

# **POLICY BRIEF**

Reducing Air Pollution in Kabul City: The Role of the General Public

Participants of 2019-2020 Policy Analysis and Gender Lens Workshop

June 2020



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#### **POLICY BRIEF**

## Reducing Air Pollution in Kabul City: The Role of the General Public

This policy brief is a publication produced by the Organization for Policy Research and Development Studies (DROPS). The policy brief is an initiative under DROPS' training and capacity-building pillar.

To provide a brief background, DROPS conducted a '4-Month Policy Analysis and Gender Lens Workshop' for young women from universities, civil society, and the government in 2019/2020. The goal of this workshop was to build the capacity of women in policy analysis and provide them professional and technical guidance as they engaged in jointly developing a policy brief on a policy-relevant issue. To that end, this workshop adopted a two-pronged approach: first, it provided the trainees with the necessary tools to understand, analyze, and critique policies. Second, it equipped the trainees with the practical skills to formulate a policy brief and/or a policy study. The workshop also provided a unique platform for a critical exchange of diverse ideas as trainees share different perspectives and professional experiences.

As part of this workshop, DROPS trainees developed a joint policy brief looking into the role of the public in reducing air pollution in Kabul. In writing this policy brief, the trainees utilized both quantitative and qualitative data collection tools to develop their analysis and offer nuanced policy recommendations. Quantitative data included a review of secondary sources such as research papers, reports, news articles and government policies. Qualitative tools included conducting key informant interviews with representative government agencies, civil society organizations (CSOs), households, and individuals.

This policy brief was edited by Uzra Aziz and Bismellah Alizada, and authored by its trainees: Bahara Hussaini, Belqis Haidari, Husna Jalal, Mariam Rostamian, Najia Sediqi, Najila Walizada, Salima Nikbeen, Salwa Noorzad, Sima Naderi, Zahra Khobaib, and Zakia Roshan.

#### **Objectives**

- **Exploring** the need for a holistic and systematic approach to increase the role of the pubic (household, individuals, and environmental activism) in combating air pollution in Kabul city through enhanced public awareness.
- **Identifying** concrete and policy-oriented recommendations aimed at assisting national policymakers and international stakeholders in combating air pollution in Afghanistan through the use of primary and secondary data collection tools.
- Seeking ways to ensure that environmental rules are well designed and enacted in a comprehensive approach to increase the role of the public in reducing air pollution.

#### Policy Issue

In Kabul, the number of deaths caused by air pollution outnumbers those lost to the on-going conflict. Deemed as the "silent killer," air pollution-related diseases kill approximately 3,000 citizens every year. Pollution reached its peak in late fall and continues throughout winter as people burn raw coals, plastic throwaways, and scrap tires to heat their houses and offices. This is further exacerbated by the use of raw coal in brick kilns, public baths, and swimming pools across the city. In 2017, approximately 26,000 people lost their lives due to air pollution-related diseases nation-wide compared to 3,483 deaths due to the conflict. These deaths were mainly recorded in Kabul city prompting residents to call upon the government to develop a strategy to curb pollution. In 2019, Kabul was one of the worst polluted cities in the world, with at least 17 deaths due to pollution over the last week of December of that year.

The population boom has further compounded the air pollution problem in the city. Rapid urbanization has caused the city's population growth from approximately 1.5 million<sup>5</sup> in 2001 to nearly 6 million in 2014,<sup>6</sup> making Kabul is considered one of the fastest-growing cities in the world. However, government sources estimate the city's population to be approximately five million in 2019.<sup>7</sup> In addition to the aforementioned causes of air pollution, the population boom adds one more factor: the spike in the number of cars and private vehicles. In 2009, there were 400,000<sup>8</sup> cars in Kabul while in 2019 this number more than doubled to nearly one million.<sup>9</sup>

Meanwhile, the National Environmental Protection Agency (NEPA), the main environmental affairs body working in Afghanistan on relevant policies and regulations, has stressed that "air pollution in the country has reached a dangerous level." But the fact that air pollution is steadily increasing testifies to the ineffective role of NEPA in tackling this issue. In light of this issue, the authors of this brief contend that public agencies, in particular NEPA, must reform

