Return of scientific personnel and reconstruction of infrastructure

Science in Exile webinar
26 October 2021
1:00 - 2:30 p.m. Rome time

United Nations Educational, Scientific and Cultural Organization

twas THE WORLD ACADEMY OF SCIENCES for the advancement of science in developing countries

International Science Council
The global voice for science

iap SCIENCE HEALTH POLICY
the interacademy partnership

Agenda

13:00 – 13:10

- Welcome remarks - Emily Borzcik, Assistant Director Institute of International Education Scholar Rescue Fund, Science in Exile Steering Committee member.
- Introduction - Vivi Stavrou, Executive Secretary of the International Science Council Committee for Freedom and Responsibility in Science, Senior Science Officer.

13:10 – 13:50 Panel "Return of scientific personnel and reconstruction of infrastructure”

13: 50 – 14:20 Q&A session

14:20 – 14:30 Closing remarks

Return of scientific personnel and reconstruction of infrastructure

RETURNING	ARGENTINA	SOMALIA	IRAQ	SRI LANKA
Anchinesh Maheteme Senior Durable Solutions Officer Division of Resilience and Solutions UNHCR, the UN Refugee Agency	Silvia Braslavsky Physical chemist Retired Research Group Leader Max Planck Institute for Chemical Energy Conversion.	Abdi Dahir Osman International consultant Former Minister of Education, Culture and Higher Education for the Federal Government of Somalia	Celine Taminian Special Advisor Scholar Rescue Fund, Institute of International Education.	Paramsothy Jeyakumar Senior Research Scientist in Environmental Chemistry Massey University, New Zealand.

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Return of scientific personnel and reconstruction of infrastructure

#ScienceInExile

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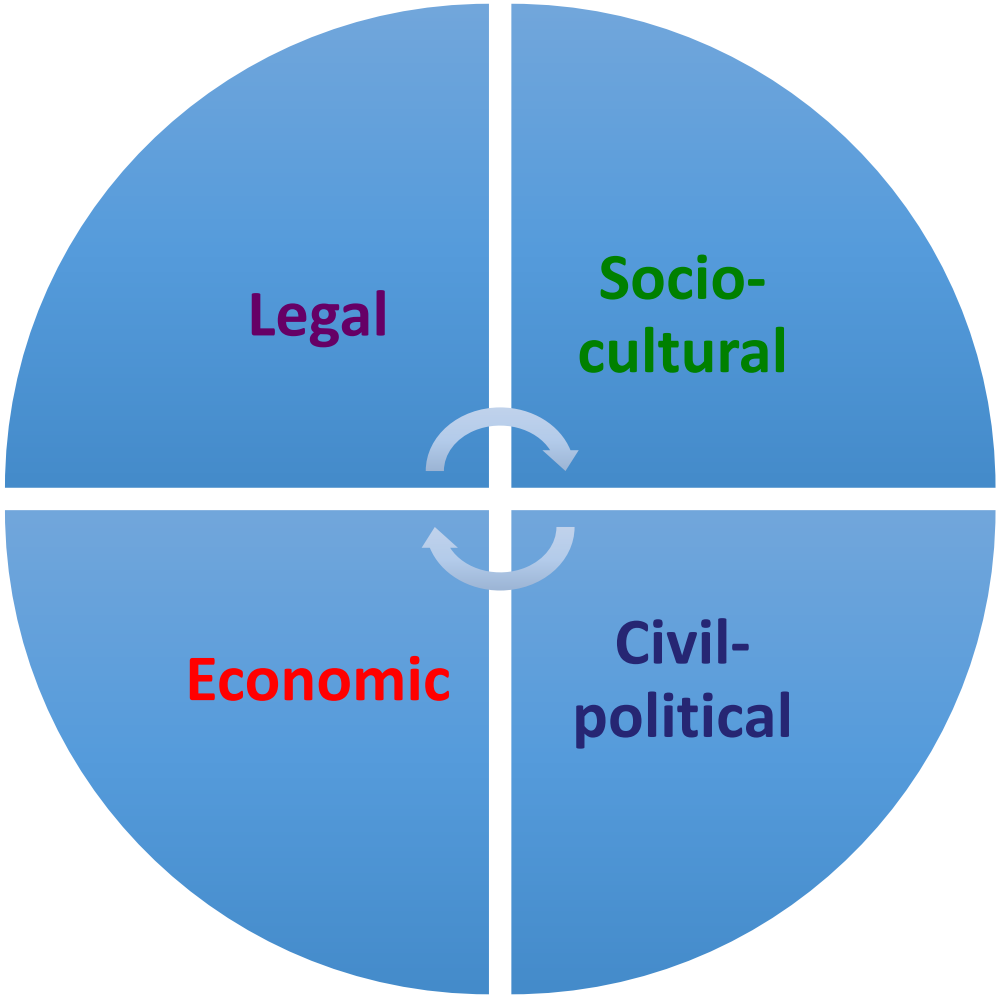
Displacement to Solutions

- **Protection**
- **Inclusion and self-reliance (access to services and employment opportunities)**
- **Support structures for displaced scientists**

- **Voluntary Repatriation & Reintegration**
- **Local integration**
- **Resettlement**


Legal
Socio-
cultural
Economic
Civil-
political

Repatriation, Reintegration and Reconstruction

- **National responsibility & ownership**
- **Right, justice and reconciliation**
- **Participation and recovery programmes**

- Rebuild and invest in the type of scientific and research infrastructure

Fenyx rising from the ashes
Argentinian Science and its Scientists

Silvia E. Braslavsky
Argentinian Physical Chemist
Since 1976 in Germany, Group Leader - **M**ax **P**lanck **I**nstitute for Radiation Chemistry
(now MPI for Chemical Energy Conversion)
45473 Mülheim an der Ruhr - Germany

Silvia.Braslavsky@cec.mpg.de

Corresponding Member - CONICET (Argentinian Research Council)
Corresponding Member - ANC (Argentinian National Academy of Sciences)
Member of Programme: History of the School of Sciences (Univ. Buenos Aires)

- **Free-entry** to Univ.
- **no Univ. fees**

Students: Broad Social origin

- Conflicts with Prof.

1957: CONICET (Scientific Council)

Democratic Modernization of Acad. Systems.
EUDEBA (Univ. Edit.). **Students participation**
"Golden Decade": School of Sciences-UBA: full-times, PhD's plans, Equipment & TV circuits (w/ Ford Found. Grants)

1966: Organized **Exodus**
STRATEGY: Entire groups remained in other Inst.: CNEA, Observatory, or to LA Countries: *Chile, Venezuela, Peru Uruguay, Brazil, ca 250 left*
- Ford Foundation: **Rescue Operation - 500.000 doll.**

Perón Govs.

1930 — 1955 — *1956* — **1962** — *1966*

28.06 / 29.07

> Authoritarian Univ. structure
> Encyclopedic,
> part-time teaching.

Military coup

Military coup

President Arturo Illia elected
- Democratic Elections (but…..peronists proscribed)
- Dem. Government
- No external debt
- Increase in Educ. financing (25% of Nat. Budget.)
- No participation in Dom. Rep. invasion (US)

Military coup

- Cold war
- Concept of Internal subversion and borders
- Univs. under Military Gov.

The Night of the Long Sticks

UBA: 1400 resignations
- School of Sciences: **391**: 75%
- Physics & Inorg Chem > 75%
- Calculus Dept.: 100%
- EUDEBA: 100%

> Some Professors left, e.g., Houssay (Nobel).
> Some were expelled

Argentina: Seizure of Universities Leaves Intellectual Casualties, Elinor Langer (September 16, 1966) *Science* **153** (3742), 1362-1364.

Return to Universities
> to Industries (Al, Electronics, Food, Electricity)

- Public Inst.: CNEA, INTI, INTA; CNEGH
- private Institutions
- Creation of new Univ's: e.g., Rio Cuarto…

1972-3 — 1974 — **1976-------79**

- 1973:
Peron returns.

