

Comparative Perspectives towards Transdisciplinarity  
and  
International Sharing of Good Practices

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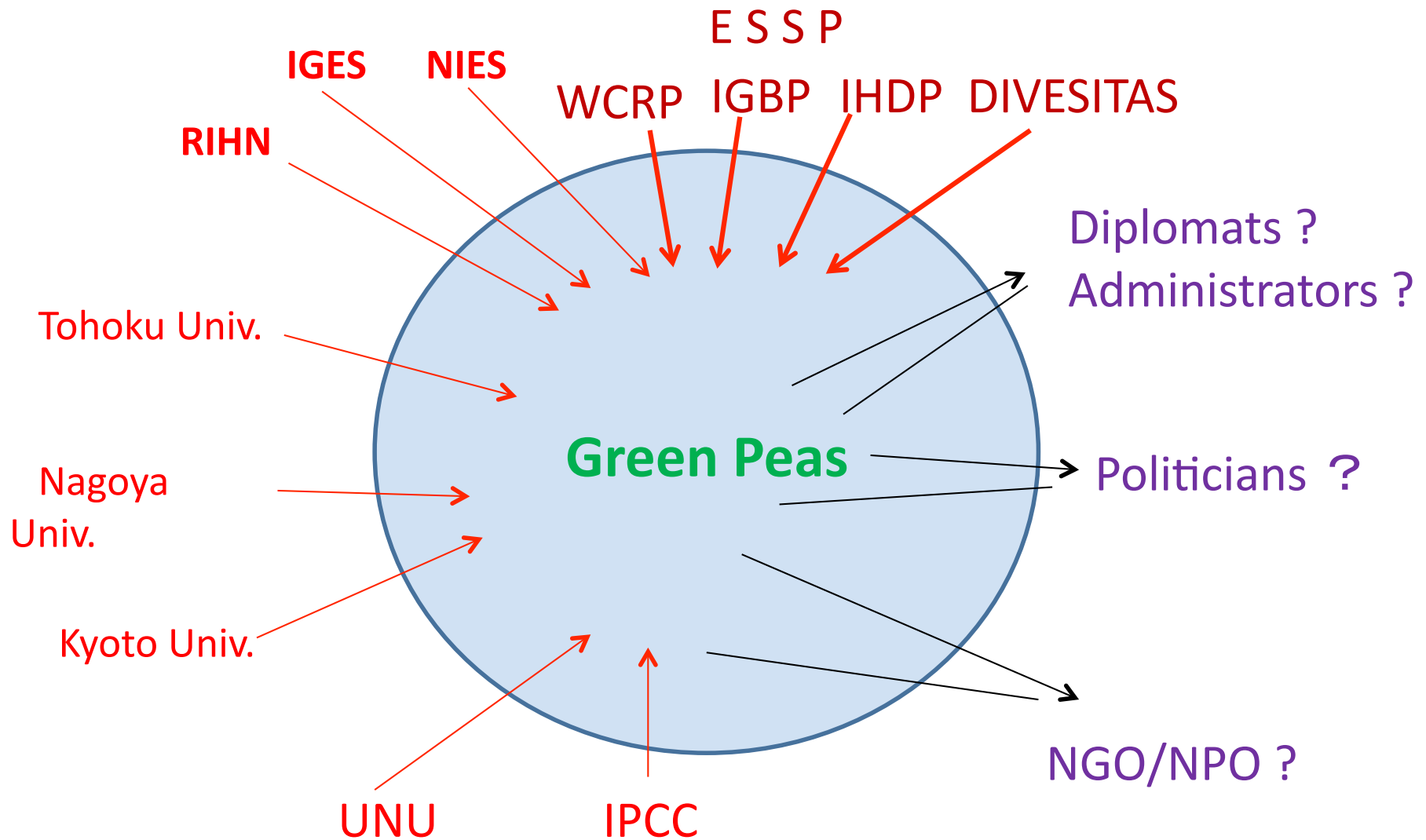


Fig. 1 Scientist-made Green Pea Soup for Stakeholders ?

