Public Understanding of Air Quality and its Health Impact in South and Southeast Asia, 2015–2018
The public has limited understanding of long-term health consequences of poor air quality
• Air pollution social media posts and news largely mention immediate, short-term events and
reactions—people discuss acute symptoms of air pollution, such as breathing issues and itchy eyes,
rather than exacerbation of chronic disease from ongoing, repeated exposure, which is the more
serious health threat.

Health authorities are not among the most influential sources of information
• Our scan shows that the top media outlets and public influencers on air pollution are diverse—the
top three influencers during our period of analysis include a Prime Minister, a photographer and
Greenpeace—and they vary from year to year. Notably, leading health and medical authorities are not
among the top influencers.

Public discourse does not center around the most important drivers of air pollution
• Less significant sources of air pollution such as vehicular emissions are mentioned more frequently
than more significant sources like power plants and waste burning.

Solutions tend to focus on personal protection like masks; However, over the four-year period
• Discussion is also more commonly about short-term personal protection (e.g., wearing face masks)
especially during severe events like the 2015 haze crisis in Southeast Asia, rather than long-term
solutions (e.g., bans on trash burning). That said, discussion of long-term solutions, especially cleaner
energy sources, did increase over the four-year period and has coincided with public conversation
around climate change.

Conversation is driven by seasonal variations in air quality, with emotionally appealing content
generating the highest level of engagements
• The frequency of air pollution discussions vary by time of year, increasing greatly from
September through December and during times of seasonal severe air pollution episodes, major
news or public events related to air pollution. During other months, the volume of social media and
news content on air pollution is seen to be very low. This can pose a challenge when engaging the
public in supporting effective air pollution control, which requires year-round, sustained measures.

• Social media posts and news articles on air pollution that mention climate change or children’s
health produce more engagement than content not mentioning these topics.
Executive Summary

Building support for clean air measures requires improved public understanding of air pollution. As an initial step to identify gaps in understanding and find opportunities for improved communication, Vital Strategies conducted a comprehensive audience perception and media scan to examine social media conversations and news coverage of air pollution and health in 11 South and Southeast Asian countries.

The analysis was conducted on 530,000 pieces of content over nearly four years (Jan. 1, 2015 to Oct. 14, 2018) in India, Sri Lanka, Nepal, Philippines, Papua New Guinea, Indonesia, Thailand, Malaysia, Singapore, Mongolia and Pakistan. We performed this analysis to inform policymakers, advocates, academics and others who communicate with journalists and the public about the harms and sources of air pollution, which is a leading risk factor for serious illness and death from heart and lung disease.

Our report describes several key findings:

The public has limited understanding of long-term health consequences of poor air quality

- Air pollution social media posts and news largely mention immediate, short-term events and reactions—people discuss acute symptoms of air pollution, such as breathing issues and itchy eyes, rather than exacerbation of chronic disease from ongoing, repeated exposure, which is the more serious health threat.

Health authorities are not among the most influential sources of information

- Our scan shows that the top media outlets and public influencers on air pollution are diverse—the top three influencers during our period of analysis include a Prime Minister, a photographer and Greenpeace—and they vary from year to year. Notably, leading health and medical authorities are not among the top influencers.

Public discourse does not center around the most important drivers of air pollution

- Less significant sources of air pollution such as vehicular emissions are mentioned more frequently than more significant sources like power plants and waste burning.

Solutions tend to focus on personal protection like masks; However, over the four-year period there was some increase in conversation around long-term solutions

- Discussion is also more commonly about short-term personal protection (e.g., wearing face masks) especially during severe events like the 2015 haze crisis in Southeast Asia, rather than long-term solutions (e.g., bans on trash burning). That said, discussion of long-term solutions, especially cleaner energy sources, did increase over the four-year period and has coincided with public conversation around climate change.

Conversation is driven by seasonal variations in air quality, with emotionally appealing content generating the highest level of engagements

- The frequency of air pollution discussions vary by time of year, increasing greatly from September through December and during times of seasonal severe air pollution episodes, major news or public events related to air pollution. During other months, the volume of social media and news content on air pollution is seen to be very low. This can pose a challenge when engaging the public in supporting effective air pollution control, which requires year-round, sustained measures.

