INAUGURAL SPEECH

FIRE, WATER, AND HAZE: CHASING BLUE SKIES IN SOUTHEAST ASIA

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The Rector Magnificus, members of the WASABI research group, the ISS community, everyone present in the hall today, and friends and family joining us online. Good afternoon!

My name is Helena Varkkey, and I am from Malaysia.

You see on the screen two of Malaysia's arguably most famous landmarks – the Petronas Twin Towers, which were at one time the tallest buildings in the world, and the Kuala Lumpur Tower (KL Tower) on their left.

I used this image on the cover of one of my books. I feel that this is a very powerful image because it shows modernity and development, alongside the pitfalls that can come with it.

This how haze looks like in Malaysia. The Association of Southeast Asian Nations (ASEAN) defines haze as "sufficient smoke, dust, moisture, and vapour suspended in air to impair visibility", and it is considered transboundary when "its density and extent is so great at the source that it remains at measurable levels after crossing into a country's airspace".

Why can't we have it all? Shiny chrome buildings and sparkling blue skies? Unfortunately, in Malaysia, and in broader Southeast Asia, the sky is a political object. Blue skies are not a given. The haze is *not* a natural disaster. It is a failure of governance and of diplomacy. And it is also a deeply human story.

So I hope to have your attention today, to let me tell you my story.

A Personal Scholarly Journey

Back home, I am an Associate Professor of Political Ecology at Universiti Malaya, my country's oldest university. I am also wife to Ezuan, and mother to two little boys, Evan and Ezra.

My eldest boy, Evan, turned one year old in the hospital. This was in September 2015, when Southeast Asia was experiencing a major haze episode. Evan was admitted for persistent coughing and vomiting, which the doctor said was likely triggered and exacerbated by the haze.

But this is a normal part of life in Malaysia. Waking up and sniffing to check if you can smell smoke. Closing the windows and switching on the expensive air purifier that you had to invest in. Thinking twice about going outside – do I want to exercise to stay healthy, or will exercising outside make me sick?

But guess who loves haze the most? School kids! Children will suddenly become very interested in the news, because if the Air Pollution Index reaches a certain point, schools are closed! As a kid in 1990s Malaysia, I loved it too.

That's me on the slide, but as a young scholar just out of grad school. I'm in the peatlands of Kuala Selangor, about an hour outside the capital, Kuala Lumpur. You can see the high water table just behind me.

A few years before this photo was taken, I participated in an Asian student conference. We were divided into groups – Education, Economics, and Environment – and I was somehow placed into the Environment group. We were each asked to focus on an environmental problem related to our home country. To me, there was *nothing* more obvious than the haze.

Fast forward twenty years, and I'm still here, still thinking about the haze. This is good because it means I have a long attention span, but it is also bad because it means that the haze is still a problem today.

I am not a scientist in the traditional sense. I can't tell you what specific chemical compounds are in the haze. I am trained in Political Science and International Relations. But whenever I had the chance to do an assignment or a case study, I kept coming back to the haze.

What interested me the most, and what justified the connection to my fields of study, was the element of borders, or the lack thereof. Borders mean *nothing* to particles of smoke in the air. But ironically, borders mean *everything* to the people who are trying to govern the smoke.

Today I'm focusing on the causes of haze in Maritime Southeast Asia—mainly Indonesia and Malaysia, where the fires start. But when I talk about the effects, I'll be zooming in on Malaysia, my home country.

There is a whole other problem of fires and haze in the Mekong Subregion, with slightly different causes and effects, but we will leave that for another day.

What Drives the Fires?

This is a photo of an oil palm landscape. You can see three clearly demarcated sections. The small triangle at the bottom shows a mature oil palm plantation, the tree canopies forming orderly lines of cute green stars. The triangle on the right shows rows of younger oil palms, probably not yet old enough to bear fruit.

The portion on the top left shows the problem – haze-producing fires. These fires are often not accidents, and generally not natural. Oil palm expansion in Indonesia and Malaysia was a *development strategy* - for poverty reduction, rural modernity, and to increase foreign exchange earnings.

