



March 2014

DE LA SALLE UNIVERSITY
RESEARCH • INNOVATION • CREATIVITY

Questions



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Questions

We begin with questions—

to survive changes.
to understand our differences.
to empower people.
to make big ideas come to life.

QUESTIONS is a publication of De La Salle University featuring research projects and creative endeavors by its faculty.

It highlights the Lasallian quest for information, action, and transformation as DLSU pursues its vision-mission as a leading learner-centered research university in the Philippines.

March 2014

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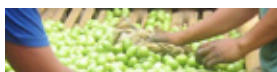
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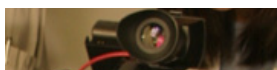
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Questions



PODIUM FINISH.


Sikat II placed third in the Adventure Class of the 2013 World Solar Challenge after six days of racing across the Australian desert.

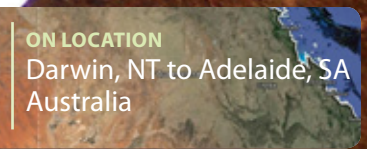
SOLAR CAR PROJECT

HOW FAR CAN THE SUN'S POWER TAKE US?

RESEARCH PROPONENT TEAM SIKAT SOLAR PHILIPPINES



 ON LOCATION
Darwin, NT to Adelaide, SA
Australia





With the country's dependence on imported power and fuel resources, Filipinos cannot but regularly bear the brunt of unabated price increases.

It is in this context that De La Salle University embarked on the Solar Car Project spearheaded by students and faculty of the Gokongwei College of Engineering. The initiative aims to further the cause of promoting the use of sustainable energy and clean technologies in the field of transportation.

"The Solar Car Project is a venue to demonstrate that we, as Filipinos and as Lasallians, can make a mark in this field," says Engr. Jack Catalan, Electronics and Communications Engineering Department faculty and Electrical Systems adviser.

In 2007, DLSU designed, built, and raced Sinag, the country's first-ever solar car that joined the World Solar Challenge (WSC), the world's biggest and most prestigious solar car race held in Australia every two years. In its maiden year in the competition, the Philippine team landed in 12th place.

Six years later, a new batch of students and faculty entered the University's third solar car, the modified Sikat II, in the WSC. This time, the Philippines placed third in the Adventure Class.

The solar car traveled 3,000 kilometers in six days from Darwin to Adelaide, beating teams of professionals and enthusiasts from Hong Kong, Turkey, USA, and Japan. Unlike other regular races, where speed is the main component to win, the World Solar Challenge highlights the efficient use of power. The aim is to reach the destination at the fastest time while maximizing the sun's energy.

Team manager Dr. Alvin Culaba attributes the top finish to the dedication of the people behind Sikat II. "The race is more than getting to the finish line the fastest. The completion of this cross-continent journey is a demonstration of the team's exemplary work ethic as well as their physical fitness and mental strength."

The Solar Car Project is a collaboration of industry partners that share the University's advocacy in promoting sustainable sources of energy. Sikat II is a flagship program of the Sikat Solar Challenge Foundation, Inc. composed of representatives of First Phil Holdings, First Gen, Energy Development Corporation, Sunpower, Ufreight, Shell, and Motolite.





LASALLIAN EXCELLENCE, FILIPINO PRIDE Teamwork, perseverance, and the drive to excel fuel the team throughout the race. PHOTOS: JINGO BADILLO

Aside from participating in the biennial racing event, the Foundation also sponsors activities that push solar technology and make it more accessible to the masses.

In November 2013, DLSU hosted the Foundation's first annual Solar Week which aimed to encourage the youth to explore renewable energy in the field of engineering and the sciences. The highlight of the week was the mini solar car challenge which invited high school students to build their own sun-powered vehicle.

With the podium finish of Team Sikat in the 2013 WSC, DLSU is inspired to further develop renewable energy technologies.

Catalan shares that the same technology can be used in the electric vehicle technology. "This is a direct application of the Solar Car Project. There are a lot electrical components that we can adopt and translate into an application involving electric vehicles. This is green technology that is expected to be part of the future."



Sikat II General and Technical Specifications

NAME OF CAR Sikat II

YEAR 2013

SPEED Average = 80 kph Max = 110 kph

WEIGHT 175 kg (without driver)

SOLAR ARRAY Sunpower Silicon.

Efficiency = 22% Max. power output = 1300 W

MODIFICATIONS TO THE 2011 CAR

- Aerodynamics:** Lower coefficient of drag, better aerodynamic design through modifications in the fairings, lower ride height, and smaller canopy
- Electrical:** New battery management system, improved telemetry and wiring
- Mechanical:** New brake design, new suspension system
- Tires:** New high performance Schwalbe Sleek tires with low coefficient of rolling resistance

THE SOLAR CAR PROJECT IS A TESTAMENT TO DLSU'S COMMITMENT TO DEVELOP RENEWABLE ENERGY TECHNOLOGIES FOR NATIONAL DEVELOPMENT.



