

Scaling S&T in the National Rice Program

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This Commentary is based on the Keynote Address of Undersecretary LS Sebastian during the 18th Annual Meeting and Scientific Convention (AMSC) on 11 July 2023.

That the Philippines' neighboring countries have far overtaken us in agricultural development remains to be a topic of public discussion. My experience working with our ASEAN neighbors, particularly Malaysia, Thailand, and Vietnam, has shown me where we massively lag behind: **we fail to scale or commercialize many of our S&T outputs and innovations. We take for granted our societal responsibility.**

Make no mistake: we have developed many ideas, tested numerous models and prototypes, conducted countless demonstrations and training programs, and published abundant materials. Yet many of these accomplishments come to naught.

An average Filipino would readily describe a scientist as somebody with a white lab coat, busy in a laboratory. This character may have now evolved into a more sophisticated fellow. The props of the pop-culture scientist may not be test tubes and colorful chemicals anymore but journal publications, bibliometric scores, and accolades. This tired imagery influences the relevance of the knowledge and technology we produce.

About the Author: *Dr. Leocadio S. Sebastian holds a Ph.D. in Plant Breeding with a minor in Agricultural Chemistry from Cornell University and a Master of Science in Genetics with a minor in Agricultural Chemistry from the University of the Philippines at Los Baños. His areas of expertise include Agriculture, Genetics, Agricultural Chemistry, and Plant Breeding. Over the course of his career, he has made substantial contributions to the field, working at prestigious institutions such as the Philippine Rice Research Institute (PhilRice), Bioversity International, CGIAR Research Program on Climate Change, Agriculture, and Food Security (CCAFS) Southeast Asia, and the International Rice Research Institute (IRRI-Vietnam Office). Dr. Sebastian's research spans multiple domains, including Climate Change, Rice Breeding and Genetics, Pest*

Management, Agronomy, and Agricultural Economics. His professional achievements include serving as the youngest Director of PhilRice, receiving the TOYM award in agriculture, and undertaking roles as an international rice consultant in Myanmar, Indonesia, and Vietnam. Dr. Sebastian is presently the Department of Agriculture Undersecretary for Rice Industry Development.

We have blamed policies, regulations, and lack of incentives for our country's stagnation of scientific impact. However, I find infinitely more fault in our mindset. We have not been taught to work for societal outcomes or impacts. We mistakenly believe that this is not our responsibility.

Should it not be our duty as S&T workers to ensure that our work transcends the boundaries of our respective fields to effect real change in people's lives, societies, and the world? It should be.

On scaling up

Should we ourselves scale up and commercialize our work? We do not have to.

Achieving societal outcomes necessitates identifying our "next users"—the individuals or entities that will use and disseminate our outputs on a broader scale.

Our next users are typically our partners, government agencies, private sector entities, and NGOs. We aim to influence their knowledge, skills, and attitudes to shape more people to foster a sense of ownership of our outputs.

Another failure to scale our S&T outputs is sustaining and supporting medium- to long-term plans. Our plans are as transient as our leadership. We are constantly in a rush to solve problems, seeking immediate solutions. This approach has often resulted in quick fixes and band-aid solutions.

Yet there are simply issues that escape the palliative effects of a band-aid. The profound sense of hopelessness and demotivation afflicting our farmers is one such affliction.

Refining the rice industry development program

In the nationwide consultations and workshops conducted by the DA National Rice Program, I consistently emphasize the difference between the old

Masagana Rice Program and the new *Masagana* Rice Industry Development Program, or MRIDP.

Our objective is to produce rice and ensure a higher income for our farmers. The goal goes beyond palliative care.

President Ferdinand R. Marcos Jr. shares this vision. Hence, 100% rice self-sufficiency is a simple band-aid solution. But when the price of palay plummets, the farmers suffer, lose motivation to continue farming, and produce less rice.

We aim to fix the entire rice value chain so that our main actors—the farmers—assume a more significant role.

We have therefore refined our four core program strategies to resonate more deeply.