1974/7: Perón death:
> paramilitars
> Anonymous threats

Military coup

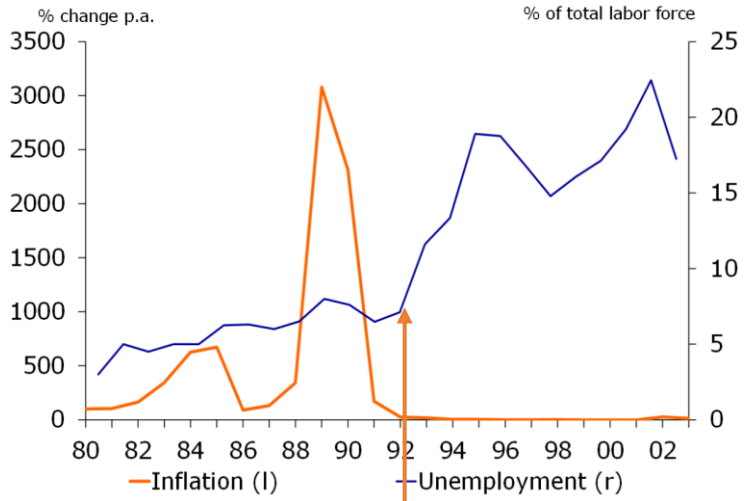
1976-79: Students and Professors were killed and disappeared

1974……'79 **Exodus** of Scientists

- Recovery of Democracy
- SECYT (Secretary of Science and Technology)
- **Networks Arg. Acad. Abroad**
- **BID loans** (Interam. Dev. Bank)
- **1984-1990: Grants: EU, GTZ, Volskwagen, CNRS**

- **Minist. Education**
- **SECYT**
- Investment in Equipment

1983 — **1988----------2001** — **2003** — **2004**



- Hyper Inflation,
- Unemployment
- Contempt of Science
- **Exodus of young fellows**

Very unstable Governments

Democratic Elections
Peronist Party:
Néstor Kirchner

1992: 1 Arg. peso = 1 dolar

2007: MINCyT is created

- **Raices Law (2008)**
- **Return** of Arg. Scientists abroad (financed)
- **Connection** w/Arg Sc. abroad- Networks
- Milstein Stipendium for Arg. Sc. abroad
- **Bilateral (Countries)** Projects w/Arg. Sc. abroad
- Awards Raices & Leloir

https://www.argentina.gob.ar/ciencia/raices

Recovery of Ministerium: MINCyT

Projects:

- **COVID-related,**
- **Lithium extraction (NW: Puna),**
- **Pampa Azul (Patagonia and its coasts),**
- **Satellites Industry.**

- **Re-financing of Raíces Program**
- **Entry of young researchers to the system**

2007 2015 **2016-2019** **2020**

2016: Mauricio Macri President:
> explicit neo-liberal policies
> enormous debt w/ IMF

> Severe financial cuts
> Degradation of MINCyT to a Secretary

2020: Alberto Fernández President, Peronist party

Science in Exile on Rebuilding

Case of Somalia—history, context & challenges

Abdi Dahir Osman

Mogadishu, 26th of October 2021

Progression

- History and contexts
- Challenges
- Why the Diaspora Scientists are not returning?
- Conclusion

History

An overview over higher education of Somali 1950—1969		
Year Established	**Name of the Institute/school**	**Courses offered**
1950	School of Politics and Administration	Civil and public law, public finance, history, geography, Arabic, Italian, and mathematics
1953	Teacher Training Institute (the Scuola Magistrale)	Pre-service course of study and in-service training classes, Italian was the language of instruction
1954	The Higher Institute of Economics and Law	Advanced training in law, economics, history, and political science
1954	The University Institute (later the Somali National University)	Various courses, public administration, public finance and languages
1954	The School of Islamic Studies	The first two years general education and the last two years religion and jurisprudence

History

An overview over the Somali National University 1969—1984		
	Faculty	**Year established**
1	The faculty of Law	1969
2.	The faculty of Economy	1969
3.	The faculty of Agriculture	1971
4.	The faculty of Chemistry	1971
5.	The faculty of Education (Lafoole)	1972
6.	The faculty of Veterinary	1973
7.	The faculty of Geology	1973
8.	The faculty of Medicine	1973
9.	The faculty of Engineering	1973
10.	The faculty of Islamic Studies	1979
11.	The faculty of Journalist	1979
12.	The faculty of Languages (Som, English, Arabic, French, Italian)	1979
13.	The faculty of Political Science	1981
14.	The faculty of Technical Teacher Training	1984

History

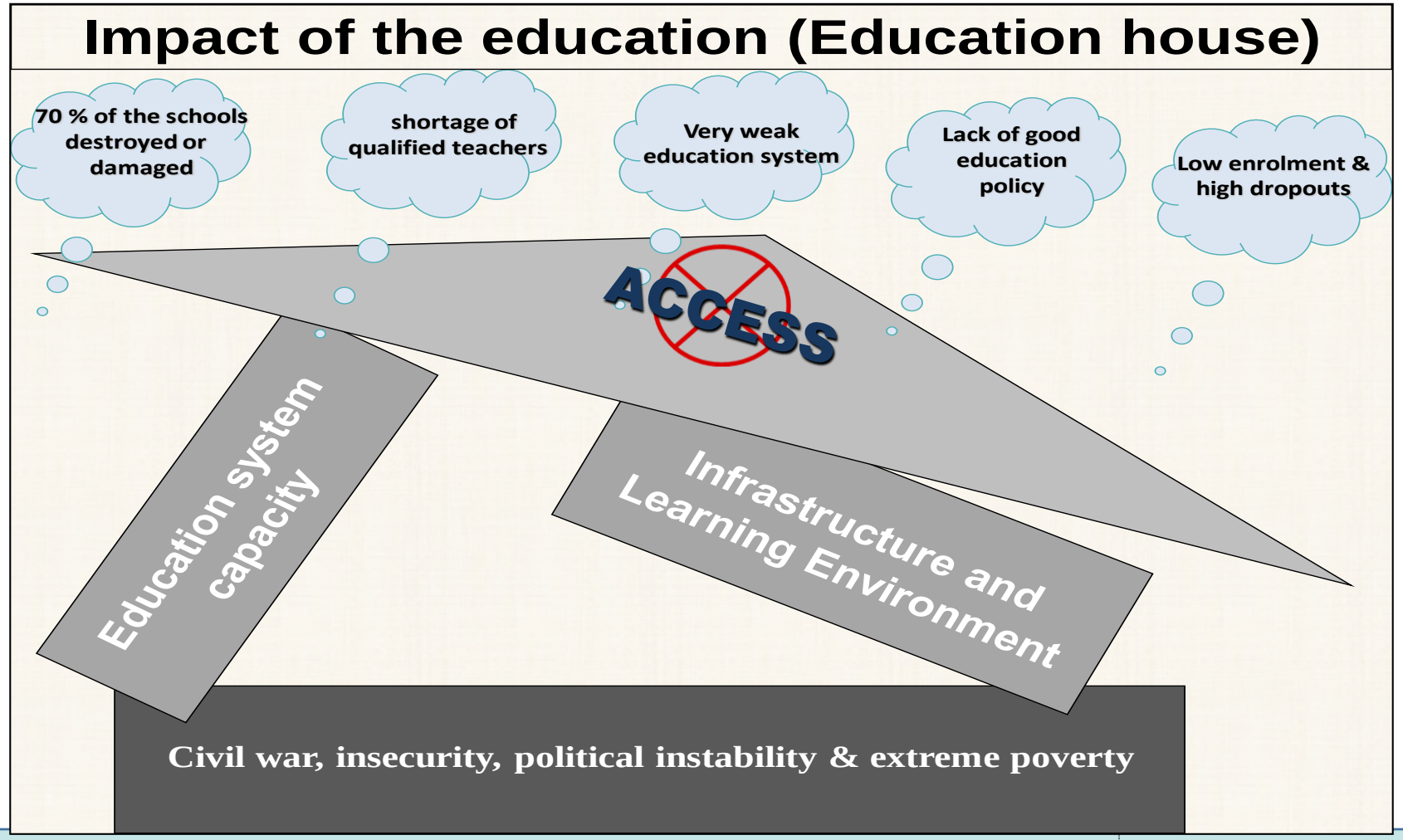
Overview over basic education history of Somalia 1960—1980

Year	Number of schools	Number of pupils
1960	233	23530
1969	287	28,000
1975	844	220,000
1980	1,407	290,000

