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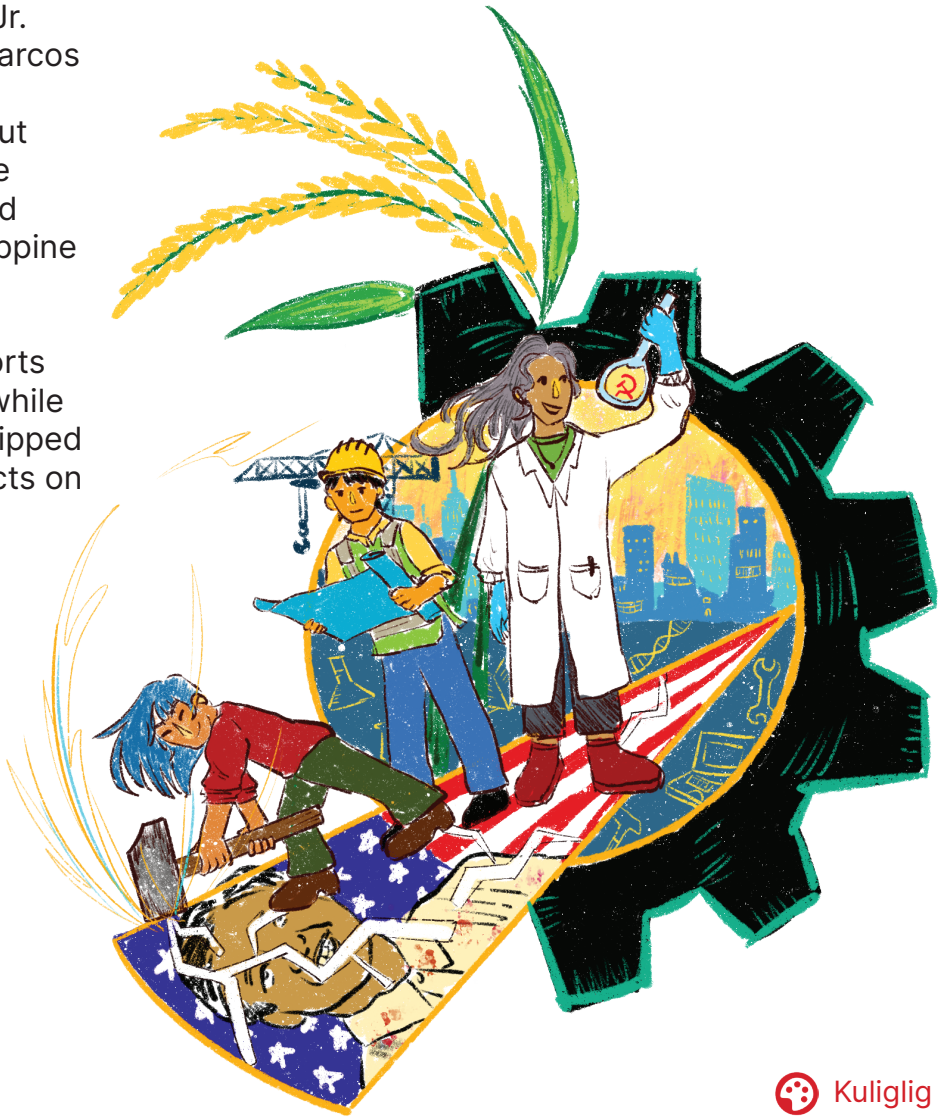
AGHAM BAYAN

EDITORIAL

Address the problems of Philippine S&T, advance national industrialization

NOTHING SIGNIFICANT has come out of three years of the US-Marcos Jr. regime; there is nothing new in Marcos Jr.'s State of the Nation Address. While Marcos Jr. might boast about superficial advances in agriculture and industry, nothing has changed about the basic character of Philippine society. The Philippines remains semicolonial and semifeudal. Our country still relies heavily on imports for everything from food to fuel, while cheap labor and resources are shipped out with little regard for the impacts on people and planet. ▶ 2



Kuliglig

PERSPECTIVE / Struggles in science: The plight of natural science RAs in the UP System ▶ 4

ADVANCES / On the path of revolution: Why Ka Langga joined the NPA ▶ 7

CONTENTS

*Agham Bayan is published by **Liga ng Agham para sa Bayan (LAB)** with the objective of raising the level of awareness of Filipino scientists regarding social issues. It aims to promote the use of science for the nation and the Filipino people within the framework of national democracy and liberation.*

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It is this character that shapes the lived reality of professionals, workers, and students in the field of science and technology (S&T). Every day, those from our sector deal with rising cost of living, poor quality of STEM education, salary delays, institutional budget cuts, and lack of agency in research. Every day, our country plunges deeper into its current economic and political crisis. All of this is linked to the country's stagnant manufacturing sector and the lack of local industries — and so every day, we are reminded of the necessity of advancing the national democratic revolution and of promoting the NDFP's 12 point program as the solution to our country's problems.

