## Bringing it all home

Refugee scientists can change the world, finds Sandrine Ceurstemont

Science in Exile, directed by Nicole Leghissa

GHANYA NAJI AL-NAQEB left Yemen because she felt her life was at risk. "In my faculty, a few people disappeared. We don't know anything about them," she says.

Her story isn't unique. Millions fled Africa and the Middle East when conflict and war closed in. But as a scientist, Naji Al-Naqeb may have been in greater danger since authoritarian regimes often target this group because of their knowledge and influence.

Although it is hard to get exact numbers, thousands of science students and professionals are thought to be among those seeking refuge. Now they are the focus of a documentary by Italian artist and film-maker Nicole Leghissa. Her Science in Exile recently premiered at the World Science Forum in Jordan, and will be shown globally in 2018.

The film explores the journey of Naji Al-Naqeb and three other refugee scientists from Syria and Iraq, now pursuing careers far from their homes. "It was hard to find displaced scientists who want to talk," says Leghissa. "Many are scared." They were also hard to find physically because they may live in camps or not work in their own field of science.

Even when refugee scientists receive a fellowship or are offered a job, the transition can be tough. Many struggle to get a visa or may find their knowledge isn't up to scratch because of different educational standards. Loneliness is also a big issue for those who leave families behind. Then there's racism. "It's especially an issue for women wearing veils who are on their own," says Leghissa.



Even job offers are rarely for permanent posts, adding to feelings of instability. After being uprooted, refugee scientists worry about what will happen if their host country can no longer accommodate them.

Ahmad Sadiddin is a Syrian agricultural economist featured in the film. He relocated to Italy, and for him the lack of stability was the hardest part. "I was offered a position at a university for two years and it was obvious

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that it was just a transitional phase," he says. "I was anxious."

There are upsides, of course. Naji Al-Naqeb, now in Germany studying Yemeni plants used in traditional medicine, has access to expertise and technology not available at home. And Sadiddin

now works at the UN Food and Agriculture Organization, where he is gaining an international perspective to complement his role as a national adviser in Syria.

But previous experience helps too. Sadiddin's knowledge of the Middle East, where there are already water and food shortages due to climate change, has been an asset when working on models of the financial impact of global warming in some countries in the Middle East and North Africa.

Many refugees hope to return to their countries eventually. For Leghissa, they are bridges: having worked in very different cultures, they bring a unique knowledge. She says: "They are big resources for their countries economically, and socially."

If she is able to return to Yemen, Naji Al-Naqeb may be able to boost her country's economy by setting up a lab to develop medicines from Yemeni plants. And Sadiddin thinks that Ghanya Naji Al-Naqeb now has a new life in another country

developing a labour force skilled in science and technology will play a part in repairing Syria's destruction. Before the war, he says, there were only five public universities for 23 million people. Scientists were not paid well and there was no freedom of expression, two things he thinks are necessary for science to grow.

Refugee scientists have a lot to contribute, but they need more support too. Several organisations and scholarship funds offer financial help, but less emotional support is available, and many institutions aren't clued up about refugees' experiences. Leghissa thinks ongoing assistance should be available, including help if they opt to resettle. Meanwhile, raising awareness is a big step forward.

Sandrine Ceurstemont is a writer based in Morocco