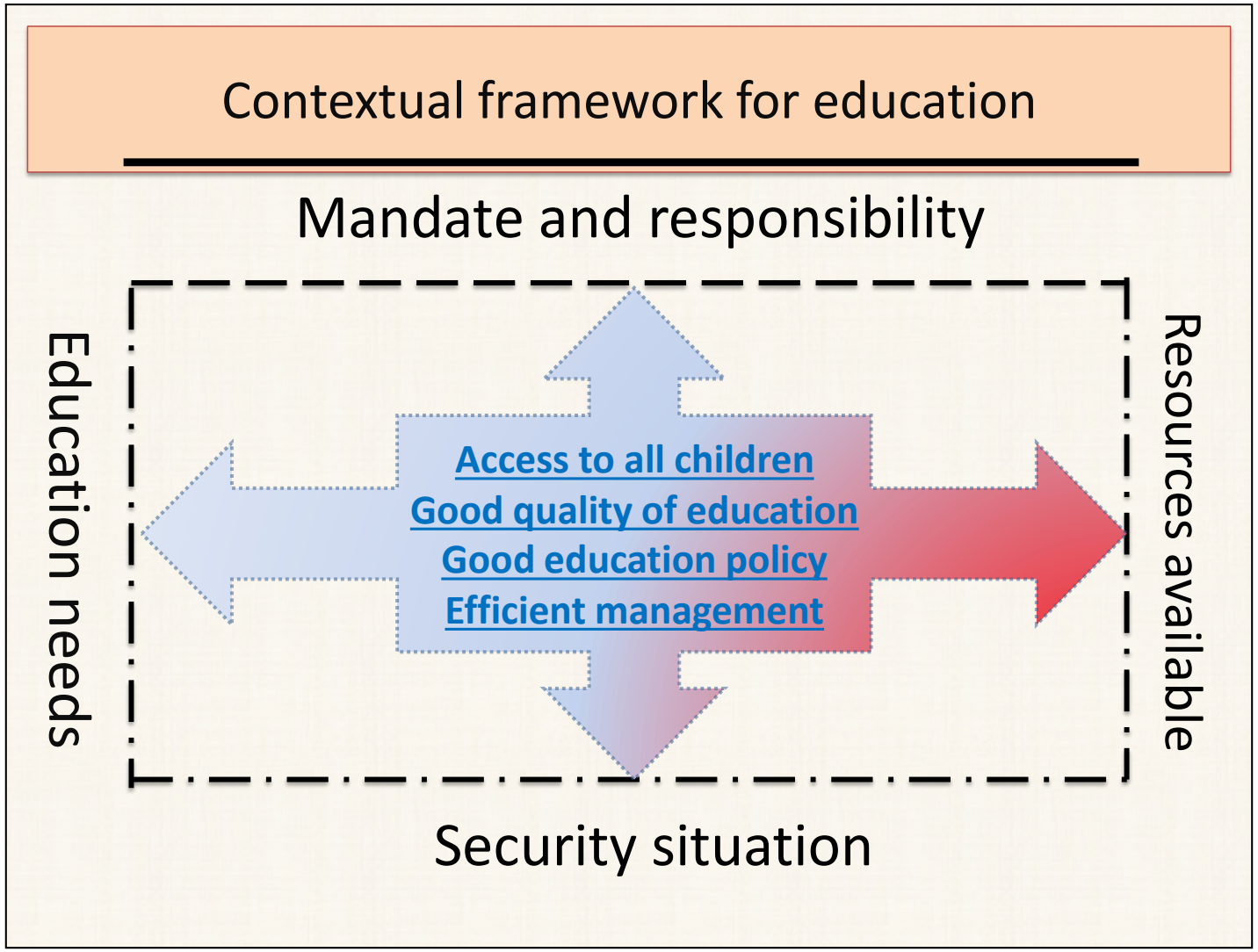
Overview over the faculty of Science & Mathematics of University College of Education of Lafole 1978/79

Faculty	Department	Number of students
Mathematics & Science	Mathematics, Chemistry, Physics, Biology	286
Number of teachers	**21**	**Level**
Somali	11	5 PhD, 9 M.Sc., 7 B.Sc.
Indian	5	
German	5	

Context, causes and challenges



Context, causes and challenges



Challenges

- Challenges maybe many!
- May not be cohesive!
- May diverge and people may disagree!
- May or may not be easy!
- May or may not be recognized!

Challenges

- **Understanding the local dynamic:** One might do good action, but damaging the interest of other people unconsciously
- **Government and other systems:** Dealing with local community and bureaucracy is challenge
- **Focus and priorities:** A lot of good ideas are coming in to the mind—the challenge is prioritizing and filtration of all ideas and actions
- **Financial limitation:** NGO mentality, people may ask you to pay every activity

Why Diaspora Scientists are not returning

- Insecurity
- Hardship of the environment
- Low quality of services
- Fear for brainwash and/or recruitment of children into militia
- Little opportunities/low salary
- Difficult to convince the family to return
- No connections and social networks on the ground

Conclusion

- Many diaspora wish to live near their countries of origin, both because they prefer a familiar cultural and social environment, and because their ultimate goal is to return home
- Voluntary repatriation is always the best durable solution, but organized and supported repatriation is also needed
- In some cases, there seems unwelcome by the governments and local communities of any return due to competition of resources and employment and therefore threatened by the diaspora coming into the countries of origin

Thank you

IIE-SRF Distance Learning Initiative (DLI)

Celine Taminian, IIE
Scholar Rescue Fund

October 26, 2021

Science in Exile webinar series: Return of scientific personnel and reconstruction of infrastructure

IIE Scholar Rescue Fund

Founded in 2002, IIE-SRF is the only global program that arranges and funds fellowships for threatened and displaced scholars at partnering higher education institutions worldwide.

Iraq Scholar Rescue Project (ISRP) (2007 – 2014)

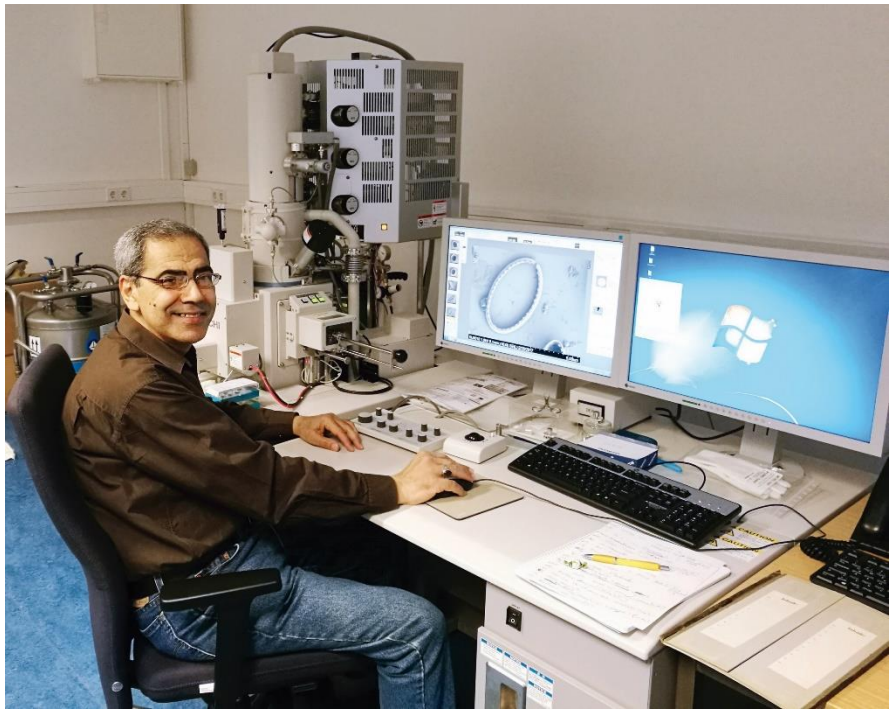
- More than 280 Iraqi scholars received IIE-SRF fellowships to resume their teaching & research activities in safety.

- Opportunities for its Iraqi fellows to contribute to Iraqi higher education even while living abroad.

- ISRP's Iraq Scholar Lecture Series:
  - Short-term academic tours inside Iraq
  - Recorded lectures distributed to Iraqi universities
  - Live feed lectures

IIE-SRF Distance Learning Initiative (DLI) (2015 - present)

- Launched in 2015, DLI continues IIE-SRF's efforts to strengthen connections between Iraqi scholars in the diaspora and university students, professors, and institutions of higher education inside Iraq through the remote delivery of live lectures and courses.
- DLI fills curricular and expertise gaps at Iraq's universities.