Backward and stunted

Even to those outside the STEM sector, it is apparent that science and technology in the Philippines has long been backward and stunted. There is limited expenditure in research and development, while government budgets for S&T remain minuscule. Quality science education is limited to only a few schools and universities. Everyone from researchers to IT professionals depend on foreign, often proprietary, technologies to carry out their work. As there are hardly any local industries, job opportunities in the country are few and far between; many STEM professionals opt to shift careers or move to 'greener pastures' abroad.

This reality is not a product of some historical misstep, but rather the result of a systematic effort to keep the Philippines this way. It is in the interest of imperialist powers, particularly the United States, to maintain this setup in our country and across the so-called 'developing' world. Keeping the Philippines underdeveloped when it comes to S&T prevents us from producing a variety of goods for local use, and maintains our status as a captive market for surplus products and technologies from imperialist countries.

Imperialist powers are able to influence national policy in science and technology through their tight control over our economy. The plan for "strengthening" the national R&D sector, outlined in the reactionary regime's Philippine Development Plan 2023 – 2028, lies well within the neoliberal framework imposed by imperialism — "market-driven" research and development, an emphasis on public-private collaborations, and an aim to "aggressively increase international collaborators and global corporate R&D investors". These perfumed promises around developing science and technology in the Philippines mask

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the perpetuation of dependence and subservience to foreign capital, prioritizing the whims of the global market instead of the actual needs of Filipinos.

As the local ruling elite and their imperialist masters rake in superprofits from this situation, they have no reason to invest in scientific research and development that genuinely serves the needs of the Filipino people.

The need for national democratic revolution

Empty platitudes of progress from the reactionary government cannot hide the true situation of the Philippine science and technology sector. The backward and stunted nature of Philippine S&T is felt by every entry-level engineer suffering through wages below a decent standard of living; by every researcher moving through bureaucratic hurdles to acquire funding; by every IT professional freelancing through projects from international firms with zero sense of job security. It is clear that this situation must change, and the answer lies in national democratic revolution.

As the ruling classes will not make any significant changes on their own, and will fight tooth and nail to remain in power, they must be overthrown. More than this, the revolution's content — encapsulated in the NDFP's 12 point program — proposes clear solutions to the various ills afflicting Philippine society, including those impacting the S&T sector.

National industrialization or NI provides the key to addressing many of the problems affecting Philippine S&T. In tandem with genuine agrarian reform, NI will reverse the export-oriented, import-dependent orientation of our country, and work to build a self-sufficient economy that places the needs of the Filipino people first. Compared to the current situation, NI promises to mobilize large numbers of STEM professionals for national development, in the various areas of industry in which we are needed.

Of course, much remains to be done in envisioning national industrialization and bringing it to life. This will take place as we continuously bring STEM professionals closer to the masses and the revolution. The challenge remains for us revolutionaries in STEM to continue our work arousing, organizing, and mobilizing within our sector. ▼

