

Summary Report

APBON 6th Web Seminar

1. Date: 25th February, 2021

Time: 15:00-17:00 in Japanese Standard Time (UTC 06:00-08:00am)

(12:45-14:45 in Nepal; 13:00-15:00 in Cambodia; 2/24 20:00-22:00 in Hawaii)

(14:00-16:00 in Malaysia, Philippines, China)

2. Location, Participants

- Webex Meeting Room
- 25 participants (21 participants and 4 from secretariat) from 8 Nationalities
- MC: Dr. Bunthang Touch
(IFReDI: Inland Fisheries Research and Development Institute)

3. Program:

Opening and Announcement:

Secretariat of APBON (Mr. Saito: Biodiversity Center of Japan)

- welcomed all of the participants to join this 6th APBON web seminar
- The agenda and rules of meeting were proposed
- Introduced today's MC

Presentation1:

Dr. Eun-Shik Kim (Kookmin University)

“Ecological observation of the declining Korean fir forest on the higher altitude area of Mt. Hallasan National Park, Jeju Island, Korea, under changing climate aided by the ICT (information and communications technology)”

Q&A Session

Q: I was very happy to work with you over the last years. I'm particularly interested in your work in Mt. Hallasan on Korean fir, because fir tree is very popular in Kyusyu. And we also observed that young seedlings are quite infrequent, there are more saplings. Saplings are usually 30 centimeter tall, but sometimes the age was very old. So sometimes one meter sapling has 50 years old age. So it seems that we have the

similar situation between Japan and Korea. And I'm interested in how high or low survivorship of saplings are(not seedlings). Could you explain the situation in Korea fir?

A: Yes, as in my slide that I showed you about the gap of seedlings and saplings, it's quite interesting to see that we examined the seedlings under the dwarf bamboo population. When they are in about the height of 10 centimeters, they are about 10 years old already. Fir is a shade-tolerant tree species, so they're very slow in growth when seedlings. So I think that what you said is correct and common to see. The saplings with 1 meter in height could be 50 years old. What I observed from Mt. Hallasan is that seedlings and saplings are being browsed by the roe deer so that we have the gap in the saplings, too. So it would be kind of the worries for us to see the forests without the saplings, meanwhile the old trees will be fallen down due to the strong typhoons. But the regeneration and succession interrupted is the big issue in the forest. So the major issue related to the regeneration might be the deer browsing of the seedling and saplings you might be able to see, and it's quite common to see from the Mt. Hallasan in Jeju Island.

Q: You've succeeded in continuing observation since 2015 and how you expect how long can you continue this observation? Do you have any good system for ensuring the longtime observation in Korea?

A: This is an excellent question. This is the pilot platform that we made with which I managed it until July last year. Last year, we transferred it to the National Park Research Institute as I mentioned before. So we are hoping that they continue to monitor with it at the site on Mt. Hallasan as long as possible and that they have other monitoring systems applied to other National Parks sites as with the agreement made. So I think that I handed it to the good hands of the National Parks in Korea. While hoping that the Institute could successfully get the funds for the management from the government, I think that they will be promoted further with the sites in the National Parks of Korea. That is also my hope.

Comment: We have the same problem with native forest regeneration in Hawaii. Saplings can't grow well due to invasive grass covers or get eaten by wildlife when successful.

A: When I showed you the slide about the dwarf bamboo, the seedlings are being suppressed. As dwarf bamboo belongs to the grass family, I think it also happens in

the other areas of the world. Now they are not being browsed by horses and cows, but in the past they were browsed by horses and cows. On Mt. Hallasan, they are carrying out a test or experiment of grazing pressure on the vegetation with the cows and horses.

Q: Thank you for your successful presentation and congratulations to your progress in the last decades and also impressive pictures which was very impressive for me to see the beginning of the APBON and also the very early history of LTER in our region. So my question is I heard that you have already transferred your system to National Park but do you have any other additional idea to share this kind of system with the Korea LTER community?

A: Actually my motivation is to continue this work as a long-term study. I think that if the National Park Research Institute agrees with further sharing data from the system, that will be one of the outputs in Korea LTER activities. So one thing very important is if they are successful for getting funded for further these activities, I think this is the way for us to go for the activities of KBON as well as KLTER. A good question to think about!

Q: Because I remember that in the last couple of years, the APBON has been discussing observation items that are biodiversity issues and also ecological issues. And we've been discussed that the phenology could be one of your phenology observations. And also considering that they including someone physiological experts of trees to changing environments, in that way, this could be a very good reaching items for the different networks. If we could develop more in Korea and also in Japan and in the other countries in our region, we could promote this observation to see what is happening in their ecosystem from the local scale. So this study could be a kind of model to a promote suggestions.

