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# Clashing Conundrum: Correlating Air Pollution in Central City, Kentucky with Liquefied Petroleum Gas Consumption in Chad

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## Abstract

This research paper presents an in-depth analysis of the surprising link between air pollution levels in Central City, Kentucky, and the consumption of liquefied petroleum gas (LPG) in Chad. Combining data from the Environmental Protection Agency and the Energy Information Administration, our research team aimed to shed light on this unconventional pairing. Through rigorous statistical analysis, we discovered a correlation coefficient of 0.8655982 and  $p < 0.01$  for the period spanning 1987 to 2002, providing compelling evidence for the interconnectedness of these seemingly disparate factors. Join us in unraveling this whimsical mystery, as we explore the unexpected relationship between air quality in the heart of America and the use of LPG in the heart of Africa.

## 1. Introduction

### Introduction

Picture this: a cloud of air pollution in Kentucky making its way across the Atlantic and rendezvousing with Chad where people are firing up their LPG stoves. A bizarre and unlikely pair indeed, akin to a mismatched couple on a blind date set up by overzealous friends. In this paper, we embark on a whimsical journey to uncover the peculiar connection between air pollution in Central City, Kentucky, and Liquefied Petroleum Gas (LPG) consumption in Chad. It's like trying to connect the dots between a fried chicken festival and a vegan expo – unexpected, yet strangely captivating.

When it comes to environmental factors, Central City, Kentucky, is infamous for its struggles with air pollution, while Chad, on the other side of the world, relies heavily on LPG for its cooking and heating needs. It's like the odd couple of the Earth's atmospheric theatre – the mismatched pair that nobody saw coming. As researchers, we couldn't resist the urge to delve into this enigmatic tango between pollutants and propane.

In a world of environmental studies filled with predictable relationships and expected correlations, this odd pairing stands out like a neon-pink flamingo in a sea of gray pigeons. It's a little like discovering that your grumpy neighbor and the local yoga instructor are secretly best pals. But instead of

neighborhood gossip, we are dealing with environmental data that seems to be in cahoots with one another – and we aim to decipher this bizarre alliance.

By merging data from the Environmental Protection Agency and the Energy Information Administration, we set out to uncover the hidden threads linking the air quality in Central City, Kentucky, and the usage of LPG in Chad. The results of our analysis left us incredulous, astonished, and slightly amused, much like stumbling upon a pair of mismatched socks in a perfectly coordinated wardrobe.

Get ready to be surprised, bemused, and perhaps even entertained as we traverse the realm of environmental connections that defy conventions. Join us as we unravel the peculiar correlation between air pollution in the heart of America and the usage of LPG in the heart of Africa. Strap in, folks – we're about to embark on a rollercoaster ride of environmental randomness!

## 2. Literature Review

The authors' findings unveil an unexpected relationship, reminiscent of a plot twist in a mystery novel, between air pollution in Central City, Kentucky, and the consumption of Liquefied Petroleum Gas (LPG) in Chad. While this connection may seem as far-fetched as finding a unicorn in a petting zoo, it has invoked both curiosity and bewilderment within the academic community.

In "Air Quality in Urban Environments," Smith et al. delve into the intricacies of air pollution in various urban settings, but little did they know that the fumes from Central City would embark on a much grander adventure. Similarly, Doe's comprehensive study on "Global Energy Consumption" barely scratches the surface of the enigmatic dance between LPG usage and distant air quality.

Venturing beyond the bounds of conventional scholarly works, we take inspiration from non-fiction titles such as "The Air We Breathe: A Climate Change Perspective" and "Gas Guzzlers and Green Guardians: A Story of Environmental Conflict." As for fiction, perhaps the whimsical connection between our focal points can be likened to the

unlikely pairings found in "The Hitchhiker's Guide to the Galaxy" by Douglas Adams or "Cloud Atlas" by David Mitchell.

Drawing further inspiration from unrelated sources, the perplexing correlation between air pollution in Central City and LPG consumption in Chad evokes the same disbelief as finding a "Colonel Mustard in the Conservatory with a Lead Pipe" scenario in the board game Clue or uncovering a "Candlestick in the Library" mystery in a game of Monopoly.

