



UNESCO Chair on Education in Biosphere Reserves for Sustainable Societies

生物圏保存地域を活用した持続可能な社会のための教育

Hiroyuki Matsuda 松田裕之
Yokohama National University (YNU)

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Background of the proposal

- Many BRs are managed with the support **outside** the BRs. People outside BRs also enjoy Nature's Contribution to People (NCP, or ecosystem services) of BRs.
- **Payment for ecosystem services (PES)** is the basis for support outside the BR. One of the missions is to recognize, study, and practice PES.
- Biospheres contribute to people outside the BRs by providing agricultural products, water, clean energy, minerals, eco-tourism, crafts, culture, and learning opportunities.
- Technological innovations can affect the nature of BRs. Students will consider environmentally friendly innovations (green innovation) by observing BR sites.
- Students will gain experience in explaining the balance between development and conservation to children based on their own expertise.
- We will develop human resources who can contribute to the SDGs using BR as teaching tool for residents inside and outside the BR region.



Payments for ecosystem services (PES)

-An introduction of good practices in Japan-



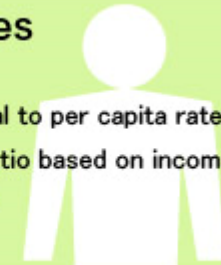
Payments for ecosystem services

Tax rate

<Individuals> **300 yen per year** (additional to per capita rates)
+additional 0.025% to ratio based on income levels

Tax revenue

3.6 billion yen (fiscal 2007)



Effective period	fiscal 2007-2026
Purpose	To secure the stable supply of quality water
Basic idea	To conserve and restore the functions of the sound and natural water cycle in the watersheds from upstream - in neighboring prefectures - to downstream, covering all surface and groundwater veins, and the entire area including interrelated urban areas sharing water sources.
Guiding principles	1. Policies shall be promoted in a comprehensive manner 2. Policies shall be developed based on public will 3. Policies shall be promoted based on adaptive management



is

New initiatives (non-PES)

Top page > Forest > Forest environment tax in Kanagawa Prefecture

- ▶ Forest environment tax in Kochi Prefecture
- ▶ Forest environment tax in Tochigi Prefecture
- ▶ **Forest environment tax in Kanagawa Prefecture**

Increased tax rates for the Prefectural Inhabitant Tax on individuals to fund water source environment programs

•Year started: 2007

•Actor: Kanagawa Prefecture

It is characterized by “**excess taxation**” and “**sunset clause**”.



MAB/PES Research Group of YNU (draft)

- Purpose (draft): An interdisciplinary team to study the significance and issues of water source forests in Kanagawa Prefecture from the perspective of UNESCO's Man and Biosphere (MAB) Programme and SDGs.
- Content (draft): We aim to cooperate with local governments in terms of scientific knowledge and human resource development by integrating environmental conservation activities related to UNESCO's MAB Programme, the relationship between water sources in the BR site and urban residents who use them, activities for disaster risk reduction (DRR) activities and climate change mitigation and adaptation measures (CO₂ reduction, carbon fixation, waste disposal, recycling, clean energy, urban engineering, etc.), with a focus on the UNESCO Chair applied for by YNU.
- Members: 11 faculties and 1 graduate student (as of Jan. 15, 2021)



Summary of the Chair Proposal

- The Chair will examine the application of lessons learned from biosphere reserves (BRs) as a model for sustainable development goals (SDGs) for **people inside and outside BRs** in developed and developing countries, especially in terms of **payment for ecosystem services**, contribution to climate change, innovation and technology for green growth, disaster risk reduction, ocean development, clean energy, and recycling-oriented society. To this purpose, we will establish the “Minor Education Programme for MAB/SDGs” that **includes the exchange of trainees with overseas countries for project-based learning (PBL)** as a pilot program of Education for Sustainable Development (**ESD**) using BRs. We will also revise the ESD Guidebook for Teachers utilizing BRs and feedback the outcomes to the BR networks in Japan and the world. We provide opportunities to study ESD together contributions to UNESCO Associated Schools, as well as educational and public relations activities in the world.



What to do for this purpose?