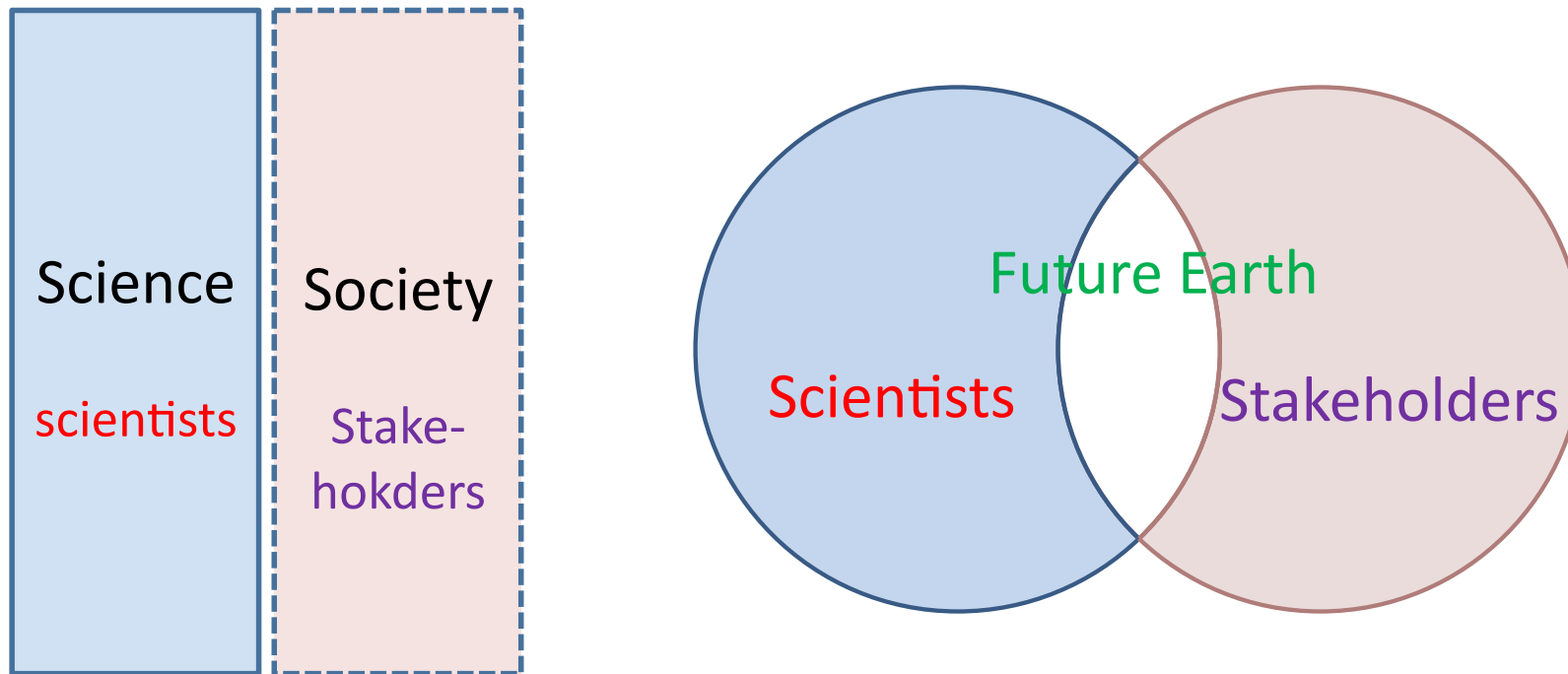


Fig.2 Interdisciplinarity vs Transdisciplinarity of Future Earth

## The Two Cultures

### 1. Scientist Communities in Asia

- Heavy dominance of natural sciences
- Minority contents of social sciences and the humanities

### 2. Stakeholders in Real-Asia

- Socio-cultural diversity
- Political diversity
- Economical diversity

# Future Earth (Future Asia)

from interdisciplinarity to **transdisciplinarity with stakeholders**

- ICSU, ISSC, Belmont Forum **with stakeholders**
- IPCC, UNEP and advisory bodies **with stakeholders**
- WCRP, IGBP, IHDP, DIVERSITAS **with stakeholders**
- Research programs **with Asian stakeholders**
- Research programs **with national stakeholders**
- A global network of transdisciplinarity networks

## Comparative Perspectives of Stakeholder' s Involvement

### Q1 Whom to involve ?

DISCIPLINARITY ⇒ INTERDISCIPLINARITY

ID-1: Interdisciplinarity involving different natural sciences

ID-2: Interdisciplinarity involving social sciences & humanities

TRANSDISCIPLINARITY involving stakeholders

TD1: from ID-1 towards TD missing out social science ?

