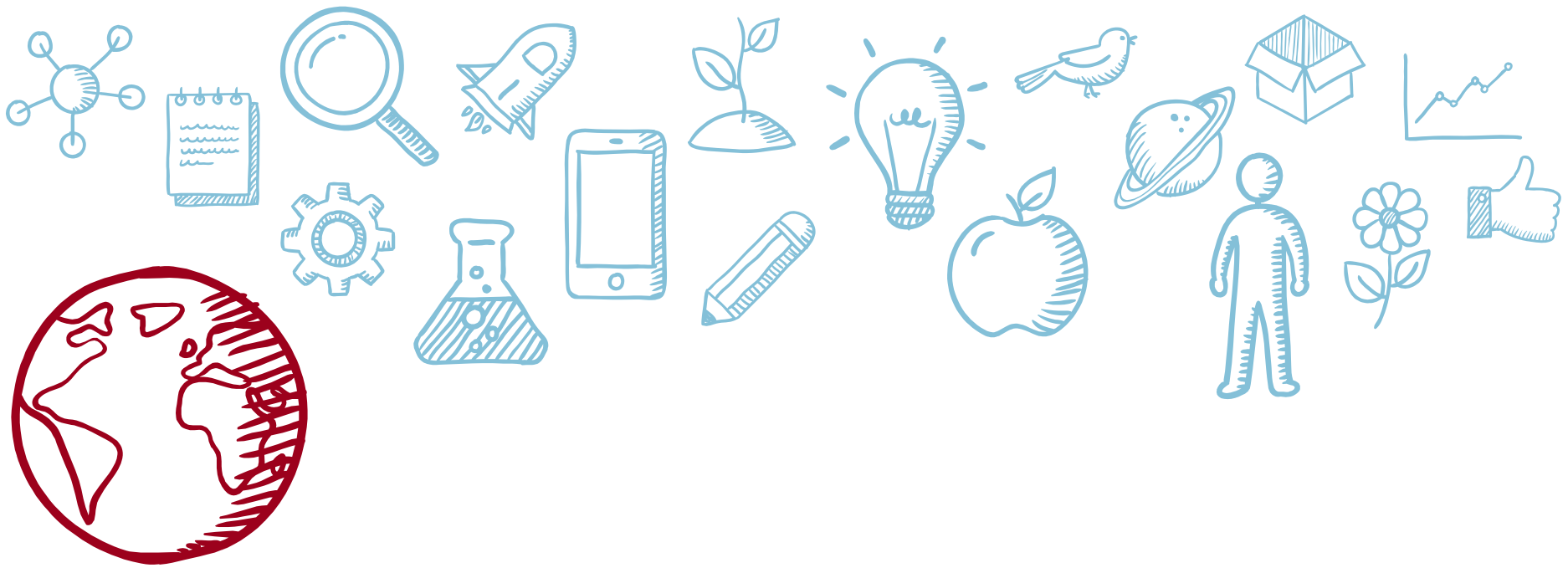# 'Connect with Science':
strengthening and supporting communities
through Science Literacy and Science in Makerspaces