The first strategy, ***MAtatag***, or **climate change adaptation**, pertains to the production component. Five decades after the *Masagana* 99 Program in the 1970s, and despite years of seed and fertilizer subsidies, our national average yields still linger below 5 metric tons per hectare for inbred rice and 6 metric tons per hectare for hybrid rice.

In many areas, we are not planting rice at the optimal time. High-yield farmers will tell us that correct timing is key. Moreover, our soil fertility is declining. Monocropping cannot generate substantial income for farmers who till 2 hectares or less. We then promote diversification. Plant other crops and engage in livestock or poultry farming, akin to PhilRice's *Palayamanan* model. Therefore, our first strategy is to fortify farmers' income by bolstering their resilience and stability.

The second strategy, ***SAMA-sama***, revolves around **farm clustering and consolidation**. In clustering, an accountability group composed of technicians, private sector partners, and prosperous farmers assists individual farmers. ***MAtatag kapag SAMA-sama***.

We will also link these clusters to millers and the NFA. Being part of a group enhances the bargaining power of

farmers. The processors can declare the varieties they want farmers to plant, and the clusters can then request these seeds from the DA (PhilRice). This way, they can produce high-quality, consumer-preferred milled rice, not low-quality "rumble rice". This is the essence of the third strategy, **GANado—motivated and enthusiastic farmers in the rice value chain**.

We also understand the importance of making interventions location-specific. We need timely and accurate information for decision-making. Hence, the fourth strategy is **NApapanahon, or digital transformation**—to improve our farms. We map out areas of concern regarding yield, soil fertility, risks, etc. Satellite technology gives us confidence in the accuracy of information as the basis for targeted intervention. Drones will soon be normalized for fertilizer application, and our farmers will manage their farms from their phones.

The latest technology transcends issues on the receptivity of our farmers. Some farmers may resist new methods, which could frustrate the efforts of our extension workers. Now, we have service providers who can do the work precisely and affordably. All these thrusts will be included in province-specific rice industry development plans.

We want farmers to use our technologies, but their mindset is not like ours. They see technologies as additional expense counter to their immediate concerns: higher prices for their palay, higher income. In other countries, they did not just improve production—they also transformed the market.

Thus, a bountiful harvest should mean rich profits. So, we need to incentivize our farmers to be more productive by connecting them to the market and ensuring they earn a good income. Better incomes leading to higher rice self-sufficiency will be the most beneficial outcome. That is the goal of MRIDP.

If and when we achieve 95%-97% rice self-sufficiency, we cannot tell farmers to stop producing more. When they are **GANado** (motivated) because they see the profit, we cannot prevent them from increasing their production. This sets the stage for quality rice exportation.

Let us not aggrandize ourselves with self-satisfaction over our award-winning and lucrative careers. Let us think outside ourselves and ensure that our outputs result in societal outcomes for millions of farmers, fishers, stakeholders, and consumers. If our work supports societal outcomes and impacts on food security, attaining food security will not remain an uphill climb.

In the words of a great social scientist of our time, National Scientist Gelia T. Castillo: "Science should serve a human purpose."

References:

- Briones RM. 2021. Philippine agriculture: Current state, challenges, and ways forward. Philippine Institute for Development Studies. Policy Notes No. 2021-12 (December 2021).
- BSWM. Nutrient Mining and Soil Fertility Decline. <https://www.bswm.da.gov.ph/why-bswm>. Accessed on October 11, 2023.
- PhilRice. 2021. Productivity Indicators: Net income PhP 19,593/ha per cropping season. Productivity Indicators. <https://www.philrice.gov.ph/ricelytics/incomes>. Accessed on October 11, 2023.
- Corales RG, Juliano LM, Capistrano AOV, Tobias HS, Dasalla N, Canete SD, Casimero MC, Sebastian LS. 2004. *Palayamanan*: a sustainable rice-based farming systems model for small-scale farmers. *Philippine Journal of Crop Science*, 29(1):21-27.