



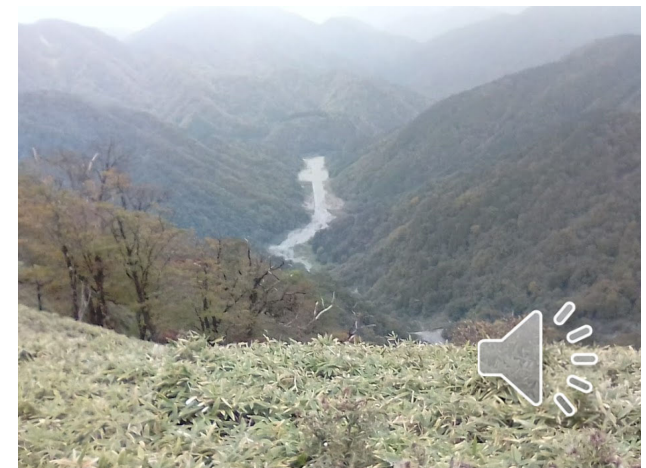
UNESCO Chair on Education in Biosphere Reserves for Sustainable Societies

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

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申請の動機

- 多くのBRはBR登録地の人々だけでなく、**域外**住民の支援を得て運営されている。
- BR域外の住民もBRの自然の恵みを享受している。「**生態系サービスへの支払い(PES)**」が域外からの支援の根拠である。
- 農林水産物、水、電力、鉱物、観光、手工芸品、文化、学習など様々な**域外住民**への貢献がありえる。
- 技術革新は生態系に環境負荷を与えうる。BRの現場を見ることで**環境配慮型技術(Green Innovation)**を考える。
- **人間活動と自然保護の両立について、自分の専門に基づいて子供に説明する経験を積む。**
- BR域外からBRの価値を認識し、支援する事例に学び、BR域内外の住民がBRを教材として、自然資源の持続可能に利用を含むSDGsに貢献する人材を育成する。



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	<ol style="list-style-type: none"> 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



S

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

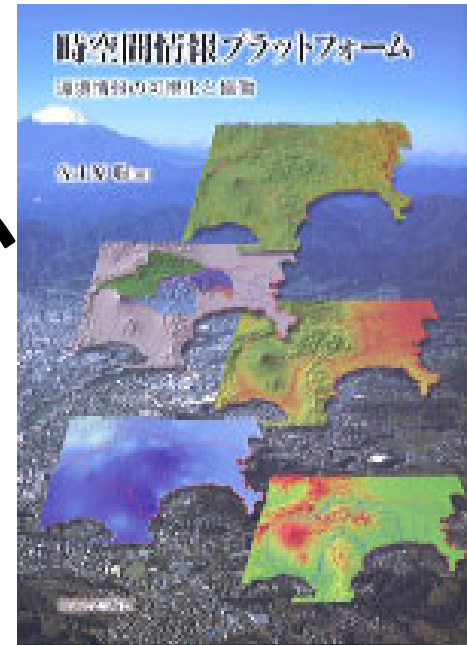
•Year started: 2007

•Actor: Kanagawa Prefecture

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



佐土原聡編(2010) 時空間情報プラットフォーム



- 富士山から東京湾まで—神奈川拡大流域圏のあらまし(佐藤・佐土原)
- 水源森林生態学とその保全再生—森林生態(木平勇吉(農工大))
- 生態系サービス維持のための土壌生態系保全—土壌生態(金子信博)
- 水源環境施設と納税者コンプライアンス—地方財政(其田茂樹・清水雅貴)
- グローバル経済と環境負荷—産業関連(居城 琢・長谷部勇一)
- 農林業の再生と自然産業の形成(嘉田良平)
- 持続可能な国土管理と流域圏—都市計画・地域計画(小林重敬)



横浜国立大学MAB/PES研究会(案)

氏名(案)	所属	役割(案)
伊集守直	国社・P	水源税制度
居城 琢	国社・P	Water Footprint
酒井暁子	環情・P	MAB専門家
松田裕之	環情・P	MAB専門家
倉田薫子	教育・AP	甲武信BR
泉真由子	教育・P	ESD担当
大野かおる	理工・P	副専攻P
蛸名喜代作	理事	神奈川県
及川敬貴	環情・P	環境法
佐土原聡	都イ・P	拡大流域圏
小池文人	環情・P	里山生態
	環情・P	水質リスク
	環情・P	相模湾

