

Elsevier APAC Customer Success Hub
February 1st, 2023

**Beyond Borders:
How to promote interdisciplinary & international
collaborative research to contribute to the achievement of the SDGs**

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Center for Southeast Asian Studies, Kyoto University

What I was requested to talk today are;

- The significance and prospects of **interdisciplinary & international collaborative research**, challenges and synergies of integrating natural sciences and humanities/social sciences
- **Message to the next generation of researchers**, drawing on his research activities and real-world experiences
- How researchers in the Asia-Pacific region can drive interdisciplinary research and international collaborative research and **how they can contribute to solving global issues**



Contents of the talk

1. Research and SDGs
2. Roles and significances of interdisciplinary studies
3. Transformation of international collaborative researches



Sustainable Development Goals (SDGs)

Universal goals which should be addressed by people in the world (“2030 Agenda for Sustainable Development” (2030 Agenda) adopted by the United Nations (UN) in September 2015



Inclusive society

Realizing a society in which “no one will be left behind”

Redirecting transformation

Exploring new development patterns under the planetary boundary



Japan's SDGs policy: Cabinet level

- 1. SDGs Promotion Headquarters**, a Cabinet body, headed by the Prime Minister (May 2016)
to ensure a whole-of-government approach to implementing the SDGs in a comprehensive and effective manner
- 2. SDGs Implementation Guiding Principles**
decided by SDGs Promotion Headquarters as Japan's national strategy for SDGs implementation
- 3. SDGs Action Plan 2018** (Dec. 2017)
as the direction of the "SDGs model" of Japan
- 4. Extended Action Plan 2018** (Jun. 2018)

Private sector

Local government



Weather Index Insurance in Southeast Asia

Sompo Holdings, Inc. offers agricultural insurance products in South East Asia to reduce climate related risks to agriculture. It launched a weather index insurance in Northeast Thailand in 2010 to alleviate losses borne by rice farmers when their crops were damaged by drought, and the sales area has steadily expanded over the years. In 2014, it launched Typhoon Guard Insurance in Mindanao Island, the Philippines, which aims to alleviate the losses borne by agricultural producers when they were affected by typhoons. Also, it developed new insurance products, including one which alleviates agricultural losses in Myanmar due to drought in the central dry zone, and similar products for Indonesia.



Contact Information
 Sompo Holdings, Inc.
 Corporate Social Responsibility Department
 e-mail : yiiiboshi@sjnk.co.jp
 URL: <http://www.sompo-hd.com/en/csr/>

SDGsを適用したオープンシティ戦略の改定

環境未来都市構想の経緯・成果を踏まえつつ、市まち・ひと・しごと総合戦略「釜石市オープンシティ戦略」の改定作業にSDGsを組み込んでいくことで、

SDGs未来都市を目指す。

環境未来都市構想

- ・スマートシティ創造への取組
- ・地域包括ケアの推進
- ・フィールドミュージアムの展開



オープンシティ戦略

- ・Airbnb社との連携による民泊推進
- ・市民参加型観光体験プログラム「Meetup Kamaishi」
- ・移住・起業支援「ローカルベンチャー」
- ・高校生キャリア教育「釜石コンパス」
- ・潜在労働力の掘起し「ごきんじょぶ」「プチ勤務」
- ・半官半民のコーディネーター「釜援隊」

法政大学川久保研究室との協働研究



2017.5.18 市長ヒヤリング

民間企業によるSDGs推進



男女共同参画の視点



男女共同参画まちづくり市民大学

市民への浸透



2017.3.18 オープンシティフォーラム
 SDGsから見る持続可能な世界と地域

多様なつながりを育み、誰もが自己決定を実現できるレジリエントな地域社会へ

Keidanren (Japanese Business Federation) revised the “Charter of Corporate Behavior” in Nov. 2017 where achieving the SDGs through the realization of Society 5.0 is stipulated as a main point.



Responses of Japanese research sector



Book of Japan's Practices for SDGs

- Creating Shared Value by STI, Business and Social Innovation -
(Preliminary Edition, Fall 2017)



Compiled 63 representative practices including research and business by Japan Science and Technology Agency (JST)

Japan's Ecosystem for Implementing SDGs

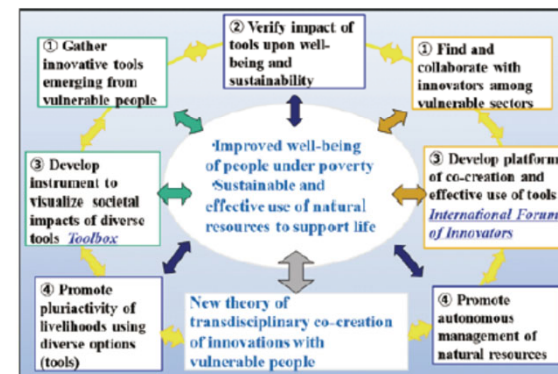


Transdisciplinary Research and Practice Partnering with Vulnerable People Under Poverty

Project name:

Transdisciplinary Study of Natural Resource Management under Poverty Conditions Collaborating with Vulnerable Sectors (TD-VULS project: 2017-2019)

By transdisciplinary collaborations with vulnerable people under poverty in 6 countries in Asia and Africa, the project identifies innovative tools emerging from vulnerable people themselves to improve their well-being and sustainability. These tools are summarized into a toolbox and an international forum of these innovators and transdisciplinary scientists is established to co-create innovations to end poverty.



brown: build trust
green: visualize innovations
blue: implement outcomes



Polewali (Indonesia): Improving well-being of cacao farmers by skill development and advanced farm management with local farmers, NGOs and actors of local and international markets.

Lake Malawi(Malawi): Establishing autonomous fisheries resource management and value-adding supply chains with small-scale fishermen, traders, traditional chiefs and other local actors.

Contact information
Professor Tetsu Sato, Faculty of Collaborative Regional Innovation, Ehime University
e-mail : sato.tetsu.ib@ehime-u.ac.jp