1. provide teaching materials including lecture **videos**,
2. establish the “**MAB/SDGs** Minor Programme using Biosphere Reserves for international students” at YNU as a pilot education program,
3. develop joint research on utilization of **the MAB Programme for residents inside/outside the BR**,
4. revise the ESD Guidebook for Teachers utilizing BRs and make its English version
5. develop a network of learning sites within JBRN and other BRs linked by the partner universities.
6. The chair will provide international short-term training courses held at YNU.



(Planned) Minor Programs in Yokohama National University

All YNU Entry: Faculty of Engineering Science, Faculty of Urban Sciences, Faculty of Education, Faculty of Economics, Faculty of Business Administration

Both Undergraduate and Graduate Programs

Core MAB Subjects

+

SDGs Subjects

+

Overseas Training



THE UNIVERSITY OF DANANG

in Vietnam



in Thailand



in U.S.A.



Akaya Project & Mt. Tanigawadake Ecotourism by Minakami BR



Efforts to restore biodiversity and promote sustainable regional development in the Akaya Forest, a 100km² national forest in the upper reaches of the Akaya (Tone) River, Minakami Town. Initiated by local communities, nature conservation organizations, and national forest managers.



Origin of Tone River,
Water source of Tokyo Metropole

Remote seminar on BRs in home country of students

Ecological Characteristics

- Annual ave. rainfall: 1,500-1,700 mm
- 91 species of mammals
- 9 primates (Black and White Colobus, the Olive Colobus monkeys, chimpanzees, elephants and highly threatened bonbo are present.
- Over 200 species of birds, include the internationally endangered white-breasted guinea fowl. The forest is actually very rich with biodiversity.

The core area comprises the BCA which constitutes an ecological island of forest in a sea of cocoa farms with hard boundaries and no transitional zone to farmland with about 43 communities across the Jabiso, Bia East and Bia West districts.

References

- Green Economies in Biosphere Reserves, A Means To Poverty Reduction, Biodiversity Conservation And Sustainable Development In Sub-Saharan Africa Report On The Socio-Economic Survey Of The Bia Biosphere Reserve, Ghana Mab National Secretariat July 2014
- Dr. Thomas Schmitz Uresco Division Of Ecological Sciences Man And The Biosphere Programme (Mab) - PowerPoint Presentation
- Sustainable Management Of Lake Bosomtwe In The Ashanti Region Of Ghana, Antonio D. Abreu | Alberto Fernandez Salinas | Miguel Claverie-Godí January 2016
- State In Bia Biosphere Reserve
- Green Economy Initiatives Reconcile People And Nature In Ghana
- <https://en.unesco.org/biosphere/afria/bia>



Project-based Learning: Oversea training course

Past Achievements

Special lectures by YNU faculties since 2017 at Da Nang University of Technology
JST Sakura Science Program for Students of Da Nang University of Technology

In the UNESCO Chair Programme

- We will conduct overseas training course based on Project-based Learning (PBL) tailored to the development of environment-friendly technology learned from BRs.

*This will be a “Key course” in the minor education programme)

- The international SDGs network will be established under the deep and strong collaborations with partner universities.



Special PBL lectures at Da Nang University of Technology

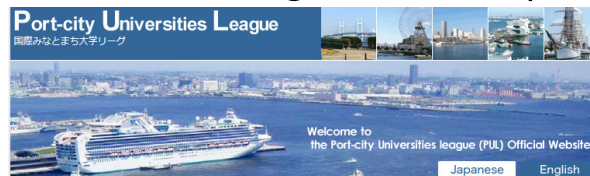
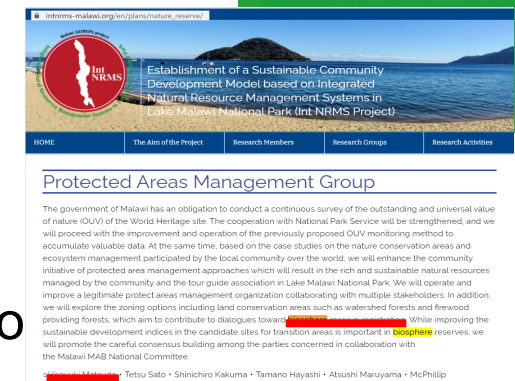
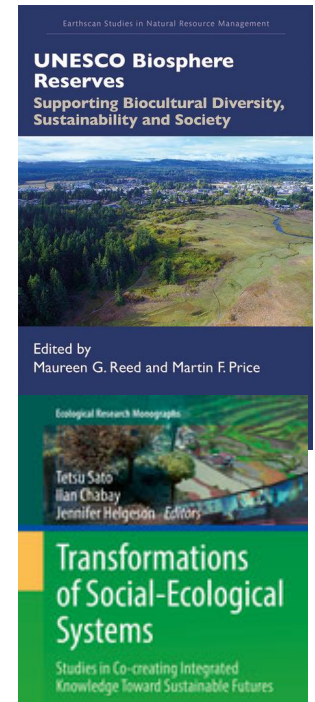