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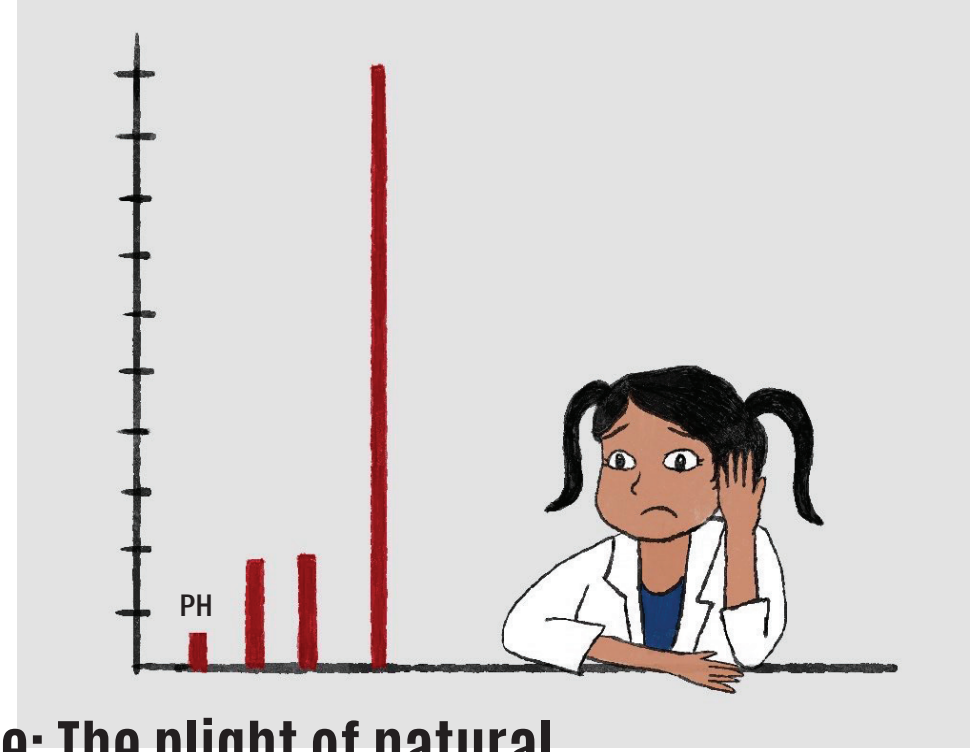


PERSPECTIVE

Struggles in science: The plight of natural science RAs in the UP System

Gaea Sumulong Nikola Magbanua

SCIENCE RESEARCH is probably not the first thing Filipinos have in mind when it comes to a lucrative career. And not without reason — the lack of local industries and the dependence on foreign technologies and imports has led to limited expenditure in research and development (R&D), and little opportunity for researchers. What opportunities exist are bogged down by bureaucracy, budget cuts, welfare issues, and other concerns that make scientific research hostile territory, especially for early-career scientists.

This is the reality of our semicolonial, semifeudal society, where science and technology remains backward and stunted. It is these conditions that are bringing professionals in STEM closer to the national democratic revolution, by highlighting the necessity of national industrialization for the benefit of science researchers and the Filipino people as a whole.

The daily struggle

For Nara, a research assistant (RA) in the natural sciences working in the University of the Philippines (UP) System, the struggles of being an early-career researcher are very real. Project RAs in her department have experienced salary delays reaching up to six months. That's half a year of *utang, diskarte,* and *swerte na lang* to get by.

"To think that some of these workmates of mine were top of their class, really hardworking people," Nara shared. "It's heartbreaking to see them lose interest in scientific research because they aren't being paid on time."

Administrative delays on the part of the UP System and the project funders (typically the Department of Science and Technology, or DOST) are to blame. This setup is also part of a bigger problem: since RAs are mainly project-based, there are no permanent RA positions in her department. Once a project is terminated, RAs would have to look for another job — and once again, in our semicolonial, semifeudal society, there aren't a lot of jobs going around.

"Simply put, early-career STEM researchers in the

Philippines have little sense of stability," said Nara. "Since there are only a few opportunities for researchers who are starting out, people end up fighting over jobs even if the pay is low. And of course, many people just end up pursuing other more stable or higher-paying jobs. Some go to medical school, others shift to BPO work. So it's no surprise our research output as a country is very limited, because only a few people are doing research."

The bigger picture

Nara and her co-workers aren't the only ones having problems. RAs working in higher education institutions (HEIs), particularly in the field of natural sciences, frequently experience pay delays, tax-related issues, and other welfare-related problems. This is on top of the usual issues associated with contractual work, such as the lack of benefits and job security.

This is directly linked to the limited investment in research and development as a whole. From 2020 to 2022, only 0.16% of the country's GDP was allocated to R&D. This is below the percent allocation of countries like Vietnam (0.42% in 2021) and Cuba (average of 0.46% from 2018 to 2022), and well below the global average (2.45% in the same time period). Lack of public and private investment means few opportunities for STEM graduates and professionals, contractual work instead of regular jobs, and limited scope of research. So it's no surprise that data from the World Bank places the number of researchers per million population in the Philippines at a measly 170 in 2018 (the latest year from which data is available), well below countries like Malaysia (2,110) and Cuba (2,054).