<sup>&</sup>lt;sup>1</sup> Sadat, Sayed Khodaberdi. "Afghanistan: Air pollution more dangerous than civil war." *Anadolu Agency*. 02.01.2020. <a href="https://www.aa.com.tr/en/asia-pacific/afghanistanair-pollution-more-dangerous-than-civil-war/1690496">https://www.aa.com.tr/en/asia-pacific/afghanistanair-pollution-more-dangerous-than-civil-war/1690496</a>

<sup>&</sup>lt;sup>2</sup> Ibid.

<sup>&</sup>lt;sup>3</sup> Ghubar, Gulabuddin. "Pollution: 8.5K in Week Diagnosed With Respiratory Illness." *Tolo news*, January 18, 2020. https://tolonews.com/afghanistan/pollution-85k-week-diagnosed-respiratory-illness

<sup>&</sup>lt;sup>4</sup> Al Jazeera English. "Kabul: 17 killed due to hazardous levels of air pollution." 31 December, 2019. <a href="https://www.aljazeera.com/news/2019/12/kabul-17-killed-due-hazardous-levels-air-pollution-191231062957367.html">https://www.aljazeera.com/news/2019/12/kabul-17-killed-due-hazardous-levels-air-pollution-191231062957367.html</a>

Fashmussen, Sune Engel. "Kabul – the fifth fastest growing city in the world – is bursting at the seams." *The Guardian*, December 11, 2014. <a href="https://www.theguardian.com/cities/2014/dec/11/kabul-afghanistan-fifth-fastest-growing-city-world-rapid-urbanisation">https://www.theguardian.com/cities/2014/dec/11/kabul-afghanistan-fifth-fastest-growing-city-world-rapid-urbanisation</a>

<sup>&</sup>lt;sup>6</sup> Rasmussen, Sune Engel. Ibid.

<sup>&</sup>lt;sup>7</sup> National Statistic and Information Authority. "Afghanistan's Statistical Yearbook 2018-19." Page 5. https://www.nsia.gov.af:8080/wp-content/uploads/2019/11/Afghanistan-Statistical-Yearbook-2018-19 compressed.pdf

<sup>&</sup>lt;sup>8</sup> Shalizi, Hamid. "Unsafe, salvaged cars cause havoc in Kabul." *Reuters*, May 8, 2009. https://www.reuters.com/article/us-afghanistan-cars/unsafe-salvaged-cars-cause-havoc-in-kabulidUSTRE54700G20090508

<sup>&</sup>lt;sup>9</sup> Sadaat, Sayed Abdul Rahman, and Nsenda Lukumwena. "Traffic Congestion Problem and Possible Solution in Kabul City." *International Journal of Transport and Vehicle Engineering* 12, no. 2 (2018): 132-137. p. 133.

<sup>&</sup>lt;sup>1</sup> Sadat, Sayed Khodaberdi. Ibið.

its policies to ensure an **increased** role for the public in tackling the challenge of air pollution. NEPA should develop **practical environmental mechanisms that facilitate** public and government cooperation and partnership to address the sources of air pollution and improve air quality.

