

Summary Report

AP-BON Working Group at 9th GEOSS Asia-Pacific Symposium (GEOSS-AP)

The WG of AP-BON was held as one of working group of the parallel session of 9th GEOSS (Global Earth Observation System of Systems) Asia-Pacific Symposium.

■ Outline of the meeting

Date: 12 January, 2017

Venue: Heisei Plaza, Tokyo International Exchange Center, Tokyo, Japan

Co-Chairs:

Dr. Tetsukazu Yahara (Kyushu University, Japan)

Dr. Sheila Vergara (ASEAN Centre for Biodiversity, Philippines)

Dr. Eun-Shik Kim (Kookmin University, Korea)

Participants: 31 persons and 13 nationalities

■ Objectives:

- To share the current status and vision of biodiversity and ecosystem observations of AP-BON and other networks
- To discuss ways to contribute to one of the Societal Benefit Areas (SBAs) in GEO Strategic Plan (SP) 2016-2025: Implementing GEOSS, “Biodiversity and Ecosystem Sustainability”, as well as to a few of targets involved in the Sustainable Development Goals (SDGs)

■ Outline of the proceedings

Welcome remarks: *Mr. Hisashi Kawagoe* (Biodiversity Center of Japan, MOE)

Session 1: Overview of regional and national BON activities

Moderator: *Dr. Tohru Nakashizuka* and *Dr. Reiichiro Ishii*

① AP-BON *Dr. Tetsukazu Yahara* (Kyushu University, Japan)

He presented overview and achievement of AP-BON including its history. He explained the networking of monitoring sites and then presented the results on spatial variation of plant species richness along elevation based on data from monitoring sites in South East Asia.

② Sino BON and ABCDNet Dr. Keping Ma (Institute of Botany, Chinese Academy of Sciences)

He introduced progress and achievement of Sino BON and ABCDNet. In his talks, he introduced camera trapping network and application of LiDAR to monitoring of forest dynamics. He also introduced the project “Mapping Asia Plants”.

(Discussions)

Dr. Chu: What is data policy of ABCDNet?

Dr. Ma: We don't release data policy yet. But we prefer to have open policy in which data is shared with neighboring countries.

③ Achievements of GBIF in Asia Dr. Sheila Vergara (ASEAN Centre for Biodiversity)

She presented summary statistics of biodiversity data of Asian countries mediated by GBIF. She also presented the workshops for managers of ASEAN Heritage Parks which are related to capacity-building on biodiversity informatics.

(Discussions)

Dr. Ma: What kind of analysis was conducted to get the statistics presented in the table? And what is the contribution of regional network to international contexts?

Dr. Vergara: These statistics are from the main GBIF web sites. It would mean that the statistics is based on the same analysis as the GBIF.

④ Freshwater fish database in Asia Dr. Yuichi Kano (Kyushu University)

He presented contribution of fish database to local problems in South-East Asia such as dam construction and publication of scientific papers. He reported that, for contribution of the database, distribution data contributed to impact assessment of dam construction in the Mekong river watershed and global warming. His report included that the database also contributed to identify piscifauna in Inle lake in Myanmar and revealed that 35% of fish species were exotic. He emphasized the importance of its inclusion of stakeholder in production process of the scientific paper.

(Discussions)

Dr. Ma: Do you have any idea about total number of fish in South Asia area?

Dr. Kano: I think there are about 700 fish species in Mekong region. In the entire area of Asia, I guess there would be 10,000 species, however there might be some unidentified species.

Dr. Navarro: How did you initially implement fish project?

Dr. Kano: I directly met them and communicate them.

⑤ Reports from other countries

a) Indonesian BON: toward the establishment

Dr. Dedy Darnaedi (Indonesian Institute of Sciences)

His presentation covered progress toward establishment of Indonesian BON. The presentation includes explanation about current situation of ecological monitoring in Indonesia.

b) Activities of K-BON with Civil Scientist

Dr. Chan-Ho Park (NIBR, Korea)

He introduced overview and achievement of K-BON. He presented informatic system, which integrates citizen science into biodiversity data, collection. He also reported that K-BON junior had been established to develop capacity of young scientists.

(Discussions)

Dr. Kim: It is important to think how to make connections between K-BON and AP-BON as well as among the initiatives and organizations presented in the last slide.

c) Nepal BON Update

Dr. Mangal Man Shakya (Wildlife Watch Group and Nepal-BON)

He presented achievement of Nepal Bon as well as its contribution at policy and field levels including the one to the initiatives “Ecosystems Protecting Infrastructure and Communities (EPIC)”.

Session 2: GEO Strategic Plan 2016-2025 and GEO Work Programme 2017-2019

Moderator: *Dr. Eun-Shik Kim*

① Challenges and opportunities of in-situ observations in GEO Work Programme 2017-2019

Dr. Hiroyuki Muraoka (Gifu University, Japan)

He introduced overview of GEO and its implementation mechanisms. His presentation covered cross-scale and multidisciplinary observation system as well as relationship with the SDGs. He reported to review in situ observation of terrestrial biodiversity as well.