NIDA | Valentina De Col
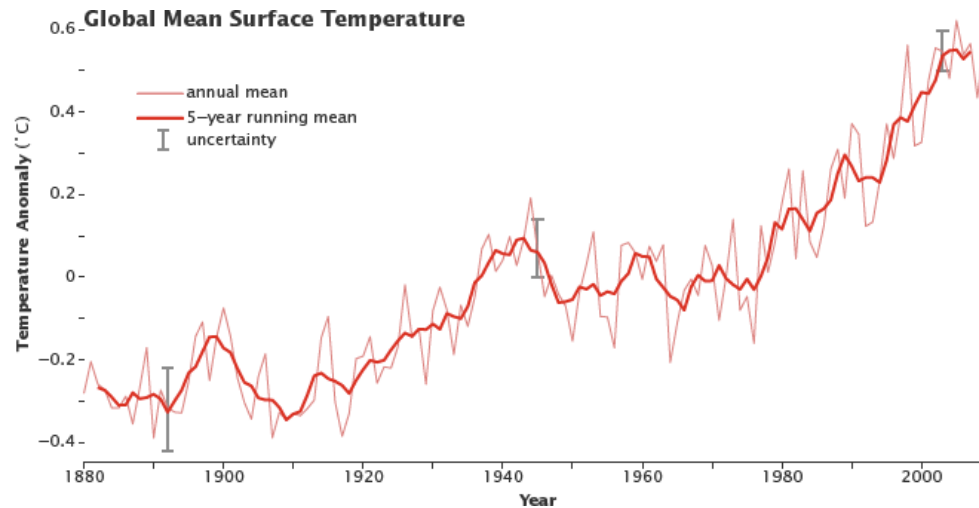Programme & Research Officer

Planetary Health

The health of human civilization and
the state of the natural systems on which it depends

The Rockefeller Foundation – Lancet Commission on Planetary Health, 2015

Planetary health depends on informed citizens

Understanding issues: **global warming**

Global Mean Surface Temperature

Source: nasa.gov

Fossil fuels   Deforestation   Agriculture

Understanding issues: loss of biodiversity

Climate change

Deforestation and habitat loss

Invasive species

Pollution

Overexploitation

Understanding issues: maternal health

**Every day
~ 830 women die**
from preventable causes related to
pregnancy and **childbirth**

99% in developing countries

Higher in women living in rural areas
and among poorer communities

Source: WHO, 2016

Understanding issues:
there are many others...

agronomy, astronomy, epidemiology, marine ecology, medicine, water quality and more...

Essential for personal, community and global involvement

NIDA

Network for Information and Digital Access

NGO based in Oxford (UK)
Over 8,500 network members
across 76 countries

MISSION
Promote and stimulate access and
effective utilisation of information
and knowledge

MAIN FOCUS
Public access to information and services
which provide it

NIDA

Network for Information and Digital Access

Since inception, NIDA works through collaboration, in response to request, supporting, strengthening and advising information and knowledge activities, including:

- research
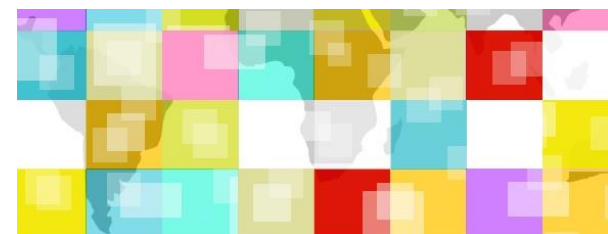- local content
- impact assessment

Specialist fields of information policies and sector assessment added in 2007

NIDA

2014-2015

Requests in the field of science & technology led to the programme '**Connect with Science';** one of the first activities of which was a *Landscape Survey of Science Literacy in Developing Countries*

Science Literacy in Developing Countries
Landscape Survey

Summary Report

Authors:
Rob Davies and Carol Priestley

Hardie Wren
Development Initiatives

Network for Information
and Digital Access NIDA

NIDA

nida-net.org

'**Connect with Science**'

includes two main strands
at the moment

Science Literacy

Science in Makerspaces

'Connect with Science'
Science Literacy

Science literacy relates to the **ability** to:

- **read and write**
- **think scientifically**
- **use scientific knowledge** and **processes** to both **understand the world** around us and to **participate in decisions** that affect it

NIDA

nida-net.org

Science Literacy could have increased beneficial impact globally, and especially in developing countries:

- food security
- food safety
- disease prevention
- maternal health
- water management
- safety and sanitation in urban environments
- agriculture and rural development
- diet and nutrition

and more...

