

SIXTEENTH CONGRESS OF THE REPUBLIC OF THE PHILIPPINES Second Regular Session

14 AUG 19 P3:13

RECEIVED BY:

SENATE P. S. R. No. **849**

Introduced by Senator Miriam Defensor Santiago

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RESOLUTION

DIRECTING THE PROPER SENATE COMMITTEE TO CONDUCT AN INQUIRY, IN AID OF LEGISLATION, ON THE ONGOING RESEARCH BY SCIENTISTS FROM THE UNIVERSITY OF THE PHILIPPINES LOS BAÑOS ON THE BIOSYNTHESIS OF NANOGOLD FOR POSSIBLE MEDICAL USE

WHEREAS, the Constitution, Article 2, Section 17 provides, "The State shall give priority to education, science and technology, arts, culture, and sports to foster patriotism and nationalism, accelerate social progress, and promote total human liberation and development";

WHEREAS, the Constitution, Article 14, Section 10 further provides, "The State shall give priority to research and development, invention, innovation, and their utilization; and to science and technology education, training, and services. It shall support indigenous, appropriate, and self-reliant scientific and technological capabilities, and their application to the country's productive systems and national life";

WHEREAS, the Constitution, Article 14, Section 11 also states that, "The Congress may provide for incentives, including tax deductions, to encourage private participation in programs of basic and applied scientific research. Scholarships, grants-in-aid, or other forms of incentives shall be provided to deserving science students, researchers, scientists, inventors, technologists, and specially gifted citizens";

WHEREAS, an article from the University of the Philippines Los Baños (UPLB) website, posted on 16 April 2014, reported that a pioneering nanotechnology study conducted by scientists at the UPLB National Institute of Molecular Biology and Biotechnology (BIOTECH) is exploring the potentials of plant growth- promoting bacteria (PGPB) in the biosynthesis of nanogold;

WHEREAS, it was reported that Dr. Lilia M. Fernando, Dr. Florinia E. Merca, and Dr. Erlinda S. Paterno are looking at how nanogold could be produced in large quantities using PGPB as this could bring down medical diagnostic and treatment costs especially against cancer;

WHEREAS, according to the scientists, it is in the best interest of every Filipino if a substitute could be found especially because gold does not only detect but also destroys cancer cells without killing the healthy cells, since gold—a very expensive element—is used to detect pathogens and cancer cells in the body;

WHEREAS, according to Dr. Fernando, gold is an inert element and does not react to other body parts; conventional cancer treatments such as chemotherapy and radiation, on the other hand, kill healthy cells in the process of destroying the cancer cells, causing all sorts of side effects such as hair loss, skin change, or worse, organ damage;

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WHEREAS, Dr. Fernando reportedly explained that their study is primarily aimed to find a less expensive source of gold through the biosynthesis of the element by microorganism, as gold costs around 200 to 300 US dollars (or about Php9,000 to Php14,000), and would only yield a few particles of nanogold;

WHEREAS, PGPB is said to be abundantly available in the soils of the Philippines; the researchers reportedly carried out their collection of PGPB in Tarlac and Bohol;

WHEREAS, it was reported that the cultivation of PGPB does not require any special incubation procedure in order to maintain its nano-size because it can survive at room temperature, making the cultivation of PGPB easier and less expensive compared to other microorganisms;

WHEREAS, it was also reported that this pioneering study published in the June 2013 issue of the Philippine Agricultural Scientist is just one in the initial foray that UPLB is making into the field of nanotechnology, as more novel materials have been discovered and will be discovered with the creation of the UPLB Center for Nanotechnology Application in Agriculture, Forestry and Industry that will be housed at the Institute of Chemistry.

WHEREAS, aside from the Nanotech Center, 17 other interdisciplinary studies centers reportedly have been created to consolidate the expertise of UPLB scientists and researchers in finding holistic and lasting solutions to current and future development problems;

WHEREAS, as to the environmental health risks that nanotechnology could possibly bring, Dr. Fernando claims that as far as their study was concerned, it did not pose any such risks mainly because PGPB is non-pathogenic to humans and are considered good bacteria; such risks are mostly associated with nanotechnology applied to materials science or industry;

WHEREAS, Fernando added that the environmental health risks that nanobiotechnology could possibly bring was a research gap that they are planning to fill in their future studies;

WHEREAS, Congress should express support for this research though meaningful legislation because the success of scientific research such as this would be beneficial to the treatment of diseases, such as cancer, by providing ways towards cheaper and less damaging treatments than chemotherapy and radiation;

WHEREFORE, BE IT HEREBY RESOLVED BY THE PHILIPPINE SENATE to direct the proper Senate committee to conduct an inquiry, in aid of legislation, on the ongoing research by scientists from the University of the Philippines Los Baños on the biosynthesis of nanogold for possible medical use.

Adopted,

MIRIAM DEFENSOR SAMITACE

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