- Social media posts and news articles on air pollution that mention climate change or children’s health produce more engagement than content not mentioning these topics.
Executive Summary

As a result of these and other findings (which are described in the full report), we offer the following recommendations for effective communication to raise awareness of air pollution and promote support for effective clean air measures:

1. Messages and campaigns should address the health harms of increased serious illness and death from chronic disease as a result of long-term exposure to air pollution.

2. Content should seek to educate the public about the limited effectiveness of short-term exposure prevention measures as compared to long-term, sustained emission control measures.

3. Messages and campaigns should highlight the most significant sources of air pollution.

4. Governments should be urged to develop comprehensive policies and enforcement for clean air via year-round, ongoing sustained reductions in important air pollution sources.

5. Stories and campaigns about air pollution harms and solutions should raise awareness of the relationship to climate change; stories and campaigns about climate change should inform about the linkages to air pollution.

6. Stories and campaigns about air pollution and health should include messaging about lasting harm to children’s health.

7. Media professionals and organizations should be informed about credible and relevant sources of data on air pollution health effects, sources and solutions.

This scan is an initial step to identify gaps in understanding and opportunities for improved communication. Further studies and programs are needed to bridge the gap between public perception and the reality of air pollution health harms, sources and solutions.
Introduction

Air pollution is a global health issue that has become a serious problem in recent years. Air pollution causes more than 4 million deaths each year globally. The South and Southeast Asia regions account for around 1.5 million or 37 percent of these deaths. Beyond deaths, air pollution causes disability from lung and heart disease, contributes to diabetes, inhibits physical activity, and negatively influences children’s physical and cognitive development. The most at-risk populations are children, the elderly, those with existing health problems, the socially disadvantaged and those living in countries without the resources or policies needed to control the worsening threat of air pollution.

Air pollution is an insidious threat. Even though people are aware of air pollution, there are major gaps in people’s understanding of its impacts and sources. A recent study by Clean Air Collective in India showed that 90 percent of Indians interviewed across highly polluted cities have heard of air pollution but lack awareness about its causes and effects.

One contributing factor could be that media coverage of air pollution may not reflect the current evidence and science. For example, a prior study led by Vital Strategies showed that the majority of news stories about air pollution in India during 2014 and 2015 omitted information about the major health conditions and vulnerable populations affected by air pollution. Major sources of air pollution such as power plants, waste burning, etc. were mentioned even less often.

Social media is an increasingly important way for people to access news and share beliefs and perceptions. Depending on the reliability of the information shared, social media can either raise awareness or reinforce misperceptions. Understanding the present state of discourse about air pollution in news and social media is an important step in designing communication strategies for promoting fact-based public awareness about air pollution.
Objectives

This study was conducted to gain an understanding of public and media discourse on the topic of air pollution. Specifically, we sought to answer:

1. **Who** is most influencing the conversation on air pollution?
2. **What** events have the most impact on the conversation?
3. **How** does public discourse change over time?

The answers to these questions are used to:

- Identify gaps in public understanding of air pollution and its sources, health impacts and solutions, as reflected in social media posts
- Identify gaps in news coverage as potential areas for increased awareness
- Inform strategic communication about air pollution to elevate the factual basis of news and social media discourse to advance clean air policies
Overview of Approach

Time Frame
Jan. 1, 2015 to Oct. 14, 2018

Content Analyzed
In total, 530,000 pieces of content were scanned which is a representative sample of 20 percent of all social media and news articles that included mentions of keywords related to air pollution

Platforms Covered
Facebook, Twitter, Instagram, YouTube, Blogs, Forums and News

Countries and Languages

1. English
2. Bahasa Indonesian
3. Bahasa Melayu
4. Chinese traditional
5. Chinese simplified
6. Hindi
7. Thai
8. Tamil

Figure 1 – Countries selected for this report
Overview of Approach

Methodology

20twenty, a comprehensive social intelligence platform designed by Circus Social(1), was used to track, collect, augment and integrate social, online and offline conversations on air pollution and health. The platform was used to extract publicly available social media posts and media articles related to air pollution. The extracted content was categorized into topics and subtopics. For example: air pollution-related keywords (e.g., haze, smog, smoke) and cooking-related keywords (e.g., household cooking, heating) are categorized under perceived sources of air pollution.

