

FOOD SAFETY

# A SPOONFUL OF CHROMIUM, WITH LOVE

ZYMA ISLAM

What is in the eggs you eat? On April 9, the Supreme Court looked for the answer to this question and did not like what they found.

The answer is known to many who frequent the Hazaribagh tannery town. A walk through the area would mean encountering suspicious blue piles of scrap leather. They'd be everywhere - stacked up along the sides of factories, clinging onto the banks of the pitch black canals and ditches, like clumps of weeds, scattered all along the long-stretch of the road that runs through the district and ends at the Institute of Leather Engineering and Technology.

The scraps are all various shades of blue, ranging from lush pastels to a muted steely hue - the colour of slate. They add a variance in colour in what is otherwise a drab landscape made so dead with pollution that there is barely any vegetation.

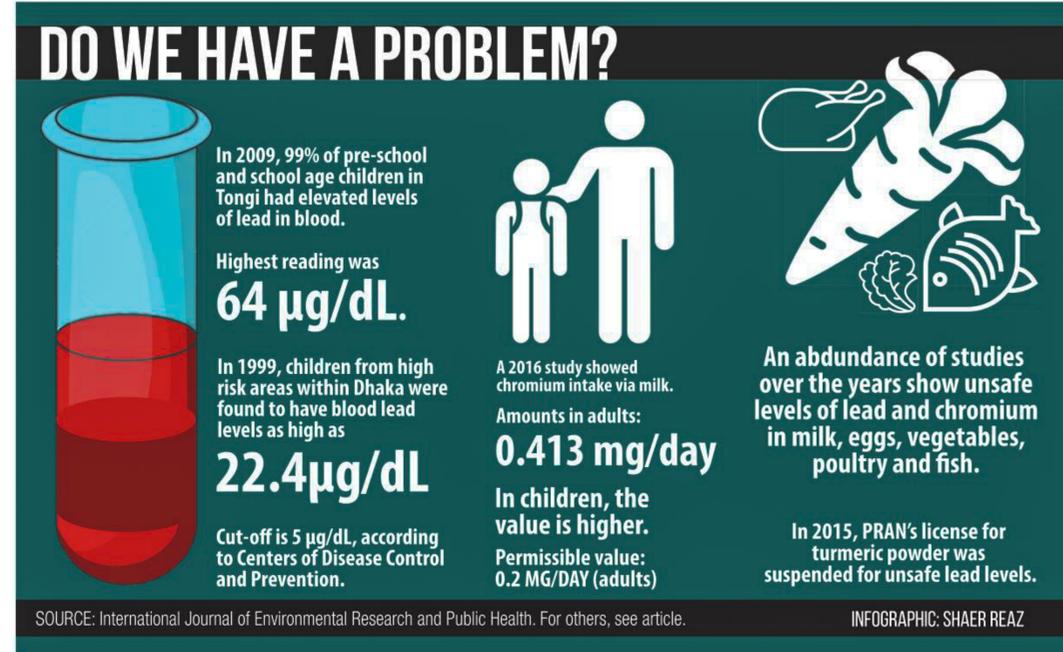
Whatever scraps aren't found lying about are getting boiled in large vats in any of the squat buildings of this factory district. Or they are getting dried in the sun, taking up field upon field - upon field.

**Chromium in eggs, however, barely scratches the surface of how heavy metals from industrial pollution have been contaminating the food chain. Various studies spanning the last two decades have shown that chromium - along with other heavy metals like lead and arsenic - are completely ingrained within the food chain - starting from the soil.**

That is what is bagged and sent off to factories to turn into poultry and fish feed.

The waste gets its distinctive blue colour from chromium - chromium (iii) to be exact. An important part of leather tanning is the use of chromium (iii) sulphate and other chromates for processing. When boiled in vats to turn into poultry feed, the pretty blue colour is lost. The chromium in the leather gets catabolised into a dark, woody brown - the colour of chromium oxide.