趣旨(案)：神奈川県の水源林の意義と課題をユネスコ「人間と生物圏(MAB)計画」及びSDGsの観点から検討する文理融合の学内チーム

内容(案)：横浜国大が申請するUNESCO Chairを中心に BR, MAB 活動を中心とする環境保全活動、奥山の水源とそれを使う都市住民の関係、防災減災(DRR)活動、気候変動緩和策と適応策の活動(CO₂削減、炭素固定、ゴミ処理、リサイクル、クリーンエネルギー、都市工学など、実際に神奈川県などがSDGsとして取り組む諸活動)を一体のものとして地方行政等に科学的知見および人材育成の面から協力することを目指す。



チェア概要案Chair on Education in Biosphere Reserves for Sustainable Societies

- 先進国及び途上国のBR内外の住民にとって持続可能な開発目標(SDGs)のモデルとなる生物圏保存地域 (BR) から得られる教訓の活用法を検討する。特にBR地域の自然の恵みの恩恵を得る周辺住民の保全活動 (生態系サービスへの支払い)、炭素クレジットなど気候変動への貢献、技術革新の環境配慮、防災減災、海洋開発、クリーンエネルギー、循環型社会の発展とともに、BRsを用いたSDGsに資する人材育成教育の実験プログラムとして、問題解決型学習 (PBL) のための海外との研修生交換を含む「MAB/SDGs副専攻プログラム」を設置する。さらに、附属小中学校を含むユネスコスクールのネットワークにおいてこれらの理念を含むESD教材の改訂と英訳、SDGs教材づくりを進めるとともに、その啓蒙教育活動および広報活動を国内外に展開する。



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.



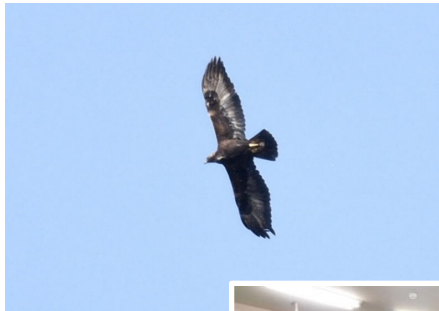
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Akaya Project & Mt. Tanigawadake Ecotourism by Minakami BR

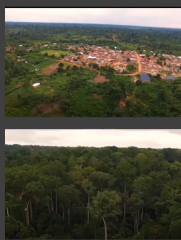


Efforts to restore biodiversity and promote sustainable regional development in the Akaya Forest, a 100km² national forest in the upper reaches of the Akaya (Tone) River, Minakami Town. Initiated by local communities, nature conservation organizations, and national forest managers.




Origin of Tone River,
Water source of Tokyo Metropolis

Remote seminar on BRs in home country of students

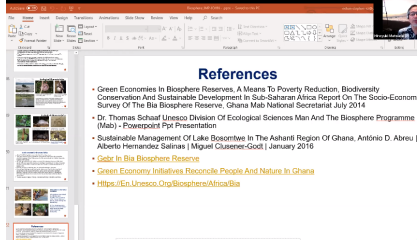


Ecological Characteristics

- Annual ave. rainfall: 1,500-1,700 mm.
- 61 species of mammals
- 9 primates (Black and White Colobus, the Olive Colobus monkeys, chimpanzees, elephants and highly threatened bongo 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 Juabono, 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 Mah National Secretariat, July 2014
- Dr. Thomas Schatz UNESCO 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 Cluener-God | January 2016
- Satz In The Biosphere Reserve
- Green Economy Initiatives Reconcile People And Nature In Ghana
- <https://en.unesco.org/biosphere/africa/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

