies, such as Dow and Georgia Gulf, saw community buyouts as a novel way to reduce their liability for potential damages to neighboring communities, ultimately reducing long-term costs.[327] Like Mossville, other displaced communities were predominantly Black, with rich histories and strong social bonds. The other prominent cases of industry-led resettlement programs in Louisiana include:

Diamond (2002)[328] — Diamond was a predominantly Black neighborhood located within the town of Norco, Louisiana, a predominantly white community built on former plantation land. In the 1980s, deadly incidents at the nearby Shell facility left at least nine dead, dozens injured, and thousands temporarily evacuated. Throughout the 1990s, the community continued to learn about past pollutant leaks from nearby petrochemical industry. In response, Diamond residents organized to demand that Shell relocate their community amid these health and safety concerns. Advocate attributed the community's high incidence of respiratory illness and other diseases to the Shell plant, which was the second-highest emitter of toxic chemicals — particularly carcinogens — in the state. Over a decade after Diamond residents first sought relocation, Shell agreed to buy out the whole community in 2002.

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[325] Mullin (2016); Mike Hayes, Sasol's Public Affairs Manager: "The purpose of the Voluntary Property Purchase Program is to give people the opportunity to move. They asked for the opportunity to move, and we've worked out a program, **the most generous program in history**" (emphasis added). Similarly, Rep. Michael Danahay: if "you were to write a handbook about how to do what is right in a community or for a community, **Sasol has written that handbook."** Quoted from: *Environmental Justice in Mossville,* PBS (2015).
[326] Keith Schneider, "Chemical Plants Buy Up Neighbors for Safety Zone," *New York Times,* Nov. 28, 1990
[327] *Ibid*
[328] Global Nonviolent Action Database, "Black residents of Diamond win fight with Shell Chemical for relocation 1989-2002" (2017); Anne Rolfes, "Shell Games: Divide and Conquer in Norco's Diamond Community" (2000)

Morrisonville (1989)[329] — Morrisonville, Louisiana, was founded by emancipated people following the Civil War. In 1959, Dow Chemical built its largest plant in Louisiana near Morrisonville. In subsequent years, Dow began to fear "potential lawsuits from residents for damages resulting from explosions, pollution of water tables, or diseases resulting from air pollution."[330] As such, Dow began to purchase Morrisonville homes in 1989 to secure a "safety zone" around the plant.[331] At the time buyouts began, Morrisonville was home to 87 families. Community activists heavily criticized Dow's strategy. Advocates wanted Dow to "deal with the root problems of safety and pollution" rather than dissolve Morrisonville to avoid liability. Moreover, residents of Morrisonville felt as though the community failed to reap any benefits from Dow's continued development. Residents also felt deep cultural attachment to Morrisonville. As Michael Lythcott writes, "here was also an incredible emotional attachment to the town that was founded shortly after the Civil War, and which saw the collection of founding families go from being chattel to being landowners and independent farmers […] on the same land that they once worked as slaves."[332] Despite these concerns, Morrisonville eventually accepted the buyout. Residents came to realize that their health and environmental situation was worsening as flares, air pollution, light pollution, noise pollution increased. "Unexplained rashes, nosebleeds, asthma attacks, tumors and deaths had horribly become almost commonplace." Moreover, residents worried that as petrochemical industry encroached upon their community, their property value – and thus, their wealth – would decrease. In light of these concerns, many felt compelled to take the offer. Eventually, Dow agreed to relocate clusters of the community in groups so that Morrisonville's community ties might persist after the buyout process.[333]

Sunrise (1970s – 1991)[334] — Sunrise was an unincorporated community of about 90 households, located near Placid, Louisiana. The community was founded by Alexander Banes, a former slave, in 1874. By 1930, heavy industry had entered the region, and by the 1970s, Placid Refining Company established major petrochemical operations in the area. Sunrise was a fenceline community; at one point, the community hall was located less than fifty yards from the refinery, only separated by a barbed wire fence. By the mid-1970s, Placid Refinery Co. slowly began buying out mostly white property owners on a one-on-one basis. Placid offered them "fair market value" for their homes, plus a bonus to offset any property value depreciation caused by the presence of industry. By 1990, remaining predominantly Black community members had begun organized with Victims of a Toxic Environment and the Gulf Coast Tenants Association to fight back against health and environmental concerns in Sunrise. Sunrise residents, complaining of high rates of cancer, respiratory illness, skin disease, psychological hazards, and environmental harm, filed a lawsuit against Placid Refinery Co. By late September 1991, Placid Refinery Co. had reached separate buyout agreements both with