'Connect with Science'

Better understanding leads people to respond better to the challenges around them
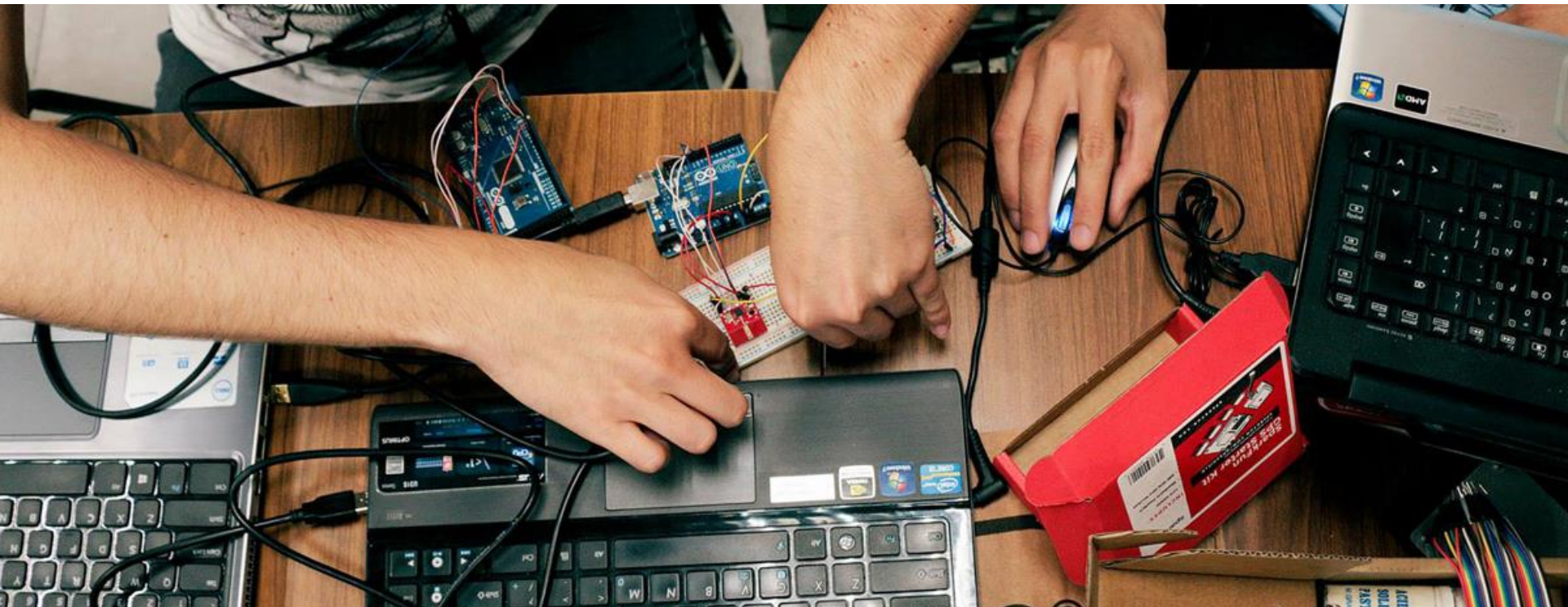
'Connect with Science'
Science in Makerspaces

Community-operated work spaces where people with common interests can meet, socialize, innovate and collaborate

'Connect with Science'
Science in Makerspaces

Hands-on experimentation and **innovation** in local public spaces can contribute to the **sharing of innovative experiences** and **developing skills** in the **application of scientific and technologic understanding**
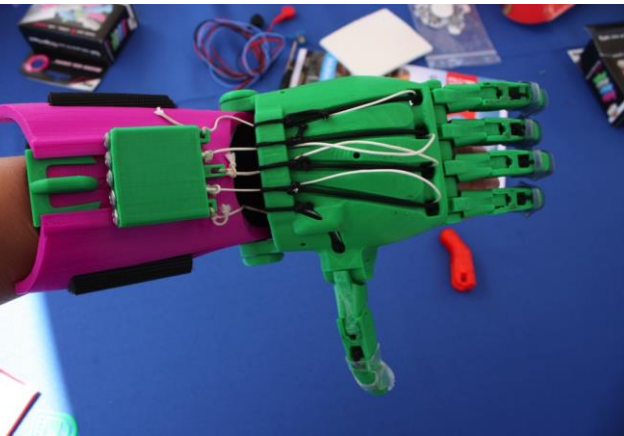
'Connect with Science'
Combining Science Literacy with exploration in Makerspaces