IIE-SRF Distance Learning Initiative (DLI) (2015 - present)

The DLI consists of 2 primary projects:

- Live Lectures Project: provides opportunities for IIE-SRF scholars from Iraq who are living outside the country to deliver live-streamed guest lectures or series of lectures to students and faculty at Iraqi universities.
  - Since 2015, 16 IIE-SRF scholars have delivered 191 live lectures to 12 universities in Iraq.
- Joint Courses Project: supports the development and broadcasting of university and training courses at Iraqi universities. Courses are co-organized and jointly delivered by Iraqi scholars outside Iraq and university professors inside the country.
  - Since 2018, 10 IIE-SRF scholars have delivered 47 joint courses to 10 universities in Iraq.

IIE-SRF Distance Learning Initiative (DLI) (2015 - present)

Benefits:

- For IIE-SRF scholars:
  - Reconnect with students and faculty in Iraq
  - Contribute to Iraqi higher education by sharing their expertise
  - Learn about new higher education needs in Iraq

- For Iraqi higher education institutions:
  - Fill curricular gaps
  - Fill expertise gaps
  - Expose students to new subjects not covered in their courses
  - Learn about new higher education trends

IIE-SRF Distance Learning Initiative (DLI) (2015 - present)

The COVID-19 pandemic has impacted educators and students worldwide, including in Iraq, where physical campuses remained closed and courses were offered remotely.

IIE-SRF has been able to utilize DLI's existing model to support Iraqi higher education during the pandemic.

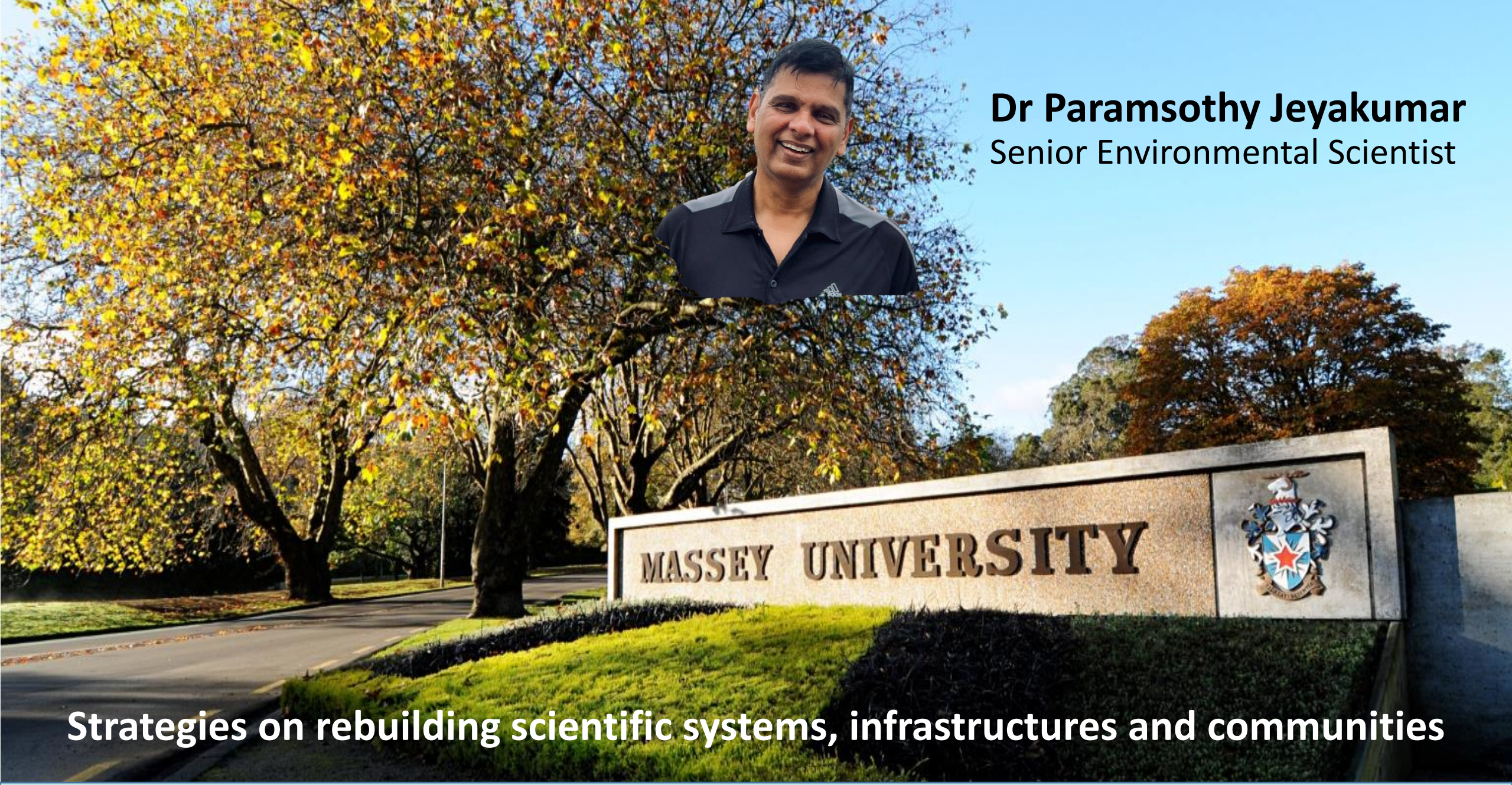
Iraqi administrators, faculty members, and students benefited from DLI-supported lectures delivered in 2020 on remote learning and the use of digital platforms, such as Edmodo, Canvas, Google Classroom, and LabVIEW.

IIE-SRF Distance Learning Initiative (DLI) (2015 - present)

- Examples of live lectures topics:
  - Pediatrics
  - Environmental sciences
  - Fine Arts
  - Academic and professional skill-building lectures: predatory publishing, writing academic papers, and use of e-platforms.

- Examples of joint courses topics:
  - Magnetic physics
  - Digital signal processing
  - Robotics
  - Academic and professional skill-building courses: teaching methods, statistical analysis for scientific research, and English for academic purposes.

The IIE-SRF Distance Learning Initiative is made possible with financial support from the U.S. Department of State and is implemented in collaboration with the Iraqi Ministry of Higher Education and Scientific Research (MOHESR)'s IIE Coordination Committee and other Iraqi higher education partners



Dr Paramsothy Jeyakumar
Senior Environmental Scientist

Strategies on rebuilding scientific systems, infrastructures and communities

MYSELF

By helping others settle in a new country I have learnt a lot too- I was learning by doing.

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Story

If a smile is a sign of a happy Kiwi then Paramsothy Jeyakumar (Jeya) and his family have well and truly settled here.

The family had to adjust to a quieter life and friendly police officers

Three years ago Jeya was seeking 'peace and harmony' and a new country that could foster his career and embrace his family. He found New Zealand on the internet. "I didn't know anything about New Zealand at first," he says. "But it had everything we were looking for. No fear, less crime, no corruptions, no racism and equal opportunities for women."

Within two months of 'finding' New Zealand online, Jeya had left his homeland of Sri Lanka to take up a postgraduate scholarship at Massey University and complete his PhD in Soil Science. Six months later his wife Vaithehi and two children Ganan and Viburahi joined him in Palmerston North.

Read Full Story

https://www.newzealandnow.govt.nz/resources/full-of-smiling-faces?fbclid=IwAR3K86zDJ0CLfXyKUoNQ4JEM4dYRczbhEjl5Jxt7hjX_J9eIcVbGsLksPYc

MY ACADEMIC, RESEARCH AND COMMUNITY-BASED TRAVEL

Senior Research Scientist, Environmental Sciences Group, Massey University, New Zealand

Visiting Scientist, Sichuan University, China

Post-Doctoral Scientist, Plant and Food Research, Palmerston North, New Zealand
Production Footprints Team: Soil water repellency

Senior Lecturer in Agricultural Engineering, Eastern University, Sri Lanka

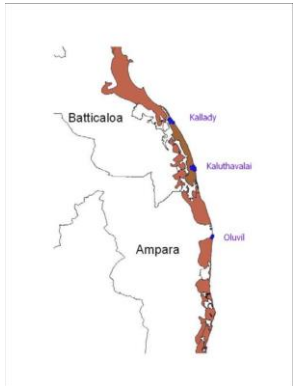
Consultant & University Coordinator, International Water Management Institute (IWMI)
Tsunami effects on groundwater and water supply in Sri Lanka

National Consultant, United Nations Industrial Development Organisation (UNIDO)
Agricultural Engineering/Rural Development: Home gardening/water and sanitation for women headed families