[329] Louisiana Advisory Committee to the USCCR, "The battle for environmental justice in Louisiana" (1993)
[330] Gerald Markowitz and David Rosner, "Building a Toxic Environment," in: *History and Health Policy in the United States* (Ed. Stevens, Rosenburg, and Burns), (2006)
[331] Schneider (1990)
[332] Lythcott (2002)
[333] Lythcott (2002)
[334] LA Committee to the USCCR (1993)

nonplaintiffs and plaintiffs of the suit, most of whom ultimately chose to take the buyout. Regardless of the outcome, the buyout caused resentment among residents who did not wish to see the historical community dissolved. [335]

Reveilletown (1969-1988)[336]: Reveilletown was an unincorporated historically Black community of about 150 people. Georgia Gulf began operations in the area in 1971, but as early as 1969 the company reached out to residents to begin planning a buffer zone around their facility. In 1977, Georgia Gulf began approaching property owners on a one-on-one basis to purchase their homes. The company acquired 15 lots in this manner. After community members sued over health concerns related to toxic vinyl chloride emissions in 1987, Georgia Gulf bought out most of the remaining residents.[337] For interested residents, Georgia Gulf bought several homes in the same subdivision, named Reveilletown Park, so that community members could remain together post-relocation. About 25% of households ultimately relocated to Reveilletown Park.

Baton Rouge (1989) – On December 24, 1989, the Baton Rouge Exxon refinery experienced a deadly explosion which killed two and created at least 8,000 damage claims for the company.[338] At the time, the incident fire was one of the largest petrochemical fires in United States history.[339] In 1990, Exxon began to approach residents living closest to the plant, the majority of whom were black.[340] Though Exxon claimed the buyout was intended to "beautify" the area, many residents felt the purpose of the buyout was to create a buffer zone after the explosion exposed the potential risks of living so close to the plant.[341] Exxon purchased around 110 homes and businesses in the first year following the explosion.[342] This program cost the company an estimated four million dollars, or around 8 million dollars adjusted for inflation.[343] Though most of those living near the plant accepted the buyout, some community members noted that the buyout amounts offered by Exxon were not enough to maintain a comparable quality of life. [344,345] Since the original 1989 fire, Exxon's Baton Rouge facility has experienced other significant fires and explosions, most notably in 1993, 2016, and 2020.[346]

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[335] *Ibid*
[336] *Ibid*
[337] *Ibid*; Markowitz and Rosner (2006)
[338] Keith Schneider, "Chemical Plants Buy Up Neighbors for Safety Zone," *The New York Times*, November 1990
[339] https://www.wafb.com/2019/12/24/look-back-years-since-exxon-explosion-baton-rouge/
[340] Lea Skene, "Neighbors react to massive fire at Exxon's Baton Rouge refinery: 'Maybe I should be worried,'" *The Advocate,* February 2020.
[341] *Ibid*; Schneider, *The New York Times* (1990)
[342] Schneider, *The New York Times* (1990)
[343] Schneider, *The New York Times* (1990); this amount is approximately $8.5mil dollars in 2021.
[344] Skene, *The Advocate* (2020)
[345] David Hanson, "Neighbors of the Fence," *The Bitter Southerner* (2016)
[346] Joe Gyan Jr. "ExxonMobil 100 percent at fault for deadly 1993 Baton Rouge refinery fire, state high court says," *The Advocate*, March 2019; Joe Gyan Jr. "In 2016 ExxonMobil explosion, two burned contractors reach settlement with company," *The Advocate*, Nov. 2019; "ExxonMobil releases cause of fire at Baton Rouge refinery in February," *WAFB,* April 2020.