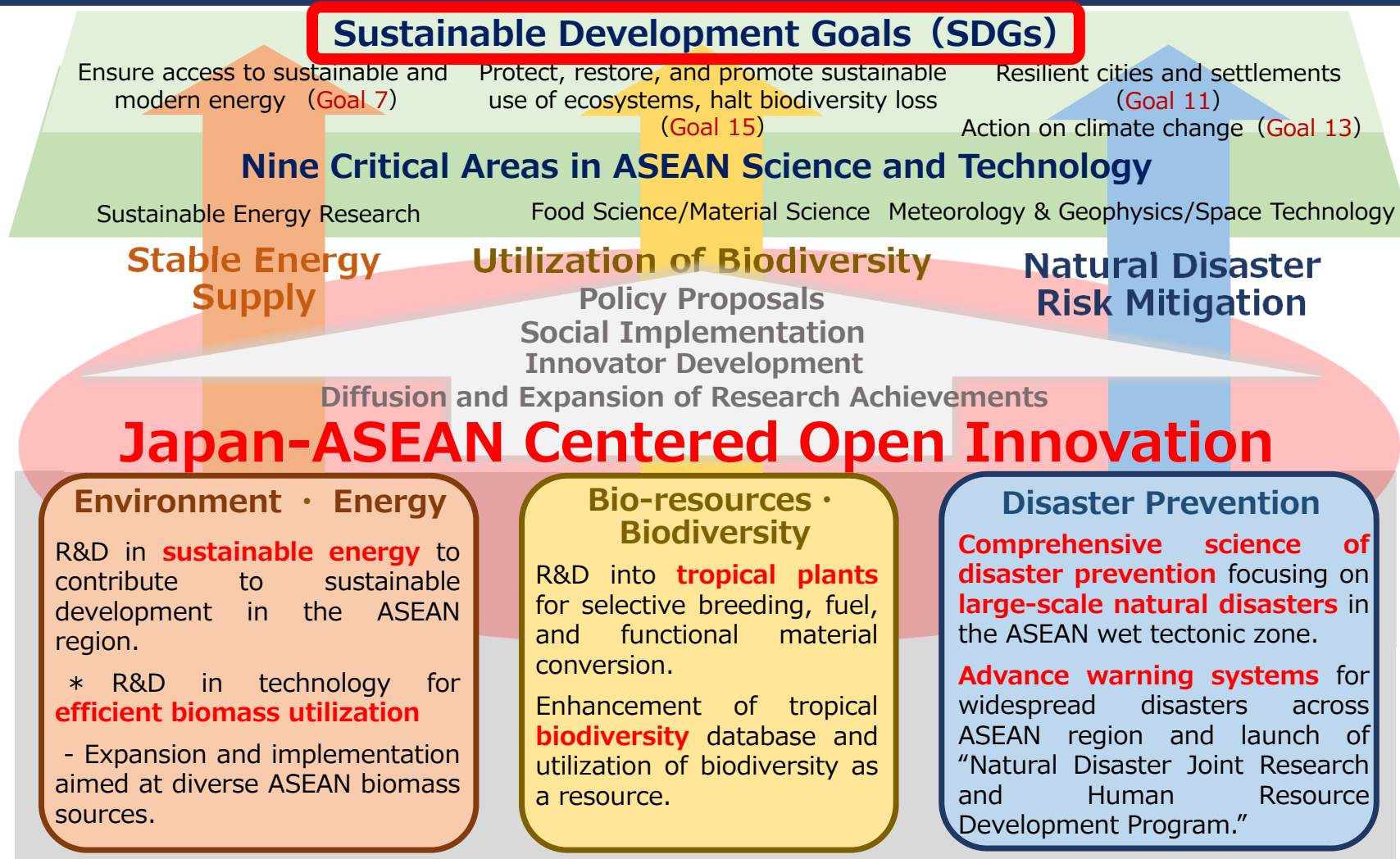


My initiative for SDGs



Project proposal submitted in 2015

- Proactive at that time
- Inclusive beyond the academic barrier





Questions on research and SDGs



- What are the impacts of SDGs on research trend?
- What is the significance of SDGs on long-term sustainability of research?



Shift from “research for research” to “research for society”

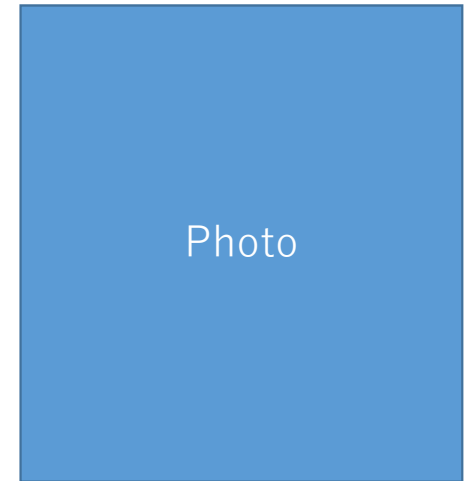


Japan’s Science and Technology Policy and Its Implications Prof. Takashi Shiraishi (Oct. 2015, Jakarta)

By now it is clear where we are heading. We have shifted the objective of science and technology policy **from science promotion to (social) innovation**; we have shifted **the logic for resource (government budget) allocation from supply side to demand side**; and we have undertaken coalition-building to steer government ministries and agencies in the direction we want them to go. In light of the globalization of science community and scientific research – and we now understand this trend as **open science, open data, and open innovation**, we have decided to regionalize and globalize Japan’s scientific research and technological development on condition that the research should address **problems that we all are confronting in the region**.



SDGs accelerate the shift of research objectives and approaches.

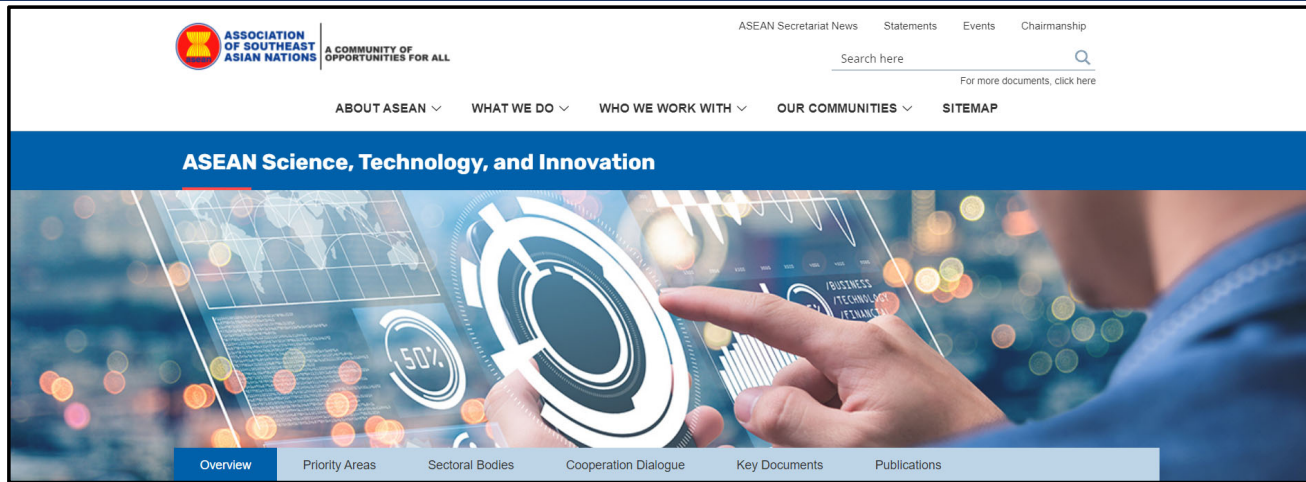


Prof. Takashi Shiraishi

Former executive member of
the Council for Science and
Technology Policy (present
CSTI) in the cabinet office



Trends of ASEAN Science, Technology, and Innovation



Logic for resource (government budget) allocation of supply side or demand side

Science, Technology & Innovation is an integral component of all economies in ASEAN, regardless of the economic status of the nation. Every economy is driven by some form of production, be it the production of goods or services, ranging across sectors such as agriculture, energy, education, finance, manufacturing, or tourism.