Keyword combinations were employed (using Boolean logic) to differentiate topics, solutions and sources, and were translated from English into seven languages: Bahasa Indonesian, Bahasa Melayu, Chinese traditional, Chinese simplified, Thai, Tamil and Hindi. For more information on the search methodology, please contact Vital Strategies at amehta@vitalstrategies.org.

The filtered content was then manually scanned to remove irrelevant content from further analysis. Refer to Table 1 for the list of topics and subtopics.

(1) https://circussocial.com/
Overview of Approach

Topics, Subtopics and Keywords

A total of five main topics were configured with 27 corresponding subtopics.

<table>
<thead>
<tr>
<th>Perceptions</th>
<th>Sources</th>
<th>Health Impacts and Symptoms</th>
<th>Exposure Reduction (Short-Term Measures)</th>
<th>Solutions (Long-Term Measures)</th>
</tr>
</thead>
</table>
| General Discussion on Air Pollution | • Cooking  
• Desert Dust  
• Natural Wildfires  
• Volcanic Eruptions  
• Power Plants  
• Man-made Forest Fires  
• Burning of Waste  
• Vehicle Pollution | • Asthma  
• Heart Diseases  
• Lung Diseases  
• Respiratory Diseases  
• Eczema  
• Dry Cough  
• Itchy Eyes  
• Breathing Difficulties | • Masks  
• Air Purifiers  
• Inhalers  
• Nebulizers | • Anti-forest Fire Initiatives  
• Energy Efficient Buildings  
• Clean Fuels and Technology  
• Waste Management  
• Active and Sustainable Transportation  
• Clean, Efficient Energy |

Table 1 - List of topics and subtopics

Findings and Insights

The final, filtered content was presented in one or more of the types of analysis below.

<table>
<thead>
<tr>
<th>Conversation Analysis</th>
<th>Share of Voice</th>
<th>Trends and Influencers</th>
<th>Sentiment Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>An overview of likes, preferences and dislikes through social media conversations and news articles.</td>
<td>Volume of conversations to show which channel or individual has the largest impact.</td>
<td>A view of organic influencers, promoters and detractors across social media and news channels.</td>
<td>Breakdown of conversations as positive, neutral and negative sentiment towards a topic, over time.</td>
</tr>
</tbody>
</table>

Table 2 – Types of analysis
Structure of the Report

Findings

• General Perceptions on Air Pollution
• Most Commonly Discussed Sources
• Perceived Health Symptoms and Impacts
• Exposure Reduction and Solutions
• Long-term Solutions Discussed
• Media and Public Influencers on Air Pollution

Recommendations for Framing Strategic Communication

1. Messages and campaigns should raise awareness on the risk of serious illness and death from chronic disease caused by long-term exposure to air pollution.

2. Messages and campaigns should raise awareness on the limited effectiveness of short-term exposure prevention measures, as compared to long-term sustainable measures.

3. Stories and campaigns about air pollution and health should include messaging about lasting harm to children’s health.

4. Climate change is an effective means of engaging people on air pollution.

5. Through campaigns and media stories, governments should be urged to develop comprehensive policies promoting clean air for health.

6. Media should seek and be given access to credible and relevant data on air pollution.
Findings: General Perceptions on Air Pollution

- In 2015 the haze crisis resulted in extensive attention from people and the media.

- The odd-even number plate rule by the Delhi government (restricting which cars can be on the road on what day) led to a spike in conversations toward the end of 2015 and beginning of 2016. The scheme aimed to cut down on vehicular traffic thereby reducing air pollution.

- In 2016 and 2017, relative to 2015 and 2018, a drop in conversations was seen around air pollution as no peak air pollution episodes were witnessed during this time. However, generic conversations still occurred.

