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## DOST urges gov't collaboration to save Laguna Lake

By Geraldine Bulaon-Ducusin, DOST-STII



**T**he Department of Science and Technology-National Research Council of the Philippines (DOST-NRCP) recommended possible courses of action that government agencies can collaborate on to help improve the conditions of Laguna lake. The recommendations were borne out of consultations with various environmental experts.

"Funding in the area of policy assessment and researches on destructive fish species can go a long way," says Joselito A. Carteciano, information officer and co-organizer of Lake Ecosystem Assessment in the Philippines.

Studies have shown that "fish quality is the recurring major issue of the fisheries sector in Laguna de Bay." Among the major causes of the decline in fish quality are the waste accumulation from households, industries, and factories; the settlements' construction and urbanization; and climate change.

Current studies show that the lake is getting worse despite the intended measures (policy, relevant institution/s, programs, regulations), thus there is an impending need to assess the

relevance of existing policies and measures. There is a need, for instance, to review the extent of implementation of regulations, identify the stumbling blocks, and determine proper course of actions for the lake to get better and not worse for the next 20-50 years, according to DOST-NRCP's recommended course of action.

"Another area where government can help is through information campaign," says Marieta B. Sumagaysay, PhD, executive director of DOST-NRCP. "We have a pool of environmental, fish, climate and agriculture experts whom we can tap to help in the information campaign at the barangay or municipal level."

DOST-NRCP has about 4,000 S&T research members nationwide.

"Laguna Lake is on the verge of a coronary attack," was how Neri Acosta, former general manager of the Laguna Lake Development Authority, described the condition of Laguna Lake in a forum in November 2016.

Among problems confronting the lake is the flood hazards; denuded sub-watersheds, conflicting water uses, deteriorating water quality, among others.

## Experts seek mutual approach towards 'blue economy'

By Rodolfo P. de Guzman and  
Karl Raven A. Ramon, DOST-STII

**T**he Department of Science and Technology-National Academy of Science and Technology (DOST-NAST) expressed support to the so-called "blue economy" by focusing on more research and development activities geared at harnessing the vast resources offered by the seas and oceans from fisheries to mineral deposits.

In a forum organized by DOST-NAST, dubbed as "Legislative Forum Towards Blue Economy", held on April 18, 2017 in Cebu City, experts from two different specialties called for a mutual approach towards a sustainably managed blue economy. The said forum was part of NAST's Regional Scientific Meeting with the theme, "Attaining Sustainable Development Goals: Philippine Fisheries and Other Aquatic Resources 20/20".

Academician Rafael D. Guerrero III, member of NAST-Agricultural Sciences Division, presented the vast opportunities that the country can harbor from the Blue Economy, stressing the need to "prioritize the use of the seas for the benefit of the people." Guerrero emphasized further that blue economy can bring not just fishes but also oil, gas, minerals, and even pharmaceuticals.

In the same forum, economist Dr. Ronald U. Mendoza, dean of Ateneo de Manila University's School of Government, posed a challenge to science experts and the government to invest enough in the marine sector, and to use "not only science but also economics." Mendoza is positive that once investments in the country's marine sector set sail, the road towards the sustainable management of the country's blue economy will not be far behind.

Guerrero also emphasized the need to institutionalize a designated department that will handle the country's blue economy to be called the Department of Fisheries and Aquatic Resources, while Mendoza stressed the need to translate data from blue economy into plans

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and policies to introduce possible total economic valuation.

The Philippines as an archipelagic country boasts of a coastline that measures up to 36, 289 km longer than China and the United States. The country's waters also hold 70 percent of the Coral Triangle or the Global Center of Marine Diversity where 76 percent of coral species live and is home to at least 2, 228 species of reef fish. And with Philippine Rise (formerly Benham Rise) harboring 13M hectares of oceanic plateau, both Guerrero and Mendoza agree that it is a challenge on how to sustainably manage the country's marine and aquatic resources.



At the Luzon Regional Scientific Meeting on May 15, 2017 at the CAP John Hay Convention Center in Baguio City, Academician Rafael D. Guerrero III once again stressed the need to create policies that will support sustainable development initiatives for the benefit of marginal fisherfolks, fishing companies and consumers. Guerrero also expressed his support for the creation of a separate Department of Fisheries and Aquatic Resources independent of the Department of Agriculture. (Photo by Henry A. de Leon/S&T Media Service)

## DOST provides therapeutic handlooms to special education students

By Edgilyn R. Alcasid, DOST-NCR



DOST-NCR Regional Director Jose B. Patalinjug III observes how differently abled students of St. Francis School-VSA Arts of the Philippines, Inc. use the therapeutic handlooms that the agency provided in support of the school's objectives to provide more opportunities for children and adults with special needs.

**I**n an effort to provide more opportunities and empower persons with disabilities, the Department of Science and Technology-National Capital Region (DOST-NCR) and DOST-Philippine Textile Research Institute (DOST-PTRI) partnered to empower differently abled pupils in a school for children with special needs. The partnership

**provides opportunities for students to earn income through handloom weaving.**

In early May, DOST-NCR brought to St. Francis School-VSA Arts of the Philippines, Inc. (SFS-VSAP) the PTRI-developed portable therapeutic handlooms designed to provide a weaving technology for those with special needs.



"Our differently abled children and fellowmen are capable of producing outputs that can be beneficial to our country's economic development. With adequate technology, training, and opportunities, we can further empower them so they can do bigger things," said DOST-NCR's Regional Director Jose B. Patalinjug III.

He added that seeing the students weaving and using the portable handlooms firsthand further affirmed his conviction that children who have special needs are capable of thriving.