Bayou Corne (2014 – present)[347] – Since the early 2000s, Texas Brine maintained a cavern named Oxy3 in Bayou Corne, Louisiana. Texas Brine abandoned that cavern in 2011 due to concerns about its structural integrity, even though Brine and other companies had evidence of the site's instability as early as 1976. In 2012, the community noticed early signs of a sinkhole, including unstable earth, bubbling in the local waters, and a smell of petroleum so strong that it induced vomiting in residents. Shortly thereafter, then-Governor Jindal announced a mandatory evacuation for the area. In 2014, Texas Brine reached a $48 million settlement with the residents of the predominantly white community for their dislocation. Some community members were unhappy with the results of the buyout settlement, and advocates have argued that because Texas Brine did not pay replacement cost for homes, but only for current value of affected homes, that Bayou Corne residents had to sacrifice quality of life to relocate. Most of Bayou Corne remains uninhabitable. The sinkhole continues to grow; recent estimates place its current size at over 34 acres and nearly 250 yards in depth.

In what follows, we will analyze the extent to which the aforementioned Louisiana buyouts were consistent with international human rights norms regarding involuntary resettlement.

1. Due diligence

We have found little to no evidence of robust due diligence processes in any of the case studies above. In the communities of Diamond, Sunrise, and Reveilletown, the surveyed petrochemical companies only took steps to begin buyout processes under pressure from community members. Companies did not take proactive steps to mitigate harm to their neighbors. [348] In Morrisonvile and Baton Rouge, companies justified their buyouts under the pretense of "safety zones" and beautification, respectively, despite their having operated dangerous facilities at a known risk to nearby residents for decades. [349] These efforts also only came after significant events which may have exposed the companies to increasing liability. In Bayou Corne, for example, Texas Brine and other companies had ignored evidence of the Oxy3 mine's instability for decades. [350] In Diamond, community members were forced to complete their own air monitoring after Shell neglected to do so. [351] In other words, these buyouts establish a clear pattern in which heavy industry, by failing to complete due diligence and understand fully the potential impacts of their action, shifted significant burden onto nearby communities.

2. Community Consultation

We find little to no evidence that any of the companies consulted meaningfully the respective communities during the buyout planning process. For example, in Baton Rouge, community

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[347] Katy Reckdahl, "When the Ground Gives Way," *Places Journal* (2019); Jake Clapp, "Documentary looks at community impact of Bayou Corne sinkhole," *The Advocate* (2018); Ronnie Greene, "Louisiana Sinkhole Shatters Calm, Prompts Buyouts on the Bayou," *The Center for Public Integrity* (2014); David Mitchell, "Bayou Corne residents move after sinkhole settlement," *NewsStar* (2015)

[348] Global Nonviolent Action Database, "Black residents of Diamond win fight with Shell Chemical for relocation 1989-2002" (2017); LA Advisory Committee to the USCCR (1993); Schneider, *The New York Times* (1990)

[349] Schneider, *The New York Times* (1990); Skene, *The Advocate* (2020)

[350] Arlie Russell Hochschild, *Strangers in Their Own Land* (2016)

[351] Reid Frazier, "How One Woman Took on Shell to Save her Louisiana Town," *The Allegheny Front* (2017)

members developed the "Fair Replacement Value" proposal as an alternative to Exxon's buyout plan, calling for compensation at a rate of $37 per square foot of the home in addition to almost $50,000 for relocation costs.[352] Exxon refused to consider the community's proposal.[353] In Diamond, Shell ultimately met some community demands in the final buyout plan, such as buying out the entire community at a minimum of $80,000 per home. Shell only accepted Diamond residents' proposal after a decade-long pressure campaign by community activists, which included two appearances at the UN.[354]

3. *Individual negotiation and compensation at full replacement cost*

Town	Individual Negotiation?	Full Replacement Cost?	Terms of buyout
Diamond	No	No	In the final buyout deal, Shell paid a minimum of $80,000 for homes and $50,000 for trailers. This was significantly higher than earlier stages of the buyout, when residents were paid $26,000-$50,000 for their homes.[355] Those who refused to leave were offered home improvement loans forgivable after five years.[356]
Morrisonville	No	No	Dow paid homeowners at least $50,000, and up to $200,000, for their homes. Landowners were offered $20,000 an acre. Renters were provided $10,000 to relocate.[357] Moving expenses were paid by Dow.[358]
Sunrise	No	Unknown / Unlikely	Non-plaintiffs were offered prices sufficient "to build new homes similar in size and material to their previous residences."[359] They also received a

