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Abdul Manap Mahmud
Pensyarah Kanan

Kajian Etnobotani

Projek Pelajar Tahun Akhir AS201 UiTM Sabah 2012-2017

Etnobotani ditakrifkan sebagai bidang ilmu yang mengkaji hubungan sesuatu etnik dengan tumbuhan. Iaitu bagaimana sesuatu spesies tumbuhan atau kumpulan tumbuhan dikategorikan sebagai “tumbuhan bernilai” oleh sesuatu kaum. Pengetahuan botani tradisional sesuatu etnik ini menyumbang kepada pengetahuan botani moden.

Setiap suku kaum mempunyai pengetahuan botani tradisional yang berbeza pada setiap spesies tumbuhan. Dalam konteks negeri Sabah yang mempunyai kepelbagaian etnik dan sub-etnik yang besar, kajian etnobotani menjadi sangat signifikan. Masalah utama kajian etnobotani ketika ini ialah jumlah “pengamal tumbuhan” adalah dari kalangan “orang-orang tua” setiap etnik. Oleh itu usaha dokumentasi, inventori dan pengumpulan maklumat dilapangan menjadi sangat kritikal.

Pada ketika ini inventori etnobotani “tumbuhan bernilai” sedang dijalankan oleh pihak Pusat Penyelidikan Perhutanan Sandakan, Herbarium Taman Negara Kinabalu (khusus untuk kawasan Taman Negara Kinabalu) dan Universiti Malaysia Sabah. Usaha ini juga sedang dilakukan oleh Program Ijazah Sarjana Muda Sains Biologi (AS201) UiTM Sabah. Iaitu melalui Projek Penyelidikan Tahun Akhir Pelajar AS201.

Kajian yang telah dijalankan adalah oleh pelajar-pelajar Ijazah sarjana Muda Sains (Biologi) ialah oleh Faridah di Pengkalan Abai Kota Belud untuk suku kaum Bajau Sama; Rafidah Razali di Kampung Benoni Papar; Irmah di sepanjang Sungai Padas Beaufort untuk suku kaum Bisaya; Clotilda kajian suku kaum Bajau di Pantai Teluk Melinsung Papar; Mayrlizatul Farhain di sepanjang teluk Sulaman Tuaran; Fatin Arfinah di Pulau Banggi, Kudat; Khairul Fahmi di Weston Beaufort. Sila rujuk Jadual 1.0.

Semua kajian ini memberi data asas kepada bidang hasilan semulajadi (*Natural product*), kajian lanjutan dalam bioekonomi, kajian bioprospektif potensi tumbuhan komersil baru. Selain itu, inventori etnobotani “tumbuhan bernilai” ini juga membuka ruang kepada para pelajar untuk meluaskan persepsi, kecenderungan dan kemahiran mereka berkaitan dengan tumbuhan khususnya dalam bidang pertanian, usahawan, teknokrat dan penghasilan produk baru.

Jadual 1.0: Rekod Kajian Etnobotani oleh Pelajar Tahun Akhir AS201 FSG UiTM Sabah 2012-2017

Bil.	Pelajar	Tempoh kajian	Kawasan Kajian		Suku Kaum	Bil spesies tumbuhan yang direkodkan
			Lokasi	Daerah		
1.	Faridah Saing	Jun 2012 - Jun 2013	Pangkalan Abai	Kota Belud	Bajau Sama	43
2.	Rafida Razali	Jun 2012 – Jun 2013	Kampung Benoni	Papar	Brunei	43
3.	Irmah Anwar	Jan 2015 – Jan 2016	Muara Sungai Padas	Beaufort	Bisaya	63
4.	Clotilda A.Eric Adik	Jan 2015 – Jan 2016	Tanjung Melinsung	Papar	Bajau Sama	54
5.	Mayrlizatul Farhain Misrah	Jan 2015 – Jan 2016	Teluk Sulaman	Tuaran	Bajau Sama	57
6.	Nasyuha Jamian	Julai 2015 – Jul 2016	Teluk Sepanggar	K. Kinabalu	Bajau Sama	54
7.	Nurul Alezza Hazra Munirah Alimat	Julai 2015 – Jul 2016	Pesisir Pantai Kinarut	Papar	Bajau Sama	50
8.	Fatin Afinah Abdul Rahman	Jan 2016 – Jan 2017	Pulau Banggi	Kudat	Dusun Bonggi Bajau Ubian Brunei	47
9.	Khairul Fahmi	Jan 2016 – Jan 2017	Weston	Beaufort	Dusun Tagahas	50
10.	Sherene Mylon	Julai 2016 – Jul 2017	Ulu Sungai Kiulu	Tuaran	Dusun Liwan	ds
11.	Chernietika Madius	Julai 2016 – Jul 2017	Bukit Manggis	Papar	Dusun Liwan	ds
12.	Eva Olivia Johnius	Julai 2016 – Jul 2017	Ulu Sungai Miroli	Ranau	Sungai	ds
13.	Norfalahani Sulaiman	Julai 2016 – Jul 2017	Muara Sungai Bengkoka	Pitas	Rungus	ds
14.	Ellisra Geluing	Julai 2016 – Jul 2017	Matunggong	Kudat		ds

