## INDIGENOUS PEOPLES ARE AT THE FOREFRONT OF GLOBAL WARMING

S Reid-Collins sheds light on the struggles faced by the Arctic's indigenous communities.

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eople around the world are talking. They are desperately looking for answers, for solutions. The planet has warmed at an alarming rate

(nearly 1°C over the past century, according to NASA) and activist groups, such as Extinction Rebellion, are taking to the streets to make their voices heard.

But the voices least heard are of those most affected. Indigenous people across the globe rely on their close relationship with the land

for their livelihood. Climate change is seriously affecting that.

One such people are the Sámi, the indigenous people of Norway, Sweden, Finland, and the Kola Peninsula in Russia. They have been herding reindeer

for thousands of years and are reliant on their symbiotic relationship with their reindeer and the land. This way of life is being threatened. These communities are particularly vulnerable to climate change, and temperatures in the Arctic have risen at over double the global average rate.

Carl-Johan Utsi is a reindeer herder and photographer based in Jokkmokk, Sweden. His family has been herding reindeer for countless generations. After realising the devastating effects of "green energies", such as hydropower, on the people living along the rivers, he went to university, determined to find a solution. He studied for a Master's degree in Engineering and Modern Physics at Uppsala University, Sweden, hoping to solve the issues associated with nuclear fusion energy and find a better "green energy" source for everyone. While studying this course, he realised that it wasn't for him, and in 2006 he returned to his family and started looking after his own reindeer herd

That was the year that the Sámi noticed everything change.

"I told my fiancée, '2006, this will be the year that we'll remember as the start of climate change," Utsi says. "You could see the impact so clear and at once. It was [a]

really bad winter for the reindeer, for all of Sápmi [the region inhabited by the Sámi]."

Since 2006, he says, the Sámi have not had two similar winters in a row. "I could compare to my father who had a stretch of 30 years that were basically the same when you look at the reindeer herding. They herded the same way. They used the same lands."

One of the effects of this warming is the change of snow conditions. Warmer winters are causing "rain on snow". This

phenomenon was extremely rare prior to the year 2000, but now happens every year. After the initial snowfall, rain returns and melts the snow, causing it to freeze. This creates hardpacked snow and sheets of ice.

Reindeer's main food source, lichen, is buried beneath the

layers of snow. Using their sense of smell, they locate it and dig to find it. But now, hidden beneath the layers of ice, they can't smell it anymore. Or, if they can smell it, Utsi says, "they do the calculation that it's not worth the effort to dig it up." This means that the reindeer will start wondering off in search of scarce food, spreading out and creating extra work for the herders who then struggle to keep track of their herd. Herders are consequently being forced to supplement their reindeers' diets with pellets, just to ensure that they have enough food to survive.

But it's not just Arctic warming that is causing devastation for the Sámi and their reindeer. Utsi explains the worrying impact of deforestation. If reindeer weren't able to find ground food in previous generations, they would survive on tree lichen. But

deforestation has cut down these old trees. "Even if the forest grows up again," he says, "there's no tree lichen."

As the country, and the rest of the world, shifts towards biofuel, this is something which he predicts is going to get even worse. Trees do not need to grow as quickly to produce oils as they do for timber. This is leading to a lack of biodiversity. Almost all the forests in Sweden are very young, Utsi says: "Actually, I don't call it forest anymore, because forest is a big diversity of species and tree ages." Now, the forests are just growing pine and birch. "We have been working with the forest industry in different ways for tens of years, trying to coexist. They have no interest in us. We are on the losing side."

As Sweden moves on to cleaner energy sources, more land is being stolen from the Sámi. Windfarms are being built in traditional pastures. Mining is increasing as the government tries to keep up with the resources required to build new energy sources: "The problem is that Western society doesn't want to cut down on energy usage. They want to switch it to 'green energy', but somebody has to pay for that." Again, the impact is being felt by the Sámi. "We are facing a new wave of colonialism or green capitalism that will totally destroy reindeer herding for sure."

Utsi has considered solutions to this for some time: "For me it's a question about Europe and the will of Europeans, if they're willing to protect the only indigenous livelihood in Europe. Are the Europeans willing to sacrifice it for the lifestyle that they have?"

Without reindeer herding, he worries about what the future might hold for the Sámi. "You can already see what would happen to our indigenous culture when you steal away our way of life. Just go to America, look at North America, how the societies are totally collapsed there."

Despite all their efforts to co-exist and adapt to change, he is really not hopeful for the future of the Sámi: "Reindeer herding is on the verge of collapsing. It's just a matter of years. The change in climate is too fast for us to adapt. It's just about survival now."