TERRA School 2022 Report:

Asia meets Africa

February 2022

ABOUT THE ORGANIZORS

The 3rd TERRA School

by Yuko Onishi and Rob Kuipers

TERRA School (Transdisciplinarity for Early careeR Researchers in Asia School) is a short-term intensive course on transdisciplinary research in practice, organized by the Research Institute for Humanity & Nature (RIHN) in collaboration with the Future Earth Global Secretariat Hub Japan. It aims to build capacity on transdisciplinary research, where researchers and societal stakeholders work together to address challenges facing humanity. It is envisioned to raise awareness of what transdisciplinarity can offer and the challenges involved in its implementation.

Its third training course was held from February 16th to March 4th, 2022. Following from the previous year, due again to the spread of COVID19, this year's school was held entirely online through various platforms such as Zoom, Miro, and SpatialChat. The course featured lectures, workshops and interactive sessions on theories and practice of transdisciplinary research. It included structured learning on tools and methodologies used in TD (e.g. problem framing, stakeholder analysis and theory of change) and introduction to the various transdisciplinary research conducted at RIHN.

A total of 16 participants coming from different parts of Asia (Malaysia, Taiwan, Indonesia, Mongolia, Thailand, China, and India) attended the course. The participants hold a good mix of research backgrounds such as Engineering, Chemistry, Geology, Anthropology, Politics, and Economics. Participant's ages ranged from 30 to 44 years old with 12 female and 4 males. All of them had a doctorate degree with varying degree of experiences and currently connected with universities in their respective countries. Their fields of expertise were also varied with a good mix of natural and social sciences.

Terra School 2022 Organising team

RIHN

RIHN has conducted inter- and trans-disciplinary research in search of the ideal interaction of humanity and nature since its foundation in 2001, in addition to academic research spanning the natural sciences, humanities, and social sciences, while also considering regional characteristics and historical contexts.

Future Earth

Future Earth is a global research network launched in 2015, which brings together 27 global research networks focusing on environmental issues and sustainability. Interdisciplinarity and Transdisciplinarity are key concepts in Future Earth. The secretariat of Future Earth is hosted by 9 different countries, one of which is Japan and supported by RIHN.

Research. Innovation. Sustainability.

Summary of the program

Day 1: introduction

Dr. Juichi Yamagiwa, director-general of RIHN, gave a welcome speech to welcome the participants to the third edition of TERRA school and to introduce the program. This was followed by an ice-breaker activity to get to know each other. Participants worked in pairs and introduced their buddy to the whole group by sharing a fun fact that they learned about each other in a 3-minute break-out session. Prof. Hein Mallee then introduced the concept of transdisciplinarity and how its practiced at RIHN and Future Earth. The second part of the talk focused on the concept of wicked problems, how TD aims to address this, and the characteristics of TD in RIHN and Future Earth.

A keynote lecture was then provided by Dr. Rampisela. Dr. Rampisela worked as a co-leader of RIHN research project on Integrated Water Resources Management, where she was the primary investigator for the Jeneberang Watershed project in Sulawesi Island, Indonesia. This project focused on developing strategies and capacity to promote fair use and management of irrigation water in the Sulawesi Island. Dr. Rampisela explained how the project transformed from an interdisciplinary into a transdisciplinary project and how the project managed to engage stakeholders throughout the project. Based on her experience, she identified five principles to successfully enable transdisciplinary research: 1) research should be aimed at solving real-world problems and should combine different types of knowledge by partnering with societal stakeholders; 2) project should promote stakeholder legitimacy and balance, 3) projects should encourage stakeholder participation and benefits (i.e. societal and academic outputs); 4) projects should facilitate collaborative

actions; and 5) projects should foster project sustainability (i.e. promote self-initiative activities by stakeholders and sufficient support to ensure that projects activities continue after support from the research project ends).