As such, the integration and cooperation agenda of Science, Technology & Innovation is driven by the common vision of every ASEAN Member State to leverage on the use of Science, Technology & Innovation to share knowledge and research developments, and to translate the research outputs into implementable solutions that address the real-life problems faced by its citizens.

Source: <https://asean.org/our-communities/economic-community/asean-science-technology-and-innovation/>



What is research?: Answer of Prof. Tasuku HONJO



Six “C” is the must for the innovatice research.

Curiosity

Courage

Challenges

Confidence

Concentration

Continuation

Prof. Honjo has pursued these “C” since he was a student.

Source: Asahi Newspaper dated 1st Oct. 2018

Photo

**Prof. Tasuku Honjo
Nobel Prize laureate in
Physiology or Medicine
(2018)**



What is research?: Answer of Prof. Shinya YAMANAKA



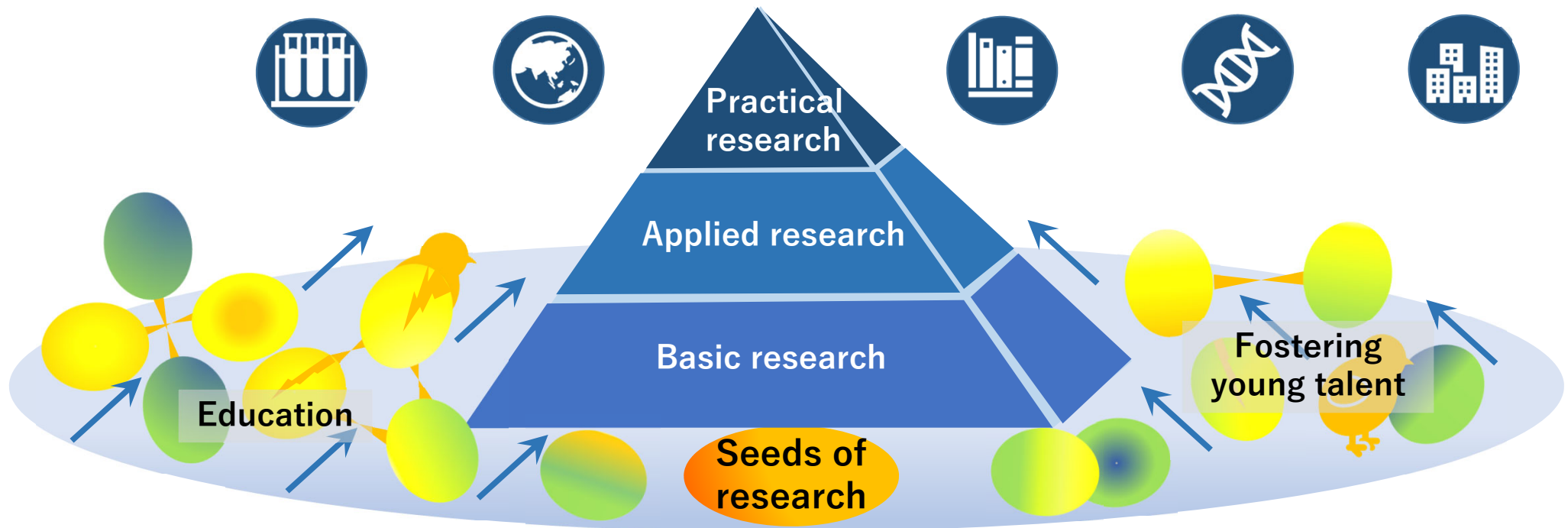
The work of researchers needs a long time, similar to marathon. The discovery of hepatitis c virus is in 1989, and the specific cure was finally developed in 2014. It takes 25 years.

25 years is not extraordinary long. A research usually needs 20 to 30 years. Researchers, including myself, are making efforts for laborious and time-consuming works like slow-pace marathon.

Source: Gendai business, Kodansha, 16th Sep. 2019

Photo

**Prof. Shinya YAMANAKA
Nobel Prize laureate in
Physiology or Medicine
(2012)**



- Basic, applied and practical researches are equally important, and their sources of innovation are academic freedom, original idea and diverse perspectives.
- The best-mix of basic, applied and practical researches are the basis of sustainable and productive ecosystem of research.



Contents of the talk



1. Research and SDGs
- 2. Roles and significances of interdisciplinary studies**
3. Transformation of international collaborative researches

What is interdisciplinary studies?

1. Interdisciplinary studies are something like a fighting between different sports without any fixed rules.



Source: <https://web-japan.org/kidsweb/ja/virtual/sumo/sumo01.html>

VS.



Source: <https://www.nippon.com/ja/japan-topics/g00734/>

2. The key of successful interdisciplinary studies is whether we can establish a win-win relation with the competitors.



Source: <https://twitter.com/rugbyworldcupjp/status/1056115893837549568/photo/1>

Why do we have to do interdisciplinary studies?

Real world



Source:
<https://edition.cnn.com/2022/12/06/politics/us-support-ukraine-aid-russia-poll/index.html>



Source:
<https://www.britannica.com/science/plastic-pollution>

VS.

Academism



Source: <https://www.kyoto-u.ac.jp/ja/archive/prev/issue/mm/jitsuha/2012/130222>

Huge gap between issues and problems we face in the real world and discipline-based academism