- 2018 saw increased awareness in India with more Indian media writing about air pollution. The year also showed extensive conversations on the smog in Beijing* and the effect of air pollution during the Asian Games in Jakarta.

The charts in this section show the overall public and media sentiment towards air pollution.

- Negative conversations = complaints and criticisms.

- Positive conversations = discussions on ways to curb or fight air pollution or advising others to stay safe from pollution. For example, posts that advised wearing a mask during the haze crisis.

- Neutral conversations = generic statements on air pollution. For example people sharing images on social media of the view from their window.

Refer to Appendix for sample posts.

* Even though China was not one of the locations selected for this study, conversations in the selected countries captured mentions of the Beijing smog.
Findings: General Perceptions on Air Pollution

Data collected and presented to factor in 5-10% margin of error. As limited historic data was available between 2015 - 2018, in total 530,000 pieces of content were scanned which is a representative sample of 20% of all social media and news articles during the reported time period.
Findings: Most Commonly Discussed Sources

The following graphs show the five most commonly mentioned sources of air pollution. The first chart provides an overview of all the countries in our analysis, the second chart shows India alone, and the third shows all the countries except India.

Chart 6 – Air pollution sources including all countries

Locations: India, Indonesia, Malaysia, Singapore, Mongolia, Philippines, Sri Lanka, Papua New Guinea, Thailand, Pakistan and Nepal

Chart 7 – Air pollution sources in India

Data collected and presented to factor in 5-10% margin of error. As limited historic data was available between 2015 - 2018, in total 530,000 pieces of content were scanned which is a representative sample of 20% of all social media and news articles during the reported time period.
Findings: Most Commonly Discussed Sources

Chart 8 – Air pollution sources excluding India

Locations: Indonesia, Malaysia, Singapore, Mongolia, Philippines, Sri Lanka, Papua New Guinea, Thailand, Pakistan and Nepal

- A large number of conversations were about the odd-even number plate rule in India, with vehicle pollution recorded as the number one source. Almost half of all vehicle pollution mentions can be seen emerging from India.

- Even after excluding India, vehicle pollution was still seen as a number one source, followed by cooking and natural wildfires.

- Focus on vehicle emissions is disproportionately high in India as compared to other sources.

- There is a gap between commonly discussed sources and actual sources of air pollution. The bulk of media articles attributed air pollution to vehicular emissions. Although power plants, burning fossil fuels and waste burning are major sources for air pollution in many countries, they do not show up among top sources.

- Even though the 2015 haze was widely reported and affected Singapore, Malaysia and Indonesia, vehicle pollution remained the most discussed source of air pollution that year.

Data collected and presented to factor in 5-10% margin of error. As limited historic data was available between 2015 - 2018, in total 530,000 pieces of content were scanned which is a representative sample of 20% of all social media and news articles during the reported time period.
The charts in this section show the trend and volume of conversations on air pollution between 2015 and 2018, as well as significant events which influenced discussion.

### 2015

The festival of Diwali led to conversations around fireworks. Discussions on the odd-even number plate rule in Delhi, the ban on diesel vehicles in Delhi and the smog in Beijing were prominent. A high number of generic news articles around air pollution were also seen.

Conversations from news sources, with a high volume from India, mentioning vehicle pollution.

Between September and October, conversations revolved around the haze crisis, with mentions of wildfires, forest fires and vehicular emissions.

### 2018

Between September and October, conversations revolved around the haze crisis, with mentions of wildfires, forest fires and vehicular emissions.

The campaign and hashtag #EnvironmentProtection in July, 2018 in India had many tweets discouraging crop and waste burning.

Generic conversations on air pollution causes. Leading up to the festive season in India, social media conversations on limiting the use of fireworks. Discussions from July on smog in Beijing.

Very minimal conversations on air pollution causes; with daily conversations seeing less than five mentions on average.
Findings: Most Commonly Discussed Sources

• There is strong seasonal variation in the number of air pollution stories each year. From a relatively low volume in the first half of the year, conversations increase in July and August, and further in September through November, as air pollution levels increase in many of the countries represented due to seasonal increases in crop burning, wildfires and festivals.