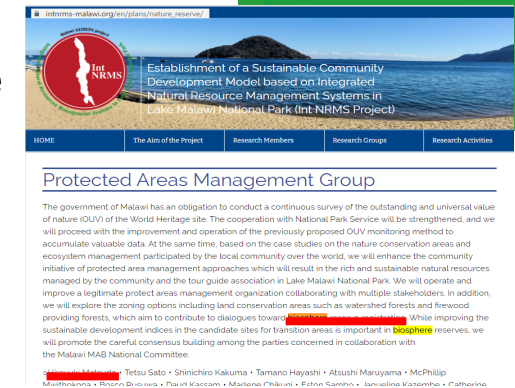
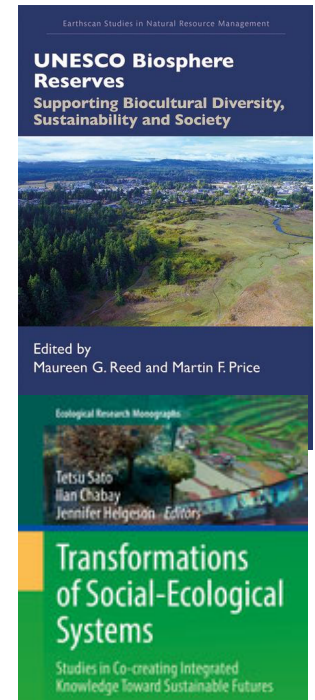


JST* SAKURA Science Program



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)





HOME

The Aim of the Project

Research Members

Research Groups

Research Activities

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 Mxwithokona • Bosco Rusuwa • Daud Kassam • Marlene Chikuni • Eston Sambo • Jaqueline Kazembe • Catherine

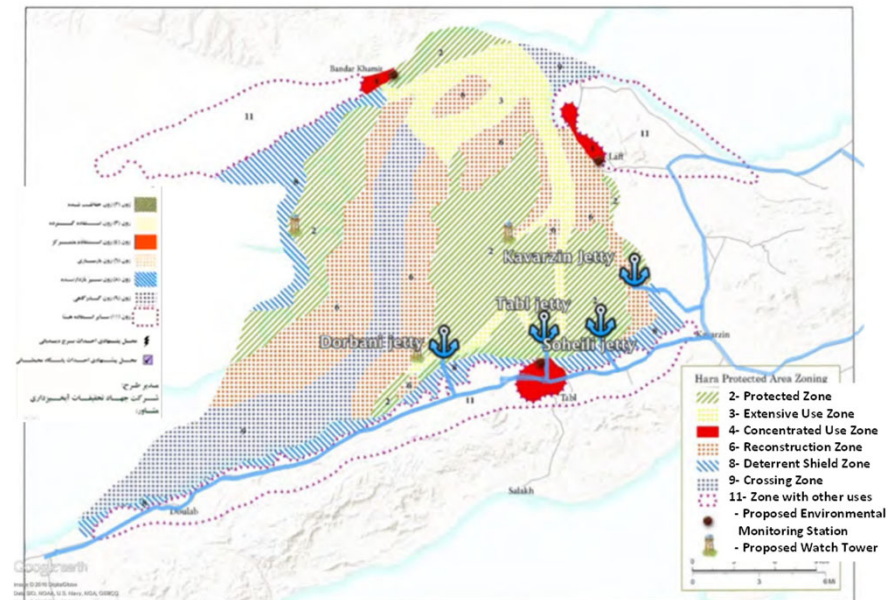
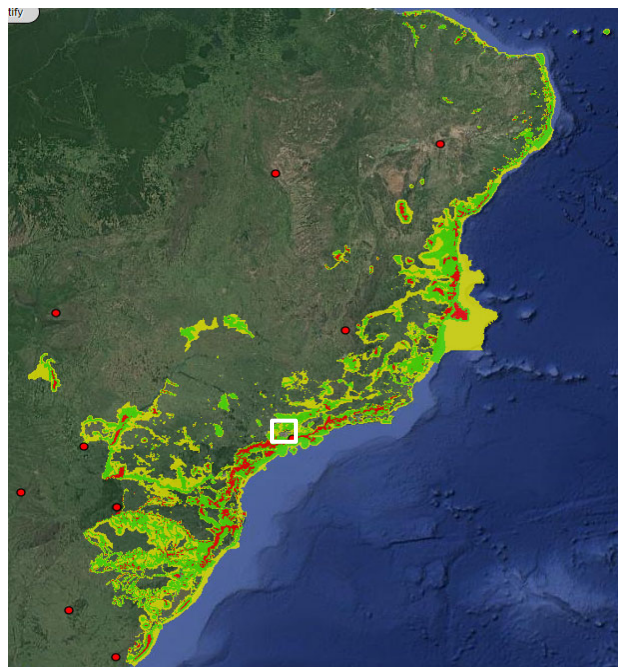