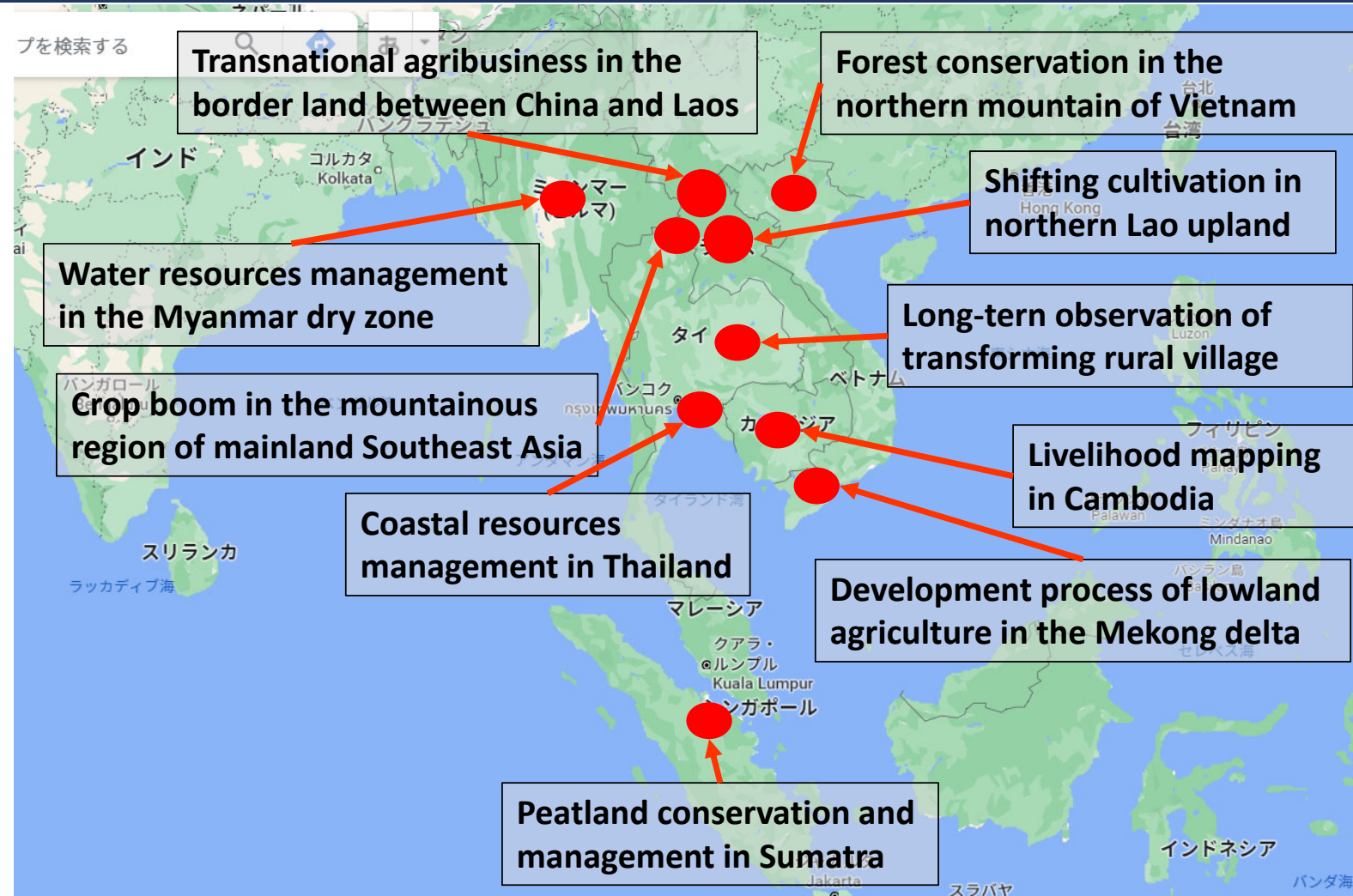
Agriculture, irrigation



Techniques of rainfed rice cultivation based on field survey and simulation modeling



- Rural livelihood and development
- Land and water resources management
- Environmental conservation
- Interaction between community and government





Kyoto University's Center for Southeast Asian Studies



■ I was recruited by Center for southeast Asian Studies (CSEAS), Kyoto University, in 1987 and have continued working there until now.





Vision of CSEAS area studies



Statement of Kyoto University President Ko Hirasawa on April 1963

Holistic understandings of the societies, cultures and natural environment of Southeast Asia

*The mission of the Center for Southeast Asian Studies is to conduct **comprehensive research on Southeast Asia**. As a matter of course, such comprehensive research cannot be achieved without **a deep affection for and understanding of Southeast Asian people** ... Rather than studying documents, we should **go to local places, live together with local people, and break into an unexplored field of research to make a broader contribution to international academia.***



Major approaches

Long-term field work conducted in local languages

Promotion of interdisciplinary research

Research agendas defined by the local contemporary issues



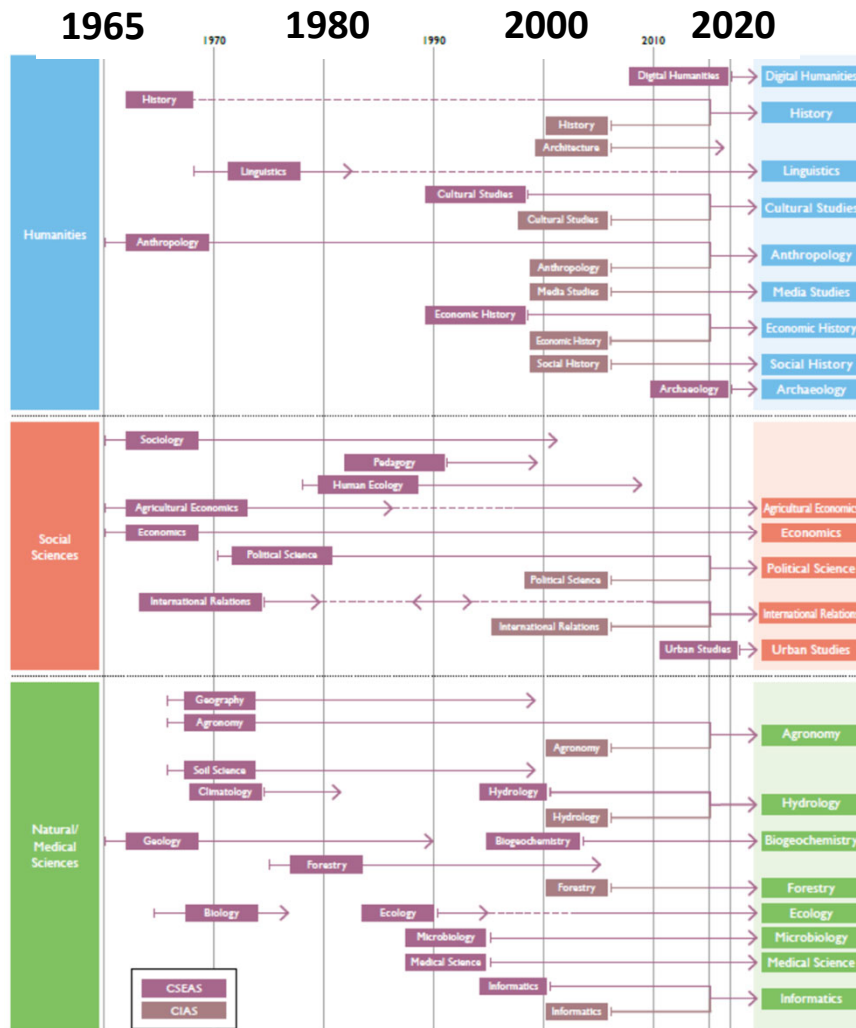
CSEAS Faculty composition



Humanities

Social Sciences

Natural and Medical Sciences



- Digital humanities
- History
- Linguistics
- Cultural studies
- Anthropology
- Media studies
- Economic history
- Social history
- Archeology

- Agricultural economics
- Economics
- Political science
- International relations
- Urban studies

- Agronomy
- Hydrology
- Biogeochemistry
- Forestry
- Ecology
- Microbiology
- Medical science
- Informatics