"These children are truly inspiring. We, from the DOST-NCR want to assure SFS-VSAP and other similar institutions that we will continue to provide assistance to capacitate more Filipinos with special needs. In fact, we are looking at the provision of additional technology needed by

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# DOST scales up technology for better quality bamboo charcoal

By Apple Jean Martin-de Leon, DOST-FPRDI



The improved bamboo charcoaling kiln can produce more bamboo charcoal and pyroligneous liquor than the old model.

## ABOUT US

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**D**epartment of Science and Technology-Forest Products Research and Development Institute (DOST-FPRDI) has redesigned its bamboo charcoaling kiln to make high quality charcoal at a higher yield.

According to Engr. Belen B. Bisana, chief of the institute's Bio-Energy and Equipment Development Section, the improved kiln is intended to produce high quality charcoal for industrial uses such as removing odor, purifying water, and maintaining soil alkalinity. The new kiln can be loaded with at most 500 kilos of bamboo slats, thereby yielding 35-40 percent more charcoal compared to the conventional drum kiln that only makes 25-31 percent.

"Bamboo is a good raw material for charcoal since it is a fast-growing plant and can be re-harvested without any harmful impact on the environment," explained Bisana. "The part of the bamboo used for charcoal is the stem base, which is typically discarded or left behind after harvesting," she added.

Aside from bamboo charcoal, the new kiln also yields more pyroligneous liquor or industrial vinegar from collected and condensed smoke. "The industrial vinegar is a high-end product that can be used as a good disinfectant, bathroom

deodorizer, and organic pesticide, among other uses. It is in demand in other countries especially in Japan," noted Bisana.

Funded by the DOST-Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development, the technology was developed under the project "High Quality Charcoal from Bamboo for Industrial Uses" that began in 2014. It is now on its last phase with pilot testing being done at the CS First Green Agri-Industrial Development Inc. in Pangasinan.

DOST-FPRDI offers other technologies for charcoal production such as the charcoal briquetters (manual and mechanized) and carbonizer that turn agro-forest wastes such as coconut shells, coffee bean hull, and sawdust into densified charcoal. Briquettes are easier to ignite, burn slower, and emit more intense heat per unit volume than ordinary charcoal.

"Through these technologies, the institute hopes to provide livelihood options particularly in rural communities where charcoaling is a common practice," said DOST-FPRDI Director Romulo T. Aggangan.

Interested parties may contact (049) 536-2586 or 536-236 for inquiries on technology demonstration and installation.



SFS-VSAP to assist more children and adults who are differently abled,” Patalinjug said.

The partnership was borne out of the DOST-NCR funded project titled “Improving the Capacity and Productivity of Urban Weaving of St. Francis School-VSA Arts of the Philippines, Inc. thru the Fabrication of PTRI Developed Portable Therapeutic Handlooms”. Under the said project, DOST-NCR will provide 10 units of the PTRI developed therapeutic handlooms to SFS-VSAP and provide trainings on the features, operations, and maintenance of the technology.

The therapeutic handlooms were specifically designed to engage differently

abled persons in handloom weaving as a therapeutic rehabilitation for their physical, mental, social, and vocational ability. What makes the handlooms special is that these are strategically designed for the use of paraplegic persons or those with total non-coordination of their lower extremities.

It features a hand held lever which eliminates the use of treadle in interchanging heddles to lock wefts. The therapeutic handlooms also promote easy weaving comprehension as it only needs eye-hand coordination for its users.

The project’s beneficiary, SFS-VSAP, was identified through in consultation with the

National Council on Disability Affairs to strengthen the artistic potentials and enhance the skills of Filipino children and adults with special needs.

SFS-VSAP aims to empower differently abled persons by giving them learning opportunities, trainings, and jobs through skills acquisition. Included in the programs they offer are weaving trainings and tutorials for differently abled students so they can unleash their creativity and self expression.

Prior to the DOST-NCR support, SFS-VSAP only had four handlooms which were imported from Japan and Thailand and were interchangeably used by 20 student-weavers during their classes. The school currently has 47 students and among these are those with Down syndrome, global development delay, autism, and hearing impairment.

According to Rebecca Santos, VSA Executive Director, the imported handlooms are very expensive and costs roughly P60,000.00 each. Hence, it is not easy for them to buy additional pieces that can assist more students.

“If you look closely at our students, you can see how skilled and determined they are, especially in weaving. We are indeed very thankful to the assistance given by DOST-NCR as we can now support more students with special needs through the additional handlooms,” Santos said.

She added that they are also looking forward to showcase the products made by the students at DOST’s upcoming National Science and Technology Week exhibit in July.



Regional Director Patalinjug with SFS-VSAP students, teachers, and the school’s Executive Director Rebecca Santos.

## infOCUS

### MEDIA TRAINING GOES TO AKLAN.

Science and Technology Information Institute of DOST conducted Science Simplification and Reporting on June 8-9, 2017 in Kalibo, Aklan. More than 20 local media practitioners from all over Region VI participated in the workshop. The workshops aim to equip our local media practitioners with the current trends in science writing for print and online, tips on how to become an effective broadcaster, and realigning of responsibilities and ethics of a science journalist. The said workshop is in partnership with the Provincial Science and Technology Center-Aklan and PSciJourn-Aklan Chapter. (Photos by Henry A. de Leon, S&T Media Service, DOST-STII)



Melly C. Tenorio of DZRB shares tips on how to become an effective radio announcer.



Paul M. Icamina, an Aklanon and a reporter of Malaya Business Insights speaks on how to write science news for print.



Business Mirror Editor, Lyn B. Resurreccion explains the Science Journalists’ Code of Ethics



Executive Editor of Newsbytes.ph, Atty. Melvin G. Calimag discusses the evolution of print media to online media.