(Discussions)

Dr. Kim: Do you think that regionalILTER is ready to promote GEO? I had discussion on engagement of IILTER communities to GEO community. It seems that they do not have clear idea about this point.

Dr. Muraoka: I think dialog is not enough to link the communities and also dialog on how to deliver data to GEO community is necessary.

Dr. Ma: Ecosystem monitoring network has much longer history and therefore has huge amount of data exists. I think challenge is to promote data sharing. Do have any other challenges and solutions for them?

Dr. Muraoka: At first, we need to list questions. Each community has their own database or meta-database. We need to identify what kind of data is required and then we should promote data sharing.

Dr. Chu: GEO has data sharing principles. On usability and accessibility, implementation guideline explains terminology and provides cases for conservation. I'll be happy to follow this as GEO community. Three workshops will be hosted in Africa and other regions.

② BON development: National needs and approaches

Dr. Laetitia Navarro (GEO BON Executive Secretary)

Her talks focused on supporting the development of Biodiversity Observation Networks. She introduced her experience on establishing network of Columbian Biodiversity Observation systems.

(Discussions)

Dr. Vergara: What is the distinction between National GBIF and BON in the context of CBD CHM?

Dr. Navarro: In practice, I don't know how to deal with this issue.

Dr. Ma: Two imitative has different works. GBIF focus on spatial distribution and GEO BON focus on dynamics.

Dr. Navarro: I think it the best things for each country to have their own systems. However, there are too many initiatives and the data are scattered. And why is not the data from J-BON as well as K-BON appeared on GEO BON?

Dr. Yahara: We had discussion two years ago. I did not agree with endorsement to GEO because it is not easy to standardize. And it requires freedom. GEO BON activities are different from national BON and therefore GEO BON is better to allow freedom of national BON. And a very important point is missing. We need to find leader to sustain network.

Session 3: Development of broader observation network

Moderators: *Dr. Shin-ichi Nakano* and *Dr. Hiroyuki Muraoka*

① National Survey on the Natural Environment of Japan

Dr. Hajime Hirosawa (Biodiversity Center of Japan, Ministry of the Environment)

He presented overview of Biodiversity Center of Japan as well as its functions. His presentation

touched on Monitoring Sites 1000 project and the achievement of the project. In the context of data collection, he introduced the Ikimono Log as one of the data collection and data sharing system currently operated in Japan.

(Discussions)

Dr. Park: Do you check if information from general public is correct? I asked this question because misidentification of species could be included.

Dr. Hirose: We have support system on species identification with experts, as well as Biological Name Database.

② Long-term Forest Observation, Data Sharing and Future Extensions in Japan

Dr. Masae Ishihara (Kyoto University, Japan)

Dr. Tsutomu Enoki (Kyushu University, Japan)

She presented the Monitoring Sites 1000 and ReSIN projects in Japan and the results obtained through the projects as well as their achievements. She also presented current situation and progress of the project and its future perspective.

(Discussions)

Dr. Chu: I have a question regarding “uniform protocol”. Is uniform protocol applicable to other countries in similar social contexts?

Dr. Ishihara: The detail would be different but the basic is same. The protocol itself follows the one from Smithsonian.

Dr. Kim: Regarding gray literature, gray literature would provide baseline of long term research.

③ ILTER East Asia and Pacific Regional Network

Dr. Yongyut Trisurat (Faculty of Forestry, Kasetsart University, Thailand)

He introduced mission and goal of the IILTER, outlines of IILTER East Asia, Pacific Regional network as well as networks such as JaILTER, Thailand IILTER, Super Site network of Australia. He argued that next challenges of IILTER East Asia and Pacific region network included capacity-building on survey techniques as well as increase of number of monitoring sites. Its achievement and challenges were also presented.

(Discussions)

Dr. Darnaedi: *(Regarding monitoring plot distribution)* I think it is important to have plots in Papua New Guinea region for continuous plotting distribution.

Dr. Kim: We need to detect changes in ecosystems and their functions. This is important role of IILTER.

④ From biodiversity prediction to ecosystem service evaluation: marine case studies in Japan

Dr. Takehisa Yamakita (Japan Agency for Marine-Earth Science and Technology)

He presented result of gap analysis, conducted in the S9 project, between predicted distribution of Sea glass along the Japan coast and current MPA distribution. He mentioned that the project tentatively indentified potential EBSA in Asia and the result indicated that only 45 % of the potential EBSA were overlapped with current MPA. He introduced marine ecosystem service evaluation in the PANCES project launched in 2016.

(Discussions)

Dr. Navarro: Interesting topics. You have used cruiser report in your analysis. Is any formal procedure or guidance applied to cruiser report?

Dr. Yamakita: Scientists collect reports from cruiser. The procedure depends on cruiser.

⑤ Status and trends of mangroves in SE Asia

Dr. Faridah-Hanum Ibrahim (Universiti Putra Malaysia, Malaysia)

Her presentation gave much focus on temporal dynamics of mangrove in Southeast Asia. In the presentation, it is mentioned that mangrove area generally decreased over time in all countries in Southeast Asia. She explained its drives of the reduction.