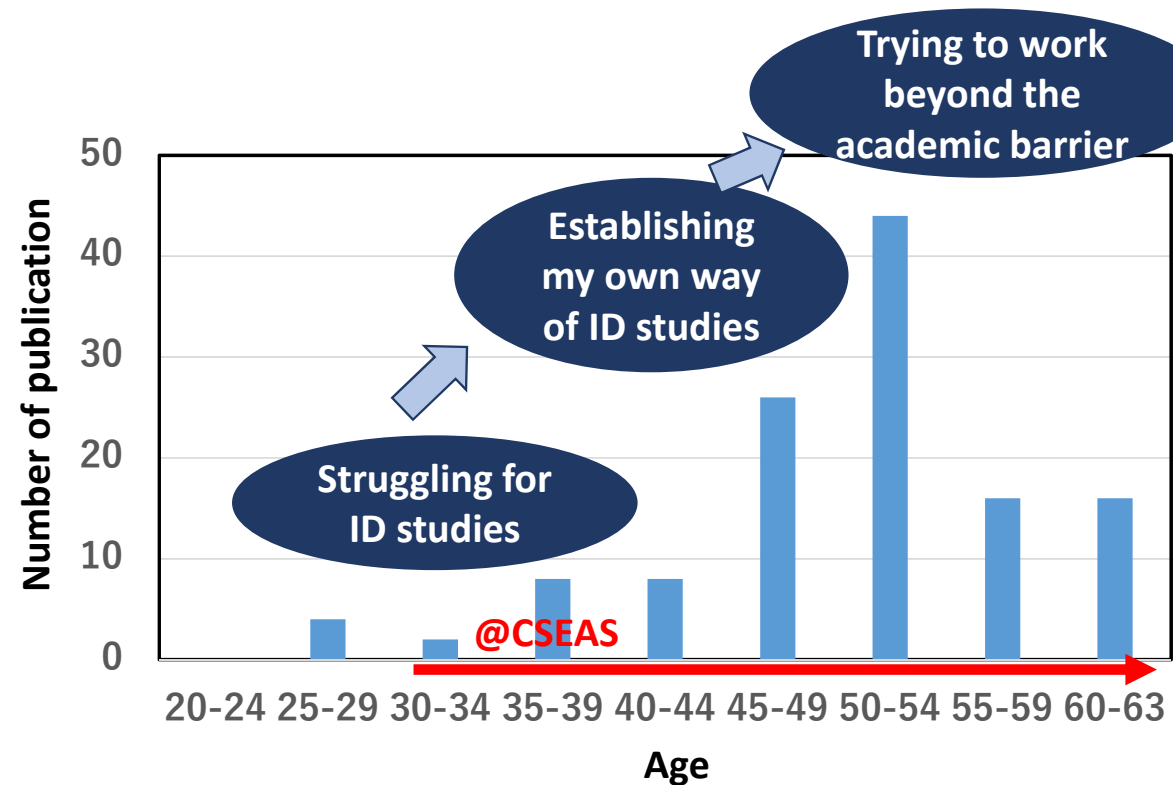
- Research partners
- Productivity



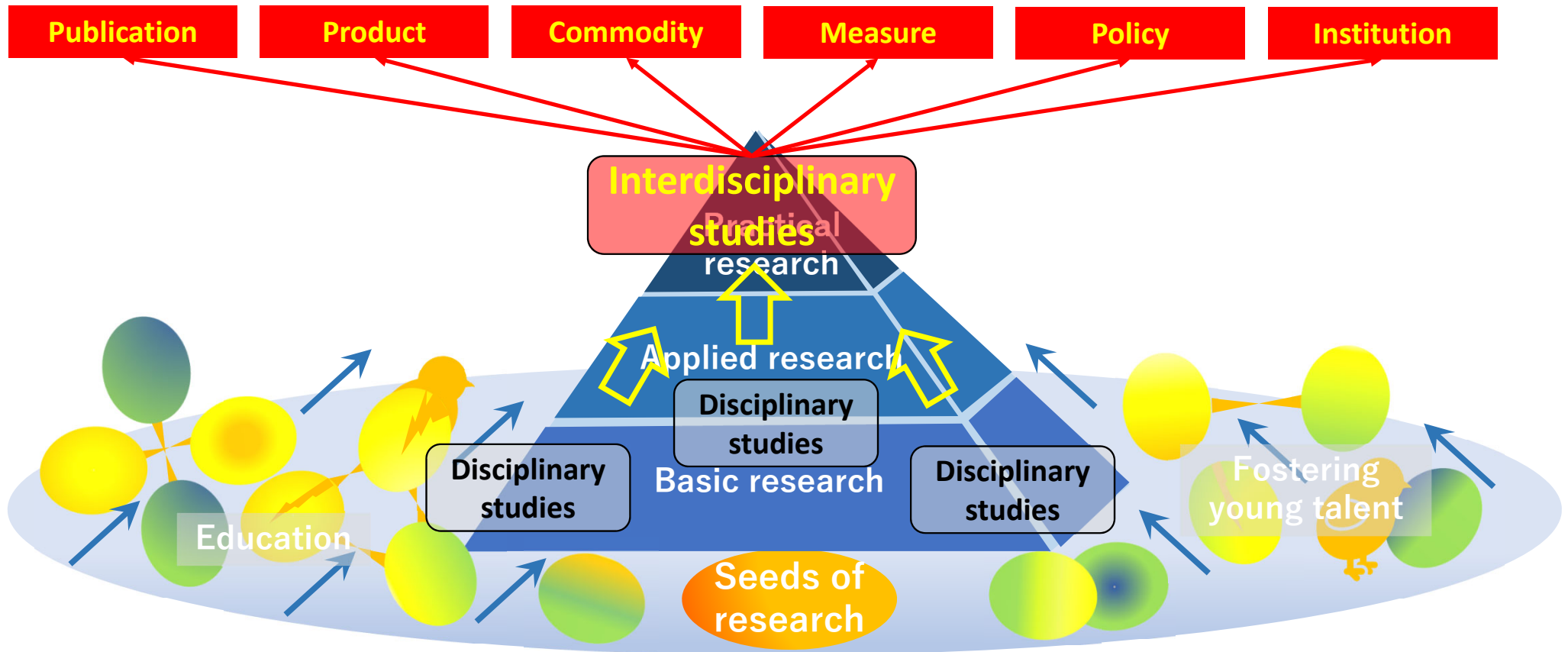
STI coordinator

- Matching of researchers
- Access to research resources
- Connect researchers with non-academic stakeholder.

