

Micro-Policy Intervention

CONTEMPORARY POLICY DISCUSSION IN CAMBODIA



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Chapter 4 | Green Friday: A Clean-Air Day to Reduce NDC's in Phnom Penh

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Executive Summary

What could be more important than breathing?

The expansion of industrial and construction sectors, rapid growth in urban population and the increased use of motor vehicles is contributing to increasingly poor-quality air in major cities, including in Cambodia.

Air pollution not only causes difficulty in breathing, it also contributes to higher rates of death and economic deprivation. It is directly associated with non-communicable diseases including respiratory and cardiovascular diseases which cumulatively killed 7,000 people in Cambodia in 2015 (World Health Organization, 2016). As Cambodia's population grows, urbanization increases and it further develops as an industrial economy, there is a risk that air pollution will continue to grow with harmful implications particularly on health.

Traffic congestion is a visible daily problem in Phnom Penh, which reflects the increasing amount of motorized transportation. If green transportation is not actively promoted, people in Phnom Penh will increasingly suffer from the toxic air.

To tackle this problem, 'Green Friday' is proposed as a social movement campaign which aims to reduce the air pollution in Phnom Penh by encouraging people to use green transport beginning with one day a week by using a motivational intervention called 'Avoid-Shift-Improve-Reward'.

Introduction

Like climate change, pollution endangers the stability of ecosystems and threatens human health and wellbeing around the world. The Global Burden of Disease (GBD) Study reports that pollution was responsible for an estimated 9 million deaths in 2015, while the World Health Organization (WHO) analysis

concludes that living in unhealthy environments was responsible for 12.6 million deaths in 2012 (GDB, 2015; Prüss-Üstün et al., 2016). Pollution contributes to productivity losses, healthcare costs as well as the costs resulting from environmental damages (Scovronick et al., 2015; National Resources Council, 2010a). The nature of pollution has changed as a consequence of a number of factors, including: the uncontrolled growth of cities, rising demands for energy, the global spread of toxic chemicals, progressively heavier applications of insecticides and herbicides and an increasing use of petroleum-powered cars, trucks, and buses (Smith and Ezzati, 2005; Omran, 2005). Consequently, there is a rise in both ambient air and chemical-based pollution.

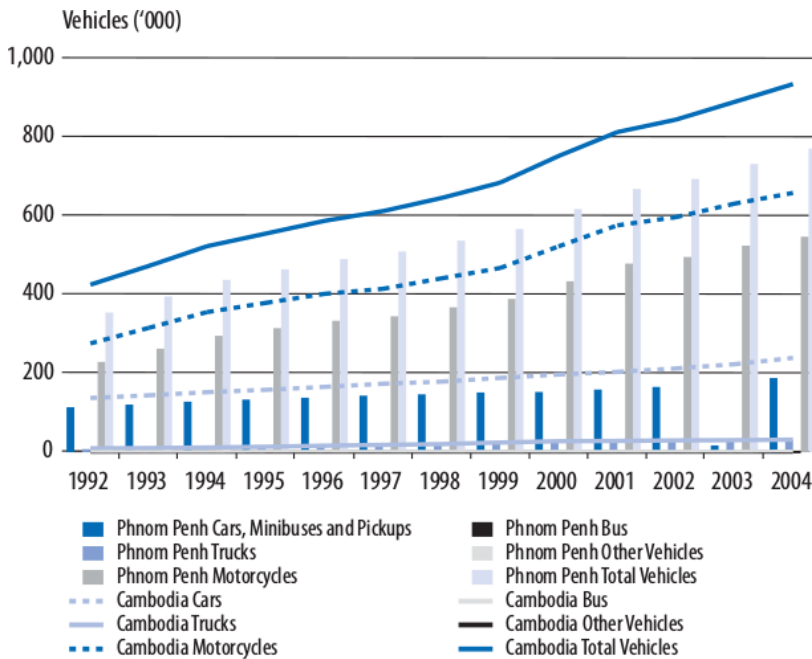
Air pollution is getting worse, especially in rapidly growing cities due to concentrations of economic activity, population, energy consumption, construction activity, and traffic congestion (Wilkinson et al., 2007). It occurs when chemicals, particulates, or biological materials such as sulfur oxides (SO_x), nitrogen oxides (NO_x), carbon monoxide (CO), leads (Pb), and total suspended particulates (TSP) are introduced into the atmosphere (Choudhary and Garg, 2013). Those pollutants primarily originate from industry, generators, biomass fuel, and transportation. Air pollution creates smog and acid rain, and causes non-communicable diseases including ischemic heart disease, strokes, chronic obstructive pulmonary disease and lung cancer (World Health Organization, 2019).

Background

Neglecting Air Pollution in Cambodia

There are a number of factors that are assumed to have contributed to the issue of air pollution in Cambodia, including growth in industries that are large contributors to reduced environmental quality (for example, construction and logging), the increase in income and resulting lifestyle shift towards larger, luxury vehicles, and the growth in motorized transportation. In 2016, more than 3.2 million vehicles were registered, with motorcycles accounting for 84% of the total registered vehicles (UNESCAP, 2016). In addition, traffickers continue to illicitly import low quality gasoline which contains highly toxic chemical substances such as sulfur and lead (United Nations, 2021).

Figure 1. Motorization Growth in Cambodia and Phnom Penh from 1992-2004¹



There are two additional failings Cambodia is experiencing with regards to effectively tackling the issue of air quality:

1. **A failure to deal with pollution while developing (Edward, 2008):** While recovering from the Khmer Rouge regime and working towards a middle-income status country, environmental quality has fallen in priority.
2. **Fragmentation of the agendas for environmental health and pollution:** Responsibility for pollution-related diseases tends to fall between the Ministry of Health and the Ministry for the Environment. With no explicit party in charge, actions are often not taken. The separation of public health from environmental protection has also slowed the growth of research on pollution-related disease, leading to the virtual elimination of coursework in environmental health science from the curricula of most medical and nursing schools, therefore impeding the development of environmental health policy (Greenberg et al., 2016).