• Content of end-of-the-year conversations reflected these sources as well as publicly proposed government initiatives.

• From a communication perspective, these seasonal trends should be considered in timing of campaigns. For example, the peak air pollution season, when engagement is high, presents an opportunity to improve awareness of sources. The lull in discussions during the early months of the year could be an opportunity for campaigns that emphasize the need for planning and for proactive, sustained emission reduction measures before the expected severe pollution season returns.
Findings: Perceived Health Symptoms and Impacts

- In this report, chronic illnesses include heart and lung diseases; acute symptoms and illnesses include breathing difficulties, respiratory issues, itchy eyes, dry cough, eczema and asthma.

- The majority of conversations mention acute symptoms and illnesses. Chronic illness mentions are far less frequent. This reflects an important gap in awareness of air pollution exacerbation of chronic cardiovascular and lung diseases, which account for the vast majority of deaths from air pollution.

![Chart 11 – Conversations on chronic and acute/non chronic illnesses](image)

- Posts that talked about children’s health had higher engagement than other posts made by the same influencer, in terms of likes, comments and shares received. For example, posts related to children’s health and air pollution by Indian actor Dia Mirza received four times the engagement than all other posts by her.

- Some of the widely shared or discussed posts included images of children or were about the haze crisis.

- Communication efforts targeting children’s health may be an effective method to increase awareness.

![Chart 12 – Percentage of posts on children’s health](image)

Data collected and presented to factor in 5-10% margin of error. As limited historic data was available between 2015 - 2018, in total 530,000 pieces of content were scanned which is a representative sample of 20% of all social media and news articles during the reported time period.
Findings: Exposure Reduction and Solutions

- “Exposure reduction” refers to immediate, short-term measures such as using a mask or air purifier, while “solutions” refers to long-term, sustainable measures including: waste management to prevent trash burning; clean, efficient energy; and active and sustainable transportation.

- In 2015, more than four times as many conversations mentioned immediate exposure reduction measures such as masks than long-term, sustainable solutions.

- The percentage of mentions for long-term solutions gradually increased from 2016 to 2018, possibly reflecting growing awareness of air pollution’s persistence. Still in 2018, more conversations were about short-term exposure reduction than long-term solutions.

- During peak air pollution episodes, conversations tended to be about personal measures that people could take to reduce their exposure to air pollution. At other times some conversations were about the “power of the crowd” and using collective action for long-term solutions.

- The chart below is a conversation analysis. It shows the percentage of media articles and social media posts from 2015 to 2018 that were about exposure reduction as compared to solutions.

Data collected and presented to factor in 5-10% margin of error. As limited historic data was available between 2015 - 2018, in total 530,000 pieces of content were scanned which is a representative sample of 20% of all social media and news articles during the reported time period.
Findings: Exposure Reduction and Solutions

Data collected and presented to factor in 5-10% margin of error. As limited historic data was available between 2015 - 2018, in total 530,000 pieces of content were scanned which is a representative sample of 20% of all social media and news articles during the reported time period.
Findings: Long-Term Solutions Discussed

Share of voice was measured to analyze social media and news articles to arrive at the top three most-mentioned solutions to curb air pollution.

- The solutions analyzed were: anti-forest fire initiatives, green buildings, clean and efficient energy, active and sustainable transportation, waste management, and clean fuels and technology.

- Clean energy and fuels was the most quoted solution during the four years with more news articles and social media conversation mentions than other solutions. Clean energy and fuels is associated with keywords such as renewable energy, solar energy and green energy. Active and sustainable transportation was consistently the second most commonly mentioned solution. It often was mentioned in relation to climate change.

- Active and sustainable transportation refers to posts with keywords such as bicycle, pedestrian-friendly, public transport, fuel-efficient vehicles, and electric cars.