JST* SAKURA Science Program

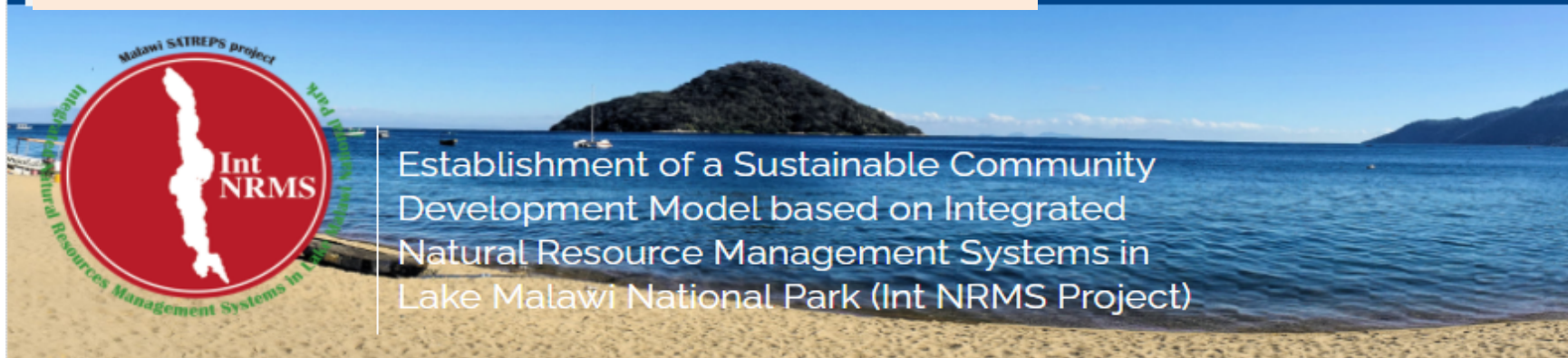


Other Partners make good practices of ESD materials using BRs

- Good practices in collaboration between practitioners in the BR and external supporters
 - Martin F. Price at [Univ. of the Highlands and Islands](#)
 - Maureen Reed at Univ. of Saskatchewan,
 - **Aida Mammadova at Kanazawa Univ. (~Kazakhstan)**
- Using BR institution to World Heritage site
 - JST/JICA Satreps “Lake Malawi Project” (Ehime Univ.; Univ. of Malawi)
- Integrated Ocean/Coastal Management
 - Port-City University League (PUL) (Univ. São Paulo UNESCO Chair on Ocean Sustainability)
 - Mitsutaku Makino at Univ. of Tokyo (IOC)
 - Hormozgan Univ. (Hara BR in Qeshm Island)



https://intnrms-malawi.org/en/plans/nature_reserve/



HOME	The Aim of the Project	Research Members	Research Groups	Research Activities
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Protected Areas Management Group

The government of Malawi has an obligation to conduct a continuous survey of the outstanding and universal value of nature (OUV) of the World Heritage site. The cooperation with National Park Service will be strengthened, and we will proceed with the improvement and operation of the previously proposed OUV monitoring method to accumulate valuable data. At the same time, based on the case studies on the nature conservation areas and ecosystem management participated by the local community over the world, we will enhance the community initiative of protected area management approaches which will result in the rich and sustainable natural resources managed by the community and the tour guide association in Lake Malawi National Park. We will operate and improve a legitimate protect areas management organization collaborating with multiple stakeholders. In addition, we will explore the zoning options including land conservation areas such as watershed forests and firewood providing forests, which aim to contribute to dialogues toward biosphere reserve registration. While improving the sustainable development indices in the candidate sites for transition areas is important in biosphere reserves, we will promote the careful consensus building among the parties concerned in collaboration with the Malawi MAB National Committee.

