Review

Human Health Impacts of Urban Air Pollution in Cameroon

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Human Health Impacts of Urban Air Pollution in Cameroon

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Abstract: It is concerning that Cameroon's urban centers are experiencing an alarming rise in air pollution as a result of urbanization, population growth, industrial activity, and transportation emissions. We examined the causes, health impacts, research methodology, case studies, and government measures to address the urgent issue of air pollution in Cameroon's urban regions. We have emphasized how Cameroon's air pollution levels have significantly increased as a result of causes like population expansion, urbanization, industrial emissions, and automobile exhaust A thorough discussion of the negative health impacts of extended exposure to air pollution is included, with special attention to the sensitivity of the old and young. These effects include respiratory disorders, cardiovascular ailments, and early mortality. We emphasized the pressing need for all-encompassing strategies to address air pollution, such as increased public awareness campaigns, stronger emissions regulations, the development of renewable energy sources, and better waste management. The techniques employed in studies on air pollution, like as epidemiological research and air quality monitoring, are also explained to provide light on the unique health dangers that Cameroonian urban dwellers must contend with. We emphasized in our conclusion the significance of joint efforts by legislators, medical professionals, and the general people to reduce air pollution and protect public health in Cameroon in order to create a cleaner and healthier future. In order to protect public health in the future, it is imperative that Cameroon's air pollution be addressed.

Keywords: Cameroon; air pollution; urbanization; health impacts; government measures

Introduction

Air pollution in Cameroon has significantly increased as a result of increased urbanization and population expansion, especially in big towns like Yaoundé and Douala [1]. Alarmingly high levels of air pollution are a result of the migration of people from rural areas, which has increased demand for housing, energy, and transportation. The use of fossil fuels, industrial processes, and vehicle emissions are the main causes of the deterioration in urban air quality. [2, 3]. The effects of air pollution on public health are significant, as many locals, especially the elderly and children, frequently suffer from respiratory conditions including bronchitis and asthma [4, 5]. Prolonged exposure to air pollution can have detrimental effects on one's general health and well-being. The Cameroonian government has launched a number of steps to combat air pollution since it recognizes how serious the situation is. These include encouraging the use of renewable energy sources, investing in public transit networks, and enforcing stronger emissions standards for automobiles.

Transportation and industry both contribute significantly to air pollution; the two main sources of pollutants are emissions from industrial processes and vehicles. In order to tackle this problem,

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enterprises must implement greener production methods and technology. Additionally, encouraging the usage of electric cars and enhancing public transportation networks can help cut emissions. A thorough strategy is required to reduce air pollution in metropolitan areas. This entails enacting more stringent emissions laws, encouraging the use of electric cars, making investments in renewable energy sources, enhancing trash disposal techniques, and increasing public awareness and education. Through examining prosperous case studies in other cities across the globe, Cameroon can endeavor to lower its air pollution levels and provide a healthier atmosphere for its people. Public education and awareness campaigns are essential in the fight against air pollution because they empower people to make more sustainable decisions by educating them about the causes and effects of air pollution. Cameroon may work toward a cleaner and healthier environment for future generations by enabling individuals and communities to take action. In conclusion, Cameroon can stop the increase in air pollution and provide a sustainable urban environment for everyone by putting comprehensive measures into practice and working with communities, environmental agencies, and legislators.

Health Effects of Air Pollution in Urban Areas of Cameroon

Like many other cities across the world, Cameroon's urban regions struggle with the negative health effects of air pollution. Air pollution levels rise in tandem with increased urbanization and industrialization. The objective of this review paper is to evaluate previous research on the effects of air pollution in Cameroonian cities on human health. There are serious short- and long-term health implications associated with air pollution. Breathing in pollutants including nitrogen oxides, particulate matter, and volatile organic compounds can cause a number of cardiovascular and respiratory disorders [4, 6]. Research has connected exposure to air pollution to a higher risk of heart disease, bronchitis, asthma, and early mortality [4,5]. In metropolitan regions, where pollution levels are higher due to industrial activity and population density, this is especially troubling. Numerous investigations have been carried out to comprehend the precise health consequences of air pollution in Cameroonian cities. [7,8]. The objective of these investigations is to measure the influence on the populace and offer discernment into the most impacted regions and populations. We can learn more about the health dangers that Cameroonian urban inhabitants suffer by looking at these studies.