# **Policy Recommendation**

- NEPA and other stakeholders should develop illustrated guidance for all citizens on what steps they need to take to reduce air pollution and to minimize exposure to air pollution. To ensure utmost impact and effectiveness, it needs to be done through a partnership with a diversity of environmental activists, NGOs, public institutions, and individuals.
- The Joint Committee under NEPA which works on decreasing and preventing air pollution must identify alternative sources for domestic heating. The Committee should also work closely with relevant organizations such as the municipality and the Ministry of Interior Affairs to make those alternative sources of heating, e.g. liquid gas, available for the public, particularly during the cold seasons.
- The Joint Committee must make it mandatory for all businesses, wedding halls, residential complexes, and government buildings to install air pollution filters to their heating systems to reduce the emission of pollutants. The Committee should seek cooperation of the Ministry of Interior Affairs for better implementation of this regulation.
- The Afghanistan National Standard Authority (ANSA) must draft stricter laws and regulations to stop import of substandard fuels and coordinate with NEPA and environmental NGOs to advocate for its approval. Banning sale of raw coals in the market should be a priority.
- ANSA, the Joint Committee, and environmental NGOs must develop public awareness programs that encourage the public to switch from diesel fuel to liquid petroleum gas (LPG). LPG is more affordable and less harmful than petrol and diesel because it emits less pollutants when burned.
- NEPA and international organizations must encourage and provide resources to academic institutions, national research organizations, and the private sector to conduct evidence-based research on air pollution and alternative sources for fossil fuels. This research can provide contextualized knowledge and technical know-how on innovative alternative energy sources.
- Kabul Municipality must foster public-private partnerships to encourage private investment in the public transport sector. This is possible through the construction of public transport facilities such as bus corridors, pedestrian walking paths, and bike lanes.

## Methodology

This aim of this policy study is to study factors that contribute to air pollution in Kabul city, and to explore and identify concrete policy-oriented recommendations to assist national policymakers and their international partners in developing holistic and systematic approaches that can result in raising public awareness on how they can contribute to combat air pollution in Kabul city.

In developing this policy brief, the authors of developed research methodology that consisted of both desk study and primary data collection to gather public perspectives, such as those of households, businesses, and non-governmental organizations (NGOs). After a thorough review of existing literature on the topic, the authors conducted Key Informant Interviews (KIIs) were conducted through a random sampling method with 24 households and four businesses that imported and sold fuel and coal through a targeted sampling method. KIIs used a combination of both qualitative and quantitative methods. By using both open-ended and closed-ended questions, authors were allowed the chance to attain in-depth insights into the opinions and perceptions of the respondents.

#### Introduction

Air Pollution is largely caused by the burning of fossil fuels for household heating, food, transportation, and industrial needs. Globally, air pollution kills 800 people per hour and seven million annually, including 600,000 children.<sup>1</sup> Breathing contaminated air is known to cause cancer, respiratory illnesses, and serious heart diseases.<sup>1</sup>

Air pollution constitutes 26% of all deaths in Afghanistan.<sup>1</sup> Over the last week of December 2019 alone, 8,500 residents in Kabul were diagnosed with respiratory conditions caused by air pollution.<sup>1</sup> A World Health Organization report on Afghanistan in 2016 shows that household air pollution contributes to the death of 27,000 Afghans annually,<sup>1</sup> while outdoor air pollution causes over 11,000 death annually,<sup>1</sup> bringing the total to 46,000. There is no evidence that this has decreased since 2016.

Kabul's population surge is the lead factor contributing to air pollution, now dubbed as the "Silent Killer." While Kabul's population stood at 1.5 million in 2001, now the capital is believed to have a population of nearly six million people, although the latest official estimates in 2019 put the figure at around five million. During the cold months fall and winter, the majority of Kabul's residents burn raw coal, scrap tires, and plastics to heat their homes and offices.

Moreover, an estimated 57,000 IDPs live in Kabul and its outskirts<sup>2</sup> in extreme poverty, and burn garbage for heating and cooking needs. Furthermore, the rural to urban migration induced a massive surge in the number of vehicles pumping pollutants into the air. The city

<sup>&</sup>lt;sup>1</sup> World Health Organization. "Burden of disease from the joint effects of household and ambient air pollution for 2016", May 2, 2018.