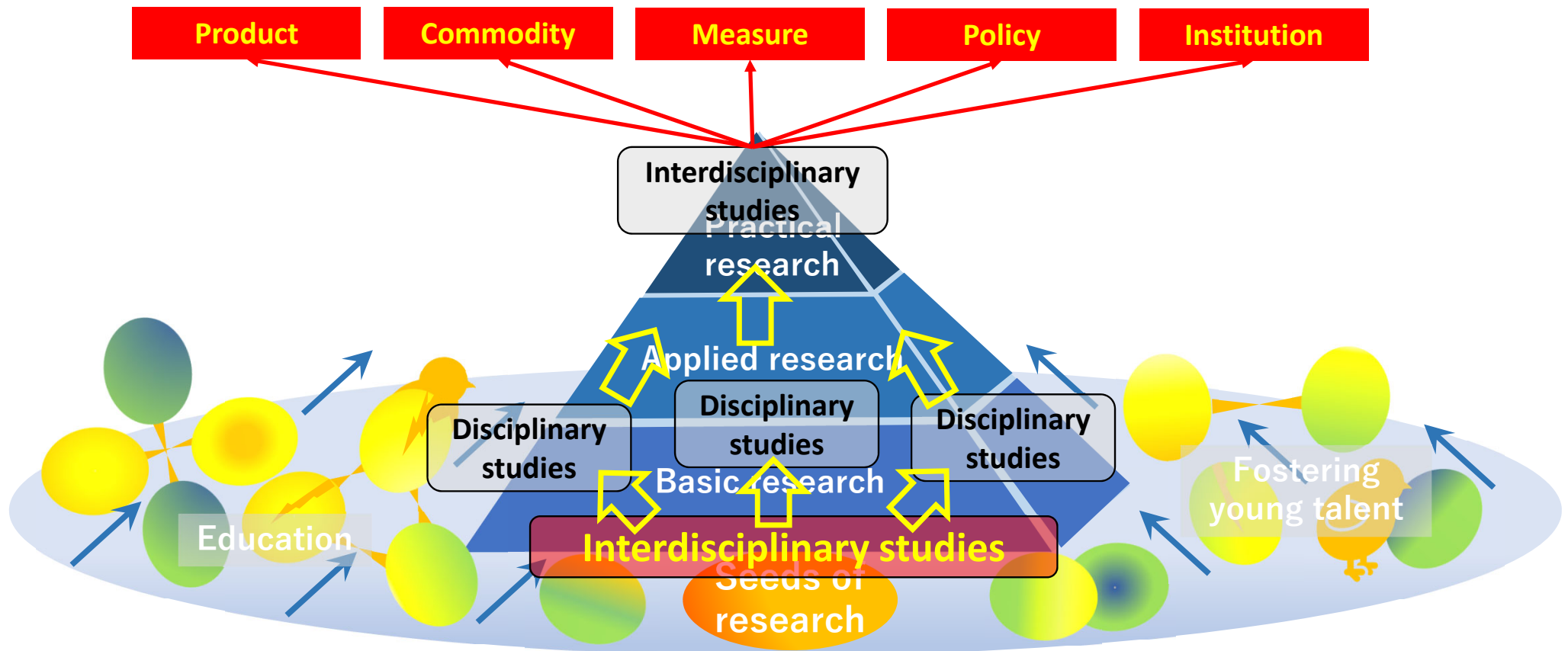
Changes in number of my major academic publications
(edited book, book chapter and journal article)



Popular type of interdisciplinary studies



Another type of interdisciplinary studies

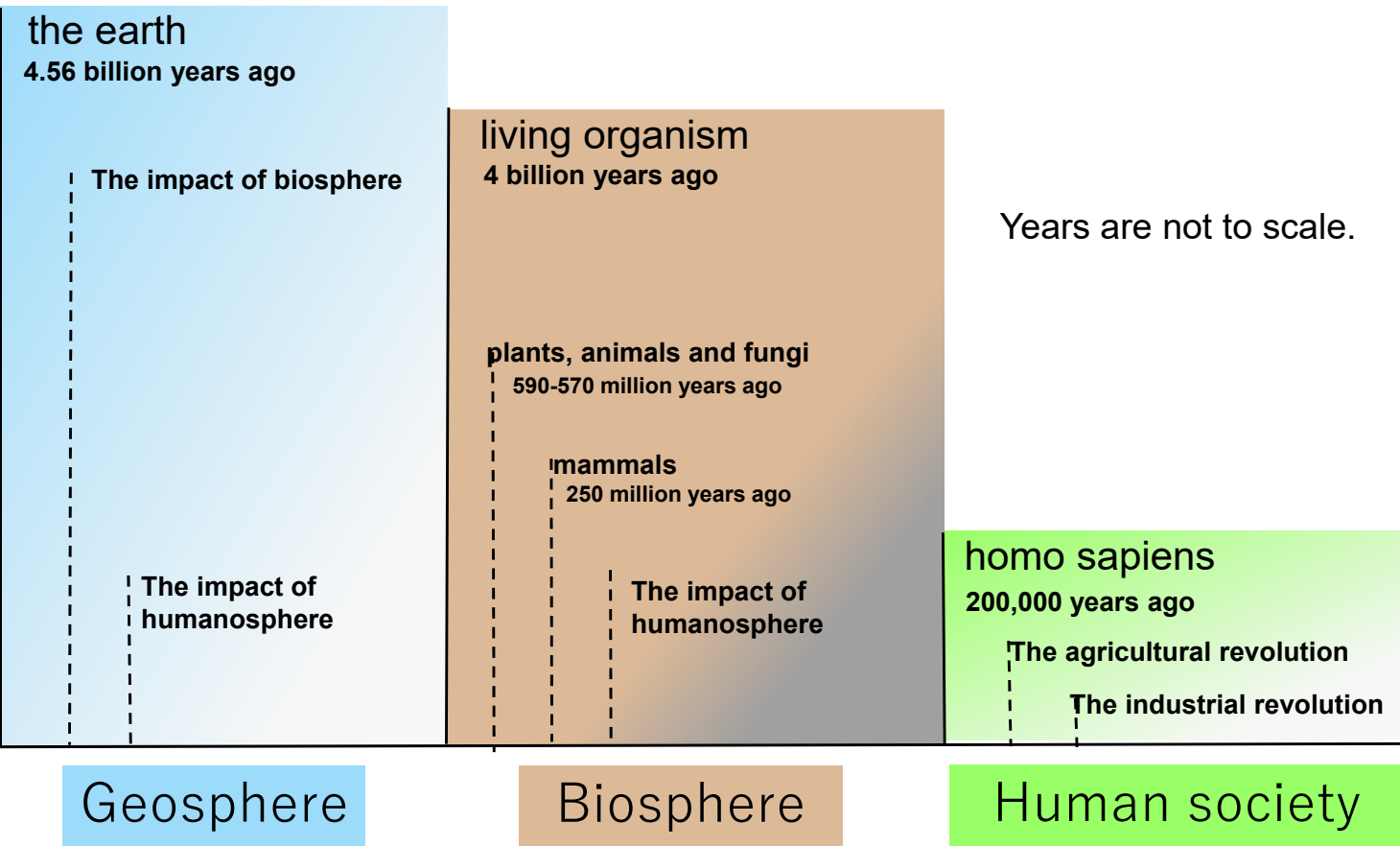




Sustainable Humanosphere Studies



Humanosphere: an integrated whole of geosphere, biosphere and human society



- Geosphere and biosphere have its own natural laws and human society has its own logic of evolution.
- The natural laws of geosphere underscores the natural laws of biosphere, and both in turn underscore the logic of evolution of human society. This order is historically loosely sequential.
- Humans only partially understand the natural laws of geosphere and biosphere, and human society can only partially control them. Therefore, the sustainability of human society depends on the sustainability of geosphere and biosphere, and, to a lesser extent, vice versa.