A: Yes, when we observe the phenology of trees or forests, that can be seen from outside. As this study shows another aspect of tree phenology related to tree growth from inside, I think this could be a different perspective of phenology of trees or forest to think about.

Presentaton2:

Dr. Tomoaki Miura (University of Hawaii, JAMSTEC)

“Exploring New Remote Sensing Data for the Characterization of Tropical Phenology”

Q&A Session

Q: Thank you very much, I learned a lot from your recent progress using the very compliant scale satellite imagery most in time and also in the space. This is very interesting to apply to diversity observations from the satellite. So I have one question from your perspective, what is your very recent emerging idea to consider some master-sites on biodiversity observation crops from the viewpoint of the satellite of the observations. I am asking this because I also know it is not that easy to answer, but if you have the view from space, satellite could measure and pick up some sensitive local areas or ecosystems that something changing along the time, and that could be a very good viewpoint to set the observation procedure field .

A: Yes, I think so. At this point, I'm also learning about it, so I don't have any specific suggestion on a good monitoring site. I happened to be introduced to this Lambir Hills National Park, so I work with Dr. Shin Nagai and other co-workers to try to see the utility of these data. But I think it could be a good idea to also try to see how useful satellite data are to other sites where the intensive field, so you can see how satellite images co-relate with the in situ observation and once you are able to establish a good connectivity then you can specially expand the finding to much larger area. And then if you want to cover large area, probably you will need to have a field validation observation to occasionally check satellite observations. But we are seeing that these high resolution satellite data may be a good means more like taking photographs of the scenery from the satellite.

Q: Because in the last APBON workshop in January, we started to discuss about the master site concept, designing and picking up some existing research approach so that APBON could go further with this primary idea, and then you and Dr. Nagai could also work together to see how this process can be observed by the satellites and the temporal cities or some other potential interpolation ship surrounding area and targeting it. Then we might see how focusing area could be influenced by changing environment or others surrounding circumstance.

A: That would be really great. We would be great to have the field observations and some time lapse camera and then satellite time series data at the high spatial

resolution. So that would be good.

Q: Thank you so much for sharing cutting-edge research. One technical question from me is, would the color of the flowers be a matter to detect the flowering intensity from the satellite?

A: Yes, flower color seems to matter and so far we are confident that we can detect white flowers very well, but we are not confident that we can see yellow flowers. So the conclusion is for the white flowers, we are confident that we can see from satellite image but for yellow flowers, it's seemingly easy to see with our eyes but we don't think we can see yellow flowers very well from satellite.

Q: Thank you very much and I am just wondering if you could use the hyperspectral, or something like that, maybe you could detect more color variation in the future.

A: It's possible. I think it's more to do with the spatial resolution, maybe we need a finer spatial resolution to detect a variety of colors of flowers and also based on my experiences, overcast cloudy conditions seems to be better for detecting flower colors. That goes against remote sensing from satellite remote sensing, here we need a clear sky condition, but for observing the flower colors, pictures of colors appears more nicely on cloudy conditions.

Q: Yes, it also happens in drone photo in the cloudy condition.

A: Yes, if you want to detect the flowers only. But if it's overcasting and clouds are so thick, the scenery is darker which is not good. It's bright but the overcast with no shadow condition then you can get the really clear scenes that all the flowers should stick out on the image very nicely.

Information exchange on APBON: (Dr. Muraoka)

Announcement:

(1) 13th AOGEO Symposium (Dr. Hiroyuki Muraoka)

- The schedule of 13th AOGEO Symposium (March 3-5 2021 online) was introduced and he welcomed all of the members to participate. <https://aogeo.net/2021/index.html>
- The theme, topics of discussion and schedule of 13th AOGEO Symposium were briefly introduced.
- The deadline of registration is Feb 26.
- APBON will give a short 5 minutes presentation in AOGEO Task Group 2.
- Steering Committee is drafting the text inputs to be considered for the AOGEO

statement to be adopted in the final session of symposium and this AOGEO statement will be delivered to the AOGEO principle of the region, and also will be delivered to the entire community of the global team.

(2) APBON new Logo (Dr. Hiroyuki Muraoka)

- Dr. Muraoka said the new Logo which is designed by Dr. Yayoi Takeuchi, has been used since Canberra AOGEO symposium, and now another type of APBON logo will be used which you can see from APBON website. The meaning of using new logo is also because we are transferring to the second decade of APBON.
- Dr. Yayoi briefly introduced the concept of new logo, and hoped all of members could expand their networks with this logo.
- Original copy of this new logo will be available from APBON secretariat.

(3) Questionnaire to APBON members (Secretariat to APBON)

- Secretariat asked all of the participants to contribute to the questionnaire. It was prepared to better prepare and organize APBON Web Seminar for the next fiscal year, April 2021 to March 2022.
- The information of questionnaire will be sent to all of the members by mailing list.

Photo session:

