

DOST-PHIVOLCS launches earthquake model atlas

A guide in designing earthquake resilient buildings and urban planning

Text by **Rodolfo P. De Guzman**, DOST-STII

Photo by **Gerardo G. Palad**, DOST-STII

DILIMAN, Quezon City – With the scenario of a 7.2 magnitude earthquake in Metro Manila that can happen anytime, the Philippine Institute of Volcanology and Seismology (PHIVOLCS), an attached agency of the Department of Science and Technology (DOST), launched the Philippine Earthquake Model (PEM) Atlas during a press conference held on January 17, 2018 at the DOST-PHIVOLCS headquarters.

“The Philippine Earthquake Map Atlas is the first of its kind in the country as a result of data gathered that highlight important parameters like the seismicity, active faults and trenches, ground motion prediction, ground acceleration and others for the entire Philippines and Metro Manila. It can help land developers, urban planners, engineers, local government agencies, and other stakeholders on appropriately designing houses, buildings, and other structures to be earthquake-resilient,” said Dr. Renato U. Solidum, Jr., undersecretary for Disaster Risk Reduction and Climate Change of the DOST and officer-in-charge of DOST-PHIVOLCS.

The PEM Atlas is a handbook of “probabilistic seismic hazard maps” or maps which show the location of areas that are likely to be affected by groundshaking. This will help and guide structural engineers in designing earthquake-resilient buildings and structures. This atlas will also be very useful in identifying appropriate design to use for low and high rise buildings that can withstand a strong earthquake.

DOST Secretary Fortunato T. de la Peña commended the DOST-PHIVOLCS for this initiative because it is aligned with the department’s task of exploring new knowledge to innovate, and developing solutions.



The PEM Atlas was unveiled during a formal launch by the Department of Science and Technology (DOST) Secretary Fortunato T. de la Peña (left) together with DOST-Philippine Institute of Volcanology and Seismology (DOST-PHIVOLCS) OIC and DOST Undersecretary for Disaster Risk Reduction and Climate Change Adaptation Dr. Renato U. Solidum Jr. (right).

“It is a daring attempt to study and learn hazards of earthquake; we cannot forecast earthquake but we can study the probability of its occurrence. Like PAGASA with its 100 years of weather events, it is good that PHIVOLCS has kept records of where and when earthquakes occurred because historical records have a role in these maps,” said Sec. de la Peña.

The atlas is very important for city and municipal officials to properly identify the hazards in their areas where active faults are located so they can device appropriate disaster preparedness and risk management plans.

As an information tool, the PEM Atlas will aid in revising the existing National Structural Code of the Philippines, a referral code of the National Building Code. This will serve as basis for designing and setting standards for earthquake resilient structures like residential and commercial buildings; critical facilities such as dams, bridges, and hospitals; and hazardous installations such as nuclear, biological, and chemical facilities.

According to DOST-PHIVOLCS, the PEM Atlas contains the Peak Ground Acceleration Maps and

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Spectral Acceleration Maps. These maps were generated from the Probabilistic Seismic Hazard Analysis through the collaborative efforts and expertise of seismologists, geologists, engineers, and researchers from DOST-PHIVOLCS in consultation with the Department of Public Works and Highways (DPWH), Philippine Institute of Civil Engineers, Association of Structural Engineers of the Philippines, University of the Philippines Diliman-Institute of Civil Engineering, DOST- Philippine Nuclear Research Institute, De La Salle University, National Housing Authority, Insurance Commission, Philippine Insurers and Reinsurers Association, Inc, Metro Manila Development Authority, Office of Civil Defense, and Metro Manila local government units.

"We also thank the DPWH for its unwavering support to this project that started three years ago with a budget of P36 million, P21 million of which came from DPWH, and the rest from DOST-PHIVOLCS," Usec. Solidum said.

Copies of PEM Atlas were distributed to institutional partners while other stakeholders will be provided, upon request, with a CD containing a digital copy of the PEM Atlas from DOST-PHIVOLCS.

For further information about the atlas, please contact: Dr. Renato U. Solidum, Jr., undersecretary for Disaster Risk Reduction and Climate Change, DOST and officer-in-charge, PHIVOLCS at telephone numbers (632) 926-2611 and (02) 426-1468 and log on to their website at www.phivolcs.dost.gov.ph.



Dr. Vicente B. Malano (left), administrator of Department of Science and Technology- Philippine Atmospheric, Geophysical and Astronomical Services Administration (DOST-PAGASA), answers questions from the media during the press conference for the celebration of this year's National Time Consciousness Week. This was held on 05 January 2018 at PAGASA Amihan Conference in Quezon City. He said that DOST encourages everybody to synchronize with the Philippine Standard Time as a way to develop good habits such as valuing time. Also in photo is DOST-Science and Technology Information Institute Director Richard P. Burgos. (Text by Allan Mauro V. Marfal and photo by Gerardo G. Palad, DOST-STII)

PH standard time has social, economic gains, says DOST

By Allan Mauro V. Marfal, DOST-STII

There are social benefits and economic gains if all our time pieces are synchronized with the Philippine Standard Time (PhST), according to the Department of Science and Technology (DOST).