TD2: from ID-2 towards TD

Involving early career scientists

### Q2 When to involve ?

Early engagement of stakeholders in Problem Definition

⇒ Knowledge Integration

⇒ Research Evaluation

⇒ Research Result Fruition to Society

### Q3 How to involve ?

1. Stakeholder' s intervention in academic activities ?

2. Mutual learning between scientists and stakeholders

# Proposal for Trans-continental Survey and Sharing of Good Practices of Trans-disciplinarity

## Stakeholder's involvement

Whom to involve? When to involve? How to involve?

## Change and evolution of Scientist Communities

- Institutional and financial incentives for TD
- Disincentives and impediments against TD
- Stakeholders' involvement in research and evaluation
- Social intervention in scientific activities
- Involvement of early career scientists

## GOOD PRACTICES to be shared internationally & trans-continentally

- TD seminars and workshops inviting young scientists
- A global network of TD networks
- World TD Report**
- Recommendations to scientists communities and stakeholders

## Transcontinental Survey and Sharing of Good Practices of Transdisciplinarity

Japan's Transdisciplinarity Report 2013 proposes :

Case Studies for good practices

Transcontinental survey on TD processes

**Case Studies in 2013–2014**  
for European and American TD

**Case Studies in 2013–2014**  
for Asian TD

**Comparative discussions on TD practices in 2014–2015**  
TD Workshops and Seminars involving early career researchers  
Feasibility study on a **Global Network of TD Networks**

**World Transdisciplinarity Report 2016** for Future Earth  
Recommendations to Scientist Communities and Stakeholders



# Japan's Transdisciplinarity Report, 2013

## World Transdisciplinarity Report, 2016

### Section 1 : Regional Diversity of Transdisciplinarity

- TD perspectives in Europe
- TD perspectives in America
- TD perspectives in Japan (Asia)
- Universality and diversity of TD

### Section 2: Change and evolution of Scientist Communities

- Institutional and financial incentives for TD
- Disincentives and impediments against TD
- Stakeholders' involvement in research evaluation
- Social intervention in scientific activities
- Involvement of early career scientists

### Section 3 : Good Practices for stakeholders

- Good Practices in Europe
- Good Practices in America
- Good Practices in Japan (Asia)
- International sharing of good practices

### Section 4: A Global Network of TD Networks

### Section 5: Recommendations to Scientists and stakeholders

Japan's New Science and Technology Policy  
learnt from 2011 Great East-Japan Earthquake  
(MEXT's Council of Science and Technology, Nov 2012)

**IV 1. Social needs identification & research problem definition**

Stakeholders request research results fruition to society. The government should now take initiatives in establishing a collaborative scheme among scientists of various disciplines, industry, ministries, and others concerned to appropriately define research problems taking account of real needs of society.

It is also necessary to establish a network linking scientists to stakeholders of real-society in real time, and to promote researches on policy-making through reasonable processes based on objective evidence.

# **JAPANESE TRILEMMA** Newly Identified by MEXT

## **Trilemma of Interdisciplinary and Transdisciplinary Projects**

- No appropriate evaluation methods available;
- Weak linkage between evaluation result and the next fund;
- Difficulties in knowledge integration in a period of 3-5 years.

## **Trilemma of Frontier Scientists**

- No appreciation methods for challenging activities;
- Academic societies appreciating specialized papers;
- Insufficient job opportunities;

## OPTIONAL SOLUTIONS proposed for policy makers

Solution1-A: Identifying priority multi-facet problems to be studied

Solution1-B: Giving priorities to critical social problems

Solution2-A: Giving incentives to scientists and mitigating dis-incentives

Solution2-B: Sharing good practices by organizing symposia and seminars

Solution3-A: Evaluation principles based on research experiences

Solution3-B: Appreciation principles to encourage frontier scientists

Solution4-A: New programs and schemes to give researchers longer time

Solution4-B: Linkage between high appreciation and the following funding

Solution5-A: Providing young scientists with job opportunities

Solution5-B: Continued supports to education and training programs

**Universities and institutes contributing to MEXT's survey**

## **From interdisciplinarity to transdisciplinarity**

- 25 Japanese universities**
- Inter-University Research Institutes (RIHN and others)**