Day 2: defining problems

Dr. Osamu Kozan presented a case study about the Tropical Peatland Society project at RIHN. This project addresses the problem of frequent and large-scale fires in tropical peatlands in Indonesia. During the presentation he shared why the project decided to adopt a transdisciplinary approach and how it has benefitted the project. For the Peatland project, there were 5 reasons to adopt a TD approach, which were; to better understand the essence of the problems in collaboration with residents; to carry out long-term grassroots exchange activities; to analyze and understand both the scientific mechanisms and the societal context; to foster and mediate dialogue between residents and the government, local governments, and companies; and to make recommendations for international action based on this experience.

Dr. Lambino then introduced rich pictures as a tool to explore wicked problems. Rich pictures are "a compilation of drawings, pictures, symbols, and text that represent a particular situation or issue from the viewpoint of the person or people who draw them" (Open University). These drawings of detailed representations of problematic situations can help to understand the complexity of the entire situation, encourage people to think deeply about the problem, to organize thoughts, and to analyze interactions. They can be a useful tool in participatory research process to encourage

discussions and attain shared understandings among stakeholders. During the workshop, the participants were split into four break-out groups to create their own rich pictures. Each group was asked to decide on a problem to work on and to create a rich picture about this problem in Miro by including relevant stakeholders, key stakes, their relationships, and other important elements.

Day 3: stakeholder engagement

Day 3 started with a presentation by Dr. Norie Tamura about the FEAST project, a five-year TD project which was based at RIHN. The FEAST project was active in four countries (Japan, Thailand, China and Bhutan) and worked together with an extensive network of stakeholders to promote transitions towards sustainable food systems in Asia using participatory foresight methods, such as future visioning and scenario planning. The presentation focused on the co-design phase of the project and how stakeholder engagement can be initiated and sustained throughout the project, based on lessons learned from the project's work in Kameoka city in Kyoto.

In the Kameoka case, Food Policy Councils (FPC) were set-up to facilitate as a platform for stakeholder engagement. In FPCs a diverse group of citizen groups, food system stakeholders, and municipal government officials are brought together to discuss and propose integrative policy solutions to food-centered problems. Besides that, Dr. Tamura introduced other tools used in the project such as visioning, back-casting, and field experiments.

In the following workshop, Dr. Lambino introduced stakeholder analysis as a tool to

Workshop 1: Rich pictures

Final group presentation: Group1

Final group presentation: Group2

identify relevant stakeholders to address a wicked problem. Stakeholder analysis is an important step in identifying, analyzing and prioritizing who and how to engage stakeholders in a TD process. To try this method, the participate were divided again into break-out groups and were tasked to create their own stakeholder analysis in Miro based on the wicked problem that they worked on in the first workshop.

Day 4: meeting with stakeholders

Day 4 was a special session with an in-depth case study of the Sanitation project. The Sanitation project is a 5-year RIHN project focused on improving sanitation in both developed and developing countries through transdisciplinary research. Presentations were provided by the project leader and project researchers. At the end of the session, stakeholders and project partners from the Zambia field site also joined the session to share about their experiences with working with researchers and engaging in transdisciplinary research. The first presentation was by professor Taro Yamauichi, project leader of the Sanitation project. He introduced the overall approach of the project and why the project decided to take a transdisciplinary approach to address the wicked problem of sanitation. He also gave an overview of the project activities in the field sites in Japan, Indonesia and Zambia.

After the presentations, there were two open forum session, one with the project researchers and one with stakeholders of the Sanitation project in Zambia, in which the participants could ask questions. The open forum with the researchers led to lively discussions about how to initiate TD research and how to overcome challenges.

In the second open forum, the TERRA school participants received the unique opportunity to talk with some of the stakeholders of the sanitation project in Zambia to hear first-hand about their experiences and lessons learned. The participants were particularly interested to hear about their experience working with researchers, the constraints and challenges the project faced, and what researchers can do to overcome these. The invited stakeholders also reflected on the achievements of the project and how transdisciplinary research can be useful to achieve more meaningful societal impacts compared with other research approaches.

Day 5: project management

On day 5, Dr. Yuko Onishi gave a presentation about the RIHN co-creation project. This project aims to compile the lessons learned from the experiences of implementing/participating in TD projects and to find effective methods for sharing these lessons. She introduced some of the findings of the project and various tips to improve stakeholder participation.