Hiroiyuki Matsuda • Tetsu Sato • Shinichiro Kakuma • Tamano Hayashi • Atsushi Maruyama • McPhillip Mwithokona • Bosco Rusuwa • Daud Kassam • Marlene Chikuni • Eston Sambo • Jaqueline Kazembe • Catherine

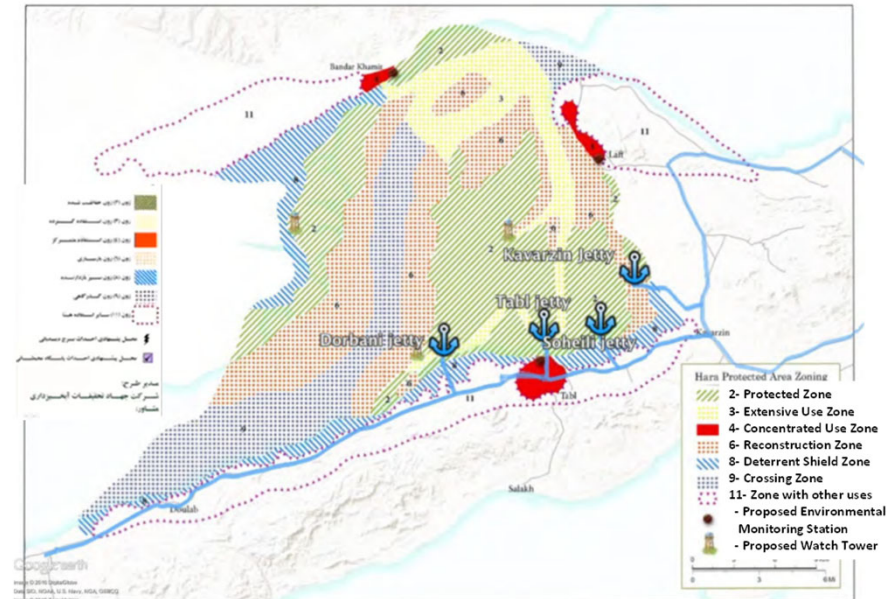
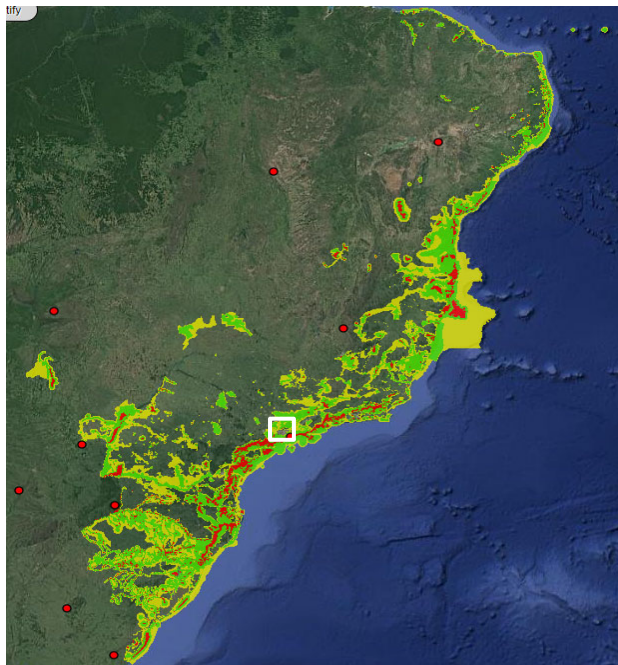


Remote Conference of PUL on April 28, 2021
with Univ. of São Paulo (under planning)

Webinar on Feb. 13, 2021
with Hormozgan Univ.

- Marine Spatial Planning using BRs

- Hara BR with Hormozgan U. MSP in **Hormozgan Province** is started at late November 2017