The reactionary regime itself exposes its lack of prioritization for R&D every single year through the General Appropriations Act. The 2025 budget of the DOST — one of the main sources of funding for projects carried out by RAs in HEIs — represents a paltry 0.05% of the total budget. While there was a nominal increase in total allocation from 2024, this masks the reality of project-level budget cuts and lay-offs within the department.

The struggle continues

Nara's experience as an RA only strengthened her commitment to fighting for lasting change. A member of Liga ng Agham para sa Bayan (LAB), she has been working to mobilize fellow scientists for the national democratic revolution.

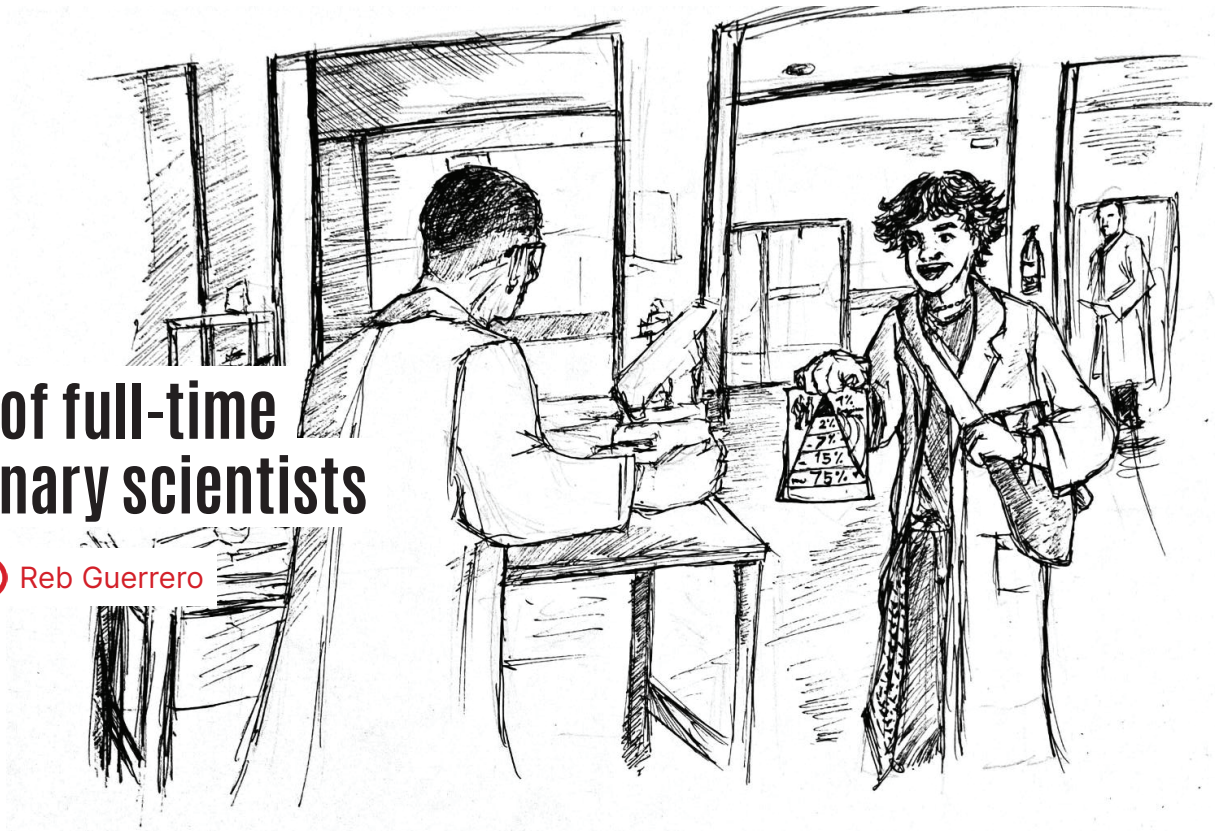
"Ever since I started working, the crisis of STEM research in the country became much more real to me," shared Nara. "With what I'm experiencing, there's all the more reason to fight for national industrialization and all the other points in the NDFP's 12 point program."