The last workshop was on Theory of Change (TOC). Dr. Hein Mallee introduced TOC as a tool to identify research objectives and pathways for change in TD research. He provided a background on existing TOC concepts, why the tool is useful, and how they can be developed. TOC is useful because it brings attention to goals (e.g. project outcomes and impacts), articulates pathways for change, and exposes assumptions and flaws/weaknesses in logic. In TD processes, it can also be a tool for creating mutual understanding.
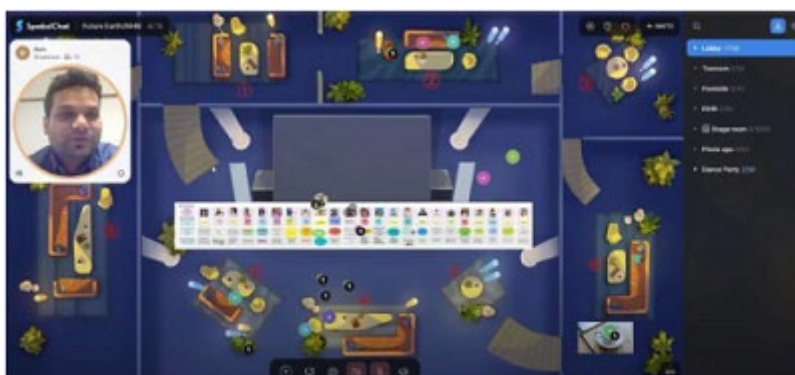
In the workshop, Terra school participants were divided again into break-out groups and were asked to create their own theory of change in Miro based on the wicked problem that they worked on during the previous workshops. Each group developed 2-3 outcomes, taking into account the different stakeholders they identified during workshop 2, and developed concrete steps for how to achieve these outcomes.

Day 6: group presentations

On the last day, the participants presented their group work. Each group presented for 10 minutes about their proposed TD project developed throughout the workshops. They introduced their wicked problem, identified stakeholders, research objectives and theory of change. The projects focused on the following topics:

- Group 1: Penang South Islands- Land Reclamation Project.
- Group 2: Co-designing resilience to flooding in Davao, the Philippines.
- Group 3: Clean Delhi's Air Haze: crop burning.
- Group 4: Raising awareness and change of behaviours towards food waste (Indonesia).

The presentation session was concluded by a closing ceremony in which Prof. Hein Mallee presented all the participants with a certificate for successful completion of the course. All participants and facilitators also had the opportunity to talk for two minutes about their experience and learnings during the school. The day was concluded with an afterparty in the TERRA school SpacialChat room.

Day6: Meeting with TERRA alumni through SpatialChat

Program

Day 1: February 16	
14:00 - 14:40	Terra school kick-off and introductions
14:40 - 15:00	Course overview and expectations check
15:00 - 15:20	Talk 1: Why do transdisciplinary research
15:30 - 16:20	Keynote: Enabling transdisciplinary research
Day 2: February 18	
14:05 – 14:40	Case study 1: Solving Indonesia's large-scale fires
14:40 – 15:40	Workshop 1: Exploring a wicked problem using rich pictures
15:50 – 16:20	Plenary group presentations 1: Rich pictures
Day 3: February 21	
14:00 – 14:35	Case study 2: FEAST project
14:35 – 15:35	Workshop 2: Stakeholder analysis
15:45 – 16:00	Plenary group presentations 2: Stakeholder analysis
Day 4: February 25	
14:05 – 15:35	Case study 3: Sanitation project
15:30 – 16:20	Interaction with Sanitation project partners
Day 5: February 28	
14:10 – 15:40	Talk 3: TD project outcomes and theory of change
15:50 – 16:20	Workshop 3: TD project objectives and theory of change
Day 6: March 4	
14:05 – 15:05	Plenary presentations 3: Group presentations TD projects
15:20 – 16:00	Final reflection session
16:00 – 17:00	Virtual "happy hour" with TERRA school alumni

知の共創プロジェクト
co-creation for sustainability