Chromium - this is what is in the egg you possibly eat. Unfortunately this affects young children - especially those



from lower income households disproportionately. Eggs and milk have been shown by scientists, over the years, to contain unsafe levels of lead and chromium.

"We take milk and eggs to be indicators of a good, nutritious diet in children," says Rimu Byadya, a Brac divisional manager who collects field-level data about health across the country.

"A young child is recommended to eat at least three eggs in a week," she adds, "especially because this is the most accessible source of protein for the families from the lower socio-economic classes."

In 2009, Bangladesh Council of Scientific and Industrial Research did one of the most cited researches on eggs to date, and found that one egg on average has a "chromium content of 23,3809 µg, which exceeds adequate daily dietary intake of children up to 8 years of age". A more recent study of 2014 done by researchers from Independent University, Bangladesh (IUB), found unsafe levels of chromium in poultry meat, liver and gizzards. Referring to the acceptable weekly amount of chromium intake, the study says "one needs to consume only 57.4 µg of chicken per week to reach this [the] limit." That is barely one serving.

Chromium is a carcinogen according

to the International Agency for Research on Cancer. "While there is not enough research to link it up to pediatric cancer, it increases the chances of cancer in adulthood," Dr Zafar Mohammad Masud, the oncology department head of Bangladesh Medical College Hospital.

Are cancer patients in the country ever linked back to heavy metal poisoning in reality? "Not so much. We do not have the infrastructure to screen for heavy metal poisoning, other than arsenic," says Dr Masud, "The health sector is not at all concerned about this."

Chromium in eggs, however, barely scratches the surface of how heavy metals from industrial pollution have been contaminating the food chain. Various studies spanning the last two decades have shown that chromium - along with other heavy metals like lead and arsenic - are completely ingrained within the food chain - starting from the soil. That is how they end up in milk.

The latest such study, published last year by a team from Jahangirnagar University, found unsafe levels of chromium in milk. They estimated that per day, an adult will be taking in 0.413 micrograms of chromium when drinking packaged cow milk from popular brands. According to the study, the permissible value is 0.2mg/day for adults. The situation isn't any better for those choosing to shun factory-processed

products for the farmer's market, hoping for better quality - milk from cows bred in households exposes the consumer to 0.352 micrograms of chromium per day. This study comes right on the heels of another in 2014, done by Bangladesh Livestock Research Institute (BLRI), which also found high samples of chromium in milk.

This poses a risk particularly to children. In many children, the daily intake value is higher, while the safe limit is lower.

"A large part of the population cannot afford infant formula milk and are wholly dependent on cow's milk for subsidiary feeding," said Bachera Aktar, a research coordinator with James P. Grant School of Public Health, Brac University, who works extensively with maternal and infant nutrition.

Children as young as newborn babies are affected by it. "Although a child should be getting all the required nutrients from breastmilk, poor mothers can't sit at home and breastfeed - they need to go out and earn money and often their workplaces pose several barriers to breastfeeding," said Aktar.

What all these experts sum up is how there is no choice - that everyone's hands are tied. As Byadya says, "We are fighting malnutrition in children. Heavy metal poisoning through food just is not in focus enough." ■

OPINION

"I might not come back. I'm afraid. You had to flee from one place to another out of fear of being slaughtered by the extremists. If something like that happens again, I don't have the strength or ability to do things like you."

I have received many messages like this from fellow LGBT activists in Bangladesh over the past year. On 25 April 2016, Xulhaz Mannan and Mahbub Rabbi Tonoy were killed mercilessly by extremists for promoting LGBT rights in Bangladesh - nothing has been the same since.

It was an ordinary lazy afternoon in Dhaka and my friend Xulhaz had just

Many of us had to go into hiding immediately. In the past year, we have had to move from place to place - from creepy hotels to unknown apartments, to mutual friends, or to another country. With and without my partner, I have had to change location eight times in the past year. To me, the definition of home and homeland has changed much over the past 12 months - I have started feeling as though I don't have a home anymore.