Prosthetics

Robotics

Mud battery

Drone for vaccine delivery

NIDA

nida-net.org

'**Connect with Science**' receives recommendations and collects examples of recent or ongoing **practical activities** that have the **potential to be adapted** to a range of **different cultures and contexts**

- Environmental
- Health
- Women's Education
- Agriculture
- Climate
- Science Communication & Education
- Makerspace

Map   Satellite

NIDA

NIDA is also able to support pilot projects e.g. the **Maternal Health literacy pilot project in Kochi, Kerala (India):** address maternal health problems of women living in urban slum areas of Kochi
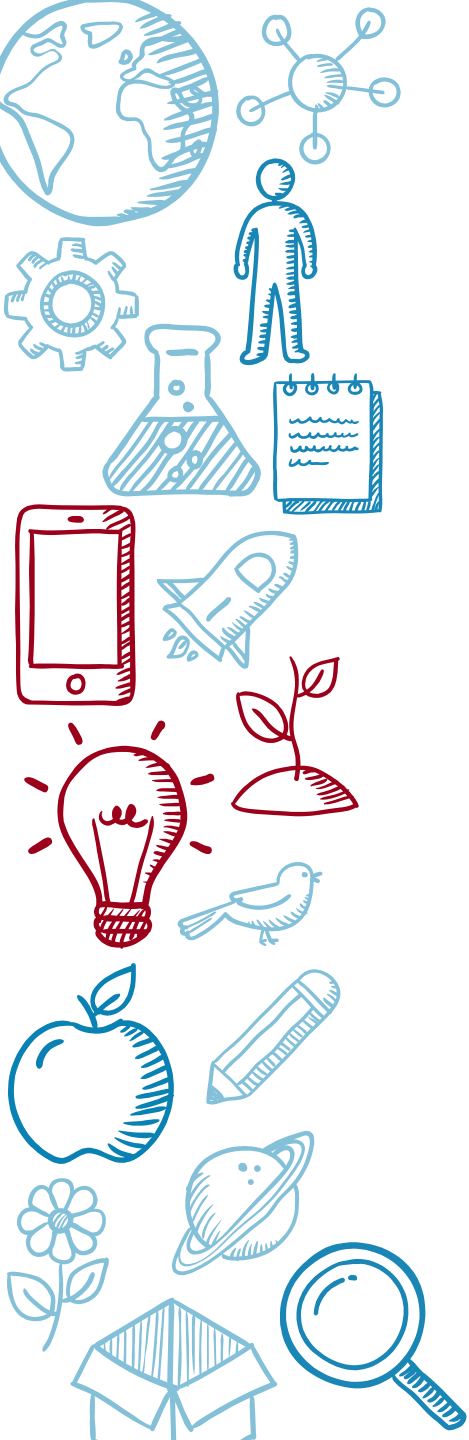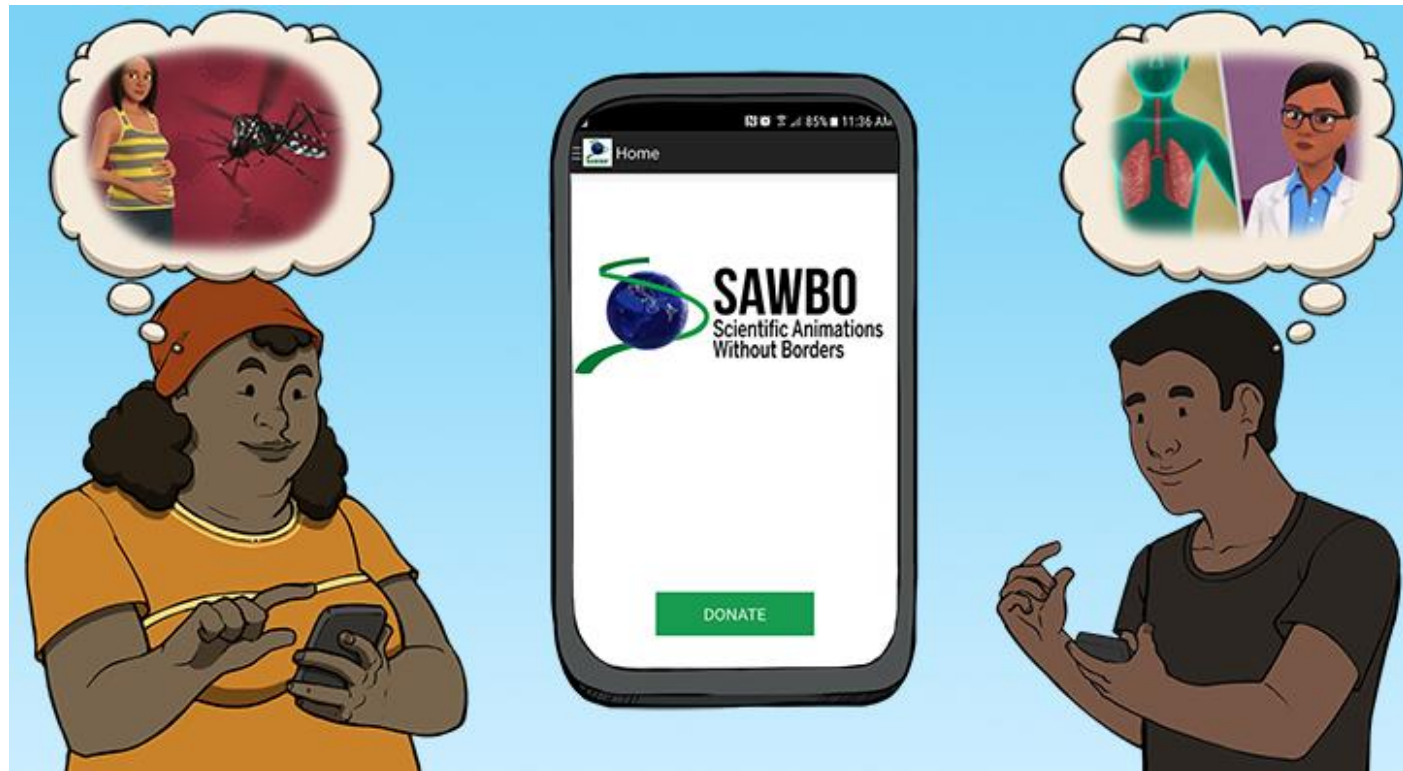
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Nutrition Sensitive Literacy (NSL) pilot project (Nepal): to foster the literacy skills of children and increase knowledge of nutrition and health