Nota: ds – dalam semakan



Julenah Ag Nuddin, PhD, MMIC

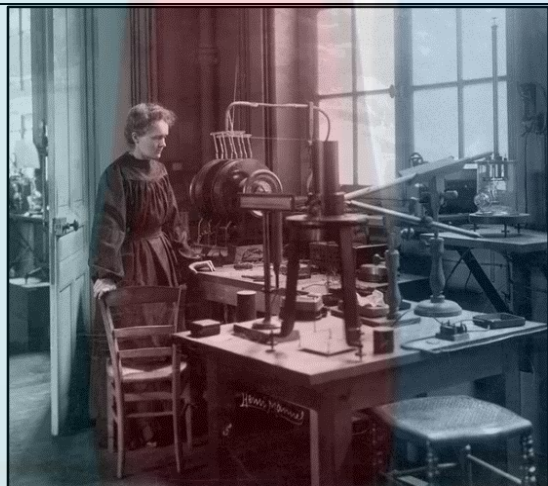
Scientific Scrawls

Perseverance is Powerful

It is December, the last month for 2020. It is the time of year when we reflect and project. You may feel anxious since you have to prepare a number of reports and probably a little despair upon realising that what you have aimed for in the beginning of the year did not follow through. However, January is coming, marking a new year, hence a new opportunity. Every year, we will be filled with anticipation on the first day but sputter pitifully throughout the following months.

Looking back throughout 2020, one virtue stands out starkly, *perseverance*.

According to Cambridge Dictionary, perseverance, is continued effort and determination. To persevere is to be able to arrive at the finishing line after going through phases of routes, obstacles and aids. Thus, perseverance is the ability to keep on doing something in spite of stumbling blocks. Those who persevere show steadfastness despite how long it takes to reach the goal. Perseverance is attained through failures. In a learning curve, a mistake is not an outlier or bad data, but, another grasp of understanding of the whole activity. As Winston Churchill famously said, '*Success is walking from failure to failure with no loss of enthusiasm.*'



In Scientific Attitude of Nature of Science, perseverance encompasses of determination, persistence, resilience and patience, more or less, probably more. A combination that is highly required and appreciated as scientific activities are intellectually, mentally and physically demanding and exhausting. Only those who are passionate in these endeavours would be bold and brave enough to venture into such unknown territories. However, such gallantry would be meaningless when conceding to a let-down without fighting back. Therefore, only those who are capable to overcome the odds will prevail.

Figure 1. The renown Marie Curie in her laboratory.

One such figure is Marie Curie. She was the first woman to win a Nobel Prize, the first person and only woman who had won Nobel Prizes twice, and the only person to have won Nobel Prizes in two different fields; in Chemistry and Physics. She might have been lucky to be part of the Curie family legacy of five Nobel Prizes, but she had certainly won them with her own merits. She had earned her honours through working while studying, living under poor conditions and fearlessly studied what other scientists were not picking up due to its radioactivity. Not to mention, the discrimination.

Having perseverance in doing scientific research means possessing absolute interest in anything science by devouring endless amount of reading materials, enjoying time spent in laboratories performing numerous experiments, dedicated pondering on writings, endless frustration on seeking financial supports for research activities and never-ending hope that the students will fare well. For those reasons, a huge amount of fighting spirit is mandatory. Of course, that is just the tip of the iceberg.

In any way you look at, this desirable quality is something very lacking in the young generation. Gone were the days when you can tell a student that the location of interest is in the middle of nowhere which is met with an excited exclamation. Instead, a question will pop up, 'Got signal?'. In any case, one beautiful day, we will find our own, one and only, student. I always believe that.

"Life is not easy for any of us. But what of that? We must have perseverance and above all confidence in ourselves. We must believe that we are gifted for something and that this thing must be attained."

To end 2020, let's look forward to the new year with new strategy and hope. We will continue to run that mile and when we stumble over a stone, we will pick up ourselves and continue running, because that is what persevering people do. As Marie Curie had expressed,

Happy New Year 2021.