For Nara, national industrialization presents an opportunity for stable jobs for researchers, and local production of reagents and equipment they use in the lab. This is opposed to the current set-up in which our country is largely dependent on foreign imports for materials used in research. National industrialization, she believes, will also allow the Filipino people to dictate the direction of research, allowing Philippine R&D to reach its true potential.

National industrialization presents an opportunity for stable jobs for researchers, and local production of reagents and equipment used in the lab.

At the moment, however, there is still a long way to go before getting there. But through educational discussions about RA issues, as well as by planning for campaigns, petitions, dialogues, and mobilizations, Nara remains hopeful that more and more scientists working in HEIs will come to appreciate the necessity of the national democratic struggle. This means, among other things, recruiting more scientists into LAB.

"All of these problems are rooted in imperialism, in the semicolonial and semifeudal state of our country. Which, for me, just shows that we can't 'science' or reform our way out of the problem. The solution is national democratic revolution, and we must do what we can to make it happen." ▼



ADVANCES

The lives of full-time revolutionary scientists

Ka Hibla Reb Guerrero

OUR SEMIFEUDAL, semicolonial society is collapsing from crisis. In this situation, many a revolutionary are challenged to take on the full-time activist life. Some might wonder what would push our fellow peti b to go "FT." I interviewed two activists organizing in the science and environment sector who both bravely took on the challenge — Ka Luis and Ka Gene.

Ka Luis

Ka Luis is a biology graduate, two years into being FT. They chose to turn their backs on the typical life of being a "capitalist slave" and instead spend their time carrying out mass work. Now, they use their knowledge in the natural sciences to help raise awareness on environmental and social issues.

It was not an easy decision to go FT. Until now, Ka Luis experiences the daily struggle of budgeting for rent, food, and other expenses due to limited finances. This is on top of the struggle of having their family understand the decision they've made.

"As the only activist in my family, I've come to stand my ground and challenge their views on a lot of issues. It's not easy; there are a lot of tears, conflicts," said Ka Luis. Their family hasn't stopped trying to convince Ka Luis to find a 'safer' job, or to work abroad instead. Despite this, Ka Luis continues to talk to and share stories with their family about their work so that they might better understand.

For Ka Luis, being a full-time activist is more than just living a meaningful life — it's a firm commitment to yourself and the people. "Being FT is fun and fulfilling! You really get to know yourself, the masses, and our society more, if you choose to offer all of your time, effort, and skills to the people."

Ka Gene

Ka Gene, on the other hand, is relatively new to the game, as a full-time organizer in a university in Metro Manila. After graduating from an allied health course, Ka Gene decided to try out the FT life for five months, to help in raising awareness and organizing among students and in communities.

In this short amount of time, Ka Gene experienced the warm reception of the masses, particularly in the communities, to the national-democratic alternative in the midst of the reactionary elections. This experience is what pushed Ka Gene to continue being FT. "There are many more

people out there that we need to reach, to maximize these ripe conditions for pushing for genuine change in our society."

"It's a big help, the love and support I get from my collective," answered Ka Gene, when asked about how they've been able to handle the contradictions that have come with their decision. Every time Ka Gene feels left out or envious of their classmates in college, opening up to their collective about what they're feeling has been very helpful.

"In this day and age, when the capitalist system keeps trying to place a price tag on our limited time and effort, the sacrifice that full-time activists make for the revolution is all the more priceless. A big salute to all full-time activists like myself!"

Like Ka Gene and Ka Luis, many students and professionals in the sector of science and technology are opening their eyes to the violence of our exploitative social order. As long as the state and the ruling classes use technology to repress the people, the call for scientists and engineers to serve the revolution grows stronger. It is clear that only in the hands of the working class will the liberating potential of technology be achieved. Scientists and environmentalists, use your scientific knowledge in studying society! Offer your skills and your life to the revolution, until victory! ▼

ADVANCES

On the path of revolution: Why Ka Langga joined the NPA

Ka Gigi August, Reb Guerrero

IT WAS A RAINY AFTERNOON when I met Ka Langga at a café somewhere in Manila. At first, Ka Langga seemed like a quiet person — they spoke calmly, but I could feel the weight of their every word. Over the course of our conversation, however, I began to feel the fire burning within them — the same fire that pushed them to join the New People's Army (NPA).

It was not an easy decision for Ka Langga to join the NPA. A former computer engineering student at a private university, they came from a well-to-do petty bourgeois family. Despite this, they chose to become a revolutionary upon learning about the realities of Philippine society and the necessity of revolution.