In fact, the oil palm has developed into a symbol of independence back home. The tree is featured on our RM50 note right beside a depiction of our first Prime Minister raising his hand triumphantly on the day we gained independence from the British. Therefore, the plantation system was a political project long before it became an environmental problem.

Large areas of forests were felled for these plantations, starting intensively in the 1980s and 90s. This deforestation is, of course, a problem in and of itself. Add fire to the equation, and you have a whole other can of worms.

Fires have been used as a cheap and quick way to clear forest debris and prepare the land for planting. If these fires get out of control, the resulting smoke haze can persist for weeks or even months.

During especially bad episodes, smoke from fires in Indonesia, and to a lesser extent Malaysia, can travel across borders to affect up to seven Southeast Asian countries at a time.

There are laws in place that forbid open burning for commercial purposes. So this is not a legislative failure. It is a failure of executive and judicial governance, and it has a name: *patronage*.

Patronage is simply a mutually beneficial relationship between powerful actors. Here, government officials and companies each bring their own power - political and economic - and deploy it to advance shared interests.

With plantations playing such important roles in national development agendas, corporate and administrative elites formed symbiotic relationships that facilitate opaque land licensing, political favours, and quietly dropped court cases. These elusive and exclusive networks support a culture of impunity amongst these well-connected elites, and mean that fires on plantation land, or right next to it, often go uninvestigated and unpunished.

For example, in the 1990s and 2000s, not much more than a handful of companies were successfully prosecuted in Indonesia for involvement in forest fires, despite many arrests and ample evidence.

Patronage also works across borders: Many Malaysian and Singaporean companies run plantations in Indonesia. These governments work hard to protect their companies whenever they are blamed for the fires.

Often, complaints from the Indonesian government to neighbouring governments about fires on their companies' concessions are followed up with basic courtesy calls to local headquarters. If the headquarters reports that there are no issues in their Indonesian concessions, the home government would consider the case effectively closed.

Governments around the region *needed* their plantation industries to succeed. And haze was an unfortunate side effect.

This makes it difficult for organisations like ASEAN to effectively govern haze at the regional level. Not for the lack of trying – ASEAN has facilitated cooperation over the haze since at least the late 1980s.

Prevention action plans and emergency SOPs are often derailed by finger-pointing and admonishments on non-interference.

A specific example I can give you is related to the ASEAN Agreement on Transboundary Haze Pollution. This Agreement was signed in 2002 by all ASEAN member states and came into force a year later. However, Indonesia only ratified the Agreement in 2014, citing national interest concerns. This effectively delayed progress on collective haze mitigation by more than 10 years.

Even after the full ratification, many elements of the Agreement have not yet been operationalised. This included open sharing of maps to support regional haze monitoring, of which Malaysia and Indonesia have cited national security concerns.

Economics, security, and "saving face" – these seem to be the key considerations shaping political will for transboundary haze mitigation. Public health, it seems, is pushed quite far down the decision tree.

So, the borders of Southeast Asia have become *selectively permeable*: open for capital and for smoke, but closed for accountability. The smoke then becomes the visible exhaust of an invisible system.

The high-profile global coverage of major regional haze episodes gave the global community another reason to rally against palm oil. Of course, images of orangutans and tigers driven out of their habitats by fire would pull at anyone's heartstrings.

NGOs and consumer movements called for boycotts of products that contained palm oil. Palm oil basically became a bad word, and "palm oil-free" became a marketing tool. Some jurisdictions also implemented specific trade restrictions that would make it difficult for palm oil to enter their markets, like the EU RED II Directive and the more recent Deforestation Regulation.

I will unpack the logic of this a bit more later, but one positive outcome from this negative publicity is that plantation companies realised that patronage networks can only protect them to a certain point. With consumers and markets watching, they could no longer act with absolute impunity.

Various palm oil certification schemes were established, the most notable being the Roundtable for Sustainable Palm Oil (RSPO), which is headquartered in Malaysia. Companies are audited against the RSPO Principles and Criteria. If they pass, they can put a "Certified Sustainable Palm Oil" label on their products to reassure their customers.