SIG TANI Annual Report 2020

By Julenah Ag Nuddin, PhD, MMIC



Special Interest Group in Agromining
ReNeU: **Energy & Environment**
CoRe: **Green Technology & Sustainable Development (GTSD)**
Leader : Chm. Dr. Julenah Ag Nuddin

SIG TANI stands for SIG *Pertanian Nikel* and was formed in August 2019. It aims to establish agromining research activities in Sabah with collaboration from University of Lorraine, Nancy, France, University of Queensland, Queensland, Australia and Sun Yat-sen University, Guangzhou, P.R. of China. This collaboration is part of a research project led by Professor Qiu Rong Liang (SYSU) and Professor Jean Louis Morel (UL) funded by National Natural Science Foundation of China. The collaboration has formed Agromining World Network (AWN) based in France where UiTM Sabah is representing Malaysia.



First meeting 31/10/2017, Sabah Parks HQ. Prof. Echevarria (5th from right) is PIC for UL. While Dr Antony van der Ent (5th from left) is PIC for UQ. Professor Morel is 4th from right.



Meeting with FSG faculty members on 7/2/2018 at UiTM Sabah campus.

Its membership comprises of lecturers/researchers from a few faculties, namely, Dr Julenah Ag Nuddin, Dr Lo Chor Wai & Madam Farnidah Jasnie of Applied Sciences Faculty, Dr Hendry Joseph, Dr Alexis Korom, & Dr Viduriati Sumin of Plantation & Agrotechnology Faculty, Prof Dr Imbarine Bujang of Business Administration Faculty, Dr Khairul Anwar of Computer Science & Mathematics Faculty and, Dr Mohammad Mu'az Hisham from FPA, UiTM Jasin Campus. Currently, the group has 2 postgraduate students; Nur Syafiqah Salim (MSc. Biogeochemistry) and Mohd Fadhil Mohd Rapahi (MSc Agronomy).

Even before SIG TANI was formed, a few activities had been organised to kick-off the joint venture. In 2018, Professor Dr Guillaume Echevarria had presented a lecture on Agromining to students of BSc Biology which received warm response. In the middle of the year, 4 students of BSc Biology carried out their final year project at Herbarium of Kinabalu Park. Their projects focused on PXRF analysis of herbarium specimen for hyperaccumulators identification. One paper is coming out from the study which is expected to be published in Malaysian Applied Biology Journal by next year.



Lecture by Prof G to BSc Bio students,
16/3/2018



FYP students at Sabah Park, 17/7/2018



French Students Mobility Program, Romane,
1/10/2019



Research Activities Meeting 8/11/2019

In November 2019, we had received Miss Romane Tisserand, a PhD student under Prof Guillaume supervision, as inbound international student attached to the Research Laboratory in KomSAT. She was working on hyperaccumulators biomass determination and stayed for a week in December before continuing her mobility program in UQ, Australia.

Upon completion of her program, she came back to UiTM Sabah at the end of January to collect samples from Kg Pahu Field Trial Plot, Ranau on lease by UL team. She had spent a second week in the lab and managed to give training on portable X-ray fluorescence spectrometer (PXRF).



PXRF Training, 31/1/2020. Syafiqah (middle).

At present, Syafiqah is studying hyperaccumulators using PXRF on loan from UL and Fadhil is looking into agronomic practices of metal crop in Kg Pahu Field Trial Plot (Pahu), Ranau. Thankfully, SIG TANI has just successfully secured UiTM REINVENT grant scheme worth RM10,000.00 to support their studies.

The group is looking forward to future studies in interactions in rhizosphere of hyperaccumulators, hyperaccumulating plant growth development, their distribution and desirable traits, agronomic practices and economic potentials with collaborating partners. In April 2021, Dr Celestino Quintela Sabaris from University of Vigo, Spain, who had been working in Pahu in 2017, will be working together with Dr Lo in rhizosphere bacteria in his post-doctoral project. Since the Guangzhou kick-off meeting scheduled last March was postponed, it is expected to be held next year in

May during the 1st International Conference on Agromining in Nancy, France. Last but not least, the MOU and MOA signing which were also postponed will be rescheduled.

SIG TANI has been very actively involved with support and guidance from Prof Echevarria. We are excited to share new findings from current studies with the rest of AWN members. Hopefully, we will receive more support from financially and logistically from the management. In due time, we are planning to reach out to the state government for possible phytoremediation field trial location.

SIG TANI would like to express appreciation to the faculty and KomSAT and executive management of UiTM Sabah for their continuous support.