Q: Why did you decide to become a full-time Red fighter?

KL: Even before I became active in the movement, I already knew something had to change in our society. So the moment I was introduced to the revolutionary movement and its program, it was a no-brainer. As a revolutionary activist, my desire to contribute to the revolution through the highest form of struggle — the most effective way of advancing the revolution towards victory — continued to grow. I decided to go on a TOD (tour of duty) program with the NPA for six months, and from there came my decision to commit to the armed struggle full-time.

"How could anyone say that we're outdated or wrong when the masses themselves, even if we were armed with long rifles, would let us into their homes and share with us their food and space to rest? How they would tend to our wounds like we were their kids! "

My conviction to become a full-time Red fighter comes from how my experience affirmed that the Party (Communist Party of the Philippines) and the revolution is necessary and just. The masses will not let you down, and they too have embraced the revolution. I saw how the masses, some of the most exploited by our society, would still go out of their way to feed us, to deliver supplies, to take part in revolutionary work. How could anyone say that we're outdated or wrong when the masses themselves, even if we were armed with long rifles, would let us into their homes and share with us their food and space to rest? How they would tend to our wounds like we were their kids! Or that one time a farmer invited us to the birthday party of one of their children; or how another cried when we had to leave because we had to move our camp. The masses love [the NPA] because they know that the revolution is necessary!

Q: What contradictions did you face with your decision?

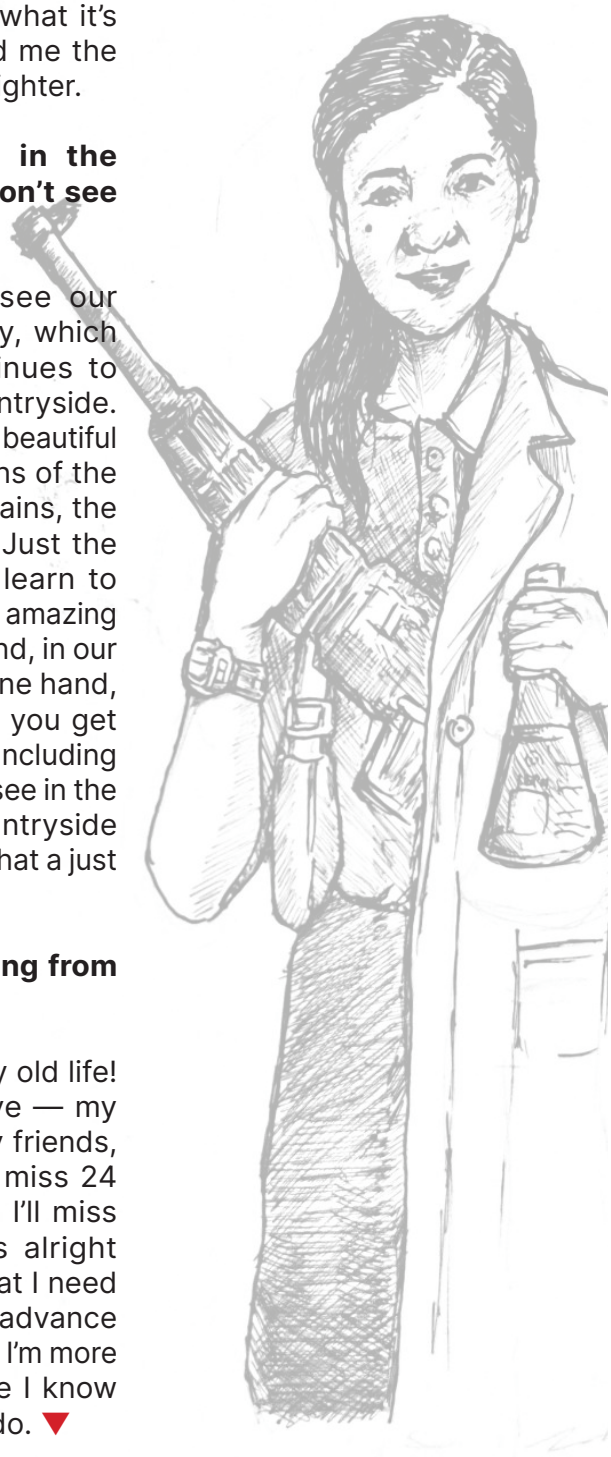
KL: A big contradiction was with how I left without saying a proper goodbye to my family. At first, I wasn't able to internalize what my life would be like after my decision. My TOD, though, really strengthened my resolve to go full-time in the countryside because I experienced for myself what it's like, and it really showed me the need to serve as a Red fighter.