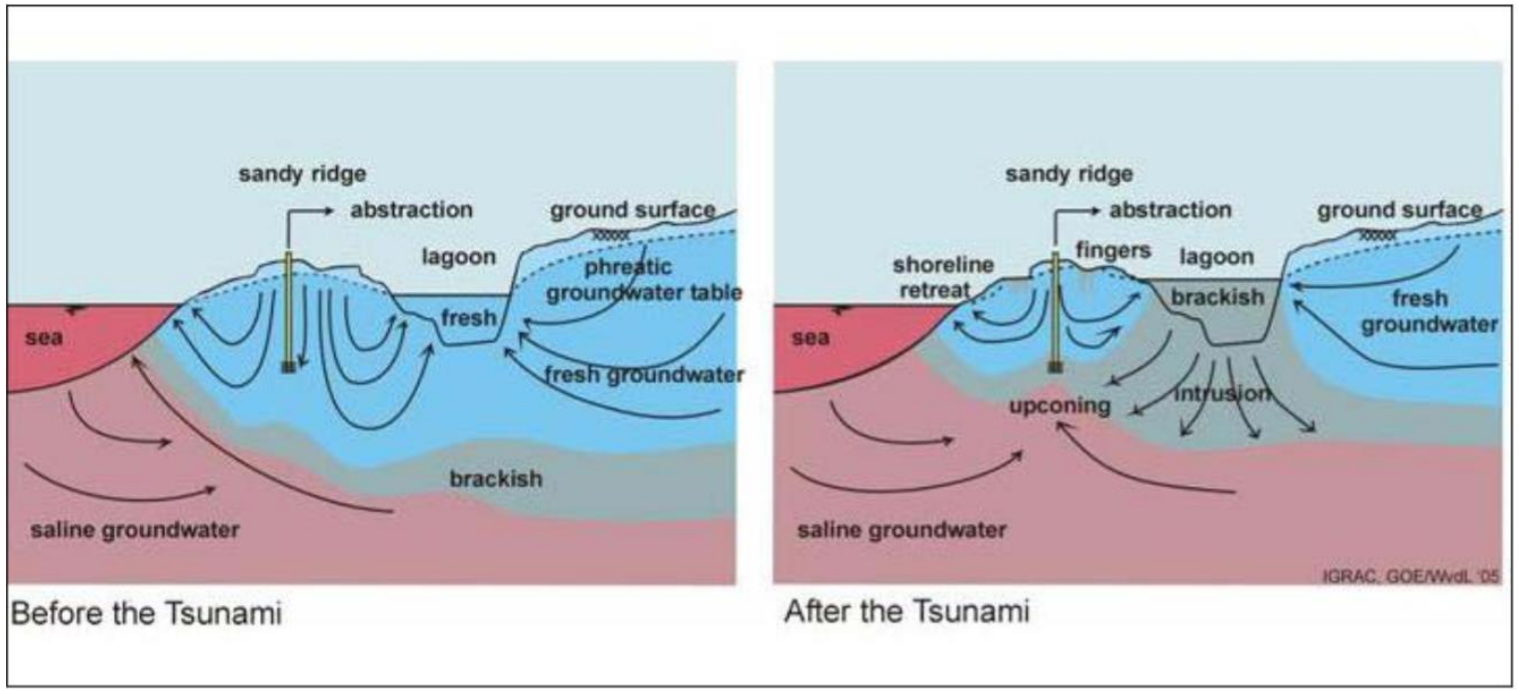
TSUNAMI IMPACTS ON SHALLOW GROUNDWATER IN SRI LANKA

Project focus

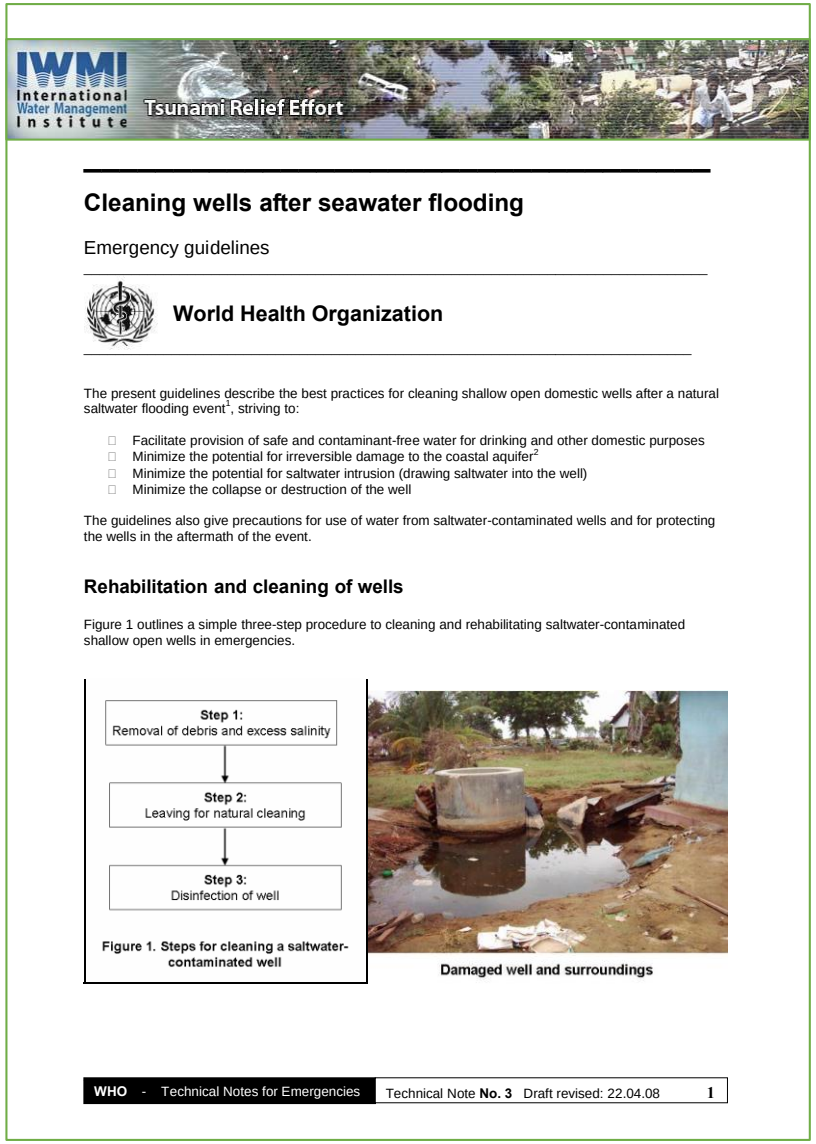
- To setup a monitoring program on groundwater salinity after tsunami hit
- To measure the household perceptions on water quality aspects
- To guide the local efforts on cleaning and using the wells in the wake of tsunami



IWMI
International Water Management Institute
WWW.IWMI.ORG



TSUNAMI IMPACTS ON SHALLOW GROUNDWATER IN SRI LANKA



IWMI International Water Management Institute — Tsunami Relief Effort

Cleaning wells after seawater flooding

Emergency guidelines

World Health Organization

The present guidelines describe the best practices for cleaning shallow open domestic wells after a natural saltwater flooding event[1], striving to:

- Facilitate provision of safe and contaminant-free water for drinking and other domestic purposes
- Minimize the potential for irreversible damage to the coastal aquifer[2]
- Minimize the potential for saltwater intrusion (drawing saltwater into the well)
- Minimize the collapse or destruction of the well