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Scientific Animations Without Borders (SAWBO) (USA/global): provide access to health and agricultural information to low literate learners

NIDA

Namib Desert Environmental Education Trust (NaDEET) (Namibia/national): fostering Education for Sustainable Development (ESD) in Namibia

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Cimaza (Belgium/global): informing and educating the general public about the importance of immunization, vaccine safety, science behind virus infections and diseases

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Bus ConCiencia (Bus "With-Science") (Chile/national): enhancing the learning of Science and Technology, through inspiring and facilitating easily replicable scientific experiences

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'La main à la pâte' Foundation (France/global): improving the quality of science and technology teaching in primary and secondary education
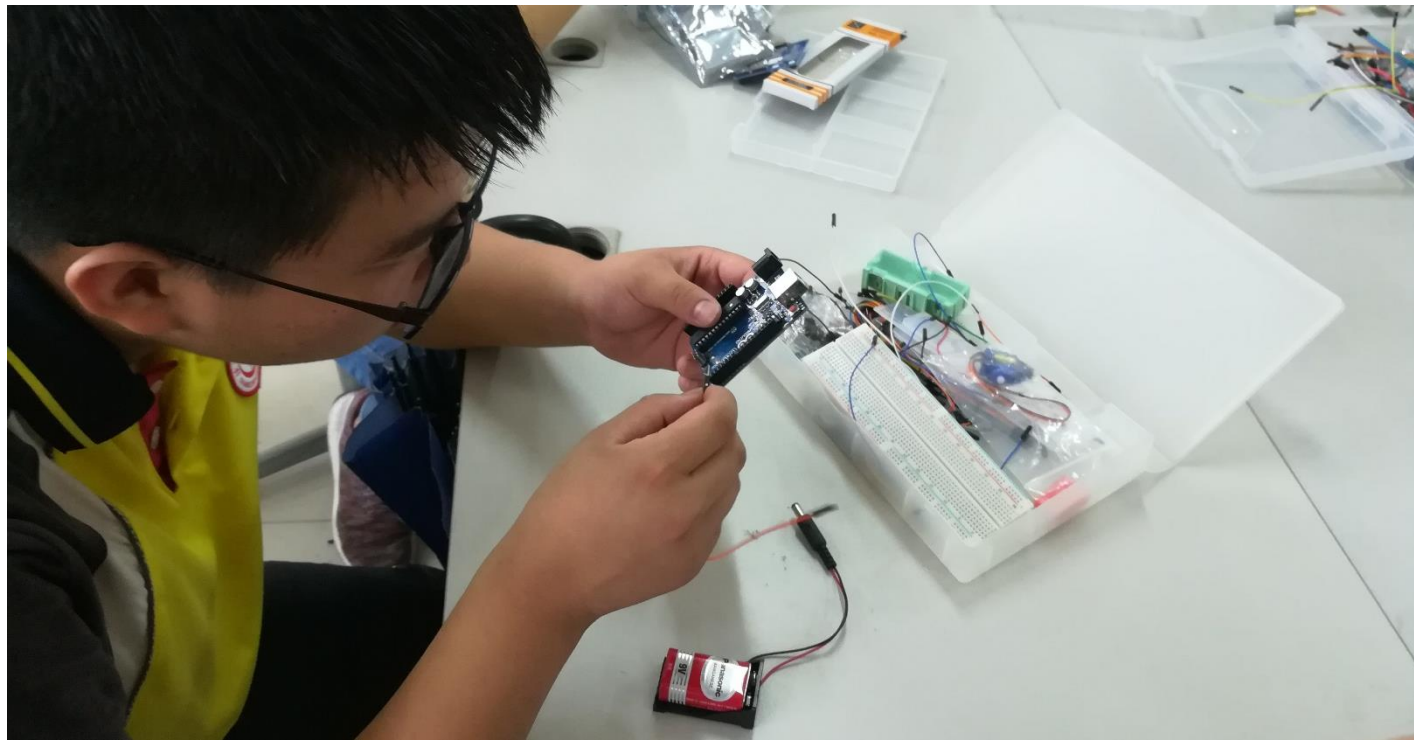

FONDATION
La main à la pâte

NIDA

EEF & DFRobot Kit pilot project (China):
increasing Maker experience in Arduino projects,
providing more access to Maker activity and
enabling hands-on projects

NIDA

Hardwarethon (Costa Rica, Nicaragua): developing new technological ideas, projects and prototypes able to generate a culture of innovation

'**Connect with Science**'

Contributing to sustainable development

Solar cooker

Wind turbine

Water filter

Solar compressor

'Connect with Science'

Protecting and conserving global resources

Atmosphere, water, land, minerals, vegetation, crops, animal life, biodiversity, ecosystems,...

Forthcoming research

*The impact of
Science Literacy delivery
methods - what works?*

THANKS!

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