Police often harass LGBT people in Bangladesh, and I realised soon that I could not approach them for protection. Indeed, I knew I could be detained by police at any point as part of the "investigation". And as soon as I am

escape from their own lives. In one year, fear made many of my friends leave their homeland, probably for the rest of their lives. When I talk to them, I always want to ask them when they think they will come home - I want to see them in person like I used to. But I don't ask, and I never will. They won't return.

Some of us more high-profile activists took shelter in two safe houses immediately after the murders. For obvious reasons we could not go out. We were not supposed to open the windows, or even go near them. Living there for two months in extreme uncertainty and with little to keep my mind occupied drove me crazy. It was a very strange

the secular bloggers who have been killed since 2013, government officials seemed to imply that we had brought our situation upon ourselves.

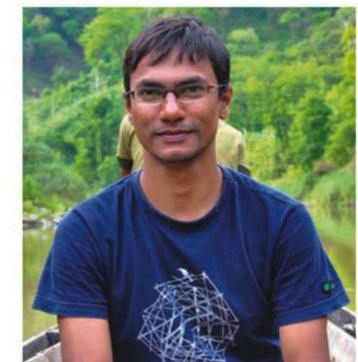
Foolishly, I thought that the murderers would be arrested within six months. Instead, very little has happened. On 10 January 2017, police missed their ninth deadline for filing an investigation report into the killings.

As a community, our activities have all but stopped. The few of us who haven't left the country are too afraid to get organised. It's frustrating that all the progress achieved by the LGBT community in Bangladesh has been set back several years. When I now try to



PHOTO: XULHAZ MANNAN

returned from work. He was sitting with Tonoy and another friend in their flat together, talking about threats and things they needed to do to protect themselves, when they heard the doorbell ring. A man said there was a parcel waiting for them. At that moment a group of men, armed with machetes, stormed into the flat and viciously murdered Xulhaz and Tonoy. From the outside, eyewitnesses later said that you could hear screaming and shouts of *Nara e takbeer* - "Allahu akbar" ["God is great"]. Everywhere inside the flat, which had been a nest for our creative ideas and thoughts, there was thick red blood and the murderers' footprints. Since I heard this description from another friend, a dark and ugly animal called "fear" with sharp shiny claws has been sitting on my torso permanently.



Xulhaz Mannan

I could not sleep the night after the murders, nor did I feel safe enough to go back home. Everything was dark, and you could hear a pin drop. I hid somewhere that night, and could hear cats walking on the corrugated iron roof. The sound of their soft paws felt like a machete-wielding extremist coming for me.



Mahbub Rabbi Tonoy

inside their office... (Let's not talk about that. Let the rest of the world not know the horrifying details of a so-called police interrogation). I felt I needed to escape as soon as possible.

We LGBT activists have lived with threats for a long time, but these became more sinister after the murders. More threatening letters started immediately. We had to escape. Many wanted to

feeling - too strange to express in words.

Four days after the murders, Ansar al Islam (a Bangladeshi armed group which claims it is linked to Al-Qaeda in the Indian Subcontinent) released a statement claiming responsibility. Soon after, Home Minister Asaduzzaman Khan Kamal said: "Our society does not allow any movement that promotes unnatural sex." Just like in the cases of

cope with my regular life here in Dhaka, the biggest challenge I face is self-censorship. I had to remove my interviews, blogs, articles and all the traces of my activism. I had to change my mobile phone number. I have been advised not to use Facebook, Instagram, Twitter or other platforms that could reveal my location.

Sometimes sitting on my couch I stroke my cat. It closes its eyes in comfort and pretends to sleep. The whole world is changing very fast but, like my cat, we act like we don't see these changes.

What keeps me motivated is our superpower to cope with this new reality. I still think of plans for us, which give me hope: start-ups, crowd funding, citizen journalism, audio blogs and what not. But we need support to get there. On the anniversary of the murders, a small step the authorities could take to honour Xulhaz Mannan and Mahbub Rabbi Tonoy is to do everything they can to bring their killers to justice.

*Oboyoob is a pseudonym - the name has been changed to protect the author, who is an LGBT activist.*  
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