- Some important air pollution controls that were not frequently mentioned included preventing intentional fires and wildfires, and better waste management to reduce trash burning. Limitations of the search strategy precluded examination of other solutions, such as clean household fuels and controlling industrial emissions.
Findings: Long-Term Solutions Discussed

All countries

Data collected and presented to factor in 5-10% margin of error. As limited historic data was available between 2015 - 2018, in total 530,000 pieces of content were scanned which is a representative sample of 20% of all social media and news articles during the reported time period.
Findings: Long-Term Solutions Discussed

India

2015
- Clean and efficient energy: 59%
- Active and sustainable transportation: 14%
- Clean fuels and technology: 8%
- Others: 19%

2016
- Clean and efficient energy: 63%
- Active and sustainable transportation: 19%
- Waste management: 16%
- Others: 20%

2017
- Clean and efficient energy: 47%
- Active and sustainable transportation: 23%
- Waste management: 18%
- Others: 12%

2018
- Clean and efficient energy: 53%
- Active and sustainable transportation: 17%
- Waste management: 14%
- Others: 16%

Data collected and presented to factor in 5-10% margin of error. As limited historic data was available between 2015 - 2018, in total 530,000 pieces of content were scanned which is a representative sample of 20% of all social media and news articles during the reported time period.
Findings: Media and Public Influencers on Air Pollution

Based on the news articles and social media posts that had maximum engagement, the top media and public influencers on air pollution are listed below for each year.

<table>
<thead>
<tr>
<th>Year</th>
<th>Top Media Influencers</th>
<th>Top Individual/Entity Influencers</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>Newsr.in (India)</td>
<td>Lee Hsien Loong (@leehsienloong) Prime Minister of Singapore (Instagram)</td>
</tr>
<tr>
<td></td>
<td>Straits Times Stomp (Singapore)</td>
<td>Danar Tri Atmojo (@danatriatmojo) Photographer (Indonesia) (Instagram)</td>
</tr>
<tr>
<td></td>
<td>India Today (India)</td>
<td>SGAG (@sgagsg) Influencer (Singapore) (Instagram)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td>Indian Express (India)</td>
<td>Milton Goh Blog (@miltonkohblog) Parenting Blogger (Singapore) (Instagram)</td>
</tr>
<tr>
<td></td>
<td>The Straits Times (Singapore)</td>
<td>Bela Koh (@catslavery) Blogger (Singapore) (Instagram)</td>
</tr>
<tr>
<td></td>
<td>Business Standard (India)</td>
<td>Greenpeace International (@greenpeace) Nonprofit organization (Instagram)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td>Indian Express (India)</td>
<td>Clean Malaysia (@cleanmalaysia) (Malaysia) (Facebook)</td>
</tr>
<tr>
<td></td>
<td>The Straits Times (Singapore)</td>
<td>Greenpeace Malaysia (@greenpeace) (Facebook)</td>
</tr>
<tr>
<td></td>
<td>The Huffington Post (India)</td>
<td>BeritaSatu (@beritasatu) Online News Portal (Indonesia) (Instagram)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2018</td>
<td>Malaysia Sin Chew Daily (Malaysia)</td>
<td>Natural Resources Defense Council – NRDC (@nrdc.org) (India) (Facebook)</td>
</tr>
<tr>
<td></td>
<td>Times Now (India)</td>
<td>Kapil Mishra Indian MLA (@kapilmishra_ind) (India) (Twitter)</td>
</tr>
<tr>
<td></td>
<td>Oriental Daily News Malaysia (Malaysia)</td>
<td>Arvind Kejriwal Chief Minister of Delhi in India (@arvindkejriwal) (India) (Twitter)</td>
</tr>
</tbody>
</table>

Table 3 – Media and public influencers - all countries
## Findings: Media and Public Influencers on Air Pollution

