

**SEI Asia podcast miniseries:** Air pollution in the world of work

**Episode 2:** Impacts of air pollution on health of workers

**Host:** Jessica Slater

**Guest:** Chandath Him

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#### **0.34 – 1.05**

**Jessica:** Hello everyone, and welcome to this episode of the podcast. My name is Jessica Slater. I'm a researcher at the Stockholm Environment Institute based at the University of York in the United Kingdom. And I'm a member of the Air Pollution and Climate Change Group here where we work and do research on various aspects related to air pollution and climate change. And in particular, I got interested in the impact of air pollution on health.

#### **1.06 – 1.51**

In this episode, we're going to talk about one of the projects that we've been working on with the Ministry of Environment in Cambodia. And we're going to be talking about the air pollution impact on workers in the industrial sector, and how different ministries can collaborate to tackle the impact of air pollution on workers' health. And specifically, we're going to be talking about the garment industry, which is a major industry within Cambodia. So, our guest today is Chandath Him from the Air Quality Noise and Vibration Management Department based in the Ministry of Environment of Cambodia. Mr. Chandath, welcome to the podcast and thank you for being here today.

#### **1.52 – 2.02**

**Chandath:** Thank you for having me. I am Him Chandath, a Deputy Director on Air Quality, Noise and Vibration Management Department in Cambodia.

#### **2.03 – 2.12**

**Jessica:** So can we start a bit about, with you telling us about your role, and what your department does, and is responsible for, in Cambodia?

#### **2.13 – 3.04**

**Chandath:** Yes, of course. The Department of Air Quality, Noise and Vibration Management is under the management structure of the General Directorate of [Environmental] Protection of the Ministry of Environment of Cambodia. So I would like to highlight some main duty and responsibility of my organization as following. So, we are responsible for developing policies, regulations, planning, legal document and guidelines related to air quality protection, [both] indoor and ambient air quality, emissions standard from mobile and stationary sources, as well as vibration and noise from mobile and non-mobile sources. And we also monitor and evaluate ambient air quality, indoor air quality, noise and vibration.

### 3.05 – 3.34

We conduct, study and disseminate the type, level and hazard of air pollutants admitted into the atmosphere and indoors. And also we collect and manage air quality data, and ambient air quality, indoor air quality, and pollutants released into the air in Cambodia. So these are some of the main duties and key responsibilities of my organization.

### 3.35 – 4.10

**Jessica:** Thank you very much, Chandath. I know that air pollution is a real issue for people's health and specifically in Cambodia. So it sounds like a really important job that you're doing. What would you say that the key focus sectors have been in terms of controlling air pollution in Cambodia? I know you recently published Cambodia's Clean Air Plan with various measures looking at specific sectors. So what's the key focus sectors that you tend to look at when you're trying to control air pollution in Cambodia?

### 4.11 – 5.19

**Chandath:** The key focus sector on air pollution management in Cambodia, according to Clean Air Plan of Cambodia that we recently developed and issued in 2021. So in general, the main sources of air pollutant and short live climate pollutant in Cambodia are coming from the transport sector, following by electricity generation, industry process, and residential sector. So tracking to the source of specifically main air pollutant, it shows that residential sector is the largest source of PM 2.5 and black carbon, following by charcoal making and transport. While the transport sector is highly contributing to emissions of nitrogen oxide, carbon monoxide, carbon dioxide, and electricity generation is the second contributor of carbon dioxide following the gas processing sector. And the main source of sulphur dioxide is from electricity generation in the industry as well.

### 5.20 – 5.48

**Jessica:** There's quite a lot of work to do then to improve air quality with all the source sectors of air pollution, but as well as your department within the Ministry of Environment, how much collaboration is there between the different ministries to address these cross-cutting issues such as the impact of air pollution. For example, on health, and also on jobs, [and] on workers?

### 5.49 – 6.59

**Chandath:** There is still a constraint in the context of collaboration between the different ministries to assess cross cutting issues, especially the impact of air pollution on jobs and health. So I would like to highlight a main constraint is the human resource, in particular, skill to analyze and assess the impact of air pollution on health worker is a very big constraint. We do not have specific methodology or tool to do this job. However, a well cooperation between relevant agencies to deal with tasks are seen from the

past and in the future as well. We develop regulations and policies on, for example, climate change mitigation. And recently the one that we just finished is developing a Clean Air Plan. So, the main concern is human resources. But to bring scientific data and also to real practice is still a big constraint.

