Issue 2 June, 2022

# APFNET ALUMNI NEWSLETTER

The Official Newsletter of the APFNet Alumni Network

Photo credit: Manjit Bista

## CONNECT WITH US:

APFNet Alumni Community

@apfnetalumni

@ApfnetAlumni

APFNet Alumni Network

## IN THIS ISSUE:

# BIODIVERSITY CONSERVATION WITH OUR ALUMNI

**"With biodiversity and habitat conservation, we can create a shared future for all global organisms."**

*Mr. Manjit Bista, alumnus 2018, NFU*

Mr. Manjit Bista is an alumnus of the 2018 class from Nanjing Forestry University (NFU). He has worked in the sector of biodiversity conservation in Nepal for over 10 years. Currently, he is a park ranger at the Department of National Parks and Wildlife Conservation (DNPWC) under the Government of Nepal, working in the mid-hills of Shivapuri Nagarjun National Park. As a ranger, besides scientific study on biodiversity, wildlife, forest, and socio-economics within and around the national park, his biggest responsibility is to ensure the protection of biodiversity, wildlife, and public land in his designated area. He and his colleagues have to regularize patrols with the army, work with stakeholders like committees from the buffer zone and partner organizations, and maintain records of all these tasks. Even with all these efforts, sometimes some people are found breaking the laws of the national park. Depending on the severity of the situation, he has to take them into custody, conduct further investigations and charge them with crimes.

*Setting Harp Trap in bat survey*

*Setting Shermen Trap for rodent survey*

**Manjit Bista and his team are on biodiversity field investigation**

Sharing one of the recent considerable achievements in biodiversity conservation in Nepal, Mr. Manjit Bista highlighted: "In 2021 Bardiya National Park of Nepal have won TX2 Award for doubling their tiger populations since 2010, in collaboration with India's Sathyamangalam Tiger Reserve. This is a remarkable success for biodiversity conservation in Nepal and the world." Nepal's total protected area is nearly one-fourth of the economy's total land area. The number of endangered and vulnerable wild animals in these areas has been increasing. Despite the significant progress they've achieved, they still face the biggest difficulty of conflict between humans and animals. "Wild animals like tigers, elephants, leopards, and snow leopards have been reported to attack humans and farm animals. There are also incidents of wild animals being killed by electrocution, snares, road accidents, and even poisons", expressed Manjit.

Manjit has faced several hurdles when carrying out his biodiversity conservation responsibilities. "Working in the most distant corners of Nepal is one of the most difficult aspects of my job. Once I was on a long patrol in the Himalayan region of Makalu Barun National Park with my team and the sunny weather suddenly changed. Dense fog appeared to reduce the visibility to less than a meter; I lost the track and was left alone. The phone didn't work because there was no service, so I spent over three hours looking for my teammates in the alpine pastures, overcoming the fear of being lost in that wilderness. We also have chances of being encountered by wild animals and sometimes by armed poachers. Many people who work for conservation have lost their lives from animal attacks. Despite these kinds of dangers, rangers always have been dedicated to their service in biodiversity conservation and environment protection."

In the future, Manjit wishes to bring the human-wildlife conflict to an end. "I dream of all humans living in harmony with nature and the wild animals. For that, the most important thing is to be able to build a sense of care in the people towards the wild animals. Everyone and everything in the ecosystem should benefit directly or indirectly, and sustainably from the expanse of protected areas and the rise in the number of wild animals." He believes that this world equally belongs to all the creatures that nature created; and being the most intellectual of all species, humans are responsible for other species' existence.

# BIODIVERSITY CONSERVATION WITH OUR ALUMNI

## "Tree planting is a very urgent initiative for the environmentalists and foresters"

*Fayzmamad Davlatbekov, Ph.D student 2019 class, NWAFU*

Mr. Fayzmamad Davlatbekov from Tajikistan gained his master's degree in Soil and Water Conservation under the ASP in 2019 at Northwest A&F University (NWAFU). He continues to pursue his Ph.D. at the same university now.