<table>
<thead>
<tr>
<th>Year</th>
<th>Top Media Influencers</th>
<th>Top Individual/Entity Influencers</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>Straits Times Stomp (Singapore)</td>
<td>Lee Hsien Loong (@leehsienloong) Prime Minister of Singapore (Instagram)</td>
</tr>
<tr>
<td></td>
<td>The Sun Daily (Malaysia)</td>
<td>Danar Tri Atmojo (@danartrialmojo) Photographer (Indonesia) (Instagram)</td>
</tr>
<tr>
<td></td>
<td>The Straits Times (Singapore)</td>
<td>SGAG (@sgagsg) Influencer (Singapore) (Instagram)</td>
</tr>
<tr>
<td>2016</td>
<td>The Straits Times (Singapore)</td>
<td>Milton Goh Blog (@miltonkohblog) Parenting Blogger (Singapore) (Instagram)</td>
</tr>
<tr>
<td></td>
<td>Channel News Asia (Singapore)</td>
<td>Bela Koh (@catslavery) Blogger (Singapore) (Instagram)</td>
</tr>
<tr>
<td></td>
<td>CNA Insider (Singapore)</td>
<td>Greenpeace International (@greenpeace) Nonprofit organization (Instagram)</td>
</tr>
<tr>
<td>2017</td>
<td>The Straits Times (Singapore)</td>
<td>Clean Malaysia (@cleanimaysia) (Malaysia) (Facebook)</td>
</tr>
<tr>
<td></td>
<td>Channel News Asia (Singapore)</td>
<td>Greenpeace Malaysia (@greenpeacemalaysia) (Malaysia) (Facebook)</td>
</tr>
<tr>
<td></td>
<td>ANN Asia News Network (Thailand)</td>
<td>Benta Satu (@beritasatu) Online News Portal (Indonesia) (Instagram)</td>
</tr>
<tr>
<td>2018</td>
<td>Malaysia Sin Chew Daily (Malaysia)</td>
<td>@siamesefat (Twitter)</td>
</tr>
<tr>
<td></td>
<td>The Straits Times (Singapore)</td>
<td>@ZanahRajak (Twitter)</td>
</tr>
<tr>
<td></td>
<td>Oriental Daily News Malaysia (Malaysia)</td>
<td>@NuengNo1 (Thailand) (Twitter)</td>
</tr>
</tbody>
</table>

### Table 4 – Media and public influencers excluding India

- Table 3 and Table 4 provide an overview of all the countries in our analysis, with and without India.
- Top media influencers in Table 3 show Indian media as highly influential, while Table 4, without India, shows Singapore as an influential media player.
- Important influencers are diverse, and include a prime minister, nonprofit organizations and photographers.
Findings: Media and Public Influencers on Air Pollution

Sample Post 13

Sample Post 14

Sample Post 15

Sample Post 16

Sample Post 17

Sample Post 18
Findings: Media and Public Influencers on Air Pollution

Sample Post 19

Sample Post 20

Sample Post 21

Sample Post 22

continued...
Recommendations for Framing Strategic Communication

Recommendation 1: Messages and campaigns should raise awareness of the risk of serious illness and death from chronic disease caused by long-term exposure to air pollution.

Findings

- Concerns about acute symptoms from short-term exposure to air pollution predominate in discourse, but effects of illness and death from chronic illness are most important for the global burden of disease.

- Closing this concern gap through fact-based communication and news coverage is important to elevate clean air as a health priority and to drive demand for long-term improvements in air quality.
Recommendation 2: Raise awareness on the limited effectiveness of short-term exposure prevention measures, as compared to long-term sustainable measures.

Findings

- Public and media discourse on short-term solutions are higher than that on sustainable solutions.

- Between 2015 and 2018, more than 50 percent (refer to Chart 13) of all conversations are about personal protective measures rather than on long-term solutions to improve air quality.

- Heightened awareness periods, for example towards the end of the year (refer to Chart 9 and Chart 10), can be used as an opportunity to build support to influence policy.
Recommendations for Framing Strategic Communication

Recommendation 3: Stories and campaigns about air pollution and health should include messaging about lasting harm to children’s health.

Findings

• Posts that mention children’s health are shared more widely and have higher engagement levels than others, in terms of likes, comments and shares (refer to sample posts 25 to 30).

• Children’s health resonates with audiences on an emotional level. Concerns about air pollution could be increased by raising awareness of the lifelong consequences of air pollution on children’s future physical and economic health.
Recommendations for Framing Strategic Communication

Data collected and presented to factor in 5-10% margin of error.