Q: What do you see in the countryside that you don't see here in the city?

KL: First, you get to see our government — the Party, which is respected and continues to grow stronger in the countryside. Second, you see the most beautiful things there, in the depths of the forests, the steep mountains, the nights lit up by fireflies! Just the simple things that you learn to appreciate because it's an amazing thing, living here in our land, in our country. Even if, on the one hand, there's a lot of sacrifice, you get to see what's really ours, including our politics that we don't see in the cities yet. It's in the countryside that you first get to see what a just government looks like.

Q: Will you miss anything from the city?

KL: Of course I'll miss my old life! I'll miss the people I love — my family, my comrades, my friends, my significant other. I'll miss 24 Chicken and leche flan! I'll miss a lot of things, but it's alright because I understand that I need to miss these things to advance the struggle for liberation. I'm more happy than sad because I know this is the right thing to do. ▼



HUKBO SCIENCE

Getting away with a spinal injury

Anonymous Cassandra Bigwas

IN THE GUERRILLA ZONES, accidents happen. Of course, some accidents are much more challenging to handle when placed in the context of guerrilla warfare. Ka Max was busy gathering food for our unit when he fell from a tree, landing hard on his back. He was in severe pain and could barely move his legs. After we carried him back to the base, our unit's medical team surmised that Ka Max had suffered spinal shock, and it would take Ka Max at least two months before he could walk again.

This would have already been an emergency if this had happened to anyone based in the city. In the countryside, several kilometers and a focused military operation away from the nearest hospital, a disabled Red fighter's well-being is entirely in the hands of their comrades and the masses. The medical team immediately took it upon themselves to look after Ka Max, while the unit command discussed what needed to be done to ensure the safety of Ka Max and the entire unit.

It was clear that it would be very difficult to keep mobile if Ka Max were to remain in the unit. At that point, the unit was situated in a recovery area, and we were not able to find someone who could take care of Ka Max. It was decided that Ka Max would be brought immediately to a hospital. However, there was a catch — the exit plan involved Ka Max riding on a motorcycle past a military outpost. Because of severe pain, Ka Max could not even sit up, even when assisted and with painkillers.

After some thinking, a comrade from the medical team suggested to create a "chair splint" that would help Ka Max sit up. The idea was to prevent Ka Max from bending his spine while sitting up, which seemed to be the cause of the pain. With the chair splint, Ka Max would be raised up as one unit, keeping his back straight while bringing him up to a sitting position.

The unit decided to try it out. A comrade skilled in handicraft built a prototype out of rattan and other materials lying around. Several modifications were done to adjust to Ka Max's body frame and to incorporate suggestions from the medical team and other comrades.

The end result was remarkable — a legless rattan chair wrapped in medical bandages and blankets, its backrest lined with a car sun reflector. We all held our breath as we slid the chair splint under Ka Max. Two comrades positioned themselves beside Ka Max — one, two, three — and he was lifted up to sitting position.

The final result? With the chair splint and a healthy dose of some available painkillers, Ka Max was able to sit up straight by himself for a full five minutes! Our makeshift orthopedic contraption was a rousing success.

Even if we ended up not using the chair splint at all (the military situation had suddenly changed, forcing a change of plans), it's experiences like these that show us how much space there is for ingenuity and creativity in the NPA. Solving problems using a scientific approach, overcoming limitations by being resourceful — this is the kind of work in store for all of us in the countryside. Come and see for yourself! ▼

APR - JUN 2025

Newsbytes

Youth lead Global Climate Strike. Dozens of students from schools across Metro Manila participated in the Global Climate Strike last April 11. Under the banner calls of *"Kabataan, luntiang kinabukasan, ipaglaban!"* ("Youth, fight for a green future!") and *"Marcos singilin, Duterte panagutin!"* ("Hold Marcos and Duterte accountable!"), the decentralized actions led by Youth Advocates for Climate Action Philippines highlighted the relationship between climate justice and pressing national issues.