When talking about his research, Fayzmamad mentioned that "APFNet provides excellent opportunities for young environmentalists and forest researchers. I focused my research on Carbon sequestration and leaf litter decomposition during my master's study at NWAFU. Research allows me to pursue my interests, hone problem-solving skills, and challenge myself in new ways. Working on a faculty-initiated research project gives me the opportunity to work closely with the faculty member or another experienced researcher".

Due to the global pandemic, Fayzmamad was forced to take a study gap and moved back home to Tajikistan. "While I was in my home economy, I decided to do some practical work in my field and apply my knowledge in my respected community. So, I joined Aga Khan Agency for Habitat, which is working on the habitat improvements in the developing economies, as a Senior Analyst of Climate Change Coordination". Mr.Fayzmamad Davlatbekov in this short period of time has done several activities in the forest and environment:

- Organizing a preparation event for the Tajikistan team for the COP26 conference with the governmental institutions and other international agencies to discuss and come up with the commitments of individual stakeholders in combating climate change.
- Launching environmental and climate change clubs in 13 schools of Khorog city. The total members and activists reach 150 club members within three months.
- Organizing tree planting across the region.

*Fayzmamad is joining a tree-planting activity*

Fayzmamad believed that organizing tree planting is a very urgent initiative for environmentalists and foresters. The rate of deforestation in my homeland is catastrophically alarming. According to the Environmental Committee of Tajikistan's guidelines, all governmental and non-governmental must compensate for their GHG from the operational activities. He mentioned that developing a platform to calculate the GHG and making every individual organization and stakeholders to be responsible for their emissions is the right approach to tackle environment and climate change impacts.

*Fayzmamad (the first one in the left) in one of trees planting campaigns organized by Aga Khan Agency*

Even though the tree plantation to compensate for the GHG emission is a debatable topic among scientists and politicians, I truly believe that the more we plant trees the more we cover the economic and environmental issues.

Finally, I cordially ask every young researcher or forester to contribute a certain portion of their commitments to environmental conservation through forest activities such as tree-planting campaigns.

# BIODIVERSITY CONSERVATION WITH OUR ALUMNI

**"Stronger knowledge of forestry management from the scholarship brought me to greater impact on my profession. This is involving school and experience sharing with students from other economies"**

*Mang Tukla, alumnus 2015, BFU*

Mang Tukla from Cambodia earned his bachelor's degree in environmental science at the Pannasastra University of Cambodia in 2012. Three years later he went to Beijing Forestry University (BFU) to pursue his postgraduate studies where he earned a master's degree in Forestry Economics and Management in 2017.

Prior to studying in China, he has been working as a field forester. Thinking about his career growth he then furthers his studies abroad through the APFNet Scholarship Program. He is grateful for the experience that leads him to build a professional network of experts in forest management. "Stronger knowledge of forestry management from the scholarship brought a greater impact on my profession. This is involving school and experience sharing with students from other economies", said Mang Tukla. Right after completing his master's degree, he got a job offer to be a biodiversity monitoring officer at WWF Cambodia. He is proud to say that through his master's degree he was able to gain more skills and knowledge that got him promoted three times to a higher position. Currently, he is working as the Manager of the Surveillance and Intelligence Reporting Unit of Rising Phoenix Co., Ltd – a social enterprise that aims to restore and conserve Siem Pang Wildlife Sanctuary in Cambodia.

*Giant Ibis in Siem Pang Wildlife Sanctuary*

*Eld's Deer in Siem Pang Wildlife Sanctuary*

**Photos: Rising Phoenix Co., Ltd**

Siem Pang Wildlife Sanctuary Forest area is located in far North-Eastern Cambodia, in Stung Treng Province, east of the Mekong River. It covers a total of 132,321 hectares, and this protected area is managed by the Ministry of Environment and the Department of Environment of Stung Treng.