Remote Conference of PUL on April 28, 2021
with Univ. of São Paulo (under planning)

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



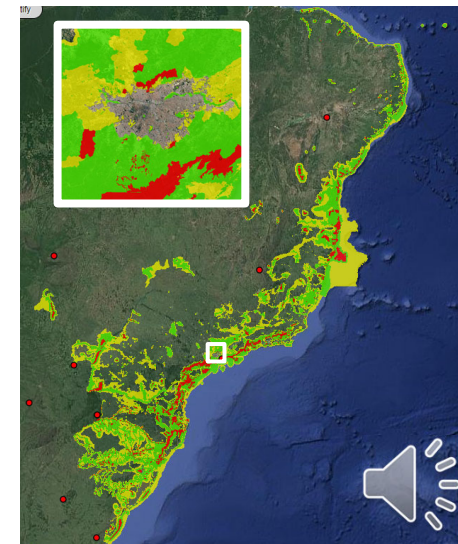
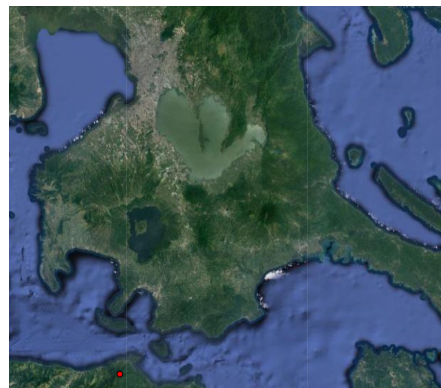
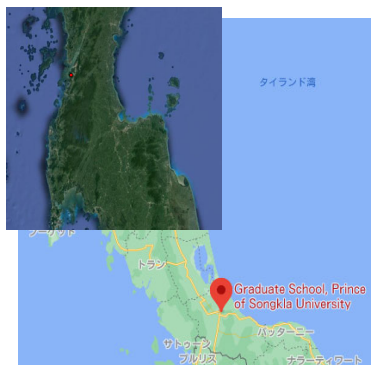
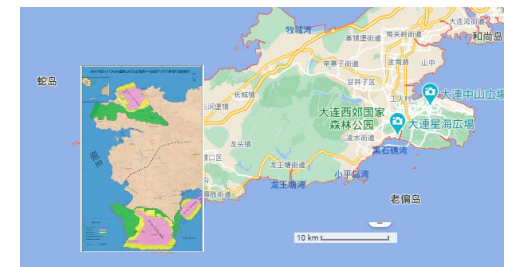
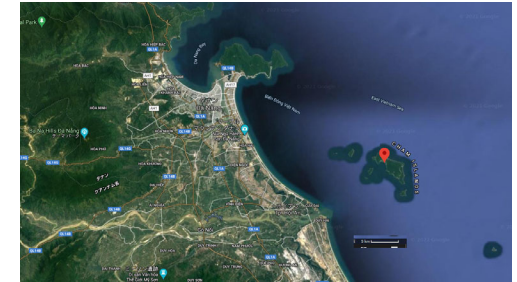
Draft MSP (2002) https://libopac.jica.go.jp/images/report/12334462_01.pdf