352 "The GCCA plan called for renters to receive $6,000 for relocation expenses and $4,000 for moving expenses per household. Homeowners were to receive a lump sum of $10,000 in addition to $35,000 for relocation, $4,000 to cover moving expenses, and $37 per square foot of their homes ($60 per square foot for residents who work out of their homes)." Center for Health, Environment and Justice, "Relocation: Getting Organized and Getting Out (Go Go)"
353 Center for Health, Environment and Justice, "Relocation: Getting Organized and Getting Out (Go Go)"
354 Global Nonviolent Database (2017)
355 *Ibid*
356 Reid Frazier, *The Allegheny Front* (2017)
357 Keith Schneider, *The New York Times* (1990)
358 Center for Health, Environment and Justice, "Relocation: Getting Organized and Getting Out (Go Go)"
359 Louisiana Advisory Committee to the USCCR (1993)

			$5,000 bonus. The details of the settlement are confidential. We cannot confirm that the amounts received were in fact replacement value, i.e. sufficient to purchase comparable homes in nearby or comparable neighborhoods.
Reveilletown	No	Unknown / Unlikely	Residents who moved to New Reveilletown were compensated on a house-for-house basis. In the second wave of buyouts, after the settlement, homeowners received $45,000-$55,000 for their homes.[360] The details of the settlement are confidential, so we cannot confirm or deny that the settlement values were, in fact, replacement value.
Baton Rouge	No	No	Most residents were offered $20,000 for their property, far below the "Fair Replacement Value" sought by community members.[361]
Bayou Corne	Yes, for those not involved in the lawsuit. Details of settlement not disclosed.	No, offered market value pre-sinkhole	Texas Brine appraised each house individually. Residents not involved in the lawsuit could make a counteroffer after receiving an offer from Texas Brine.[362] The average payment from the settlement was $237,260 per household.[363] All residents received separate "mental anguish checks" for $875 a week from the time the sinkhole appeared until their property closings.

These Louisiana buyouts largely failed to meet the standards of individual negotiation and full replacement cost suggested by international human rights norms on involuntary resettlement. All the buyouts were technically voluntary, and in each case, typically a handful of residents rejected the buyout offers and remained in their homes. But, some of these buyouts were "voluntary" in name only: in nearly every case, residents' property was so devalued by the presence of industry that many residents felt they had no choice but to sell, belying the

[360] *Ibid*
[361] Center for Health, Environment and Justice, "Relocation: Getting Organized and Getting Out (Go Go)"
[362] WAFB, "Residents near giant Louisiana sinkhole not happy with buyout offers," *WAFB,* May 2013
[363] David J. Mitchell (2015)

buyouts' voluntary nature.[364] This theme was echoed in our interviews with affected Mossville residents.[365]

Similar to Mossville, affected residents in most buyouts could not typically negotiate individually. Rather the company presented households with a take-it-or-leave-it offer based on an appraisal of the home. The only exception was in Bayou Corne, where residents not involved in the legal action against the company were able to propose a counteroffer after receiving an initial offer from Texas Brine. In cases in which the two parties could not reach an agreement, Texas Brine provided a third-party mediator.[366] We have found no evidence that any company bought out an entire community at full replacement value. Because the details of the settlements in Reveilletown and Sunrise are confidential, it is difficult to evaluate whether the buyouts reached full replacement cost, however.

Sasol's price formula was not much higher than those used by other companies after appropriate adjustments for inflation. For example, in Morrisonville's 1989 buyout, the minimum buyout price was $50,000, which is equivalent to about $95,000 in 2013, the year Sasol's buyout was announced. The adjusted value was only $5,000 less than Sasol's guaranteed minimum of $100,000. In Diamond's final settlement, homeowners were given a minimum of $80,000 for their home, or about $105,000 when adjusted for inflation relative to 2013. Thus, Sasol's individual buyout minimum of $100,000 does not appear significantly different from individual minimums in these cases.

