

“Research and Innovation for Health and Development”

Philippine Council for Health Research and Development (PCHRD)

30th Anniversary Celebration

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Rizal Ballroom, Makati Shangri-La

Dr. Emerlinda R. Roman

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for

Senator Edgardo J. Angara

Guest Speaker

Senator Angara deeply regrets that he cannot personally be here today to speak before all of you as he is chairing the workshop of the Global Organization of Parliamentarians Against Corruption (GOPAC) and Southeast Asian Parliamentarians Against Corruption (SEAPAC).

It is a pleasure to be with all of you today on the occasion of the Philippine Council for Health Research and Development's 30th anniversary. Allow me to congratulate you for three decades of generating new information and new opportunities for learning in the area of health research.

Historical records show that modern health research in the Philippines began with the establishment of a laboratory for chemical and bacteriological studies in 1887, during the Spanish occupation.

This tradition was further strengthened under American rule as the needs of sick and injured soldiers fighting in the war brought the issue of health research to the forefront.

The greatest concerns for medical researchers at the time were diseases such as smallpox, dysentery, cholera—threats that still exist among us today, but which now seem so simple, and much less formidable. In a world beset by ever-evolving threats to health and life, research and innovation have become two vital tools in order for the human race to thrive.

NEW FRONTIERS IN MEDICAL RESEARCH

Today, we know much more than we ever knew about the human body and the threats to it. We enjoy a wide range of technologies to facilitate discovery. As a result, new and unprecedented trends are emerging in the research arena.

The World Economic Forum recently published a list of top emerging technologies for 2012. These include synthetic biology, metabolic engineering, and systems biology—three fields heavily fueled and perfected by continuing research.

The Biotechnology Industry Association defines synthetic biology as the application of engineering principles to biology. Scientists design and construct systems that enable them to create new sequences of DNA, insert these into living cells, and use these

specimens for various research purposes. They explore the possibility of cures, such as the reversibility of ageing, or the treatment of brain injuries.

Metabolic engineering, on the other hand, allows scientists to optimize processes that take place within cells. By understanding the various processes and networks inside the cell, scientists are able to manipulate them to create or suppress certain substances to achieve desired effects.

Systems biology offers a new way of looking at biology. By applying mathematical models, it allows scientists to systematically evaluate and look for ways to improve the efficiency and effectiveness of certain processes. This has had significant impact in manufacturing pharmaceuticals—making them more cost efficient, and even environment-friendly.

JAPAN'S INNOVATIVE APPROACH

But good research must come hand-in-hand with innovation and results. New information is put to use by innovation, and innovation opens doors to generate new information.

In January of this year, I visited Japan—you will remember that the country was devastated by the Great Quake, tsunami and nuclear disaster less than a year prior. I was impressed by how well they had gotten back on their feet and rebuilt after suffering such a great blow.

But what impressed me the most was not the buildings or the technology. It was my visit to the Tokyo Metropolitan Institute of Gerontology—a center for research and innovation on ageing that aims to respond to the needs of their rapidly graying population.

On top of their aggressive research on the ageing mechanism, I was struck by two key practices that they espouse. First, they encourage the elderly to walk at least 7,000 steps daily. Second, they encourage the elderly to read bedtime stories to their grandchildren.

These two approaches may seem mundane, even trivial—but walking has been proven to improve health and prevent or minimize dementia, hypertension and blood sugar.

Reading stories to grandchildren, on the other hand, is their simple answer to the growing problem of displacement, even abandonment of the elderly. This small exercise helps reintegrate the elderly into their families, and has been proven to greatly improve the attitude of the youth toward them.

The Institute's down-to-earth approach is innovative in every sense: it answers pertinent problems in the Japanese society. At the same time, it reminds us that innovation does not have to be costly. Sometimes, it is simply about thinking outside the box. We may have tools and equipment, but our best asset is still the limitless ingenuity of the human mind.

THE PHILIPPINE LANDSCAPE

I believe we Filipinos are no less ingenious than they. In the PCHRD's 30 years, many revolutionary health treatments and technologies have been made available to the public: telehealth allows long-distance sharing of expertise, and even long-distance observation and treatment; newborn screening has spared many expectant mothers and infants from diseases and brought us closer to our Millennium Development Goal.

That is another key characteristic of good research and innovation: it must be relevant, must address the needs of the people it is trying to help.

We in Congress, through the bicameral Congressional Commission on Science, Technology and Engineering, are taking a cue from Japan. We have earmarked over 300 million pesos in the 2012 budget to fund Innovation Clusters—a consortium of academe, government and industry that aims to translate the latest research into results that are accessible to the common Filipino.

After consultations with the Department of Science and Technology (DOST), CHED, and the Department of Agriculture (DA), we were able to allocate about P300 million of the 2012 national budget to form and fund the initial five clusters.

An innovation cluster in **Algae Research and Commercialization** involves the inventory of algae varieties and resources in the country toward commercialization for animal feeds, nutraceuticals and biofuels, and other high-value products through further extraction and processing.

Using ICT tools like satellite imaging and computer models for the **Disaster Management and Resiliency** cluster assures a decision support system for disaster mitigation. Local universities can perform disaster risk modeling—such as assessment of floods, landslides, earthquakes and other natural disasters—agricultural damage assessment and disease spread studies in collaboration with international and industry partners.

Cebu-based technology company MorphLabs is already developing innovative applications in **ICT for Cloud Computing and Software-as-a-Service (SaaS)**, alongside the Cebu ICT Association, the DOST-Region VII office and such universities as University of San Carlos, Cebu Institute of Technology and UP Cebu. This cluster can also help create thousands of jobs in the region through incubating SME's that aim to create software applications and programs for e-governance, business process, and knowledge process outsourcing.

Numerous companies are proposing enormous mining projects in the country, promising significant amounts of foreign direct investments (FDI's). A significant portion of these FDI's will be used to assure investors that mining activities are in line with world guidelines on environmental compliance using state-of-the-art technologies. Through the **Responsible Mining Technologies** cluster, our SUC's will handle biodiversity studies and water quality monitoring to ensure a non-adversarial relationship between the community and the mining industries.

There is a need for **Precision Farming and Smart Agriculture** that utilizes remote sensing and satellite imaging for a more accurate assessment of land use, productivity, and crop yields. This can provide farmers with logistics and decision-making support. Universities will be instrumental in ground measurements to calibrate aerial or satellite images for assessment studies.

Aside from these five initial innovation clusters, I am also initiating the establishment of a Philippine Institute for Ageing, which the Tokyo Metropolitan Institute of Gerontology has kindly agreed to help us do.

I also have a personal project of networking with Filipino scholars in Japan, Korea, Taiwan, encouraging them to identify state-of-the-art technologies for adoption in our country. This project will also identify promising young scientists and technologists from among their ranks to help rebuild our critical pool of S&T workforce.

CONCLUSION

The road ahead of us, and of the PCHRD in particular, stretches long. We have much to do in bringing Filipino research to the attention of the world at large—we need to provide more opportunities to publish, to cooperate with top institutions abroad, to forge exchanges of knowledge and information with our neighbors.

There is a need to improve research infrastructure in the country and to train more researchers armed with the right skills and vision. At the same time, we need to make the Philippine environment more hospitable to them by providing them with due recognition and compensation.

Let us look with inspiration and gratitude to the past 30 years of the PCHRD, and blaze new trails as we approach the next 30.

Mabuhay tayong lahat!