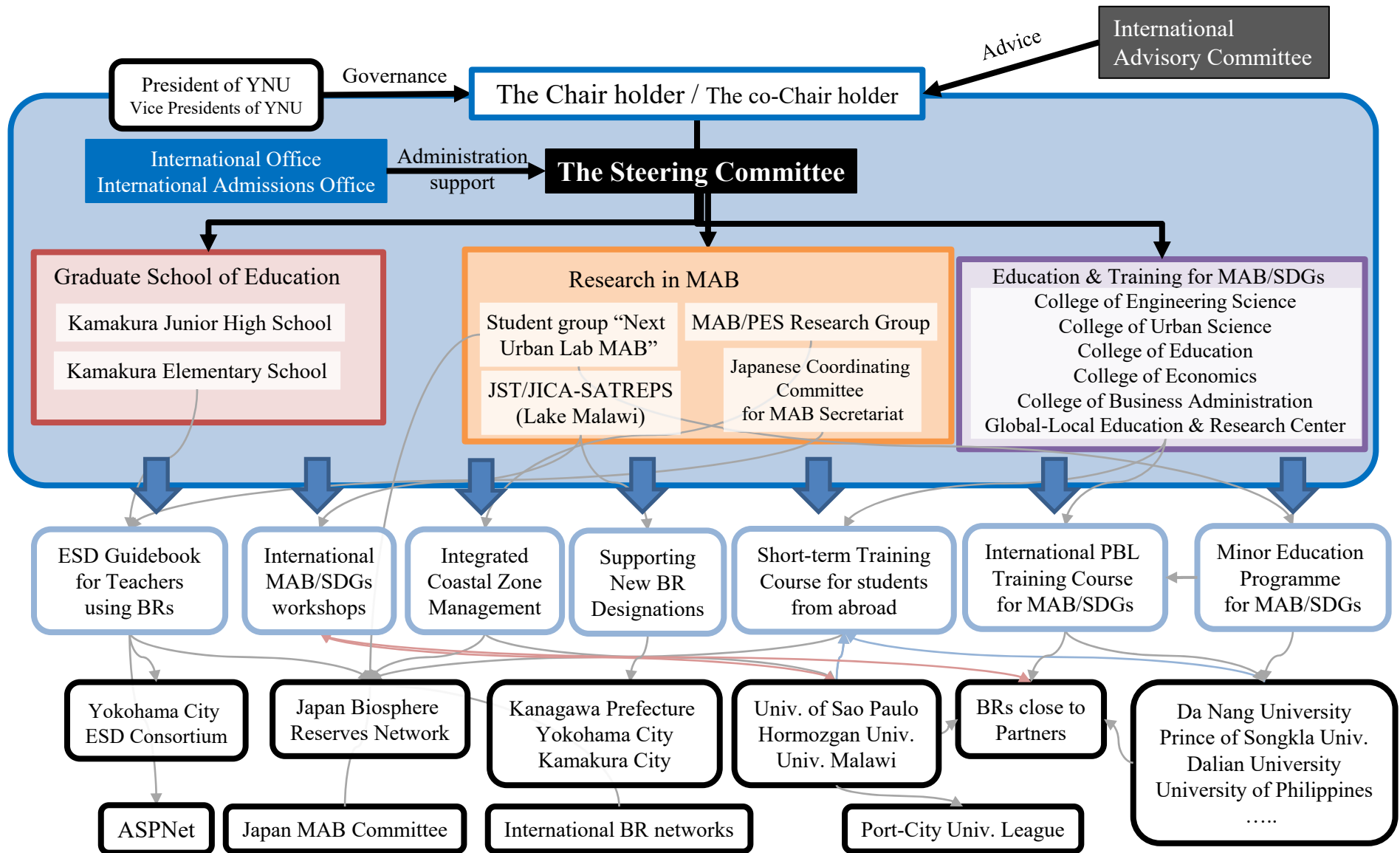
- Connection between land and marine ecosystems

- 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







Japan Biosphere Reserves Network (JBRN)

East Asian Biosphere Reserve Network (EABRN)

South East Asia Biosphere Reserves Network (SeaBRN)



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



Biosphere Reserves
(UNESCO Ecoparks)

Kanagawa Prefecture

UNESCO Associated Schools

YNU Kamakura Junior High School, etc.



Yokohama City



Global Warming
Typhoon Disaster
Blue Carbon and
Zero Carbon Projs.



Marine Conservation

Integrated
Ocean
Education



UXC
SEA

Urban Design Center@SEA



11 SUSTAINABLE CITIES
AND COMMUNITIES



7 AFFORDABLE AND
CLEAN ENERGY



Univ. of Danang
in Vietnam
Prince of Songkla
Univ. in Thailand



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.

6 CLEAN WATER
AND SANITATION



Support



Japan International
Cooperation Agency



Japan External Trade
Organization

Universities in Chennai Area in India