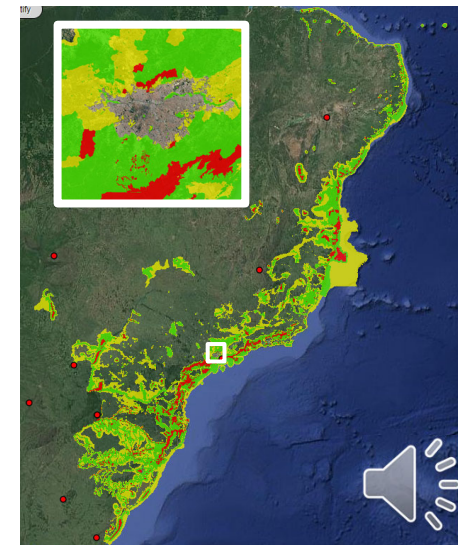
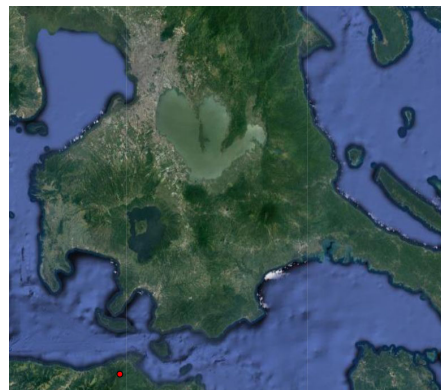
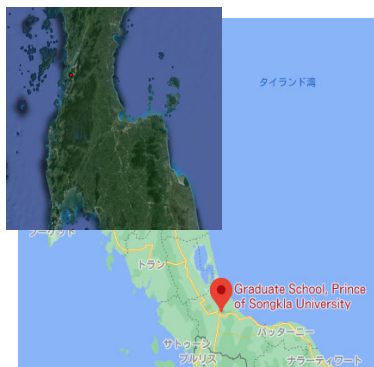
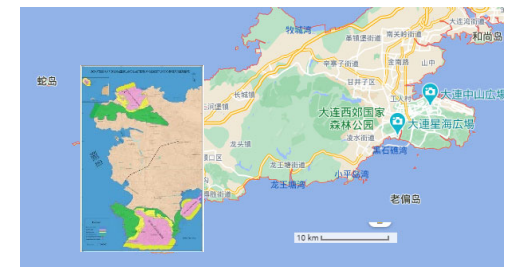
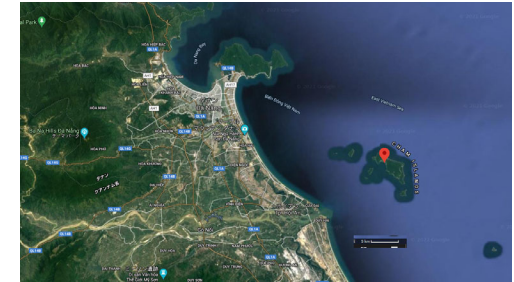
Draft MSP (2002) https://libopac.jica.go.jp/images/report/12334462_01.pdf