#### **7.00 – 7.46**

**Jessica:** Thank you very much. Now we're just going to have a few questions specifically about the project that your team has been working on in collaboration with us at the Stockholm Environment Institute both in the York and the Asia Centre. And this project as a whole was interested in the impact of air pollution on workers, or the occupational exposure that people are experiencing because of the work that they do. And it was linking specifically to vulnerable groups such as women and ethnic minorities and so on.

#### **7.47 – 8.13**

So within your study, Mr. Chandath, you are focusing on workers in the textile industry. Can you give us a bit of an overview of what the issue is in terms of garment factory workers? And what were the findings from your study in terms of understanding the air quality or the air pollution coming from garment factories? And what impact that might have on workers?

#### **8.14 – 9.50**

**Chandath:** Yes, it's very interesting research. Also, it's the first time we conduct research to collaborate with Stockholm Environmental Institute in terms of health impact from air pollution in the context of the garment workers in the textile industry. Through the research findings from 16 factories' survey, the air quality is in good condition. However, the size of, or the number, of factories is still very small, only 16 [factories] in particular. We have around 700 textile factories, so the scope of the survey is only 16 factories. This is due to the limitation of time and resource. Through the survey it shows that it does not cover all aspects of the factory yet. And the factory that joined the survey based on the principal willing to join. So, this might explain the under standard factories still operate but not willing to join the survey. We would like to expand the understanding. So at least more factories, at least 50% should be included for the next survey and spot check or pin selection should apply for ensuring the various air pollution predictions and health aspect of workers in factories in Cambodia can be explored.

#### **9.51 – 10.27**

**Jessica:** Thank you very much. I think you're right that maybe 16 factories weren't enough to fully understand but it was a very short time scale of the project. I think the work that you did was very impressive within that time. Within the study, I know you were asking the workers and the employers about the working conditions for the textile workers. Did you find anything about how the employers ensure that there are good working conditions for their workers?

**10.28 – 11.21**

**Chandath:** Yes, of course, because according to our survey, our [employers] provide good condition for workers because their product needs to be sold in Europe, also America, and developed countries. So they need to comply with environmental and safety standard. And those factories also they are the member of ILO. So, as I mentioned before, because our survey based on [their] willing to join the survey, it might be explained that the under standard factories are still operating but not willing to join. So, this is one of the challenges. If we have more resource for the next time, we should select more factories.

**11.22 – 12.01**

**Jessica:** Thank you very much. I'm sure it's a very difficult task. But yes, it sounds like there's lots of textile workers in garment industry, it's a big source of income in Cambodia. So ensuring that the workers have good working conditions is essential. So, I think you've already answered this question a bit, Mr. Chandath. But my final question within this podcast is what will your department be doing with the information that you found in the study? And as a department, what are the next key areas in terms of air pollution exposure and understanding this further?

**12.02 – 13.36**

**Chandath:** So yes, from the finding is very useful. So the finding can contribute to more inside our policy and regulation development of the Ministry of Environment of Cambodia, especially in the regard of air quality and health protection for workers in the factory. It's also one of the objectives of the survey. During the developing the Clean Air Plan of Cambodia, we just based on the desk-based data. So the real data we get this time from 16 factories will improve the database of emissions from industry in Cambodia. And also the department will send a file to all relevant stakeholders such as government agencies, non-governmental organizations, and international non-government organizations to ensure the information and data obtaining from the survey can contribute to policy, regulation, development and promote cooperation between and among stakeholders for improving air quality and health condition of worker in [the] textile industry in Cambodia. For the next plan, we will work with relevant stakeholders and also donors to expand the research. So we can understand more [about] the situation, and we will improve the condition of textile [workers] in Cambodia.

**13.37 – 14.34**

**Jessica:** Thank you very much. I'm hoping that this work will expand our knowledge of understanding emissions coming from the industrial sector, including both air pollution and of course greenhouse gas emissions.

It's been really interesting to be working with you on this study and to hear more about the results and what's going to be done in the future in this area in Cambodia. And I hope it's been a useful research

project and I hope the listeners to this podcast have potentially learned something about air pollution exposure for garment factory workers. The results from the work that Mr. Chandath and the Department of Air Quality and Noise Management within the Ministry of Environment in Cambodia could also be relevant to understanding garment factory workers within other countries as well.

**14.35 – 14.48**

And Mr. Chandath, I really appreciate the time that you've spent with us today, and your willingness to share your knowledge and experience. So thank you very much.

**Chandath:** Yes, thank you very much, Jessica.