Among these Principles and Criteria was the requirement for zero-burning. As a result, intentional burning is now very rarely used as a land-clearing tool among large commercial plantations today. This is good.

But fire risk still remains in fire-prone landscapes, particularly peatlands, which is where the water part of this story comes in.

Peat as Critical Landscapes

Once upon a time in the Netherlands, carbon-rich peat was mined as a major source of fuel.

We also have peatlands in the tropics. In fact, Indonesia has the largest tropical peat deposit in the world, and Malaysia is not too far behind. Just like in temperate peatlands, pristine tropical peatlands are usually flooded and waterlogged.

Pristine peatlands are extremely efficient carbon sinks – they lock down carbon from centuries past. Organic matter from the forest canopy falls directly into the water. Protected from the atmosphere, decomposition slows down dramatically, and this carbon-rich material accumulates slowly as peat soil.

This is a picture of some Indonesian peatlands on fire. This fire is literally burning carbon material and releasing vast amounts of carbon dioxide into the atmosphere – not good for the climate.

You can see how little water is in the canal in this picture, how low the water table is compared to the peat soil level. If you recall the picture I showed you earlier, where I'm crouching in front of some peatlands - the water table was much higher there. In that case, no fire!

Fire and water are, of course, part of the same hazy story.

Alongside mineral soils, peatlands have become attractive frontiers for plantation expansion in Malaysia and Indonesia. Most haze-producing fires occur in drained and degraded peatlands.

You can see this process in the infographic here. When water is drained from the peat to make these lands usable, the carbon-rich soil quickly dries up and becomes, essentially, a tinderbox. So the *absence* of water is what makes peatlands more likely to burn. Fire and water are not opposites; they are consequences of the same logic of extraction.

The smallest spark (intentional or not) can set off a fire, which spreads quickly underground, leaving trails of smoke in its wake. Firefighters can try to control these invisible fires, but realistically, only flooding the whole area – heavy rain, basically – can put them out. During the dry season, you have to wait quite a long time for rain heavy enough to put these fires out.

Peatlands are essentially large bowls of water. Even if a peat landscape is divided up by concession, village, and protected forest borders, the water moves across these boundaries freely, too, just like how haze moves across national boundaries in the atmosphere. Water will always find its own level - even partial drainage will affect the whole peat landscape.

This is why fires can also occur outside concessions where no actual drainage occurs, making accountability difficult. It also explains why fire risk remains even when fires are no longer used as a land-clearing tool and when moratoriums are in place to protect remaining peatlands – damaged peat landscapes, even with the best water management, will always remain fire-prone.

So fire is downstream of a water decision. You don't stop haze by fighting fire - you stop it by bringing water back. Rewetting, canal blocking, raising water tables. However, again, human-made borders and jurisdictions make it difficult for these actions to be carried out effectively across vast peat landscapes.

For example, my fieldwork in Sumatra found that water management activities by large plantation concessions negatively affected surrounding villages. By holding water back within concession boundaries through canal blocks, the company is working to prevent fires within their borders. However, this reduces water availability in surrounding areas, increases fire risk alongside other water security issues.

Who Pays the Price?

This picture shows Kuala Lumpur again, in the midst of a bad haze episode. The twin towers are barely visible in the background, and in the foreground, a Malaysian man is protecting himself against the air he did not choose to breathe.

This man is wearing an N95 mask, the *correct* type of mask that will keep all the nasty haze particles out of his lungs. An N95 mask costs more than 10 times what a regular surgical mask costs Those won't help you during haze. Can everyone afford N95 masks? Of course not – not everyone can afford to breathe safely.

So the concept of equity is central to the haze question. Equity, in the context of development, has always been about who bears the costs of decisions they don't make and don't benefit from.

When governance is captured by elite interests, the costs almost always flow downhill, to the public. Everyday Malaysians bear costs by way of sickness and reduced life expectancy, and poorer quality of life. Those who can afford it bear the costs of masks, air purifiers, and

additional trips to the pharmacy for medicine. And taxpayers bear the costs of increased government budgets for things like cloud seeding and emergency services.