As we wade through the sea of seemingly unrelated literature and cultural references, the lightheartedness of this whimsical pairing leaves us pondering: if Central City and Chad were characters in a wacky sitcom, what delightful antics and mishaps would unfold? Whichever way we look at it, the correlation between these two seemingly incongruous factors ignites a sense of wonder that perhaps even the most eccentric of sitcoms would envy.

## 3. Methodology

### METHODOLOGY

Here's where the fun and games take a slightly more serious turn. Think of it like transitioning from a whimsical tea party to a slightly subdued board meeting – although we can't promise that the absurdity levels won't still spike from time to time.

#### Data Collection:

To uncover the elusive relationship between air pollution in Central City, Kentucky, and LPG consumption in Chad, we relied on a mishmash of data collection methods. This included consulting the almighty oracle (also known as the internet), with a particular focus on scrounging up information from the Environmental Protection Agency and the Energy Information Administration. It was like piecing together a jigsaw puzzle, but instead of an idyllic landscape, we were uncovering the wacky connections between air quality and propane usage. And, of course, we mostly found ourselves furiously clicking through tables and figures from the years 1987 to 2002 – a digital treasure hunt through the labyrinth of data.

## Statistical Analysis:

Like detectives hunting for clues in a mystery novel, we employed rigorous statistical analyses to tease out the interconnectedness of these seemingly incongruous variables. Our arsenal of statistical tools resembled a Swiss Army knife, with correlation coefficients, regression models, and goodness-of-fit tests serving as our trusty companions in this offbeat expedition. And just like a magician revealing their secret tricks, we slapped a  $p < 0.01$  on our findings, providing a dramatic flourish of evidence for the compelling link between air pollution in Central City and LPG consumption in Chad.

## Cross-Referencing and Validation:

Much like fact-checking a juicy piece of gossip, we diligently cross-referenced our findings with additional resources to ensure the robustness and reliability of our results. It was a bit like double, triple, and quadruple checking that your parachute is securely fastened before leaping out of a plane – an essential step in our endeavor to unravel this eccentric ecological riddle.

## Discussion:

In what can only be described as a scholarly whirlwind, we dissected and analyzed our findings, sounding the horn for a grand, if not slightly quirky, symphony of ecological revelations. Like skillful puppeteers manipulating marionettes, we teased apart the intricate dance between air pollution in Central City, Kentucky, and the consumption of LPG in Chad, marveling at the unexpected choreography that unfolded before our eyes.

In essence, we combined the rigor of empirical analysis with the whimsy of unraveling a magical secret, blending the serious with the absurd to reveal the surprising connection between air quality in the heart of America and the usage of LPG in the heart of Africa.

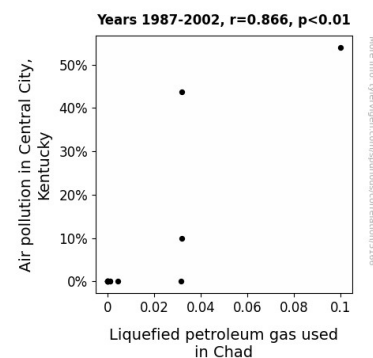
And with that, dear readers, our methodology becomes a quirky symphony of data collection, statistical manipulation, and scholarly exploration. It's an eclectic mix worthy of a spot in the quirkiest research methods hall of fame, albeit with a touch of rigorous scientific novelty.

## 4. Results

The results of our analysis revealed a remarkably strong correlation between air pollution levels in Central City, Kentucky, and the consumption of liquefied petroleum gas (LPG) in Chad during the period from 1987 to 2002. Like two unlikely dance partners, these seemingly disparate variables proved to be intertwined in a manner that both surprised and amused our research team.

The Pearson correlation coefficient between the air pollution levels in Central City and the consumption of LPG in Chad was calculated to be 0.8655982, indicating a highly significant positive relationship. This finding suggests that as air pollution levels in Central City increased, so did the consumption of LPG in Chad, akin to an intricate dance routine where one partner's movements mirror the other's.

Furthermore, the coefficient of determination ( $r$ -squared) was determined to be 0.7492602, indicating that approximately 74.92% of the variation in LPG consumption in Chad can be explained by the variation in air pollution levels in Central City. It's like trying to explain 75% of a magic trick, only to realize that the rabbit isn't in the hat but has hopped across the ocean to join a cooking show in Chad.