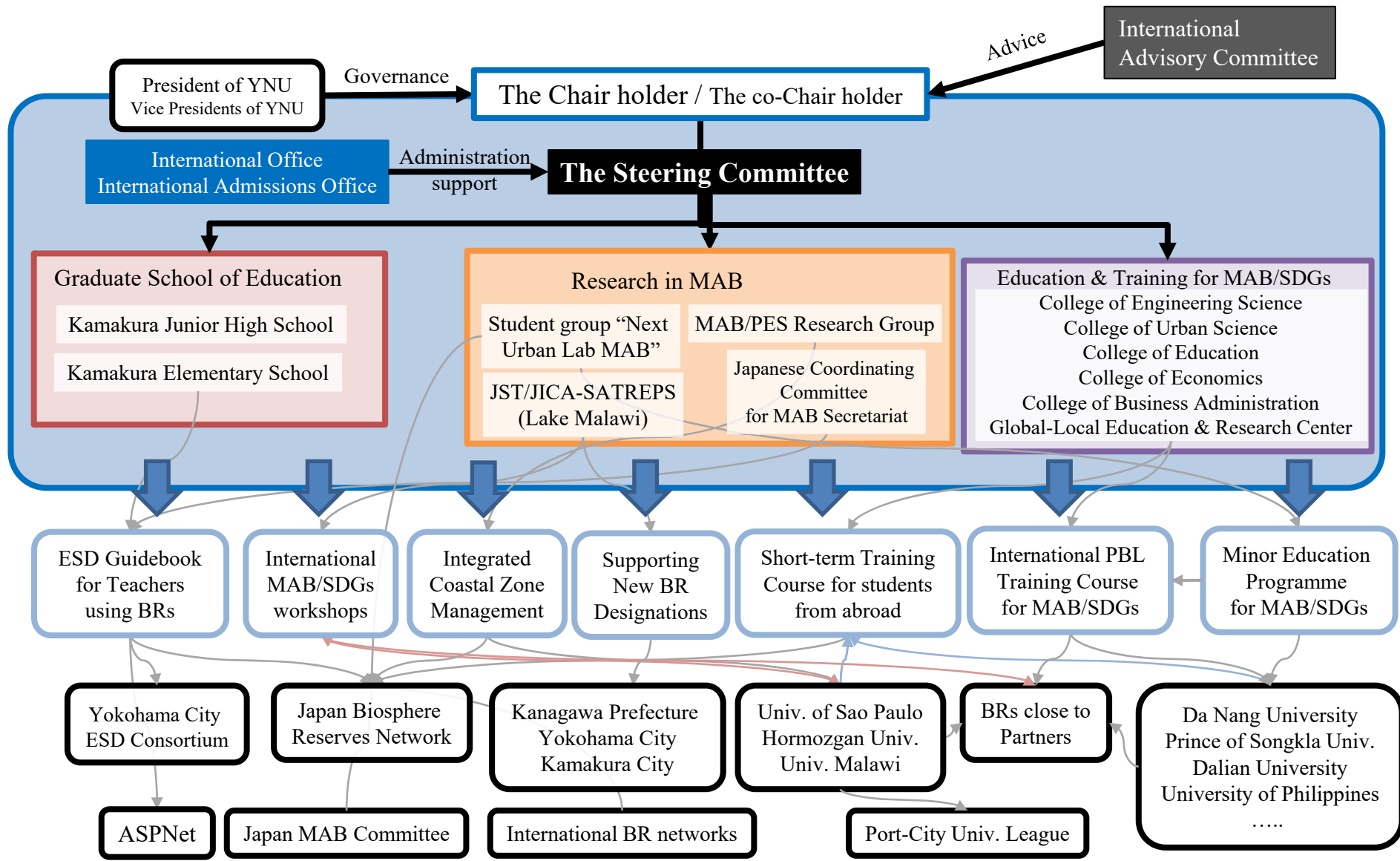
- Connection between land and marine ecosystems

- Mt. Atlantika BR with Sao Paulo U. (UNESCO Chair on Ocean Sustainability)

Partner universities and BRs

- Danang Univ. – [Cu Lao Cham](#) – [Hoi An](#)
- *Univ. of São Paulo – Mt. Atlântika
- Dalian Univ. – Snake Is. & Mt. Laotie (蛇島老鉄山)
- *Prince of Songkla Univ. – Ranong BR
- Univ. of Hormozgan – Hara BR
- Univ. of Philippines – Puerto Galera BR
- Univ. of Malawi – Lake Malawi WH





17 PARTNERSHIPS FOR THE GOALS



Japan Biosphere Reserves Network (JBRN)

East Asian Biosphere Reserve Network (EABRN)

South East Asia Biosphere Reserves Network (SeaBRN)

15 LIFE ON LAND



Tadami (in Fukushima), Hakusan, Minami-Alps, Shiga-kogen, Minakami, Yakushima, Odaigahara, Sobo, Aya, Kobushi BRs

MAB Project: Efforts to Eliminate Conflict Between Humans and the Biosphere

Support for Women's Activities in Paraguay

5 GENDER EQUALITY



Support



Biosphere Reserves (UNESCO Ecoparks)

Kanagawa Prefecture



Yokohama City



Global Warming Typhoon Disaster Blue Carbon and Zero Carbon Projs.

13 CLIMATE ACTION



Simulation

UNESCO Associated Schools

YNU Kamakura Junior High School, etc.

11 SUSTAINABLE CITIES AND COMMUNITIES



7 AFFORDABLE AND CLEAN ENERGY



Univ. of Da Nang in Vietnam Prince of Songkla Univ. in Thailand

14 LIFE BELOW WATER



Marine Conservation

Integrated Ocean Education



UIC SEA

Urban Design Center@SEA



Technology Innovation

4 QUALITY EDUCATION



Port-city Universities League

国際みなとまち大学リーグ



Water source-protecting forest

Portland State Univ.



Cooperation with 19 Universities from 14 Countries

Welcome to the Port-city Universities League (PUL) Official Website

Japanese English

6 CLEAN WATER AND SANITATION



Support



Japan International Cooperation Agency



Japan External Trade Organization

Universities in Chennai Area in India