<sup>&</sup>lt;sup>1</sup> "Air pollution: The silent kille<sup>2</sup> that claims 7 million lives each year." *UNCHR*, March 4, 2019. https://www.ohchr.org/en/NewsEvents/Pages/DisplayNews.aspx?NewsID=24248&LangID=E

<sup>&</sup>lt;sup>1</sup> World Health Organization, Afghanistan, "Environmental Health report, 2016", 2016. http://www.emro.who.int/afg/programmes/eh.html

<sup>&</sup>lt;sup>1</sup> Ghubar, Gulabuddin. "Pollution: 8.5K in Week Diagnosed With Respiratory Illness." *Tolo news*, January 18, 2020. https://tolonews.com/afghanistan/pollution-85k-week-diagnosed-respiratory-illness

<sup>&</sup>lt;sup>1</sup> World Health Organization, Afghanistan, "Environmental Health report, 2016", WHO, 2016. http://www.emro.who.int/afg/programmes/eh.html

<sup>&</sup>lt;sup>1</sup> Rahim, Faiez. "In Afghanistan<sup>8</sup>s Capital, Air Pollution May Be Even Deadlier Than War." *The Diplomate*, 14 Nov. 2019. https://thediplomat.com/2019/11/in-afghanistans-capital-air-pollution-may-be-even-deadlier-than-war/)

<sup>&</sup>lt;sup>1</sup> Rasmussen, Sune Engel. "Kabul – the fifth fastest growing city in the world – is bursting at the seams." *The Guardian*, December 11, 2014. <a href="https://www.theguardian.com/cities/2014/dec/11/kabul-afghanistan-fifth-fastest-growing-city-world-rapid-urbanisation">https://www.theguardian.com/cities/2014/dec/11/kabul-afghanistan-fifth-fastest-growing-city-world-rapid-urbanisation</a>

<sup>&</sup>lt;sup>1</sup> National Statistic and Informåtion Authority. "Afghanistan's Statistical Yearbook 2018-19." Page 5. https://www.nsia.gov.af:8080/wp-content/uploads/2019/11/Afghanistan-Statistical-Yearbook-2018-19\_compressed.pdf

 $<sup>^1</sup>$  Horton Alex and Hassan Shafif. "In war-weary Kabul, burning coal and tires keeps residents warm — and the city choked by smog." *The Washington Post*. January 12, 2019.

 $https://www.washingtonpost.com/world/asia\_pacific/in-war-weary-kabul-burning-coal-and-tires-keeps-residents-warm--and-the-city-choked-by-smog/2019/01/11/33963d76-11f9-11e9-ab79-30cd4f7926f2\ story.html$ 

<sup>&</sup>lt;sup>2</sup> IOM, Afghanistan, "Baseline hobility assessment, summary results" IOM, Afghanistan, March-June 2019. <a href="https://www.displacement.iom.int-afghanistan">www.displacement.iom.int-afghanistan</a>.

had around 400,000 cars in 2004,<sup>2</sup> but that figure has incleased to around one million by 2019.<sup>2</sup> At the same time, due to limited access to electricity, the use of electric generators with poor quality of fuel has further worsened the situation.

Since the general public is one of the main producers of pollutants, it is them who can play a crucial role in reducing air pollution in Kabul, for instance, by reducing their use of fossil fuel for heating, or using more public transportation. To explore how this can be achieved, this policy brief looks into how a holistic approach can be developed to increase the role of the public in preventing and reducing air pollution in Kabul. Furthermore, the brief presents an analysis of relevant policies, evaluation, and recommendations on key factors identified by the authors through primary and secondary research.

# Response of Public Institutions to Air Pollution in Kabul City

The main sources of air pollution in Kabul include burning wood, coal, waste, fossil fuels, emissions produced by vehicles, and road dust. Although the city has pollution year-round, the problem particularly increases to alarming levels in the late fall and winter months when a thick blanket of dark smoke covers the capital.

