## **SCIENCE**

## For a bolder climate action: women go to the Antarctic

Emanuela Barbiroglio



© Will Rogan / Team Homeward Bound 4 at Brown Bluff.

n her novel *Sur*, the author Ursula K. Le Guin imagines an expedition to the South Pole by a group of South American women. The subtitle specifies that it's *A Summary Report of the Yelcho Expedition to the Antarctic*, 1909–1910, written to be kept in a trunk in the attic and be found by the narrator's grandchildren - just like an old buccaneer's diary.

Le Guin used her works of speculative fiction to ironically criticise and then undo both misogyny and colonialism. The nine women of *Sur* destroy the entire masculinity of explorations when they secretly arrive at the Pole before the official discovery by Roald Amundsend and refuse to leave behind a remark of their success. The narrator recalls she was glad "for some man longing to be first might come some day, and find it, and know then what a fool he had been, and break his heart."

The crew of the Hebridean Sky ship perhaps tried something similar: reach the vast and remote wilderness, while lifting humankind at the same time. The difference is, they did it for real.

They joined the fourth edition of the Homeward Bound programme, which promotes the influence and impact of women with STEMM backgrounds in the decisions that shape our planet. It was also the largest-ever all-women expedition to Antarctica, made of 112 other members from 33 different countries and 25 different disciplines.

The group left Ushuaia in Argentina on November 22nd last year and visited up to 10 bases and research stations in three weeks, but the diplomatic work they carried out has even deeper roots.

Homeward Bound was launched in 2015, from the initiative of Australian activist and consultant Fabian Dattner and Antarctic marine scientist Jess-Melbourne Thomas. Since then, four cohorts of women have been involved and a fifth will soon be announced.

The programme is based on the premise that the climate crisis is not reducible to an environmental problem. For its creators, we are rather experiencing a leadership crisis at all levels and in all sectors of society.

"The leadership practice we have, that shapes our world today, is wildly out of kilter with what our world needs. There is no question that we are innovative beyond measure," Dattner explains. "And right there you can see the problem. Often, we are not custodians and stewards, but conquerors and rapacious consumers."

The global initiative intends to elevate the visibility of women with a STEMM (Science, Technology, Engineering, Mathematics and Medicine) background, who are leading for the greater good. A 12-month preparation period, during which they cement personal insights and values, precedes the actual expedition.

"Research tells us that fact-based decision-making is central to sustainability and collaboration," Dattner adds. "Exposing these women to Antarctica ensures they connect with what we are fighting for and develop a sense that together we are stronger."

According to the latest UNESCO report, globally 72% of researchers are men. Only one country out of five reaches what is classified as 'gender equality', meaning women making 45-55% of researchers.

"Growing up, it was not that popular to pursue a STEM field for a girl, as it was more challenging and the environment far more competitive [than it was for boys] and there were not many role models to look up to," recalls Charity Mundava. She is a Zimbabwean geospatial scientist currently working in the water resources industry and a member of the Homeward Bond group. "Undertaking research work in the Australian Outback opened my eyes to the lack



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of women engaged in my field, which presented both challenges and opportunities for learning. I learnt that I needed to be an influencer so young people can have role models in science."

In addition to the pay-gap, women in STEM suffer from a 'fundraising gap'. Gender constitutes a 10% difference in the earnings of female fundraisers compared to their male counterparts, according to a research published by the Association of Fundraising Professionals. And a research from Crunchbase shows that women's start-ups received only 3% of the capital invested worldwide in the first six months of 2019.

That's why the Homeward Bound participants are invited to do crowdfunding beside the scholarship they receive. "The structure of our society and the inputs received constitute a barrier and prevent women from using their full potential," says another participant, the Spanish science diplomat Marga Gual Soler. "This campaign wants to put us in a position to promote ourselves as Silicon Valley men do when they face an audience of investors."

Since women are disproportionately affected by climate change around the world, positive discrimination can strengthen action. "Research repeatedly shows that, while women demonstrate great integrity and a legacy mindset, they are overwhelmingly under-represented in the traditionally male-dominated professions," Mundava agrees. "Leaders must be visionaries with the

courage to see beyond the ordinary."

During the expedition, the experts were able to gain first-hand knowledge of the effects of global warming. They learned about human impacts in Antarctica, like overfishing and a fast-growing tourism industry, and visited research stations where scientists showed them how they discovered that penguins carry micro-plastics and microfibres in their blood.

"I learned that the place is the best teacher and Antarctica is highly affected by any human activity," says Humera Iqbal, an animal nutritionist from Pakistan. "The landscape is amazing. It is a beautiful nature with very few colours and a diversity of animals alongside. Yet, I observed the melting of ice and the dying of wildlife, which was heartbreaking for me."

According to Iqbal, this sight helped her understand that more progress is needed. "Hopefully policy will be more accurately formed by science. Policy makers need evidence support, as they can't make the right decisions alone and confidence in research is highly important."

The Antarctic Peninsula is one of the fastest-warming places on the planet, with serious consequences for the local and global environment, including the disintegration of millennia-old ice shelves, changes in the habitats of ice-depending species (like penguins), and global sea-level rise. Krill is moving elsewhere, due to warming temperatures in the Southern Ocean.



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As Homeward Bound is a leadership program, not a scientific one, the experts spent a lot of time delving into topics such as strategic communication, individual and collective visibility, teamwork and conflict resolution.

"Antarctica is a symbol of science diplomacy, based on a groundbreaking global agreement that preserved an entire continent for science and peace. It transmits a sense of urgency and vulnerability like no other place on Earth," Gual Soler says. "In Antarctica there are no national boundaries and you realise that everything is connected and what happens there affects us back home, and vice versa. One of our key take away lessons was that we are all in this together and we must not let multilateralism die."

She approached the expedition from a science diplomacy perspective, particularly because they were there on December 1st for the 60th anniversary of the Antarctic Treaty. Signed in 1959 at the height of the Cold War, it endures today as a successful example of collaboration.

"Being the largest all-women expedition in Antarctic history acquired special significance as another step towards breaking the 'ice ceiling' that has kept women out of Antarctic exploration and research for many decades."

It wasn't easy. Challenges included finding some privacy, having only three hours of darkness, managing a packed daily routine, being completely offline, and eventually coming back into the 'real world'.

"When I came back I flew straight to Madrid to participate in COP25, and it was shocking to see climate change depicted in graphs, posters and speeches... after having experienced it so closely," Gual Soler says.

Now they want to use their collective voice to speak for a continent that has no population to defend it or speak for it. For example, they are organising a campaign to support the declaration of a Marine Protected Area (MPA) around the Antarctic Peninsula. They are all in contact through Whatsapp to support each other.

Mundava is working on water and its sustainable management in the face of a changing climate, Gual Soler is building a platform to connect the scientific and diplomatic communities to global challenges, Iqbal is conducting research in livestock to reduce the environmental impacts.

Just like the women in *Sur*, they are going back to their everyday lives smashing stereotypes. **B** 

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