*Siem Pang Wildlife Sanctuary, Cambodia*

**Photos: Rising Phoenix Co., Ltd**

The wildlife sanctuary supports populations of five critically endangered bird species including Giant Ibis, White-shouldered Ibis, Red-headed Vulture, Slender-billed Vulture, and White-rumped Vulture.

His work in forest and wildlife protection includes law enforcement through regular patrolling and technical inputs in partnership with the Ministry of Environment – Cambodia to ensure the protection of forests and wildlife, allowing sustainable benefits for local communities. "I believe that all forest management and conservation laws should be strictly enforced. This will ensure wildlife protection and their habitats," said Mang Tukla.

As an APFNet alumnus, he is supportive of the network that connects alumni and students. He hopes to have an active and constant connection and interaction amongst alumni to share ideas and practices, especially on wildlife protection and management.

# BIODIVERSITY CONSERVATION WITH OUR ALUMNI

**"It is urgent to raise public awareness and involve rehabilitation activities under the Re-establishing Natural Habitat Programme (RNH)"**

*Nay Yu, alumnus 2019, NFU*

Global diversity is an ongoing critical loss, thus an essential task for conservation biologists is to figure out the drivers of biodiversity loss. To contribute to protecting species living as well as biodiversity, after graduating with a master's degree in Forestry in 2021 at Nanjing Forestry University, Nay Yu chose his career in biodiversity conservation especially focused on birds' habitat and their ecosystem. He is now working as a staff officer under the Nature Wildlife and Environmental Conservation Department, Forest Department, Ministry of Natural resources and Environmental Conservation, Myanmar.

The Forest Department launched the Re-establishing Natural Habitat Programme (RNH) (2019-2020 to 2028-2029), to achieve the objectives of protecting ecosystems and biodiversity, and fulfilling the commitments of international conventions and programs such as the Convention of Biological Diversity (CBD) and Paris Agreement and Sustainable Development Goals (SDG). The long-term goals extend to the restoration of ecosystems which ensures the sustainable supply of ecosystem services and climate change mitigation, and the promotion of public and stakeholder participation in ecosystem resiliency and biodiversity conservation. The RNH has been implemented in 19 protected areas of Myanmar. It is divided into two parts of re-establishment and protection for RNH as tiger survey, bird's survey, Eld's deer (Rucervus eldi thamin) survey, and Popa langur (Trachypithecus popa), etc.

"I have been a programmer of assessment, monitoring, and evaluation since 2021 in RNH. We started a bird survey for diverse bird species and habitat types on 28 January and 2 February 2022 from a distance of 34.7 kilometers at the Paungloung Dam, 29.2 kilometers at the Ngalike Dam, and 49.8 kilometers at the Sinthe Dam respectively using "direct point counts method'. For three days straight, we worked at each spot in the morning, marking the routes at the locations that correspond to the GPS points. Additionally, we recorded environmental conditions, species, and nesting locations. Bird of Burma, A Field Guide to the Birds of South-East Asia, Handbook of the Birds of the World, and BirdLife International's digital checklist were chosen as reference materials to help identify and categorize the species of birds.

During the present survey, a total of 2907 individual birds belonging to 89 species were captured throughout the study area. The highest number of bird species (36) was recorded in the Sinthe dam, followed by Ngalike dam (27) and Paungloung (26). The analysis of data on residential status revealed that out of 89 species 64 were residents. The remaining 25 species were winter visitors. Of these, two species of near threatened (NT) were recorded and the other 87 species were the least concern (LC).