Electoral fraud exposed. Nearly a hundred volunteers, including students, professionals, and IT experts, assisted in electoral fraud monitoring efforts of Vote Report PH on May 12, the day of the reactionary elections. In its final report, the fraud monitoring platform documented 1,593 verified reports of election violations nationwide on May 12 alone. Over half of these categorized as automated counting machine errors.

Against anti-people, anti-environment policies. On World Environment Day on June 5, environmental advocates trooped to the Supreme Court to condemn recent decisions of the reactionary state on mining and fisherfolk rights issues. Co-organized by Kalikasan People's Network for the Environment and PAMALAKAYA, the groups called for the reversal of court rulings that permit commercial interests to wreak havoc on both inland and coastal communities and ecosystems.

CULTURAL / POEM

At kung nais mong tanawin ang kalikasan

Ka Nimfa

Published in original Filipino

Kung nais mong tanawin ang mga halaman
Matatanong mo kaya kung ano ang kanyang kasarian?
Kung paanong pinili niyang umusbong sa kanayunan;
Sa lupa ng masang pinagsasamantalahan

Kung nais mong tanawin ang mga batis
Matatanong mo kaya kung ano ang kanyang kasarian?
Kung paanong pinili niyang bumukal sa gitna ng digmaan;
Sa lupang ninuno sa kanayunan

Kung nais mong tanawin ang matatayog na kakahuyan
Matatanong mo kaya kung ano ang kanyang kasarian?
Kung paanong tumayog ang ugat nito sa himagsikan
Sa lipunang pinanday ng pakikipaglaban

Kung nais mong tanawin ang kalikasan,
Wala itong kasarian.
Katulad ng mga minasaker at tinanggalan ng mga pangalan;
Ang mga kinitil ng estado't militar sa mahabang kasaysayan.

Walang pangalan.
Walang kasarian.
Walang pagkakakilanlan.
Ni anino ay hindi na matagpuan.

Ngunit isa ang tunay:
Batid ng kalikasan ang pagkamartir ng mamamayan.
Dugo ang pinandilig sa kanayunan;
At ito ang nagpausbong ng matayog na kasaysayan

—Ng himagsikan.

CULTURAL / ILLUSTRATION

Pagtindig at Pagwasto

Dres

CULTURAL / ILLUSTRATION

Contributions of LAB to NDFP's "Illustrations of Hope" project

Kuliglig, Toni Murayaw, Cassandra Bigwas

ARTWORKS BY MEMBERS OF LAB were used as part of the "Illustrations of Hope" postcard set project of the National Democratic Front of the Philippines (NDFP). Each artwork of the project served as a visual representation of a point in the NDFP program.

LEFT *Point 5 of the NDFP program;* ***MIDDLE*** *Point 7;* ***RIGHT*** *Point 8.*

RECAP

LAB takes part in mobilizations in the midst of reactionary elections

Ka Lily

SCIENTISTS AND ENGINEERS from Liga ng Agham para sa Bayan (LAB) successfully carried out different mobilization and propaganda activities to highlight that the national democratic revolution, not the reactionary elections, is the real solution to our rotten semicolonial and semifeudal society.

Along with other underground revolutionary mass organizations, several members of LAB took part in a lightning rally in Divisoria, city of Manila last April 29, to mark the 52nd anniversary of the National Democratic Front of the Philippines. With the slogan *"Armadong rebolusyon ang tunay na solusyon"* ("Armed revolution is the real solution"), around 200 people in total took part in the mobilization.

Aside from this, LAB units also carried out Oplan Pinta (painting) and Oplan Dikit (sticker/poster bombing) activities in May, a few days after the national elections. STEM student members of LAB designed posters that were put up in different universities across Metro Manila. Revolutionary calls such as *"Isulong ang digmang bayan"* ("Advance the people's war"), *"Rebolusyon, hindi eleksyon"* ("Revolution, not elections"), and "Viva CPP-NPA-NDF" ("Long live CPP-NPA-NDF") were also spray-painted in the University of the Philippines – Diliman campus.

Altermidya

These activities are a slap in the face of the reactionary state in its desperate lies about the supposed "dwindling" number of revolutionaries in the country. The activities of LAB and other revolutionary organizations are testament to the growing number of revolutionaries who are embracing the people's war. As long as the root causes of poverty and hardship persist, the people's democratic revolution will invariably advance. ▼

LAB - Manuel Dorotan