4. Community Resettlement

Town	**Community resettlement?**
Diamond	No
Morrisonville	Yes
Sunrise	No
Reveilletown	Yes
Baton Rouge	No
Bayou Corne	No

In two of the case studies surveyed, industry attempted full community resettlement with limited results. In Morrisonville, Dow constructed a new subdivision, Morrisonville Estates, which was intended to help keep community members together.[367] Similarly, Georgia Gulf built New Reveilletown as an alternative for Reveilletown residents who wanted to stay together.[368] In both cases, however, only about a dozen households chose to move into the new

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[364] E.g.: Diamond: Anne Rolfes, "Shell Games: Divide and Conquer in Norco's Diamond Community" (2000); See also Lythcott (2002)
[365] See this report, Section 4, Theme 1.
[366] WAFB (2013)
[367] Schneider (1990)
[368] *Ibid*

subdivisions. While there has been no systematic study regarding the low participation in Morrisonville Estates or New Reveilletown, anecdotal evidence from the time suggests that community members felt that the process was rushed, that they were not properly consulted, and that ongoing legal actions complicated resettlement.[369] Despite explicit demands for community resettlement in Diamond, Shell did not honor the community's demand to be relocated together.[370] Community resettlement did not occur in the case of Mossville.

5. Livelihood Restoration and Improvement

In many of the cases analyzed, it is difficult to assess whether the respective buyout programs restored or improved residents' livelihood and wellbeing. These buyout programs largely dispersed communities and systematic studies of post-relocation livelihood are not available. The relevant companies have not maintained accessible records regarding how communities fared post-displacement. From available information, it is not clear whether the compensation residents received was adequate to purchase comparable homes in non-polluted areas. What is clear, however, is that at the times of many of these buyouts, residents had significant and persistent concerns that buyout offers were insufficient to maintain an equivalent or better quality of life. In Diamond and Morrisonville, some residents did not accept the buyout due to concerns that the offers were not sufficient to buy a new home.[371] Moreover, there is evidence to suggest that these buyouts negatively impacted livelihood in many cases. Communities suffered from social disarticulation and the loss of established networks and bonds. [372] Even in Bayou Corne – a community in which residents received relatively high compensation – many residents feel that the loss of their waterfront subsistence lifestyle, particularly the access to abundant fish and shellfish, can never be replaced. [373]

6. Right to Project Benefits

There is no evidence that any of the affected communities were guaranteed the right to project benefits by industry. In many cases, residents did not benefit from the chemical plants' presence prior to relocation. In many cases, low-income communities of color are frequently employed in small numbers and in only the most hazardous jobs. In Diamond, for example, the white residents of Norco were employed widely by the Shell plant, while very few Black residents worked at the plant.[374] In fact, in many cases, the dislocation of a community ensures that said community will not benefit from an industrial expansion. If a project displaces a community at a far distance from the project site, then community members become even less likely to take work at the site, benefits from the site's taxation, and so on.

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369 See: Alair MacLean, "World on Fire: COMPANIES BUY OUT HOMES IN TEXAS AND LOUISIANA" *New Solutions: A journal of Environmental and Occupational Health Policy* (1996); Schneider (1990); Ken Sternberg "Neighbors Spurn Dow's Embrace," *Chemical Week* 145(18) (1989).

370 Global Nonviolent Action Database

371 Reid Frazier (2017); Keith Schneider (1990)

372 Diamond – Frazier (2017); Morrisonville – Center for Health, Environment and Justice; Sunrise – Louisiana Advisory Committee to the USCCR (1993); Reveilletown – Schneider (1990); Baton Rouge - Lea Skene (2020); Bayou Corne – Mitchell (2015)