Key arguments of Sustainable Humanosphere Studies



- **The dominant technologies and institutions in contemporary human societies that are presumed to offer universally applicable knowledge were originally designed for temperate zones.**
- **Technologies and institutions transplanted to the tropics have yet to reach a level of articulation that are adaptable to Southeast Asia's contingencies. This immaturity has been a major cause in the failure of large-scale developmental projects carried out under the geosphere and biosphere in the tropics.**
- **Comprehensive area studies to pursuit synergy between geosphere, biosphere and human society can be achieved only by the interdisciplinary collaboration between the human sciences and the natural sciences.**



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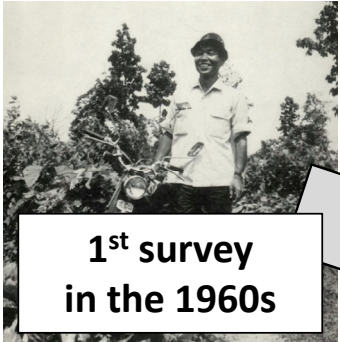


Two projects



- 1. Don Daeng village study**
- 2. Japan-ASEAN Science, Technology and Innovation Platform (JASTIP)**

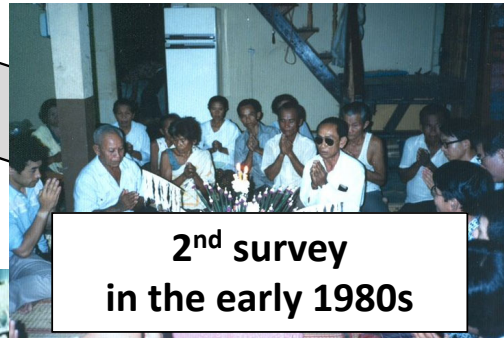
Anthropological survey



**1st survey
in the 1960s**

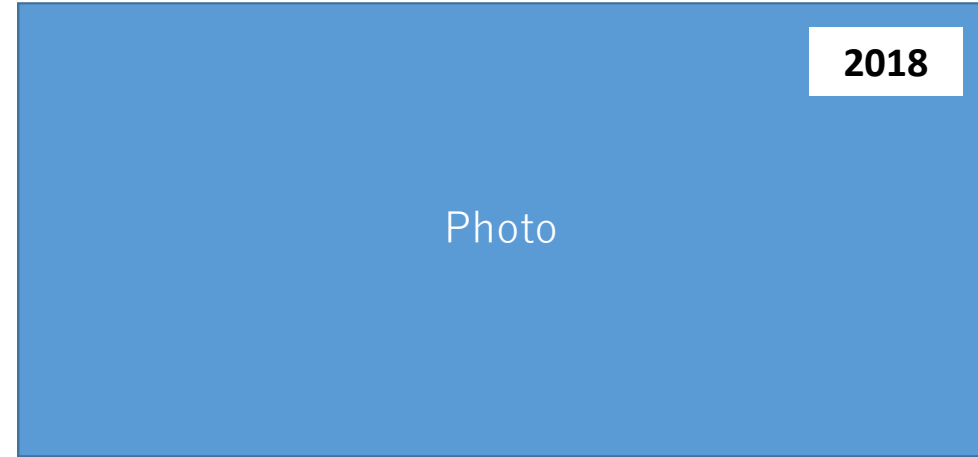
(Mizuno 1981)

The **interdisciplinary team** of more than 10 members, headed by Profs. Y. Ishii, H. Fukui and M. Kuchiba



**2nd survey
in the early 1980s**

(Fukui et al. 1983; Fukui et al. 1985; Fukui 1993)

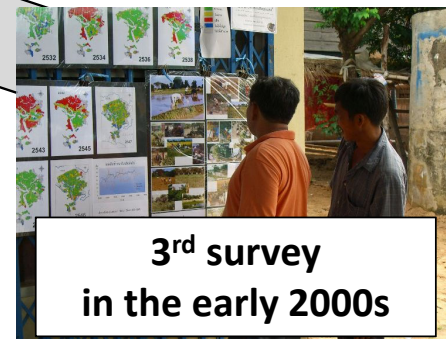


2018

Photo



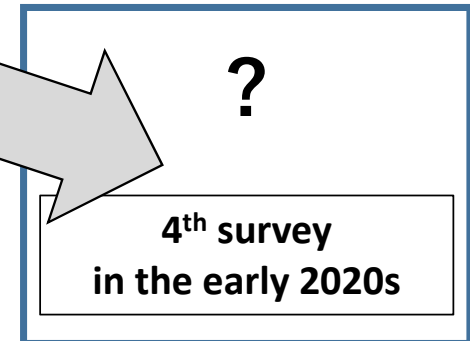
1983



**3rd survey
in the early 2000s**

The **interdisciplinary team** headed by Prof. K. Funahashi

(Funahashi 2006)



?

**4th survey
in the early 2020s**



Latest news of Don Daeng village



**Wedding ceremony of the village head's daughter
Saturday 28th Jan. 2023**

Photo

Photo

Photo



Transformation of Don Daeng village study



1st survey
in the 1960s

2nd survey
in the 1980s

3rd survey
in the 2000s

4th survey
in the 2020s

Globalizing
the study

Rurbanization theory

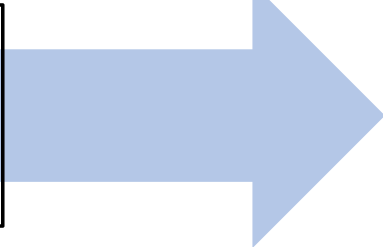
Sustainable transformation
of rural society under
uncertain urbanization

Researchers

Policy-
makers

Holistic understandings of multifaceted aspects of rural village

- covering demography, livelihood, farming, economy, social structure, community leadership, religion, and so on,
- by means of all household and all farmland surveys



Practitioners

Domesticating
the study

Don Daeng village school

Co-working and co-learning of
researchers, villagers and non-
academic stakeholder