Sample Post 25

Sample Post 26

Sample Post 27

Sample Post 28

This is the air we are breathing. This is the air that us making us sick. Our children, our parents, our friends, our families, you and me.
@PMOIndia @narendramodi @Dev_Fadnavis @CMOMaharashtra #MyRightToBreathe #BreatheLife #AirPollution
Recommendations for Framing Strategic Communication

Sample Post 29

Sample Post 30
Recommendations for Framing Strategic Communication

Recommendation 4: Climate change is an effective means of engaging people on air pollution.

Findings

- People are increasingly talking about climate change and linking it to air pollution in their conversations. 10 percent of all conversations about air pollution include mentions of climate change, global warming and clean energy.

- With policy and public discourse about climate change impacts growing, there is an opportunity to increase awareness of the shared causes and solutions for climate change and air pollution.

Sample Post 31

Fighting climate change generates 65 million new jobs, avoids 700,000 premature deaths from air pollution and adds $26 trillion to the global economy - all by 2030. What’s there not to like? Alternatively, we could barrel towards runaway climate change.

https://t.co/5DYihE6W69c https://t.co/F1M9ESkHnn

Sample Post 31

Data collected and presented to factor in 5-10% margin of error.
Recommendation 5: Through campaigns and media stories, governments should be urged to develop comprehensive policies promoting clean air for health.

Findings

- Government policy on environmental issues is often created in response to demand from civil society and industry.

- Strategic communication must be used to enable government action to control the most important sources of air pollution, including building robust government capacity for monitoring, enforcement and data sharing to demonstrate progress.

- Only 8 percent of all conversations across social media and news portals mention the government’s role in improving air quality while discussing air pollution policies and demand for change.

- Communication should refer to known, feasible solutions for common, important sources of air pollution.

Sample Post 32

Sample Post 33

Data collected and presented to factor in 5-10% margin of error.
Recommendations for Framing Strategic Communication

Recommendation 6: Media should seek and be given access to credible and relevant data on air pollution.

Findings

- Over time, media articles consistently focus on vehicular emissions as the main source of air pollution. Between 2015 and 2018, 40 percent to 70 percent (refer to Charts 6-8) of all conversations by the general public also mention vehicular emissions.

- In addition, clean and efficient energy shows up as the top solution for air pollution as there are high volumes of media articles mentioning climate change in relation to air pollution.

- In reality, sources of air pollution vary by country, region and city, and media reports should reference the best available data on sources and their impacts.
Conclusion

There is a clear disconnect between public understanding of air pollution and reality. While people are aware of the problem, there is a need to elevate concern about the impacts of air pollution on human health as well as the environment.

It is crucial to raise awareness on the actual and most significant sources of air pollution and solutions in order to close the gap between public perception and reality. Better understanding and informed discussions will help evolve conversations from providing only real-time updates to providing accurate, relevant information that equips citizens to assert their role in the improvement of air quality.
Appendix

Distinction among positive, negative and neutral conversations:

- **Positive:** Conversations that are optimistic and motivating, and include affirmative action to be taken (sample post 34)

- **Negative:** Conversations that attack, detract and/or complain (sample post 35)

- **Neutral:** Conversations that ask questions and are generic and standard in nature (sample post 36)
Vital Strategies is a global health organization that believes every person should be protected by a strong public health system. Our team combines evidence-based strategies with innovation to help develop and implement sound public health policies, manage programs efficiently, strengthen data systems, conduct research, and design strategic communication campaigns for policy and behavior change.

ACKNOWLEDGMENTS

This report was written by Aanchal Mehta and Reema D’souza with invaluable assistance from Daniel Kass, Sumi Mehta and Thomas Matte.

Suggested Citation:

Editors:
Karen Schmidt and Dorian Block

Design by:
Johnny Hsu and Manasi S M Jadhav

Special thanks to:
Stephen Hamill and Christina Honeysett
Prerna Pant and Cassandra Ooi from Circus Social

Vital Strategies gratefully acknowledges Bloomberg Philanthropies for funding this work.