Burning raw coal and other substandard fuels to heat houses is one of the major air pollutants in Kabul. Emissions from domestic burning have increased significantly over time impacting health and livelihood severely. During winter, most households burn coal for heat, a practice that has increased dramatically over the past two decades. Coal is also burned by industries like brick kilns. As identified by the World Health Organization, pollution caused by burning coals and wood consists of tiny particles that can penetrate deeply into the human body.<sup>2</sup>

Recent reports show that during the 2019 winter over the last week of December 2019, around 8,500 people were diagnosed with illnesses related to air pollution in Kabul city.<sup>2</sup> "Awareness is slowly increasing over the contribution of household heating system to air pollution and its impact on public health. However, this includes only educated people" said Tahira Subhani, a resident of Kabul. Another resident of Kabul said, "We also have a better understanding of how pollution travels through the atmosphere, meaning that pollution emitted in one area can have an effect on another area. It is, therefore, necessary for all citizens to reduce the use of coal for indoor heating to improve the air quality and health of all citizens." In addition to installing air filters, using cleaner fuels and dry wood for heating and ensuring that chimneys are regularly swept, will all make a significant difference in the quality of air. Ahmad Rashid, another resident, shared that it would be best if both the public and NGOs join forces to

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<sup>&</sup>lt;sup>2</sup> Shalizi, Hamid. "Unsafe, salvaged cars cause havoc in Kabul." *Reuters*, May 8, 2009. https://www.reuters.com/article/us-afghanistan-cars/unsafe-salvaged-cars-cause-havoc-in-kabulidustre54700G20090508

<sup>&</sup>lt;sup>2</sup> Sadaat, Sayed Abdul Rahman<sup>2</sup>, and Nsenda Lukumwena. "Traffic Congestion Problem and Possible Solution in Kabul City." *International Journal of Transport and Vehicle Engineering* 12, no. 2 (2018): 132-137. p. 133.

<sup>&</sup>lt;sup>2</sup> Apte, komalkirti, Sundeep Salvi. "Household air pollution and its effects on health." *F1000 Research*, October 28, 2016. https://f1000research.com/articles/5-2593/v1

<sup>&</sup>lt;sup>2</sup> Ghubar, Gulabuddin. "Pollution: 8.5K in Week Diagnosed with Respiratory Illness." *Tolo news*, 18 Jan. 2020. <a href="https://tolonews.com/afghanistan/pollution-85k-week-diagnosed-respiratory-illness">https://tolonews.com/afghanistan/pollution-85k-week-diagnosed-respiratory-illness</a>

develop guidelines for all citizens to follow. Meanwhile, some respondents told us that they have little to zero knowledge of how to reduce air pollution.<sup>2</sup>

**Transportation** is another culprit for a significant proportion of air pollutants and emissions, accounting for more than two-thirds of all nitrogen dioxide emissions.<sup>2</sup> A study shows that there is a rapid growth in vehicle activity in low-income countries, including the import of used old vehicles consuming substandard fuels. According to a UN study, the pollutants in Kabul's air stem from the approximately one million active vehicles using substandard fuel.<sup>2</sup> Meanwhile, movement of vehicles causes re-suspension of dust into the air further adding to the concentration of particles. Lack of public transportation further exacerbates this issue.

Rapid urbanization and population growth are additional factors contributing to air pollution in Kabul. Kabul has become the world's fifth fastest-growing city over the past decade.<sup>2</sup> Growing population has a direct linkage with higher levels of fuel consumption in the residential areas as more people would mean more fuel is burned for heating and transportation.

The response by the Afghan government has thus far proven insufficient as they are unable to effectively curb air pollution in the city. Afghanistan's signature response has been the establishment of the National Environmental Protection Agency (NEPA) in 2005. The entire responsibility of controlling Afghanistan's air pollution falls under the authority of NEPA who partners with other international organizations, specifically the United Nations Environmental Program (UNEP), to deliver on its mandate. With financial and technical support from the UNEP, NEPA has produced several environmental laws with specific articles, regulations, and regulatory documents about air pollution. The Environmental Law passed in 2006,<sup>2</sup> the Regulation to Reduce and Prevent Air Pollution passed in 2009, and the Pollution Control and Pollution Policy passed in early 2017<sup>3</sup> all aim to help reduce <sup>0</sup>air pollution and improve air quality in Kabul.