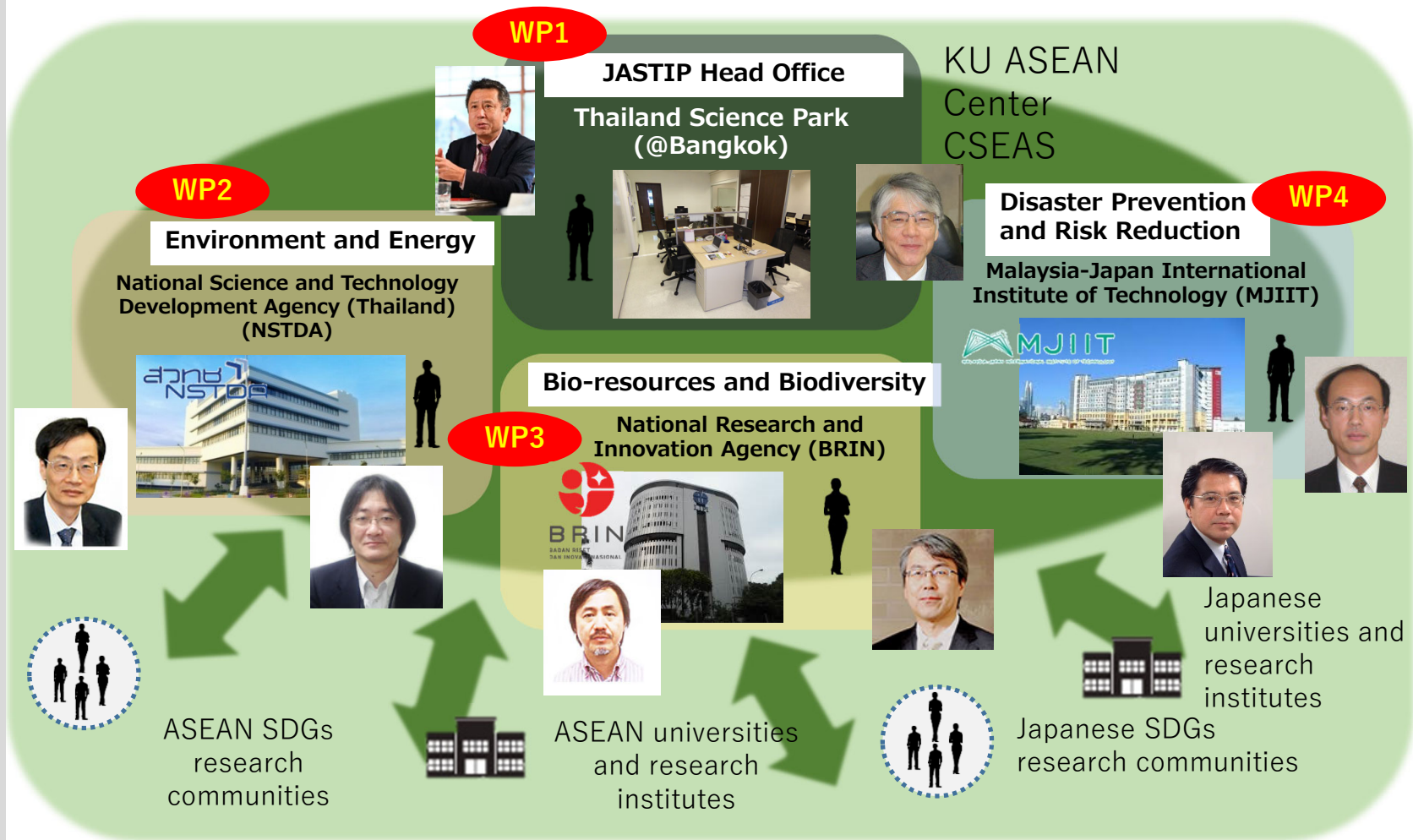
Villagers



Japan-ASEAN Science, Technology and Innovation Platform (JASTIP, 2015-2025)



- Integrating existing research projects, creating a regional collaboration hub, and establishing platform for Japan-ASEAN collaboration of science, technology and innovation toward SDGs.
- Focusing on three issues, environment and energy, bio-resources and biodiversity, and disaster prevention and risk reduction.
- Promoting transdisciplinary researches and enhancing human development including non-academic stakeholders.

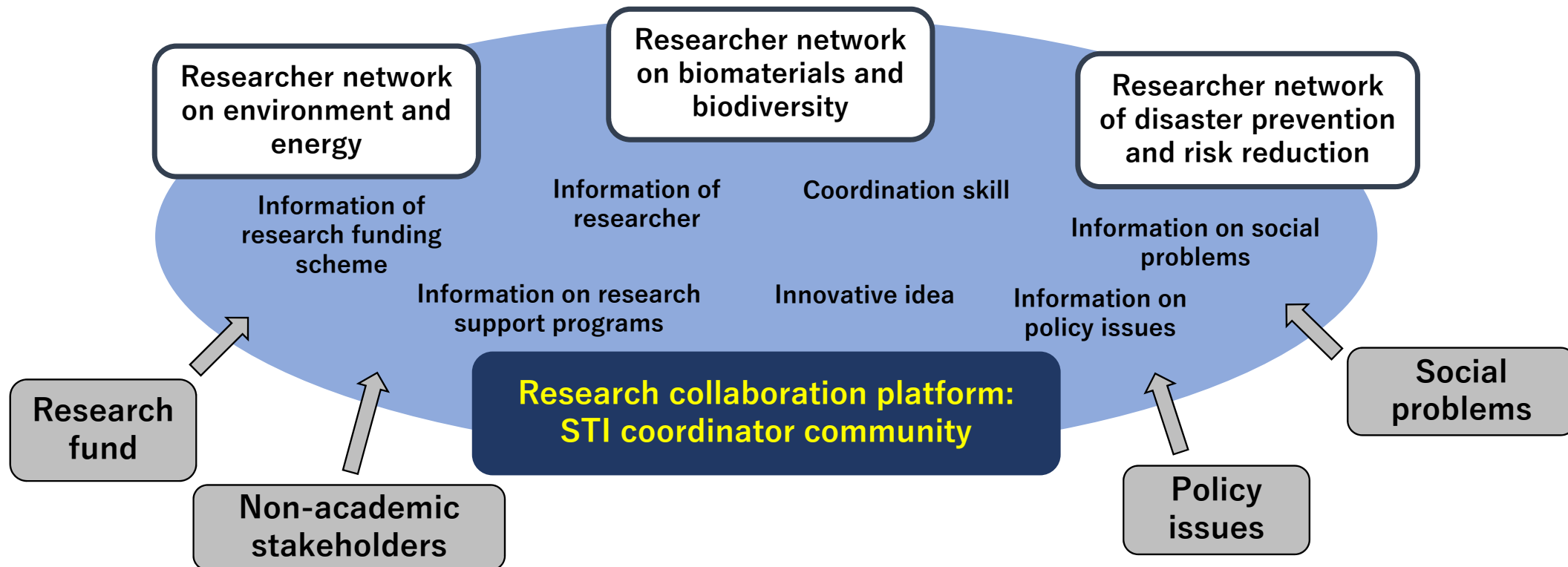




Fostering STI coordinator community



- Researchers need enormous efforts to break the walls of disciplines, nations and academism to promote interdisciplinary, international and transdisciplinary researches.
- We should foster human resources, STI coordinator, who can support researchers to go beyond borders smoothly.





Transformation of international collaborative research



Producer – Follower/Consumer



Equal partnership

- We should focus on problems that we all are confronting in the region, and co-think the research agenda, co-work for research, co-contribute research resources and co-produce research output.
- Collaboration should benefit all the partners and research should be undertaken at the place best suited to it, rather than in the place where funding comes from (Shiraishi 2015).
- International collaboration provides a big chance to integrate diverse idea, knowledge and perspectives which is a source of innovative and comprehensive research.



Summary



Research and SDGs

The formation of sustainable and productive ecosystem of research consisting of basic, applied and practical researches are the basis for research to contribute to SDGs.

Roles and significances of interdisciplinary studies

Both solution-oriented and holistic understandings-oriented interdisciplinary studies are essential for promoting “research for society”.

Transformation of international collaborative researches

Under the principle of equal partnership, let us work together for the common issue at the place best suited to do it and to make the research more comprehensive, globalize and domesticate.

Thanks for your attention!

