



Assignment4_Group6

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0.1 Section 3

0.1.1 Introduction

Section 3 - Highest and Lowest Air Pollution

Research Questions

Last but not least, we would like to further explore countries with extreme values on both ends. Henceforth, we can see the nature of trends and numbers across the year, along with reasonable research and facts which support those unfortunate number of deaths by pollution. Which lead us to formulate research questions as below:

- Q1: Which country has the highest number of Air Pollution caused casualties? And what is its trend across the year pertaining to their cause of deaths severity?
- Q2: What is the 4 lowest polluted countries? Regarding the comparison between them, what are possible reasons for these significantly low results?

0.1.2 Analysis

By exploring the highest ends of the data, we discovered that Solomon Islands has the greatest number of deaths caused by pollution in significant margins of gap comparatively to latter ranked countries. Therefore, Solomon Islands data set is further explored into detail on its trend across the year.

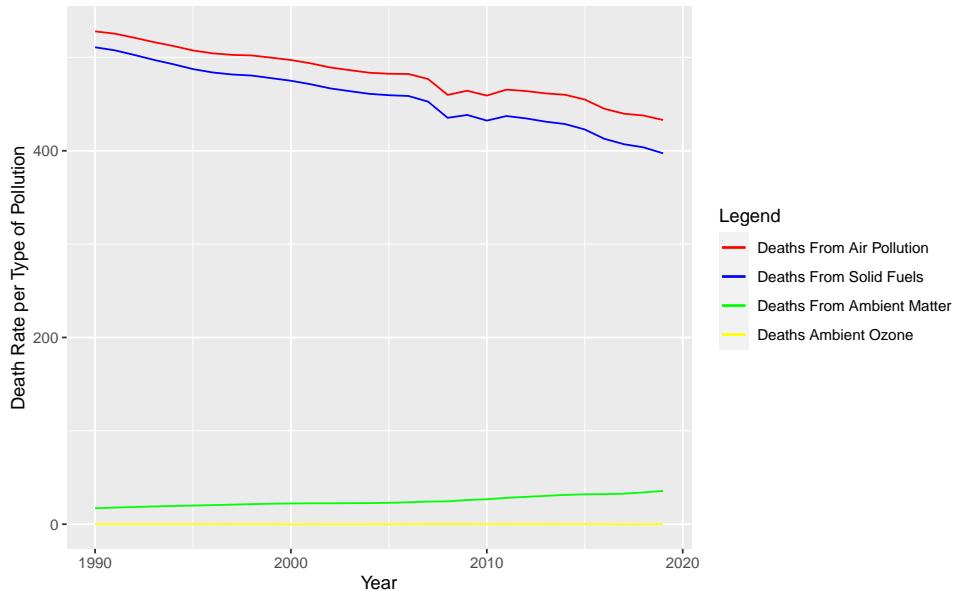


Figure 1: Solomon Islands - Annual Trend

Referring to figure 1) above, we can see that, although trends are in the declining movement since the start of 1990, the number of deaths caused by both air pollution and solid fuels are terrifyingly high comparatively. With these numbers, Solomon Islands is assured to be in the stage of air pollution crisis.

As stated by Hunt (2011) in the research paper, health hazards endpoints which quantified are including, but not limited to Premature Mortality, Respiratory and Cardiovascular Illness, Cancer, or even Infant Mortality. Therefore, Solomon Islands living condition is still at an alarming stage which need immediate addressed.

Following this, we are looking at the lowest end for least number of deaths caused by pollution; in which Iceland, New Zealand, Australia, and Puerto Rico hold top spots.

Table 1: Top 4 Countries with lowest Air Pollution Death

Country	Deaths_From_Air_Pollution
Iceland	6.789
New Zealand	7.073
Australia	7.428
Puerto Rico	8.288

From table 1), we can see that less than 9 persons on average resulted in a fatal incident caused by air pollution.

Table 2: Top 4 Countries with lowest Air Pollution Death from Solid Fuels

Country	Deaths_From_Solid_Fuels
Puerto Rico	0.027
Iceland	0.076
New Zealand	0.138
Australia	0.213

Furthermore, comparatively to solid fuels-led death, with even less numbers are shown as a result in table 2).

By using Iceland as the main example, according to Barsotti (2020), even though air pollution rate is generally excellent in Iceland, a subtle surge in chemical or pollution such as SO₂ is considered as a threat to their ozone and breathing environment. Which they have immediate action to tackle and resolve problem as quick as possible.

Hence, these countries are ensured that rapid response in air pollution issue could make a potential bright further for their countries' air for generations.

In conclusion,

References

- Barsotti, S (2020). Probabilistic hazard maps for operational use: the case of SO₂ air pollution during the Holuhraun eruption (Bárðarbunga, Iceland) in 2014–2015. *Bulletin of Volcanology* **82**(7), 1–15.
- Hunt, A (2011). Policy interventions to address health impacts associated with air pollution, unsafe water supply and sanitation, and hazardous chemicals.