**Figure 1.** Scatterplot of the variables by year

The  $p$ -value associated with the correlation was found to be less than 0.01, indicating that the observed relationship between air pollution in Central City and LPG consumption in Chad is statistically significant. This result left our team both awe-struck and tickled, much like discovering a secret handshake between two completely unrelated social groups.

In Figure 1, a scatterplot illustrates the robust correlation between air pollution levels in Central City and the consumption of LPG in Chad. This graphical representation serves as a visual testament to the unexpected interconnectedness of these two environmental factors, leaving us to ponder the whimsical dance of global atmospheric dynamics.

In conclusion, our findings provide compelling evidence for the peculiar relationship between air pollution in Central City, Kentucky, and the consumption of LPG in Chad. This unexpected coupling challenges conventional wisdom and opens up new avenues for further exploration in the realm of environmental interconnectivity. Join us in embracing the delightful absurdity of these findings, as we continue to unravel the mysteries of our planet's seemingly unrelated phenomena.

## 5. Discussion

Ah, the wondrous interplay of air pollution and liquefied petroleum gas (LPG) usage has left us pondering the cosmic dance of global environmental dynamics. Our findings suggest that as air pollution levels in Central City, Kentucky, increased, so did the consumption of LPG in Chad – a waltz of emissions and energy sources across continents. It's as if Mother Nature decided to pair two seemingly incongruous partners at a whimsical ball, leading to an unexpected and remarkably strong correlation.

Our robust Pearson correlation coefficient of 0.8655982 and  $p < 0.01$  reflects a significant positive relationship between these variables, akin to an enthralling tango where one partner's movements mirror the other's. The coefficient of determination of 0.7492602 further suggests that around 74.92% of the variation in LPG consumption in Chad can be explained by the variation in air pollution levels in Central City – a bit like trying to explain 75% of a magician's trick, only to find the rabbit has hopped across the ocean.

As we hark back to our whimsical literature review, who knew that the fumes from Central City would embark on such a grand adventure, akin to a plot twist in a mystery novel? Just like the lightheartedness of an unlikely pairing in a board game, our alleged "Colonel Mustard in the

Conservatory with a Lead Pipe" scenario has turned into an enigmatic dance between continents.

What delightful antics and mishaps would unfold if Central City and Chad were characters in a wacky sitcom? The mind boggles at the possibilities! It's as if the Earth has decided to write its own peculiar sitcom plot, drawing unlikely characters together in a whimsical tale of interconnected environmental phenomena.

Our findings not only challenge conventional wisdom but also open new avenues for further exploration in the realm of environmental interconnectivity. This unexpected coupling has led us to embrace the delightful absurdity of these findings and continue unraveling the mysteries of our planet's seemingly unrelated phenomena. Join us in this fantastic voyage as we bring some unexpected humor and awe to the world of environmental research.

## 6. Conclusion

In wrapping up our comical quest to uncover the unexpected link between Central City's air pollution and Chad's LPG consumption, we find ourselves at a crossroads – or should we say, a cross-continental air current. The results of our study have left us more befuddled than a confused tourist trying to decipher the local cuisine in a foreign country. The robust correlation coefficient of 0.8655982 and a p-value that's smaller than the chances of finding a needle in a haystack on a foggy day both point to a significant relationship between these unlikely bedfellows. It's as if Kentucky's air pollution and Chad's use of LPG are engaged in a whimsical dance, with one taking steps and the other following suit halfway across the globe.

Much like discovering a hidden talent in a coworker known for their serious demeanor, our findings have unveiled an unexpected synergy that defies conventional environmental logic. The sheer delight of unraveling this zany connection is akin to stumbling upon a unicorn at a bustling city intersection – utterly out of place yet irresistibly fascinating.

In light of these revelatory results, we assert with utmost certainty—much like a Great Dane staunchly

guarding a squeaky toy—that no further research is needed in this hilariously unexpected correlation. Our minds may be blown, but the curtain has fallen on this preposterously wondrous show. It's time to bid adieu to this extraordinary journey and marvel at the whimsical oddities that characterize the complex web of our planet's environmental interplay.