## **Transdisciplinarity involving stakeholders**

- 14 Ministerial Research Institutes**

JST Japan Science and Technology Agency

JSPS Japan Society for the Promotion of Science

NIED National Institute for Earth Science and Disasters

JICA Japan International Cooperation Agency

AIST Institute for Advanced Industrial Science and Technology

NICT National Institute for Information and Communications Technology

PWRI Public Works Research Institute

BRI Building Research Institute

NIES National Institute for Environmental Studies

IGES International Global Earth Sciences

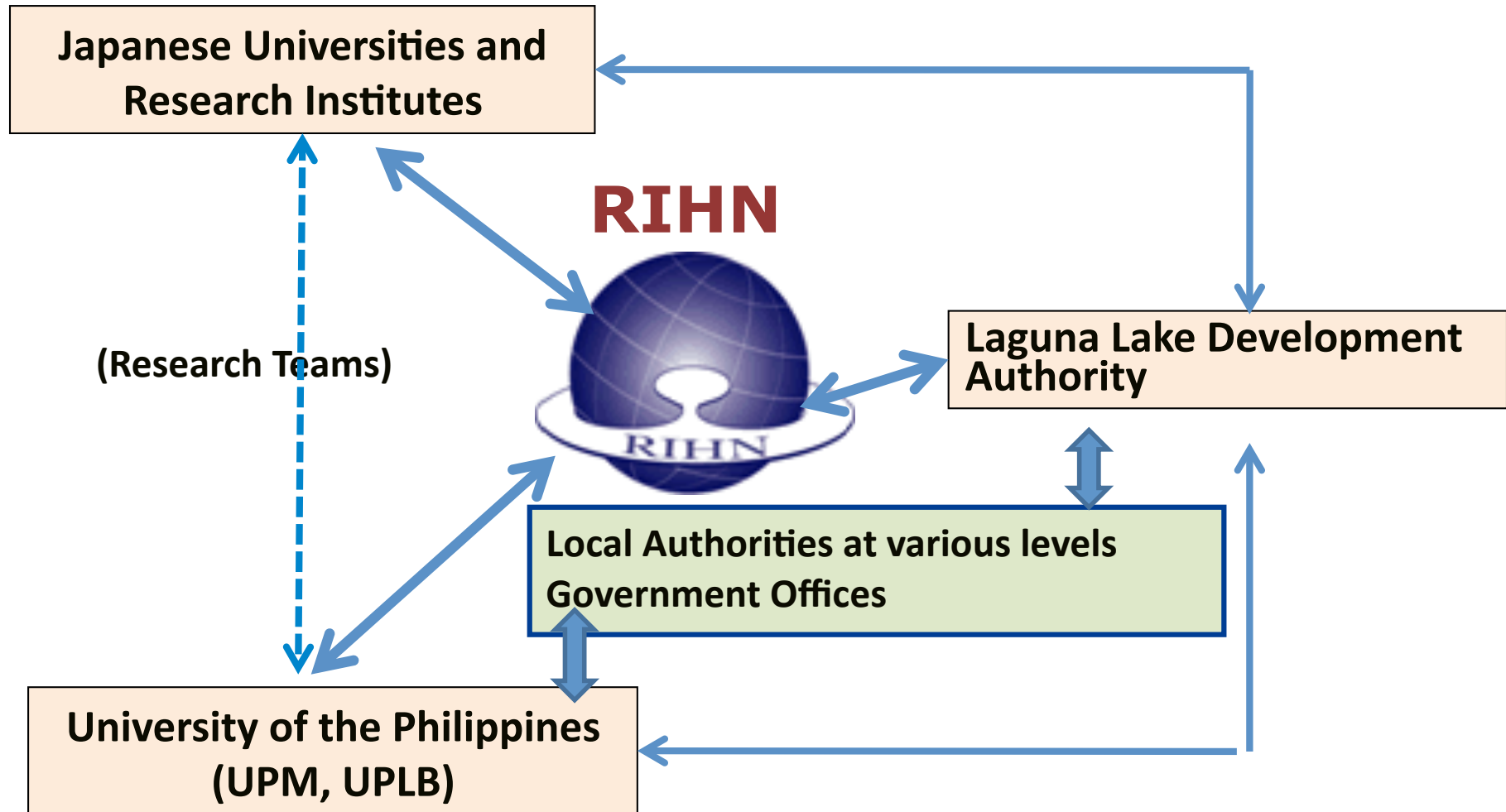
NARO National Agriculture and Food Research Organization

NIAS National Institute of Agrobiological Sciences

NIAES National Institute for Agro-Environmental Sciences

JIRCAS Japan International Research Center for Agricultural Sciences, and others

# An Asian Transdisciplinary Project for Laguna Lake in the Philippines



## European contributors to TD-Net

### case studies sponsored by the Swiss Academies

**Bielefeld University, Germany**

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**University of Oxford, UK**

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**University of Szeged, Hungary**

**University of Twente, The Netherlands**

**University of Zurich, Switzerland, and many others**