The NEPA website only has scarce information and reports on its activities in terms of lawmaking and monitoring of air pollution. A review of their website is not sufficient for drawing any conclusions, and the authors of this study could not manage to get in touch with the agency for more updates. According to what is available on the news, NEPA announced that they purchased air monitoring equipment to monitor the air quality and pollution level in 2018.<sup>3</sup> Furthermore, a joint commission for preventing air pollution, led by NEPA meets every

<sup>&</sup>lt;sup>2</sup> Ibid. <sup>5</sup>

<sup>&</sup>lt;sup>2</sup> "Emissions of air pollutants from transport." *European Environment Agency*, December 17, 2019. https://www.eea.europa.eu/data-and-maps/indicators/transport-emissions-of-air-pollutants-8/transport-emissions-of-air-pollutants-8

<sup>&</sup>lt;sup>2</sup> "Steps taken to fight pollution in Afghanistan capital", *United Nations Afghanistan Quarterly Report*, Volume 5, Issue 1, Spring 2015. <a href="https://unama.unmissions.org/sites/default/files/unama-quarterly newspaper spring 2015edition 0.pdf">https://unama.unmissions.org/sites/default/files/unama-quarterly newspaper spring 2015edition 0.pdf</a>

<sup>&</sup>lt;sup>2</sup> Rasmussen, Sune Engel. "Kabul – the fifth fastest growing city in the world – is bursting at the seams." *The Guardian*, December 11, 2019. <a href="https://www.theguardian.com/cities/2014/dec/11/kabul-afghanistan-fifth-fastest-growing-city-world-rapid-urbanisation">https://www.theguardian.com/cities/2014/dec/11/kabul-afghanistan-fifth-fastest-growing-city-world-rapid-urbanisation</a>

<sup>&</sup>lt;sup>2</sup> NEPA website. "Environmental Law." <a href="https://neis.nepa.gov.af/public/JE6AlivjwC">https://neis.nepa.gov.af/public/JE6AlivjwC</a>

<sup>&</sup>lt;sup>3</sup> NEPA website. "Pollution control and pollution policy." <a href="https://neis.nepa.gov.af/public/AuigP18Ybp">https://neis.nepa.gov.af/public/AuigP18Ybp</a>

Weir, Doug. "The slow violence of pollution in Afghanistan." *Conflict and Environment Observatory*, 18 June 2018. https://ceobs.org/the-slow-violence-of-pollution-in-afghanistan/

month to assess air pollution. However, there are no reports publicly available on these assessments, nor are there any publicly available reports on the implementation of the mentioned laws and policies, or any reports on how effective these laws and policy have been.

As a result of government efforts to tackle air pollution over the past decade, reports from 2015 showed that most bakeries in Kabul had switched from wood to natural gas for their ovens.<sup>3</sup> There have been other scattered efforts since 2015 as well. For instance, in 2019 the Afghan government assessed over 300 pollutants emitted into the air in Kabul including from public bathrooms, restaurants, and other public sites, and closed 126 of them for violating NEPA norms. Similarly, another 100 pollutant emitting entities were asked to repair their system.<sup>3</sup>

Meanwhile, it appears that the response to air pollution by the government comes in reaction to mounting protests by the residents rather than following a consistent and robust policy approach from the government. It is evident in the heightened protests against unprecedented levels of pollution in Kabul on social media during the winter of 2020, a move that was met with an ostentatious reaction from the Afghan government promising to shut down and penalize apartments, public bathhouses, public pools, and wedding halls for burning coal without installing smoke filters. As a result of the campaign, a total of 349 such places were identified to be screened, leading to a shutdown of 60 businesses and 33 brick baking kilns. Meanwhile, a 2019 presidential decree ordered the installation of smoke filters in the heating systems of all residential complexes, businesses, and government buildings, while banning the burning of scrap rubber and plastics. There is no report, however, to indicate the extent to which this decree was implemented.

## The Role of the General Public in Reducing Air Pollution

The role of the general public in reducing air pollution is marginal in the policies and initiatives of the Afghan government. However, the public can play a crucial role in reducing air pollution by changing their source of domestic heating and using public transportation. The findings of this study indicate that some from within the general public suggest some measurable actions to increase the role of the public in the reduction of pollution. These actions include public awareness programs, use of public transport, choice of biking or walking if possible, avoiding burning raw coal, wet wood, leaves, trash, and other pollution-emitting materials.