DLSU wins awards, tops PHL entries in Shell eco car race

De La Salle University's eco car entry, "Archer," bagged 2nd place in the Urban Concept Battery Electric Category of the 2014 Shell Eco Marathon (SEM). The team also received the Perseverance and Spirit of the Event Award for helping out co-competitor Madras Institute of Technology (MIT) Eco-Warriors from India.

The Archer, which had a record of 66.38 km/kWh, bested 14 cars in the Urban Concept Battery Electric Category. Singapore's team ITERBO3 from the Institute of Technical Education grabbed the top spot with a record speed of 126.3 km/kWh.

MIT Eco-Warriors from India was slated to compete in the Battery-Electric Prototype Category of SEM, but their vehicle was held in Singapore due to carrier complications.

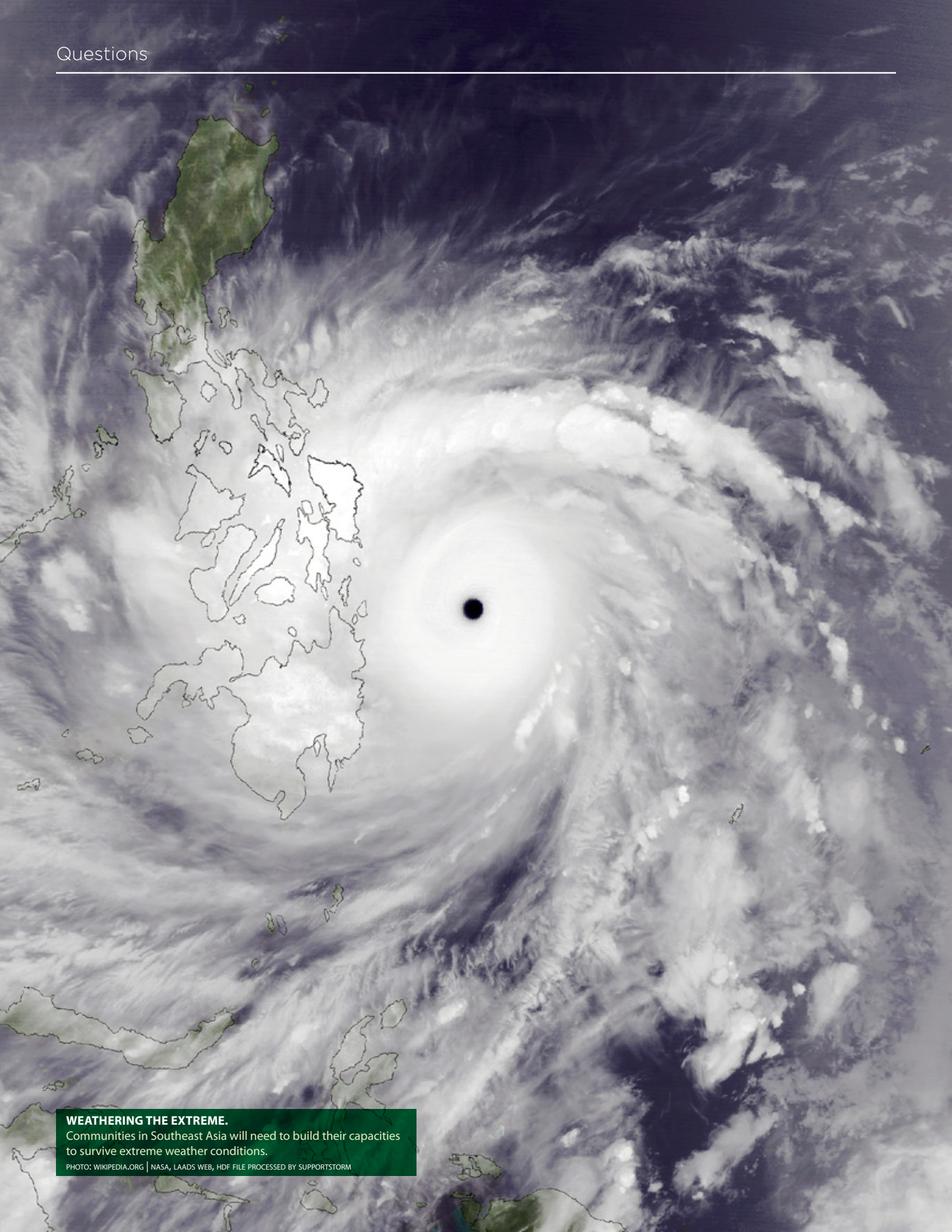
The DLSU Eco Car Team offered one of their cars to keep the MIT Eco-Warriors in the competition.