*Nay Yu 's survey team*





*Bird species observed during Nay Yu 's survey*

The results provide updates for the bird species distributed in the three dams. Previously, there was no recorded data on the long-term sustainability of the forest bird populations and the probability of detectability in this area. It is clear from this survey's results that the species similarity is very high at the Ngalike and Sinthe Dam and that areas that have a strong impact on avifauna are to be found in high human pressure such as overfishing, hunting, etc. Prey species of Osprey and near threatened (NT) were refuged only at the Paungloung Dam which is well covered by natural forest. In conclusion, the findings obtained from this survey have revealed that anthropogenic disturbances in watershed areas have a limited potential to support bird species, and relying on the existing forest cover is not sufficient.

It is urgent to raise public awareness and involve rehabilitation activities under the RNH program. The research result sets the background for further analyses of bird-habitat relationships at multiple spatial scales, particularly of species that are of ecological and conservation importance. Opportunities for future research include comparisons of multiple land uses with watershed areas, as well as examining spatial dynamics over time. This requires establishing a long-term monitoring survey of bird communities in the region.

# The Alumni Network looks forward to meeting students from Chile

On May 25, 2022, the membership of Chile in the Asia-Pacific Network for Sustainable Forest Management and Rehabilitation (APFNet) has been officially approved at the Sixth Meeting of the APFNet Council. This is the third economy from the South American region alongside Mexico and Peru to be a member of APFNet.


The Alumni Network welcomes future students from Chile into our big family, which will incorporate 27 member economies in the Asia-Pacific region. With that being said, let's have some interesting facts about Chile's forestry sector:

- Forests occupy 21.5% of the total land surface, equivalent to 16.2 million hectares.
- About 86% of forests correspond to natural forests and 14% to plantations, which are mainly planted with Radiata Pine.
- It is one of the economies in the world with the highest percentage (29.0%) of protected forests.
- The forestry sector is the second-largest exporting industry which represents 7.3% of GDP, behind only large-scale mining.
- Approximately 400 thousand people are directly and indirectly employed in the forest sector.

*Bosque Pehuen Protected Area in Chile*

**Photos: Rising Phoenix Co., Ltd**

## PHYOWAI, ALUMNUS 2019, NFU

In recent decades, radical demographic, economic, and social changes in Myanmar have placed considerable pressure on forest resources, which is marked by the decrease in forest area from 45.04% in 2010 to 42.19% in 2015, according to the Food and Agricultural Organization (FAO, 2015). To cover this loss, the reliable method and data sources for mapping Above-ground Biomass (AGB) by forest types are essential for Myanmar's future forest reference emission level (FREL) calculation of REDD+ since local AGB maps are also the basis for the extension of estimates to larger areas using remote sensing approaches. To date, however, no systematic research has been conducted to predict the spatial distribution of AGB by forest types, especially in inaccessible areas of Northern and Eastern Myanmar, which salvage the optimal integration of remote sensing data and modeling algorithms.

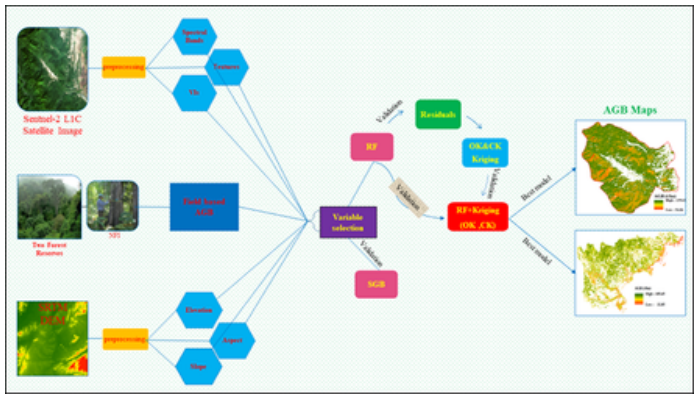
That is the reason pushing Mr. Phyo Wai, an alumnus of class 2019 from NFU, who is currently working as an official in the Forest Department, Ministry of Natural Resources and Environmental Conservation, Myanmar to conduct the research titled "Estimating Aboveground Biomass in Two Different Forest Types of Myanmar from Sentinel-2 Data with Machine Learning and Geostatistical Algorithms". This study was developed as his master's thesis research under the instruction of Professor Li Mingshi at NFU in 2021.