However, the study also found that a smaller number of people took initiative on their own to reduce air pollution and that there is a correlation between their decision and variables including education, income, occupation, and neighborhoods. In other words, those without employment or low income tend to be more careless when it comes to air pollution. On the

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<sup>&</sup>lt;sup>3</sup> United Nations Afghanistan Quarterly Report, Volume 5, Issue 1, Spring 2015. https://unama.unmissions.org/sites/default/files/unama-quarterly newspaper spring 2015edition 0.pdf

<sup>&</sup>lt;sup>3</sup> Ghubar, Gulabuddin. "Pollutiðn: 8.5K in Week Diagnosed with Respiratory Illness." *Tolo news*, January 18, 2020. <a href="https://tolonews.com/afghanistan/pollution-85k-week-diagnosed-respiratory-illness">https://tolonews.com/afghanistan/pollution-85k-week-diagnosed-respiratory-illness</a>

<sup>&</sup>lt;sup>3</sup> Tolonews. "New Measures Underway to Reduce Air Pollution in Kabul." December 07, 2019. https://tolonews.com/afghanistan/new-measures-underway-reduce-air-pollution-kabul

<sup>&</sup>lt;sup>3</sup> Ashrafi, Nabila. "Ghani Issues<sup>5</sup>Decrees to Curb Kabul Air Pollution." *Tolonews*. January 05, 2020. https://tolonews.com/afghanistan/ghani-issues-decrees-curb-kabul-air-pollution

<sup>&</sup>lt;sup>3</sup> Ashrafi, Nabila. Ibid.

contrary, those with higher income and higher education said that they had taken some actions to reduce air pollution. This may be explained by the fact that they have higher levels of awareness about air pollution and its possible consequences, and the fact that maybe it is affordable for them to do so. However, for the sake of accuracy, two caveats should be considered here. One, this correlation can by no means be taken as causation. Two, as the sample size for this study was small, the authors of this study have no intention to generalize its findings.

Nonetheless, it is important to note that so long as affordable alternatives to raw coal and scrap tires are not available for the general public, it will be unrealistic to rely on their cooperation in curbing air pollution. The availability of electricity and affordable Liquid Petroleum Gas (LPG) is central to any decision by the people to stop using coal. Hence, any public awareness-raising program should also be coupled with alternative sources which are affordable and feasible for the general public.

## Air Pollution and its Health Impacts: Making the Public Aware

The Individuals, households, NGOs, and Public agencies interviewed for this study felt that both the public and government had an equal responsibility to take action to reduce air pollution in Kabul city. The general public themselves suggested measures to reduce exposure to air pollution. They suggested actions like keeping windows shut, remaining indoor, and using face masks.

The Regulation on reduction and prevention of air pollution states that the High Commission on Reduction and Prevention of Air Pollution has the responsibility to develop public awareness programs on air pollution reduction (Article 25).<sup>3</sup> The Regulation furthe<sup>7</sup> states that the Ministry of Culture and Information (Article 27), Ministry of Hajj and Religious Affairs (Article 30), and Ministries of Education and Higher Education (Article 32) must develop and implement public awareness programs. However, there is no available report to indicate they have developed such programs. Several interviewees stated that they have not seen such programs and are not aware of the sources of air pollution in their areas, a fact that testifies to the failure of the said institutions in this respect. Therefore, there is still an urgent need for raising public awareness of air pollution.

Effective utilization of mass media and other social platforms such as mosques and schools can be of immense help in awareness-raising process. Moreover, such interventions should also seek ways to effectively change risk perception of the general public vis-a-vis air pollution. This study found that only a few respondents were able to name one or more air pollutants.