373 Mitchell (2015)

374 Global Nonviolent Action Database, Diamond

7. *Respect for marginalized groups*

It is widely recognized that Black communities are disproportionately affected by industrial environmental hazards and subsequent buyouts.[375] The decision to break up the historically Black communities of Diamond, Morrisonville, Sunrise, and Reveilletown further demonstrates the Louisiana industry's lack of respect for marginalized groups. In Sunrise, white residents were bought out beginning in 1979, more than ten years before Black residents.[376] Though Black residents made up over half of those who lived closest to the refinery, and 83% of the larger community, Black residents near the refinery were not offered the same opportunities to move as white people. Other white residents who were further from the plant were also included in the early buyouts.[377] The experiences of Black communities contrast starkly with that of Bayou Corne, which is predominantly white. Though the circumstances of Bayou Corne's buyout were unique, the community received relatively prompt attention from state leaders and national figures, and while the community was displaced, members received ongoing compensation for their discomfort and dislocation.[378]

C. National and International Comparisons: Case Studies in Compliance

Through a comparison with other similar national and international industry-led buyouts, we conclude that other buyout programs may be reasonably seen as at least as generous as Sasol's, if not more so, with respect to their monetary value and treatment of communities.

We begin by comparing Sasol's VPPP to other U.S.-based buyouts outside of Louisiana. A quick comparison reveals that Sasol's price-setting formula was less generous than formulas announced by at least two industrial actors in the US. In 2002, Ohio-based coal plant American Electric Power reached a settlement with residents of Cheshire, Ohio which would enable a buyout of the town.[379] As a part of the settlement, AEP offered displaced residents nearly a 3.5x the fair market (appraised) value of their homes.[380] Consider, for example, a home appraised at $60,000. According to Sasol's price-setting formula, this homeowner would receive $136,000 under the VPPP. On AEP's formula, however, the homeowner would receive between $180,000 and $210,000 — a pre-inflation increase of at least $44,000 over Sasol's formula. More recently, SpaceX initiated a 2019 buyout in Boca Chica, Texas. SpaceX's initial offer on homes represented a 300% premium on their fair market value as well.[381]

Regarding negotiations and the use of appraisals, SpaceX's Boca Chica buyout was met with complaints as community members felt their original appraisals were too low. To accommodate

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[375] Robert D. Bullard, "Environmental Racism Revisited," in *Dumping in Dixie* (1990); Louisiana Advisory Committee to the USCCR (1993)
[376] Bullard (1990)
[377] *Ibid*
[378] Clapp (2018)
[379] Tim Jones, "Electric plant finally overtakes small Ohio town," *Chicago Tribune*, Aug 11, 2002. Also: Richard Martin, "For $20 Million, a Coal Utility Bought an Ohio Town and a Clear Conscience," *The Atlantic*, Oct. 2014.
[380] *Ibid*
[381] "SpaceX launch pad transforms tiny Texas neighborhood: "Where the hell do I go now?," *CBS News*, Sept. 2019.

these complaints, SpaceX re-initiated the appraisals process and offered at least some residents increased offers.[382] Recall that in Sasol's program, once appraisers finalized their assessments, residents of Mossville could not negotiate or contest their offers.

AEP's Ohio buyout is also notable in its consideration of community members' unique circumstances. AEP's buyout program in Cheshire, Ohio maintained provisions which allowed elderly or ill residents to maintain occupancy of their home, even after selling it to AEP. Under these guidelines, a resident could sell their home to AEP, receive the money for that sale, but remain in the home while paying no rent for the remainder of their life if moving represented an overly burdensome challenge.[383] This particularly unique accommodation represents AEP's taking into account the individual circumstances of those affected by its program.

We now turn to examine several cases of industrial buyouts *outside* of the United States. In particular, we consider a number of buyouts that purport to conform to international guidelines on involuntary resettlement. The buyouts we reference took place in: Bui (Ghana), Rosia Montana (Romania), Tete Province (Mozambique), Porgera (Papua New Guinea), and Ahafo (Ghana). Our examination of these non-US buyouts underscores the ways in which other actors have conformed to international norms and standards, to wit: due diligence, consultation, and community resettlement. We do not aim, however, to imply that these international buyouts were, on the whole, favorable or beneficial. As was the case in nearly all communities examined, individuals appear to have been made worse off by industrial encroachment and displacement. If anything, these comparisons underline the fact that large-scale buyouts frequently pose significant risks to human rights.