These studies employ a variety of approaches, most commonly data collection and analysis of air quality measurements along with health surveys and population medical assessments. Through the integration of various methodologies, scientists can show associations between exposure to air pollution and health consequences. The results of previous research emphasize the particular health consequences that Cameroonian urban residents face. For example, studies have demonstrated a direct correlation between air pollution and pulmonary conditions including bronchitis and asthma [4,5]. Significant contributions to these conditions have been recognized as high levels of nitrogen dioxide and particulate matter [9]. Furthermore, cardiovascular conditions like heart disease, high blood pressure, and an increased risk of heart attacks and strokes have all been connected to air pollution [6,10]. These findings have broad ramifications and highlight the pressing need for efficient mitigating techniques to lower pollution levels and safeguard human health. Prioritizing actions for improving air quality and promoting cleaner air requires collaboration between policymakers, healthcare practitioners, and the general public. Based on these results, Cameroonian urban areas can reduce air pollution by enacting stronger vehicle emission standards, encouraging the use of public transportation and renewable energy sources, upgrading waste management systems, and improving urban planning to lessen pollution hotspots. Even if previous research has yielded insightful information, further study is still required to determine the long-term health effects of air pollution, analyze the financial implications, and determine how well mitigation measures work. Through further research, we can broaden our understanding and devise more focused actions to mitigate air pollution and safeguard public health in Cameroonian cities.

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Air Pollution Research and Health Impact Assessment in the Cameroonian Context

Source: N. (2019, September 3). Air Pollution Kills 780,000 People in Africa Annually – Research – VoN NEWS. https://voiceofnaturenews.info/air-pollution-kills-780000-people-in-africa-annually-research/.

Due to the alarmingly high levels of pollution that Cameroon faces, research on air pollution and health impact assessments have received a lot of attention. This article explores Cameroon's present air pollution situation and its effects on public health. Through investigating the origins, pathways, and consequences of air pollution, scientists hope to increase public awareness and encourage actions to reduce its harmful impacts.

Understanding the Health Impact of Air Pollution

In Cameroon, air pollution has become a serious public health issue [11]. There is ample evidence of the detrimental consequences that air pollution has on human health, and comprehending these effects is essential to creating mitigation techniques that work. Numerous health issues, such as lung cancer, chronic obstructive pulmonary disease (COPD), and respiratory conditions including asthma, can be brought on by exposure to contaminated air [12,13]. Furthermore, cardiovascular disorders, unfavorable pregnancy outcomes, and even early mortality have all been connected to air pollution [14]. Studies have indicated that the impact of air pollution on health might differ based on an individual's sensitivity, as well as the length and degree of exposure. The elderly, young people, and those with underlying medical issues related to the heart or lungs are more susceptible to the negative consequences of air pollution. To create focused treatments and policies, it is crucial to evaluate the health effects of air pollution in the Cameroonian context.

Air Pollution Statistics in Cameroon

Air pollution is a major problem for Cameroon, a nation renowned for its varied landscapes and energetic towns. Among the main causes of the nation's high air pollution levels are burning biomass, automobile exhaust, and industrial emissions [15]. Recent data indicates that Cameroon's urban regions have air pollution levels that are higher than those recommended by the World Health Organization (WHO), endangering the population's health. For example, Douala has been ranked as one of the most polluted towns in Africa due to high levels of various pollutants and particle matter (PM) [8]. When inhaled, these contaminants have the ability to enter the respiratory system deeply, damaging and inflaming the lungs. The health burden is further increased in rural regions by the use of solid fuels for heating and cooking, which also adds to indoor air pollution [17].

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Factors Contributing to Air Pollution in Cameroon

The concerningly high levels of air pollution in Cameroon are caused by a number of factors. Population expansion, greater industrial activity, and rapid urbanization have all contributed to the problem's exacerbation. The need for energy and transportation rises as more people move into cities, increasing industry and automobile emissions. Poor waste management techniques are another factor in air pollution. Airborne contaminants are released when solid trash is disposed of improperly, especially by burning it outside. The country's total air pollution levels are further exacerbated by rural communities' reliance on biomass fuels for heating and cooking.

Research Methods Used in Air Pollution Studies

A range of study methodologies and procedures are used by researchers to evaluate the degree of air pollution and its health implications in Cameroon. To measure pollutant concentrations and monitor changes over time, air quality monitoring stations are installed in various areas [17]. These stations gather information on several pollutants, including carbon monoxide, nitrogen dioxide, sulfur dioxide, and particulate matter. To look into the relationship between air pollution and health consequences, researchers not only monitor but also carry out epidemiological studies [18]. In this research, health data from people who have been exposed to varying amounts of pollution are analyzed and contrasted with data from people who have not been exposed to as much pollution. Through the investigation of the correlation between pollution levels and health outcomes, scientists can pinpoint the particular health hazards linked to air pollution in Cameroon.