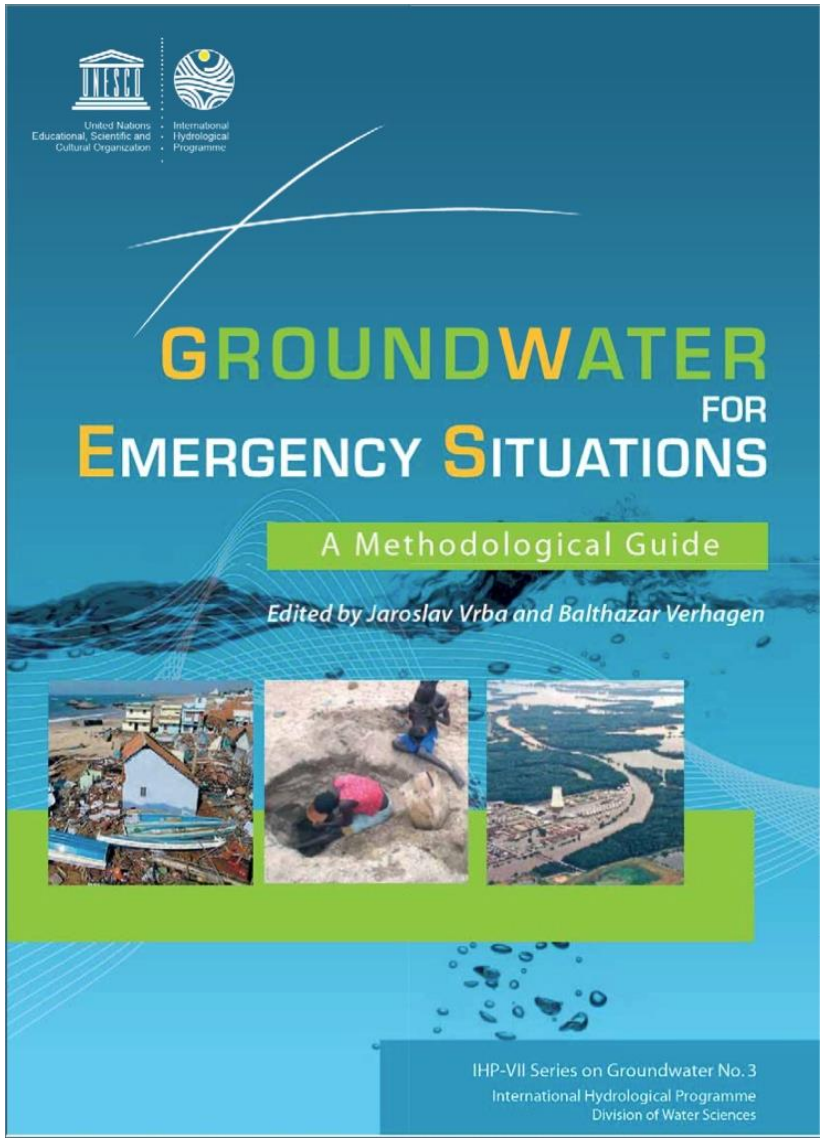
The guidelines also give precautions for use of water from saltwater-contaminated wells and for protecting the wells in the aftermath of the event.

Rehabilitation and cleaning of wells

Figure 1 outlines a simple three-step procedure to cleaning and rehabilitating saltwater-contaminated shallow open wells in emergencies.

Figure 1. Steps for cleaning a saltwater-contaminated well

Damaged well and surroundings



Tsunami impacts and rehabilitation of groundwater supply: Lessons learned from Eastern Sri Lanka

11.9

Karen G. Villholth[1,2,], Paramsothy Jeyakumar[3], Priyanie H. Amerasinghe[1], A. Sanjeewa P. Manamperi[1], Meththika Vithanage[4], Rohit R. Goswami[5] and Chris R. Panabokke[6]*

Abstract

This case study reviews the outcomes and experiences gained from comprehensive research and support work in Sri Lanka related to the impacts on groundwater and the destruction and rehabilitation of the local water su[illegible] tsunami. An overriding problem was the floc[illegible]ri Lanka, and the saltwater entry into soils, gr[illegible]ackbone of local water supply. The salinity impr[illegible] were detectable up to 1.5 years after the tsunam[illegible]ity was found to be the natural rainfall and ambi[illegible]mpaigns conducted in the aftermath of the eve[illegible] were provided from a host of actors who shoul[illegible]at ensured an uninterrupted supply of freshw[illegible]nities. Apparent shortcomings in the water su[illegible]rather than pathogenic contamination, and towa[illegible]tion and consultation/involvement of affected [illegible]flooding events from a water security point of view are given including reference to a set of guidelines developed as part of this work for the cleaning and rehabilitation of drinking water wells and groundwater protection after saltwater flooding events.

1. *International Water Management Institute (IWMI), P O Box 2075, Colombo, Sri Lanka,*
2. *Geological Survey of Denmark and Greenland (GEUS), Copenhagen, Denmark,*
3. *Eastern University of Sri Lanka, Batticaloa, Sri Lanka*
4. *Department of Geography and Geology, University of Copenhagen, Denmark.*
5. *Department of Civil Engineering, Auburn University, Alabama, USA.*
6. *Water Resources Board, Sri Lanka*

* *Corresponding Author, E-mail: kgv@geus.dk*

Return of scientific personnel and reconstruction of infrastructure

#ScienceInExile

ON-FARM WATER MANAGEMENT IN HOME GARDENING/WATER AND SANITATION

Project focus

- To assist rural communities in the North and East regions in Sri Lanka, to increase their food production
- Promote rural communities in micro and small enterprise/production activities

Outcomes

- Assisted 'selected' rural community to increase their food production
- Major data inputs for the project proposals by UNIDO
  - ❖ Rehabilitation and reconstruction support for rural community-based self-help initiative of women in the tsunami affected Regions in Sri Lanka" (US$ 250,000)
  - ❖ Support for sustainable livelihood recovery among the conflict affected population in the North and East Regions through improved agricultural productivity and community-based entrepreneurship" (US$ 1.7 million)

ENHANCING HIGHER EDUCATION AT DOCTORAL STUDY (PhD) LEVEL

Nilusha: A 30 sec testimonial video clip here

Cadmium uptake mechanism

Nilusha Ubenarayana
University of Kelaniya, Sri Lanka

Objective

Determine the Cd uptake and translocation mechanism in forage species used in New Zealand live stock grazing system.

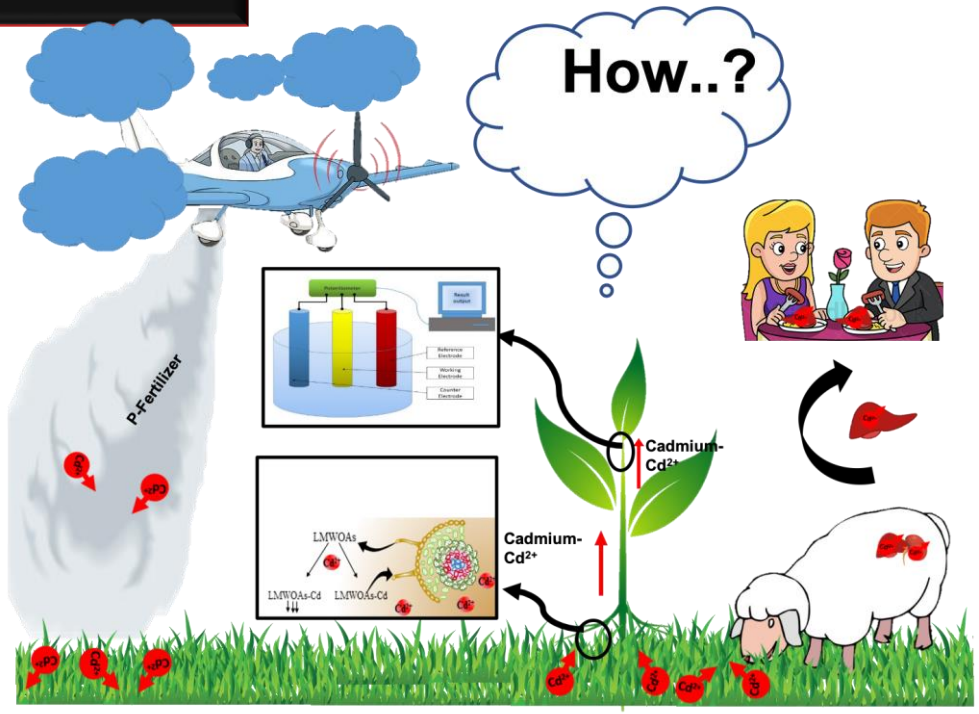
Novelty

- There have been no studies published
- Innovation of a novel chemically modified carbon electrode to determine different Cd species.

Expected outcome

- Identification of LMWOAs associated with Cd uptake and translocation in chicory and plantain.

- Development of an electrochemical sensor to determine micromolar levels of free Cd^{2+} ions in environmental samples.