And after multiple decades of haze, Malaysians may have become desensitised to haze – it has become *normal*. A survey by my colleague Dr Laura DePretto found that a significant number of Malaysians view haze events as "a fair price to pay for economic development".

Perhaps the respondents agreed with the principle of the Environmental Kuznets Curve: pollution is a side effect of development, something that has to get worse before it becomes better.

Equity issues also play out on the global level. This is where I will *try* to properly address the elephant in the room – palm oil.

Malaysia and Indonesia produce about 85% of the world's palm oil. Palm oil is an important part of the haze equation, and it is something that I have reflected long and hard about, both professionally as a scholar and personally, as a Malaysian.

Let's go back to what I mentioned earlier about the orangutans and tigers. Indeed, the loudest voices calling for change have always been Western consumers, Northern NGOs and European institutions. This pressure has indeed produced real change – I mentioned earlier about how fires are no longer commonly used for land clearing today.

But it has also reshaped the global rules of palm oil in ways that can hide inequity in the supply chain. Manufacturers that stick "palm oil-free" labels on their products are often automatically assumed to be more sustainable than those that use palm oil. Importers have to prove that the palm oil they are bringing into Europe meets specific European standards - standards that can feel far removed from local realities at the sites of production.

I like to describe sustainability as a journey. While the industry is far from perfect, things are much better compared to before. However, misdirected consumer and economic pressure miss the herculean efforts made in Malaysia and Indonesia to get to where we are today. They make the global supply chain system *look responsible*, without making it *actually just and equitable*. It is no wonder that Indonesians label these movements as *kempen hitam* – a black campaign. Some have even called it crop apartheid.

This has also had a direct impact on my work. There have been many times that I have been banished from meeting rooms or have had interviews cancelled because I was doing research that "exposed" the negative aspects of the oil palm industry.

This really affected me at first, and I began to question myself, my career, and even my safety and the safety of my family.

But as I developed as a scholar, I began to understand things more clearly. The problem isn't the palm oil tree, or me talking about it. It is the system – the local, regional, and global system of politics and governance that makes reform so hard, and distributes costs so unevenly.

More sustainable palm oil is good for the whole world, not just for Malaysian suffering from haze. As the infographic here shows, palm oil is the most land-efficient vegetable oil. Without palm oil, the world will have to dedicate much more land to meet the demand for vegetable oil.

So without denying the work that still needs to be done, the Global South needs validation and support on our sustainability transition journey.

And scholars like myself have an important role to play, too. We need to continue to do research on what matters and offer useful solutions for real improvements. But we also have a responsibility to use our platform to share the good news and to speak out against an unjust system that displaces the pressures and costs of reform and transition.

It's always hard talking about these tensions, especially to a European audience. But I am grateful to be here - because this conversation needs to happen.

A New Intellectual Chapter?

So, after fifteen years of figuratively chasing fire and smoke across Southeast Asia, I arrive here in the Netherlands, and I find myself thinking more critically about the role of water in the haze problem.

So this is where I plan to develop the next chapter of my intellectual journey. Thinking about how borders are imagined and reimagined in the peatlands of Southeast Asia, and how fire and water converge to affect the security and anxieties of people around the region.

I am especially honoured to join the list of researchers from the Global South who have held the Prince Claus Chair for Equity and Development. As a Southeast Asian researcher working on Southeast Asian problems, I am especially pleased to contribute to the Chair's goal in developing and supporting knowledge *from* and *for* the Global South.

Allow me to take a few moments to thank everyone at the ISS who played a role in making all this possible. I would like to firstly thank the ISS Rector prof. Dr. Ruard Ganzevoort for supporting my invitation as the Price Claus Chair, dr. Nanneke Winters and the WASABI team including Douwe Vanderm for being so welcoming, and the professional staff at ISS for their support throughout my appointment so far.

Now that I'm finally here, I'm really excited to see what happens when we put our heads together, by bringing what I know about the fires in Southeast Asia to the incredible water expertise you have here in the Netherlands.

So, I would like to end where we began. The same skyline, zoomed out. Still hazy, still political. Blue skies are out there somewhere, still worth chasing.

Thank you!