In nearly all the international buyouts listed in the paragraph above, industry designed and executed significant due diligence procedures. Such procedures included impact assessments, action plans, and external expert consultations. [384] Many of the industries in the above communities developed thorough Resettlement Action Plans (RAP) consistent with international standards regarding resettlement. In both Bui and Ahafo, companies executed additional Environmental and Social Impact Assessments prior to beginning expansion or resettlement.[385]

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[382] Nancy Keates and Mark Maremont, "Elon Musk's SpaceX Is Buying Up a Texas Village. Homeowners Cry Foul," *Wall Street Journal*, May 7, 2021.
[383] Martin (2016)
[384] That is, in Bui, Rosia Montana, Tete Province, Porgera, and Ahafo
[385] In many of these cases, procedural due diligence was insufficient to guarantee human rights protections. In Bui, industry failed to attend to risks outlined in the RAP (Frauke Urban, Johan Nordensvard, Giuseppina Siciliano, Bingqin Liet, "Chinese Overseas Hydropower Dams and Social Sustainability: The Bui Dam in Ghana and the Kamchay Dam in Cambodia," *Asia and the Pacific Policy Studies,* 2015). In Tete, the mine's changing ownership undermined efforts to protect human rights (Serena Lillywhite, D. Kemp and K. Sturman, "Mining, resettlement and lost livelihoods," 2015). In Rio Tinto, there were insufficient efforts to monitor compliance with the RAP, despite a history of "social performance and due diligence gaps." (Lillywhite et al. 2015). Despite these significant shortcomings, however, the completion of due diligence remains an important step completed better in the international sphere than in the case of Mossville.

In many of the international cases, industry made significant efforts to consult affected communities. In Porgera, community members initially requested resettlement, and the industry leading the resettlement formed committees composed of local residents to help oversee the process. [386,387] In Ahafo, local mining corporation Newmont drafted its RAP in consultation with community members as well.[388] Newmont also encouraged the creation of a Resettlement Negotiation Committee, made up of community representatives and local officials, to oversee resettlement planning. The Committee met regularly to ensure that the community's demands were incorporated throughout the resettlement process.[389]

The international buyouts appear more favorable regarding negotiation power and property replacement than the Louisiana-based buyouts were. In both Rosia Montana and Porgera, residents had the opportunity to individually negotiate within the buyout program.[390] While members of the Ahafo community could not negotiate their offers, they were able to choose between a complete community resettlement or a lump-sum cash offer to facilitate individual relocation. [391] In both Ahafo and Rosia Montana, there is evidence that households were compensated at full *replacement* cost for their homes, a policy usually more generous than fair market value compensation.[392]

A complete, in-depth survey of all community buyouts across the world lies outside the scope of this report. Nevertheless, these international comparisons highlight that buyout programs have generally met international standards with varying degrees of success. Given these case studies, we find that the VPPP is most certainly not the most generous buyout in history when assessed for both monetary amount and compliance with best practices.

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[386] *Gold's Costly Dividend,* Human Rights Watch (2010)
[387] Deanna Kemp, John Owen, and Nina Collins, "Global perspectives on the state of resettlement practice in mining," *Impact Assessment and Project Appraisal* 35(1):22-33, (2017)
[388] Newmont Gold Limited, "Resettlement Action Plan Ahafo South Project" (2005); Robert Barclay and Tasneem Salam, "Ahafo South Resettlement and Livelihood Restoration Completion Audit Final Report," (2015)
[389] *Ibid*
[390] Buzoianu and Toc, 2013; Kemp, Owens, and Collins (2017)
[391] Newmont Gold Limited RAP (2005); Barclay and Salam (2015)
[392] Newmont Gold Limited RAP (2005); Barclay and Salam (2015); Cătălin Buzoianu and Sebastian Țoc, "Misunderstanding opportunities: (post-)resettlement issues in the Recea neighbourhood of Alba Iulia," *Journal of Comparative Research in Anthropology and Sociology* (2013); Deanna Kemp, John Owen, and Rhonda Gwale, "Porgera Joint Venture (PJV) off-lease resettlement pilot, Independent Panel of Observers: annual monitoring report" (2017).