"As we encourage the public to synchronize all their watches with Philippine Standard Time, we would like also to promote good habits which are not being late and not making excuses in performing our respective duties and commitments," said Department of Science and Technology-Philippine Atmospheric, Geophysical and Astronomical Services Administration (DOST-PAGASA) Administrator Dr. Vicente B. Malano during the press conference for the celebration of National Time Consciousness Week held on 05 January 2017 at the PAGASA Amihan Conference Room in Quezon City.

Republic Act 10535 or the Philippine Standard Time Act of 2013 set the Philippine Standard Time in all official sources throughout the country. It also set the National Time Consciousness Week every first week of January.

Dr. Malano said that if our offices, local governments, or private companies are making efforts to synchronize time devices with PhST, it means that we put so much value on time management especially in delivering efficient kind of services to the public or to our clients.

"It is very crucial for a government agency like us to recognize the importance of deadlines and call times, especially if we would like to increase our credibility to the public. It is about showing that we are committed to our responsibility and we make ourselves accountable if we cannot perform our task on time," Dr. Malano shared.

Meanwhile, for DOST's Science Technology Information Institute (STII) Director Richard P. Burgos, he believes that all industries, businesses, and professions, could gain lot of benefits if punctuality becomes serious practice for everyone.

"That is why we are celebrating this (National Time Consciousness Week) and we are encouraging everyone to sync their watches and clocks with the Philippine Standard Time to remind us that, if we practice ourselves to be always on time, we could generate more income, we could save more lives, we could build better career, and we could have a successful life," Dir. Burgos said.

Enacted into a law in 2013

The importance of synchronizing all time pieces is highlighted under RA 10535. The law also requires all government offices and media networks to use PhST as a basis to set their time pieces. The law also sets penalties for institutions that do not comply with the PhST requirements.

DOST-PAGASA has been the official time keeper of the Philippines by law since 1978.

Dr. Aristotle P. Carandang, chief of Communication Resources and Production Division of DOST-STII, shared the early adaptors of this law. These are DOST-Region XI office in Davao City and San Pablo City in Laguna as the first government office and first local government unit (LGU) to adopt respectively, and Cauayan City in Isabela as first LGU to have all of its barangays display digital clocks in sync with the PhST.

Further, he shared that DOST activities are started on time and some adjustments are made so that programs are opened even when speakers or other involved individuals are not yet in the venue.

Dr. Carandang said, "This is our little effort that we would like to build on and work in order to increase the awareness of the public about PhST, especially its main goal which is to inject to every Filipino the importance of respecting everyone's time."

He also said that DOST-STII is the agency mandated by the law to conduct promotional activities related to PhST, including the celebration of National Time Consciousness Week.

ABOUT US

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Newton Agham awards P270M in science innovation grants

British Ambassador Daniel Pruce (7th from right, front row, standing), Former CHED Chairperson Patricia Licuanan (6th from right), and DOST Secretary Fortunato T. de la Peña (5th from right) together with the awardees pose for the camera during the awarding of Newton Agham Research and Study Grant.

Text by Mark Francis S. España, DOST-STII
Photo by Gerardo G. Palad, DOST-STII

The British Government in partnership with the Department of Science and Technology (DOST), the Department of Agriculture (DA) and the Commission on Higher Education (CHED) recognized the Newton Agham awardees in a ceremony held on January 11, 2018 at the British Embassy Manila, Taguig City. Newton Agham awarded a total of P270 million to support scientific and technological innovation partnership in the Philippines.

British Ambassador Daniel Pruce said that the Philippines and the UK have a strong partnership in science and innovation which will help achieve prosperity in the lives of the Filipinos.

One of the categories of the award is the Royal Academy of Engineering-DOST Leaders in Innovation Fellowship which will send 15 delegates composed of 10 researchers and five technology transfer officers to the United Kingdom for a two-week training course on innovation to build their capacity for entrepreneurship and commercialization. The recipients of this fellowship are Rita Grace Alvero from the De La Salle Health Sciences Institute; Ma. Cristina Bargo, Marie Antonette Meñez, Leo Allen Tayo and Crisron Rudolf Lucas from UP Diliman; Michelle Macalintal from the Ateneo de Manila University; Evangeline Flor Manalang from DOST-Philippine Textile Research Institute; Ruel Mojica from Cavite State University; Melvin Pasaporte from UP Mindanao; Francis Aldrine Uy from Mapua University; Jeffrey Montecillos from UP Cebu;

Hermogenes Paguia from Bataan Peninsula State University; Idona Marie Porlaje from the University of the Philippines System; Patricia San Jose from UP Manila; and Ranilo Violanta from the National Institute of Molecular Biology and Biotechnology.