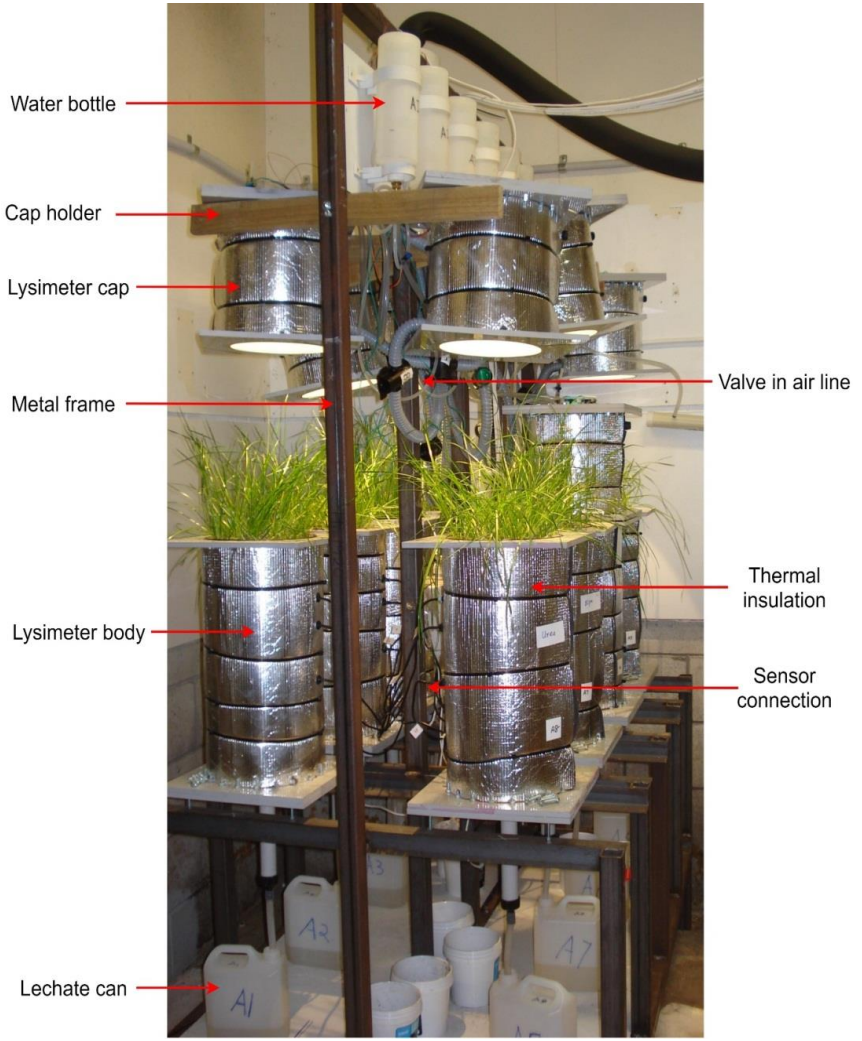


ENHANCING HIGHER EDUCATION AT DOCTORAL STUDY (PhD) LEVEL

Abhiram: A 30 sec testimonial video clip here

Instrumentation of a bank of lysimeters: Sensors and sensibility

Abhiram Gunaratnam
Uva Wellassa University Sri Lanka,



ENHANCING HIGHER EDUCATION AT DOCTORAL STUDY (PhD) LEVEL

Janani: A 30 sec testimonial video clip here

Phosphorus speciation in saturated soils

Objective

- To generate fundamental knowledge on P chemistry under submergence of agricultural soils
- useful for formulating recommendations on site specific application of P fertilizers.
- To provide an insight into effectiveness of bunds in preventing land degradation and surface water contamination.

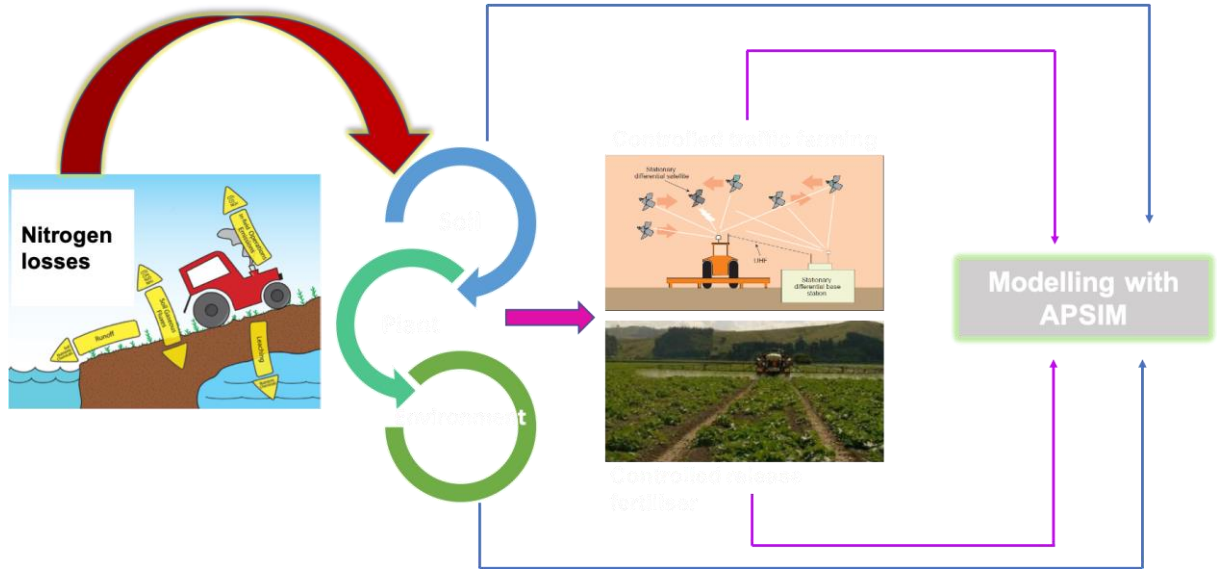
Janani Palihakkara
University of Peradeniya, Sri Lanka

ENHANCING HIGHER EDUCATION AT DOCTORAL STUDY (PhD) LEVEL

Controlled traffic farming

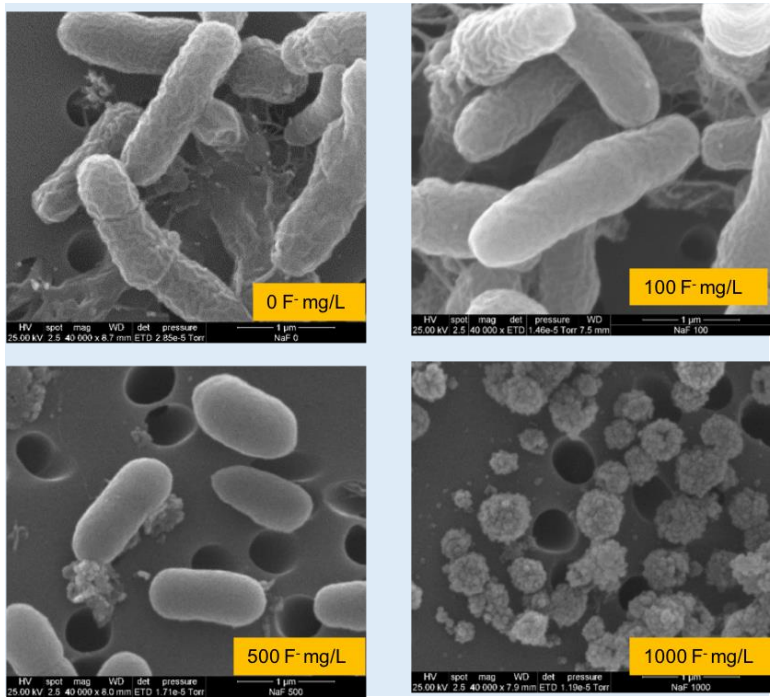
Objectives

- Test the suitability of controlled-release fertilisers (CRF)
- Test the effect of adopting CTF on N losses in different vegetable cropping systems.
- Model with APSIM against the NO_3- leaching and N_2O emission data