¹ Ministry of Public Works and Transport (MPWT) data, Phnom Penh Municipal Traffic Police data, and National Institute of Statistics estimates (NIS). Quoted in NIS, 2015.

Air pollution and NCDs

It is a problem that the full scale of pollution and its contribution to the global burden of disease is not well recognized. Particulate air pollution is associated with severe NCD risk factors, inducing atherosclerosis, increased oxidative stress, increased insulin resistance, endothelial dysfunction, and cognitive function decline (Schraufnagel et. al, 2018). In 2018, air pollution was recognized by the WHO as one of the key risk factors for NCDs, alongside unhealthy diets, tobacco and alcohol consumption, and physical inactivity (World Health Organization, 2019). Ambient air pollution is the second leading cause of deaths from NCDs, after tobacco-smoking, killing 2.8 million people in 2018 (World Health Organization, 2019). The main NCDs associated with air pollution include ischemic heart disease, stroke, chronic obstructive pulmonary disease and lung cancer (World Health Organization, 2019). In Cambodia, reports indicate that 7,000 people died from pollution-related diseases, including NCDs, in 2015 alone (World Health Organization, 2016).

Future trends in mortality associated with air pollution

In the next 35 years, there is projected to be more than a 50% increase in fatalities related to ambient air pollution, from 4.2 million deaths in 2015 to 6.6 million deaths in 2050 (Lancet, 2018). Additionally, air pollution disperses globally as airborne pollutants travel across natural boundaries, continents and oceans (National Research Council, 2010b). Thus, Cambodia both receives polluted air from other countries and disperses locally produced polluted air to neighboring countries.

Micro-Intervention: Green Friday

Overview

In Phnom Penh, the imbalance between the fast-growing number of inhabitants and increase in motorized traffic and the lack of initiatives, knowledge, and investment on urban sustainable development is leading to an increase of congestion, air pollution, and public health risk.

To combat this, a “Green Friday” initiative is proposed. “Green Friday” is an initiative encouraging people to use green transportation. This micro-intervention aims to increase the use of green transportation in Phnom Penh, while decreasing the use of private motorbikes and cars. Green transportation in

this context describes human-powered transportation (walking, cycling, etc.) and public transportation. Green Friday would be a weekly event where Phnom Penh residents commute by walking, cycling, public transport, or e-vehicles.

Justification

Air pollution has been found to cause increases in NCD's around the world. The WHO has acknowledged air pollution as one of the major NCD risk factors, thus combatting it is crucial to achieving SDG 3: *Ensure healthy lives and promote wellbeing for all at all ages* (United Nations, 2021). The proposed intervention of 'Green Friday' can contribute to the decrease in NCD's through acknowledging the issue and promoting positive behavior change.

While noticeable, long-term impacts on air quality are likely to only be achieved through mass intervention at city, country, and even global scales, educational and behavior changing interventions may serve to bring the issue of clean air to the forefront of people's minds and result in greater action towards improving overall air quality.

Implementation

Green Friday aims to promote green transportation among Phnom Penh residents based on the holistic strategy of: Avoid- Shift- Improve- Reward.

- **Avoid:** traffic jams
- **Shift:** to green transport
- **Improve:** the environment and health
- **Reward:** Provide discounted products/services at coffee shops or other businesses

This micro-intervention would be implemented using 4 key steps:

Step 1: Pilot the project

The first step to successful implementation is to pilot this project at a local university by encouraging students and staff to use green transportation.

To motivate the participants to use green transportation, a number of mutual benefits must be provided to incentivize the targeted population. Collaboration with local businesses is key as motivation for participating involves a reward-based strategy comprising of discounts at local businesses. This strategy emphasizes the importance of corporate social responsibility while recognizing

the economic benefits to businesses of promoting a green, clean image to their customer base. Initial potential stakeholders include coffee shops where students and staff go to study or socialize and supermarkets where they go shopping.

Those participants using green transportation will get a stamp from a staff member of the business upon presenting evidence that they travelled by green transportation, for example by parking their bicycle or presenting a time-stamped photo of them travelling by public transport. Each day they use green transportation, they will accrue more points. The more points they earn the more discounts they will get from relevant coffee shops and supermarkets accordingly.

Step 2: Build a community of likeminded people

If step 1 proves successful, then step 2 begins. The creation of a community can be used to spread the uptake of the intervention – a community allows people with a similar goal to share and learn from each other, while supporting and getting support from other members. With the increased use of social media and the high rate of smartphone ownership in Phnom Penh, communities can be created, fostered, and grown online.

Step 3: Creation of a Green Friday App

Creation of a Green Friday Mobile App would serve to legitimize the project and build a brand that people can identify. The app can provide a space to track green transportation activity and safely store rewards from local business partners.

Step 4: Extension of Green Friday into national policy.

Through promoting awareness and encouraging behavior change around green transportation, air quality, and it's links to NDC's in Cambodia, Green Friday could become a key force in influencing policy makers to focus attention and resources on increasing the quantity, and improving the quality of, green transportation. Changes can be small but significant, including the creation of more pedestrian-friendly, smoke-free spaces.

Conclusion

Green transportation is a global trend to make cities more livable in the future by promoting low emissions, low energy consumption, and by reducing pollution.

Green transportation emphasizes the advantages of bike-riding, walking, and use of public transportation. Green Friday is a campaign aimed at increasing the use of green transportation and would be a great initiative for Phnom Penh that would contribute to sustainable urban development efforts.

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