#### Conclusion

Tackling air pollution in Kabul requires time and resources. Currently, high illiteracy rates, poverty, low income, unemployment, and traditional practices of burning polluting materials for heat and cooking are some of the major hurdles in the way of fighting air pollution. Kabul

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<sup>&</sup>lt;sup>3</sup> Ashrafi, Nabila. Ibid.

residents do not know enough about the so-called "silent killer" and its health repercussions. The level of awareness among the population is low and there are major gaps between public institutions and people in conveying information to the public. Therefore, overcoming these challenges in Kabul requires substantial attention from public authorities to develop effective awareness plans since the public must be made aware of the role they can play to fight pollution if we expect them to be part of this campaign. Public actions can involve reducing use of private vehicles, as well as use of coal, wood, and waste for heating. More public information on the health and environmental effects of air pollution may serve as a greater measure for reducing air pollution, and this can be achieved through awareness-raising campaigns. Awareness-raising programs should also be accompanied by strict application of regulations and control over industrial activities to produce compliance and practical results. Air pollution reduction measures should become part of the wider health and environmental strategies and be given priority and resources in the country's development plans.

In light of the above-stated challenges, interviews, and questionnaires, we thereby list out the below policy recommendations for all stakeholders.

#### Policy Recommendation

- NEPA and other stakeholders should develop illustrated guidance for all citizens on what steps they need to take to reduce air pollution and to minimize exposure to air pollution. To ensure utmost impact and effectiveness, it needs to be done through a partnership with a diversity of environmental activists, NGOs, public institutions, and individuals.
- The Joint Committee under NEPA which works on decreasing and preventing air pollution must identify alternative sources for domestic heating. The Committee should also work closely with relevant organizations such as the municipality and the Ministry of Interior Affairs to make those alternative sources of heating, e.g. liquid gas, available for the public, particularly during the cold seasons.
- The Joint Committee must make it mandatory for all businesses, wedding halls, residential complexes, and government buildings to install air pollution filters to their heating systems to reduce the emission of pollutants. The Committee should seek cooperation of the Ministry of Interior Affairs for better implementation of this regulation.
- The Afghanistan National Standard Authority (ANSA) must draft stricter laws and regulations to stop import of substandard fuels and coordinate with NEPA and environmental NGOs to advocate for its approval. Banning sale of raw coals in the market should be a priority.
- ANSA, the Joint Committee, and environmental NGOs must develop public awareness programs that encourage the public to switch from diesel fuel to liquid petroleum gas (LPG). LPG is more affordable and less harmful than petrol and diesel because it emits less pollutants when burned.

- NEPA and international organizations must encourage and provide resources to academic institutions, national research organizations, and the private sector to conduct evidence-based research on air pollution and alternative sources for fossil fuels. This research can provide contextualized knowledge and technical know-how on innovative alternative energy sources.
- Kabul Municipality must foster public-private partnerships to encourage private investment in the public transport sector. This is possible through the construction of public transport facilities such as bus corridors, pedestrian walking paths, and bike lanes.

#### **About DROPS**

Organization for policy research and development studies (DROPS) is a women-led, independent and multidisciplinary policy-oriented research organization based in Kabul Afghanistan. Established in 2012, DROPS is committed to strengthening democratic ideas and values by conducting research that provide policymakers with sound alternative solutions to national issues.

The existence of effective policy-oriented research institutes is vital for advancing and shaping the governance agenda in post-conflict countries. Therefore, to facilitate and encourage Afghanistan's transition to democratic governance we aim to (1) produce policy-relevant research that provides information and makes available resources to decision-makers and (2) increase women's involvement in policy dialogue and research on a diversity of issues that are at play in building democratic governance.

At DROPS, our core beliefs are: "what we find changes who we become; innovation through research; understanding today for a better tomorrow." in order to enable this mission, we produce public- driven research and policy briefs, we publish an annual women and public policy journal, we focus on building local capacities through our policy development and research methodology trainings and we advocate our research findings through our network of women thinkers and researchers.

We are committed to promoting democratic values in congruence with local cultural sensibilities so that we can build a road map for Afghanistan's young emerging democracy.