

Scientifiques Sans Frontières Australia

Colin Scholes introduces an organisation mobilising science to alleviate imbalances in education, resources and health throughout the world.

'Be the change you wish to see in the world', spoken by Mahatma Gandhi, is the guiding philosophy behind Scientifiques Sans Frontières (Scientists without Borders). The ideals of scientific enquiry are universal, traversing both social and geographic boundaries; however, the results of these scientific discoveries are not. The disparities between the developed and developing worlds are clear to all and are due to a range of factors.

Scientifiques Sans Frontières (SSF) seeks to alleviate imbalances in education, resources and health through science and technology. The mission of SSF is to provide the scientific link in the aid network of non-government organisations (NGOs). The three objectives at the heart of SSF are to:

- assist in improving conditions in the developing world through scientific and technological solutions
- advance developing world science to establish equal status with the developed world
- link scientific research with community self-identified problems so successful outcomes can be achieved.

These are enshrined in SSF's charter:

To work with communities to improve their quality of life through education and the implementation of sustainable scientific programs. Through the process of helping people members become more socially aware and responsible, improve ourselves, inspire others to action and further our ultimate goal of transfer of scientific knowledge and solutions to the broader community.

The goals of aid organisations are clearly defined as either development or relief. To borrow an old adage, 'relief agencies give a man a fish and feed him for a day, while development aims to teach that man to fish so he can feed himself for life'. SSF's goals clearly establish it as a development agency, providing assistance to improve quality of life. There is a fundamental difference between humanitarian and human rights organisations, both of which uphold international law, whether the Geneva Conventions or the Universal Declaration of Human Rights. SSF is a humanitarian organisation, meaning it remains neutral to gain

access to those in need of assistance. Human rights organisations are more activists in lobbying governments for improvements; an example is Amnesty International.

SSF Australia runs a range of programs that satisfy each of the organisation's core objectives.

Water monitoring and management

Due to recent drought conditions throughout much of Australia and the threat posed by climate change, communities are becoming increasingly concerned about their local waterways. Hence, many local community groups are beginning to actively participate in the management of their waterways. In partnership with Community Waterwatch Australia (www.waterwatch.org.au) and Waterkeepers Australia, SSF Australia runs a program helping high school students learn more about their local waterway, the Moonee Ponds Creek. They learn about the ecology and geology of the surrounding landscape, human impact on this environment, and methods to manage the impact with the aim of improving the environment. Students learn the environmental science and put their knowledge into action. Practical follow-up enables them to better retain what they have learned, improve their local environment and gain pride in their own community.

This program has been extended to assist the Moonee Ponds Creek Co-ordination Committee (www.mpccc.org). SSF Australia currently undertakes a water-monitoring program focused on Five Mile Creek, a tributary of the Moonee Ponds Creek, which the local community is in the process of rehabilitating. The purpose of the water-monitoring program is to provide evidence of improvement in the creek's water quality as a result of the group's activities.

The success of this program has led SSF Australia to launch an initiative aimed at adult education about water monitoring and management. In partnership with Waterkeepers Australia (www.waterkeepers.org.au), this program is currently run on the Werribee River basin, Victoria. This river basin has experienced stress in recent years due to rapid urban development. SSF Australia runs a water monitoring



SSF Australia members.

program in conjunction with the local community, where community members observe changes in river conditions and locate places where deterioration in river quality is occurring, with the aim of taking action to rectify this.

SSF Australia has recently taken our water management program international by assisting the Waria Valley Community Conservation and Sustainable Livelihoods Programme in Papua New Guinea. The Waria Valley region is a developing community that requires assistance in improving its drinking water facilities and water management. SSF Australia is assisting this initiative through the expertise of its members by supplying the initial infrastructure support and then educating the community to be self-reliant in the use of this equipment.

Scientist mentoring

The diversity of people currently undertaking a science degree should be encouraged. To support this SSF Australia runs a mentoring program for science students from disad-

vantaged backgrounds that link them with early career researchers, both in academia and industry. The purpose of the program is to provide the students with a source of experience and knowledge that they can access as they progress in their studies, and hopefully encourage them to remain in the science field upon completion of their studies.

Scientific resource appeal

One of the largest differences between the developed and developing world is access to resources. To counteract this imbalance, SSF Australia manages a scientific resource appeal, aimed at collecting and distributing scientific resources to secondary and tertiary education institutions in the Asia-Pacific region. Currently, this effort is focused on supplying textbooks and other educational material, with plans to extend this to scientific equipment and further resources to assist developing world research. Donations are always welcome, provided the resource is up to date and in good condition.

International scientist exchange

SSF Australia is dedicated to enhancing research in the developing world. As such, it is developing an exchange program in the Asia-Pacific region that will enable early-career scientists from leading institutions to essentially trade places with those from the developing world. Both parties will benefit from the exchange by being exposed to the weaknesses and strengths of each environment. In addition, mutually beneficial collaborations can be established between parties that otherwise would not meet. SSF hopes that such an exchange will increase the skills and access to technology of scientists from the developing world, and it is hoped developed-world participants will find increased meaning in their research.

Climate change initiative

The threat of climate change is becoming more apparent each day. SSF Australia's response to this issue has been to partner with the Australian Conservation Foundation (www.acfonline.org.au) to educate the wider community about the science of climate change and methods to reduce a person's carbon footprint. The aim is to both counter the confusions of climate change and empower people to make a difference in their lives. SSF Australia is also currently examining ways of assisting communities in the Asia-Pacific region to adjust to the threats posed by climate change.

Involvement with SSF

All of us, through our specialised experience and training, have something exceptional to contribute to the world. SSF

asks immunologists to consider how their research can assist communities with only basic health services; zoologists and botanists to consider how their knowledge can assist subsistent farmers; psychologists to consider how their experience can assist community's cope with the aftermaths of disasters; agricultural chemists to consider how their work can assist farmers in drought-prone regions. SSF asks all scientists to take a step away from their benches and desks and ask themselves how they can apply their knowledge in the developing world. SSF wants scientists throughout the world to be proud of their achievements, not only on a cerebral level, but also because their work satisfies their consciences.

SSF Australia seeks to work in partnership with other organisations and believes that collaboration is vital to finding socially, economically and environmentally sustainable solutions. So, this is a call to you; please help to positively change the world. Contact SSF Australia to find out how you can become involved. Join SSF on this exciting venture by emailing ssfaus@ssfaustralia.org

Acknowledgments

SSF Australia would like to thank the Faculty of Science, University of Melbourne; Chemistry Education Association Australia; and Chemists without Borders USA for their support in the early stages of our development.

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HISTORY OF SSF

SSF is a young organisation, born on the beach in Waikiki, Hawaii, when some of its founding members attended the 2005 Pacificchem conference. The idea for SSF came from an observation that researchers from developing countries in the Asia-Pacific region were under-represented. SSF was originally known as the Australian chapter of Chemists without Borders USA (www.chemistswithoutborders.org), established in 2004. However, recognising the growing diversity of membership and programs, and the need for interdisciplinary approaches to our issues, we became Scientifiques Sans Frontières Australia.

Much of SSF's organisational structure has been modelled on that of Engineers without Borders Australia (www.ewb.org.au), who inspired us with their achievements. SSF Australia aims to do what they are attempting to do for the engineering discipline, to generate a paradigm shift within science disciplines to enable scientists to assist communities in need, to help diminish suffering and assist development.