Health Impact Assessment of Air Pollution in Cameroon

To determine the extent of Cameroon's air pollution-related health burden, health impact studies are essential. Estimating the amount of hospital stays, early deaths, and disability-adjusted life years (DALYs) linked to air pollution is part of these assessments. Policymakers and other stakeholders can gain a better understanding of the gravity and urgency of the issue by measuring the health implications. Research carried out in Cameroon has shown concerning findings [8, 19]. According to health impact assessments conducted in other nations, air pollution causes a sizable portion of respiratory ailments and premature mortality in those nations [20, 21]. Furthermore, there are significant financial implications linked to medical bills and lost productivity as a result of air pollution [22, 23, 24]. These findings emphasize the need for immediate action to mitigate the health risks posed by air pollution.

Case Studies on Air Pollution and Health in Cameroon

Numerous case studies have been carried out to provide insight into the particular health effects of air pollution in various Cameroonian regions [8,19]. These studies look at how vulnerable groups—children, the elderly, and people who live close to major roads or industrial sites—are affected by air pollution. For instance, a study carried out in the city of Douala discovered that kids who lived close to busy highways experienced more respiratory symptoms and had worse lung function than kids who lived in less polluted locations [8]. According to a different study, people who work close to industrial facilities in Cameroon's industrial cities, such as Douala and Yaoundé, have a greater prevalence of respiratory illnesses [25]. These case studies provide valuable insights into the localized health impacts of air pollution in Cameroon and contribute to the growing body of evidence on the subject.

Government Initiatives and Policies to Address Air Pollution

The Cameroonian government has launched a number of programs and regulations to reduce air pollution because it understands how vital it is to solve the issue [26, 27]. These include the creation of networks for monitoring air quality, the setting of emission guidelines for cars and industry, and the encouragement of renewable energy sources. Additionally, the government has made action to educate the public about the dangers that air pollution poses to their health [26, 27].

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The goal of public awareness campaigns and educational initiatives is to educate people on the value of cutting emissions and switching to sustainable energy sources. Although these efforts are praiseworthy, much more has to be done to properly combat Cameroon's air pollution. To significantly lower pollution levels, more money must be invested in the infrastructure for renewable energy sources, rules must be strictly enforced, and waste management techniques must be enhanced. Actions people can do to lessen air pollution While governmental action is essential, citizens of Cameroon can also help lower air pollution. People can reduce their environmental effect and enhance the quality of the air by doing a number of actions. Among these are carpooling and public transit as ways to cut down on vehicle emissions [28]. deciding on energy-saving appliances and cutting back on energy use at home [29]. removing garbage from the environment and avoiding open burning [30]. encouraging rural communities to adopt clean cooking methods and fuels [31]. enhancing forestry initiatives and planting trees to enhance air quality [32]. Promoting environmentally friendly behaviors and increasing public understanding of the value of clean air [33]. People may help create a cleaner, healthier environment for themselves and future generations by making some few changes.

Conclusion

In conclusion, urgent action is needed in Cameroon due to the worrying effects of urban air pollution on human health. In Cameroon, air pollution is a serious hazard to public health. A thorough reaction is necessary due to the alarming levels of pollution and the detrimental effects on health, including the prevalence of respiratory disorders, cardiovascular issues, and premature death connected to poor air quality. Numerous investigations, such as epidemiological studies, health impact evaluations, and air quality monitoring, have provided important new understandings of the scope and effects of air pollution in Cameroon. In order to reduce air pollution and protect public health, both individual actions and government initiatives and legislation are essential. To successfully address the origins and causes of pollution, more extensive measures are necessary. This entails stepping up enforcement of laws, investing more in infrastructure for sustainable energy, and enhancing waste management procedures. Sustained investigation and observation are necessary to monitor developments, pinpoint new sources of pollution, and assess the efficacy of remedies. Cameroon can help the world effort to battle air pollution and protect its residents' well-being by fusing local data with global knowledge. Moving forward, we must prioritize reducing air pollution and work together with partners from many sectors. We can only guarantee a healthier, cleaner future for Cameroon and its people by working together. Let's work toward a time when there won't be any negative consequences from urban air pollution and every breath is pure.

Conflicts of Interest: I certify that there are no conflicts of interest in relation to the content of this article.

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