(Discussions)

Dr. Vergara: For Timor Leste, mangrove decline is due to salt making. Mangrove is used to get fire power.

Dr. Ibrahim: GEO and AP-BON have monitored many things but no monitoring for mangrove has been implemented. We would like you to include mangrove in monitoring network.

Dr. Navarro: Global Mangrove Watch is one of the monitoring systems for mangrove.

⑥ Global Ecosystems and Environment Observation: Annual Report from China (GEOARC)

Dr. Liao Xiaohan (National Remote Sensing Center of China)

He introduced earth observation systems in Chine and its achievement. His talks had much focus on results from satellite or airplane-based monitoring system rather than ground-based technique such as camera trapping.

Discussion towards broader engagement of observation and user communities

Moderator: *Dr. Tetsukazu Yahara, Dr. Sheila Vergara, and Dr. Eun-Shik Kim*

① Vision of multiple observatory networks

Dr. Shin-ichi Nakano (Kyoto University - Centre for Ecological Research)

He introduced future perspectives of monitoring on biodiversity and ecosystem services in the

context of the Master Plan published from Science Council of Japan (SCJ). His talks focused on expansion of monitoring networks within the Asian Green belt. (*In discussion, Dr. Kim appreciated contribution of Dr Nakano to developing AP-Bon books.*)

② Data-Knowledge-Information chain: Japan Biodiversity Outlook 2

Dr. Tohru Nakashizuka (Tohoku University)

He introduced results described in Japan Biodiversity Outlook 2. His presentation contained identified challenges as well as contribution of J-BON to JBO2.

③ ASEAN Biodiversity Outlook and data sharing

Dr. Sheila Vergara (ASEAN Centre for Biodiversity, Philippines)

She introduced results described in ASEAN Biodiversity Outlook 2 and also presented proposed implementation framework to address the Aichi Targets. The ABO2 indicated that progress toward the Aichi Target were evaluated at the entire ASEAN level and only for the Target 11, all ASEAN member states took effective actions.

(Discussions)

Dr. Ma: What attitude is shown toward ABO 2 by ASEAN member states? Is there any different response to it?

Dr. Vergara: ABO2 is the decision prepared by ASEAN member state. Therefore, they are aware of the contents in ABO2. In some points, we have not reached agreement yet.

Discussion items for the new work plan of AP-BON toward 2020

Moderators: *Dr. Tetsukazu Yahara, Dr. Sheila Vergara, and Dr. Eun-Shik Kim*

At first, co-chair Dr. Yahara has introduced 5 topics of discussion as follows;

- *Mission and plans of AP-BON, by broadening its network.
- * Promotion of data sharing: motivation and mechanisms
- * In-situ and satellite observations
- *Contribution to SBA from AP-BON to GEO toward SDG; Tokyo Statement
- *AP-BON Action Plan 2017-2020 (which has discussed from last year. Drafting group needs to develop.)

(Discussions)

Dr. Muraoka: One idea is to enhance more communication opportunities like this workshop. We need more dialogs to know gaps. Other communities have data as well. Broadening to GEO community is important.

- Dr. Ma: I would like to explore possibility to promote further communication.
- Dr. Yahara: I have no objection to enhance communication opportunities. The point is to improve operation and data. Inviting many people from communities is good but it would be complicated. I'm neutral to the idea.
- Dr. Shakya: Outreach is general people. Horizontal link is important to make sure better bridge. I'm happy to have more opportunities in future meeting.
- Dr. Yahara: Mission of AP-BON and GEO BON is to link activities each country and to coordinate integrated observations. Systematic conservation of China, S9 project of Japan, and K-BON are very well but we need effort to develop national BONs and national activities. One idea is to promote integrated observation activities in each country until next symposium.
- Dr. Ma: If possible, I would like to add to promote communication and collaboration with initiatives and network outside of AP-BON in general.
- Dr. Yahara: That would be interesting. A genetic diversity is quite simple but, including more variable, will be complicated. Plus, I don't agree with standardization. Continuity is important for biodiversity observation and thus it is not preferable to change method. I think it is important to promote participation of ecosystem researcher. Is there any idea?
- Dr. Muraoka: One effective key is to talk on one table by having common scientific questions and motivation. Also, it is important to try to link them with scientific communities. I would like to suggest opening this information to scientific committee to get their advice.
- Dr. Ma: Important to encourage participation of colleagues of ecosystem level research.
- Dr. Navarro: For data sharing, the sentence should not be limited to data but should include practice and experience as well. These elements are also important.
- Dr. Ishihara: I would like to propose establishing young scientific working group to let young scientist to analyze available data.
- Dr. Yahara and Dr. Trisura: Positive about proposal.
- Dr. Ma: Interest in young WG group. It is important to think about how to promote participation from Asian countries other than Southeast Asia and East Asia.

Closing Remarks: *Mr. Naohisa Okuda* (Biodiversity Strategy Office, MOE)