DOST Secretary Fortunato T. de la Peña underscored the Department's vigorous moves in advancing science, technology, and innovation to help the small and medium enterprises in the global market.

"Philippine researchers have produced world-class research outputs and technologies, but the more important thing is how to translate these to something useful," Secretary de la Peña said.

He also emphasized the Department's continuous support to Newton Agham Programs in building capacity in science and technology for the Philippines' socio-economic development and growth.

The other three categories of the award include Biotechnology and Biological Sciences Research Council-Department of Agriculture Swine and Poultry Initiative; British Council-CHED Institutional Links; and British Council-CHED PhD Scholars.

One scholar, Paul Dominic Baniqued, revealed that through research he was able to develop a wearable robotic hand that can be used for the physical therapy of stroke and injured patients. He added that his research topic is on the development of neurotherapy using soft robotic hand exoskeleton. Baniqued and the other three PhD scholarship awardees



DOST Secretary Fortunato T. de la Peña delivers his message during the awarding of Newton Agham Research and Study Grant.

are scheduled to complete a three-year PhD programme in the UK to enhance their areas of expertise.

The Newton Agham is an integral component of the Newton Fund which uses science and innovation partnerships to promote economic development and social welfare of its partner countries. The Newton Fund is part of the UK's official development assistance programme.

DOST sets P172M fund to boost R&D in higher education institutions

By Mary Charlotte Fresco, DOST-NRCP

The Department of Science and Technology (DOST) has approved the allocation of a total of P172.72M for Year 1 of implementation of an expert utilization program dubbed as RD Lead (R&D Leadership) intended to hasten the research and development capability of the Higher Education Institutions (HEIs) in the regions. RD Lead is one of the primary components of the DOST's Science for Change Program (S4CP) to be implemented in 2017-2022 that intends to accelerate growth and industry competitiveness of both academic and research institutions in the regions through competitive research, development, and innovation.

The National Research Council of the Philippines (DOST-NRCP) shall implement the said program which will commence immediately as soon as the fund is released January this year.

DOST Undersecretary for Research and Development Rowena Cristina L. Guevara in a meeting with NRCP officials said that NRCP is the most appropriate agency to implement this program as it has the cream of the crop in its roster of scientists, researchers, and engineers (RSEs) distributed throughout the country.

As the implementing agency, NRCP will screen experts with strong leadership, management and innovative policy-making proficiencies who will then be deployed in selected HEIs to strengthen their research capacity, productivity and utilization.

The RD Lead program was conceived by DOST and planned to be implemented together with NICER or the Niche Centers in the Regions for R&D, also under the S4CP, which aims to capacitate HEIs in the regions to make significant improvement in regional research. DOST targets to establish at least one NICER in each region of the country. The DOST regional offices and the Regional Development Council,



NRCP researchers in the region while doing lab work. (Photo by DOST-NRCP)

the highest planning and policy-making body in the regions serving as the counterpart of the National Economic and Development Authority, shall endorse applications of HEIs needing NICER and RD Leaders (experts).

An article posted on the Commission on Higher Education website underscores critical issues confronting HEIs in years which include limited number of competent or qualified researchers, inadequate linkages between potential partners in industry and counterpart institutions, lack of awareness on IP protection, lack of knowledge to commercialize research outputs, sustainability of R&D funding to name a few.

The RD Lead program was designed to fill these gaps.

The RD Leaders will work in their host HEIs during the contract period and will help the HEI increase the number of its publications in

reputable journals, patents, and new innovative products/processes with competitive commercial value; help in the development of research and development roadmaps, in modernizing laboratories, and in establishing NICER.

Because of the huge responsibilities the experts shall be paid attractive salary commensurate with their qualifications and research experience.

The NRCP will have a technical working group who will develop the qualifications and terms of references of the contracted experts for matching with the needs of the recipient HEIs. Detailed information on the guidelines and criteria will be uploaded on the NRCP website as soon as these are finalized.

For this year alone, NRCP targets to hire at least 22 highly qualified RD Leaders for deployment to priority HEIs in the regions.



New DOST-ITDI deputy director. Department of Science and Technology (DOST) Secretary Fortunato T. de la Peña (right) administers the oath of office to Dr. Diana Lacambra-Ignacio (left) as the new deputy director for administrative and technical services of the DOST-Industrial Technology Development Institute (ITDI). Prior to her appointment as deputy director, Dr. Ignacio was the chief administrative officer at the DOST-ITDI in charge of property and procurement management, cashier management, human resource management, and records management sections. DOST-ITDI is the institute that provides several services like tests and analyses, food engineering, metrology, process engineering, packaging research, clean production, and other. For other information on DOST-ITDI and its services, contact telephone numbers (02) 837-2071 to 82. (Photo by Gerardo G. Palad/Text by Rodolfo P. de Guzman, DOST-STII)