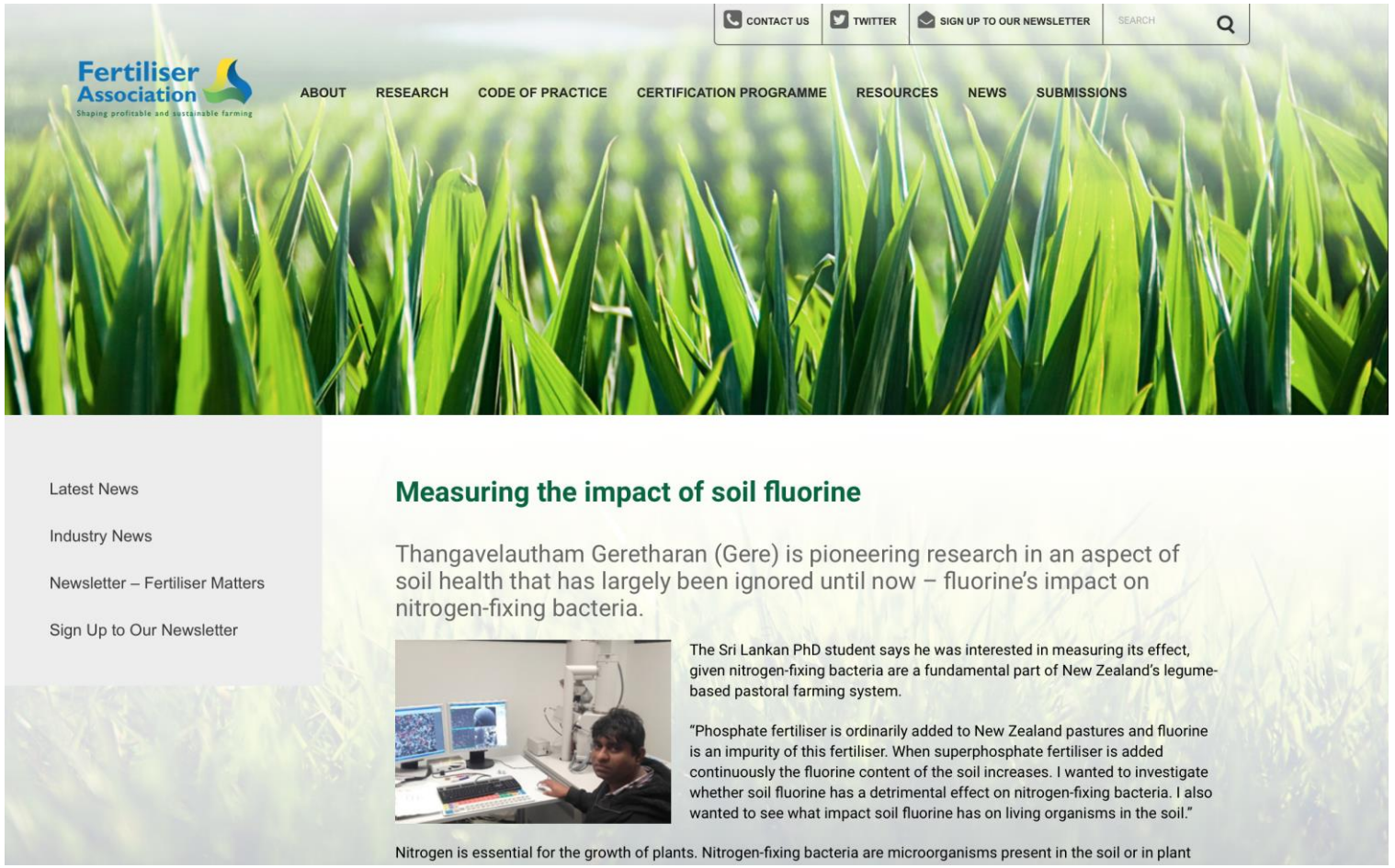


Bawatharani Raveendrakumaran
Eastern University, Sri Lanka

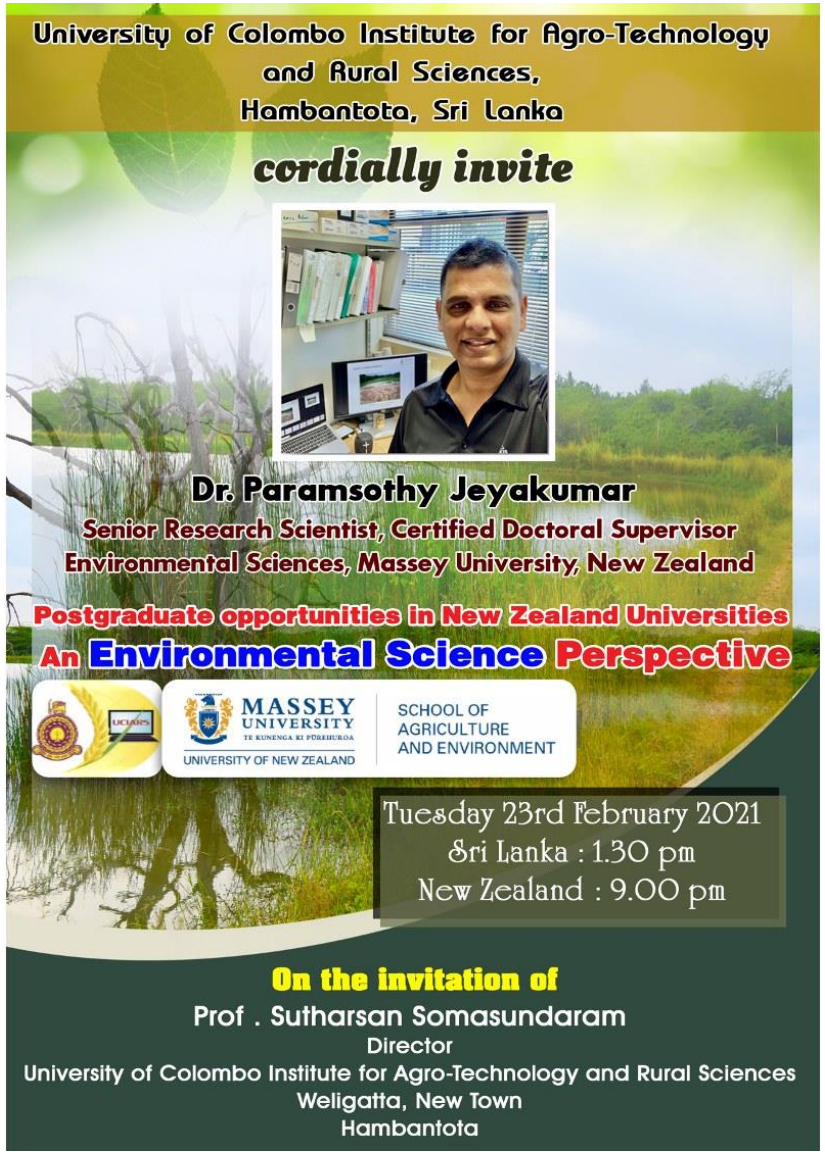
ENHANCING HIGHER EDUCATION AT DOCTORAL STUDY (PhD) LEVEL



Thangavelayutham Geretharan
Eastern University, Sri Lanka



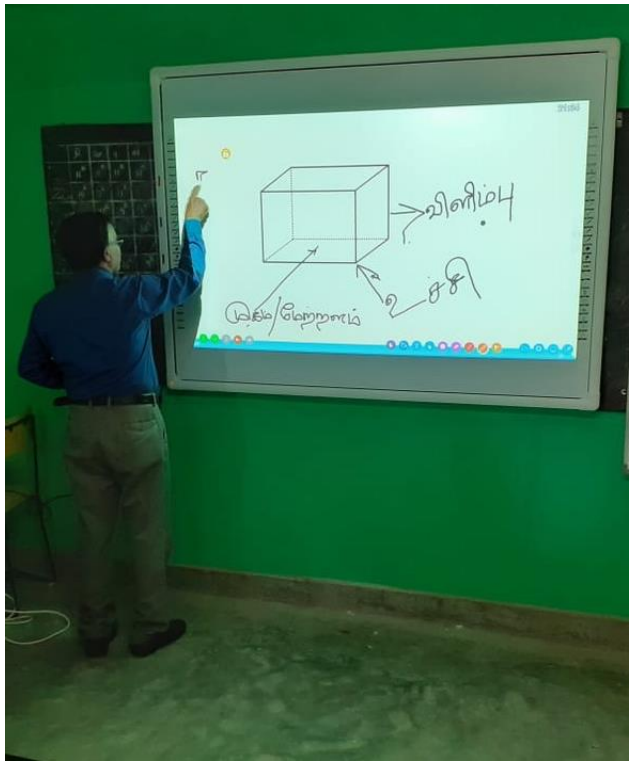
EDUCATIONAL AWARENESS PROGRAMMES



UPGRADE THE STANDARD OF EDUCATION AT THE INTERMEDIATE LEVEL

It is high time the diaspora enables youth empowerment in homeland through quality education

Model Project: Smart classroom



Thank you

P.Jeyakumar@massey.ac.nz

Helping Hands

Black Caps - ICC World Cup 2015

Motivation

All Blacks - Rugby World Cup 2019

Miracle Happens