The overall goal of his study was to evaluate the performance improvement of over-laying geostatistical interpolation onto machine learning modeling based on S-2 and SRTM in mapping the AGB of two forest reserves in Myanmar. Additionally, the robust AGB maps generated from this work are expected to support the strategic development of carbon sequestration-aimed forestry management efforts in Myanmar.

*PhyoWai is icollecting data for his research*

He has been facing a very hard time due to the COVID-19 pandemic with challenges emerging during his study period such as limitations of electricity, internet access, assessments to the field, and so on. Nevertheless, he worked hard to overcome these obstacles to complete his research by focusing on core ambitions and keeping in contact by working online with his supervisor and his colleagues in Myanmar in the field of remote sensing.

Sharing the research results, Mr. Phyo Wai said: "The results pointed out Sentinel-2 and SRTM satellite data could effectively estimate the forest AGB in tandem with machine learning models if proper modeling algorithms and processing techniques are used. The generated AGB maps from the best models estimated the AGB values at 94.3–139.83 t/ha in evergreen forest type and 32.88–185.65 t/ha in deciduous forest, which were closed to the field calculated AGB values. Thus, the methodology used in the study is prosperous and contributory to the future carbon accounting that will be involved in the REDD+ forest reference level emission calculation of Myanmar which has limited high-resolution satellite data and software as well as qualified talents." By the end of December 2021, he has completed his research and was able to submit it as a research article in the Remote Sensing MDPI Journal in March 2022.




*Graphical abstract of the research*

Mr. Phyo Wai would like to enhance his professional profession by pursuing a Ph.D. degree at a suitable academic organization to update his knowledge and trends of remote sensing for future forest management. "My other goal is to improve my department's work by promoting research efforts based on theory and techniques learned from prior research," he expressed. We all hope that, as a result of his efforts and hard work, he will be able to achieve significant research successes and contribute to future sustainable forest management.

Find more information on his publication through the following link:
**https://doi.org/10.3390/rs14092146**

# Alumni are satisfied with the newsletter but call for more research content for future issues

*ASP students experience sharing activity in Inner Mongolia*

The creation of the APFNet Alumni Network has been a helpful avenue to connect among its alumni and students in the Asia-Pacific region. At the start of 2022, a survey was conducted to gather insights and suggestions from our alumni to improve the quality of the newsletter.

In terms of the level of interest in the Alumni Newsletter, about 63.6% have high interest, while 40.9% responded with a medium interest. Only 4.5% have a low interest.

On the importance of information sharing through the newsletter, about 63.6% have responded that the newsletter plays an important role to disseminate information. There is still a great space for the network to upscale its content to engage more alumni.

In terms of layout, 45.5% said that they are very satisfied with the newsletter layout. However, 27.3% responded that they are somewhat satisfied.

Around 45% of the alumni expressed the need to focus more on research content for future issues, and information related to alumni's work experiences and updates on international events came second. Furthermore, all the alumni have expressed that the newsletter has provided relevant information on the needs of the members.

However, alumni have pointed out the need to have an event where alumni and students can physically interact and discuss important matters for the network's growth rather than doing it virtually. In this way, alumni will have the motivation to actively participate and contribute to a more active and inclusive alumni network.

Here are some more suggestions gathered in the survey to improve the newsletter:

- Put emphasis on international forest issues, especially on climate change, timber, etc.
- Inclusion of special events such as Biodiversity Day, World Environment Day, World Soil Day, and World Day to Combat Desertification and Drought.
- Stories on how to survive studying in China and details on ASP to encourage more ASP Applicants.
- Information on research funding for alumni and students.
- Research findings or expert views dealing with forest management in each economy.

Much work needs to be done to achieve this; however, the alumni are optimistic that this is possible with the active participation of all members of the network.