Attended by 107 teams from 15 countries, the SEM was held in Manila for the first time. Participating countries included Brunei Darussalam, China, Egypt, India, Indonesia, Lebanon, Malaysia, Pakistan, Qatar, Singapore, South Korea, Thailand, United Arab Emirates, and Vietnam.



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WEATHERING THE EXTREME.

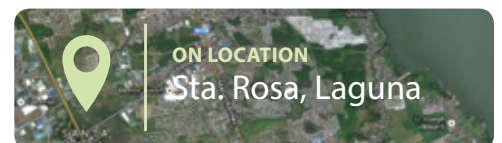
Communities in Southeast Asia will need to build their capacities to survive extreme weather conditions.

PHOTO: WIKIPEDIA.ORG | NASA, LAADS WEB, HDF FILE PROCESSED BY SUPPORTSTORM

PERI-URBAN AREAS ON CLIMATE CHANGE

Are we prepared for climate change?

RESEARCH PROPONENTS DLSU AND ASIAN INSTITUTE OF TECHNOLOGY





A NEW WAY OF LIFE.

Residents in peri-urban areas experience stresses brought about by conditions like flooding, droughts, or deterioration of water quality.

PHOTOS: FILE FROM CITY OF SANTA ROSA

About 38 kilometers south of Manila is the City of Sta. Rosa in Laguna, known for its expansive fields that used to be mainly agricultural but which are now changing in character with the continuing entry of industrial and business establishments as well as high-end housing and residential complexes.

Categorized as a peri-urban area, the City of Sta. Rosa has been identified as one of the subjects of a regional study conducted by De La Salle University, in partnership with the Asian Institute of Technology in Pathumthani, Thailand and with funding from the International Development Research Centre of Canada.

Dr. Antonio Contreras, full professor of the DLSU Political Science Department and head of the DLSU research team, shares that the study seeks to understand how people respond and adapt to climate change in peri-urban areas in Southeast Asia.

The researchers chose to focus on peri-urban areas where dynamic transformation is happening. As these critical areas transition from being mainly agricultural to being industrial, residential, and commercial zones, these areas experience changes in community relationships, with old residents and new migrants interacting with each other and adjusting to cultural changes.

In the City of Sta. Rosa, informal settlers and migrant communities are most vulnerable to stresses brought about by climate-induced traumas such as floods, droughts, or deterioration of water quality.

Contreras points out that his team has recently finished the initial phase of characterizing water stresses and appraising the adaptation process of the people in the area.

A notable aspect of the project is the involvement of the local government units; in this particular study, the planning officer from the City of Sta. Rosa who is part of the project will earn a master's degree on scholarship under the work-based program of DLSU and AIT. The presence of the LGU representative seeks to build the capacity of the public sector.

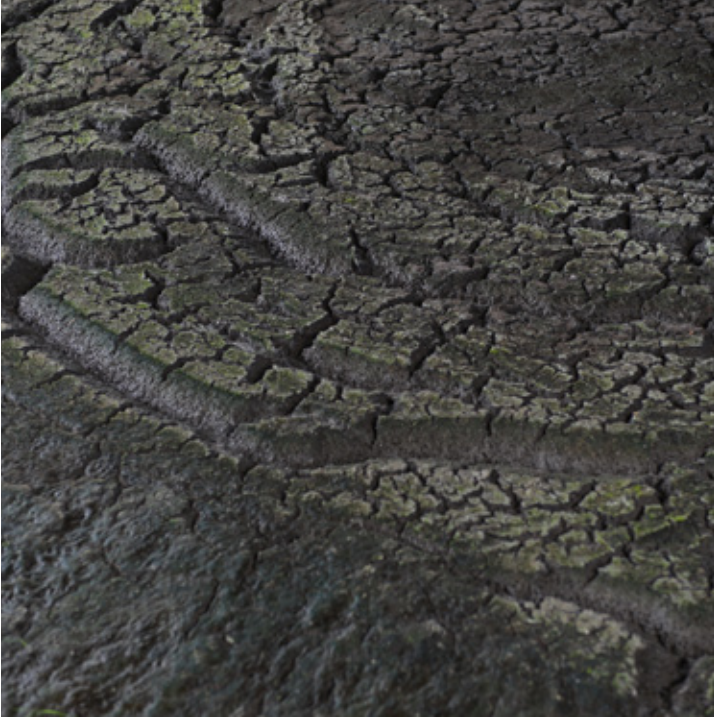
Interestingly, initial results show that in distressed times, women more than men were burdened to find help or relief from aid-agencies. For the three-year project, the researchers will look more into this manifestation and focus on understanding the drivers and enabling factors that lead to the people's adaptation mechanism. They will also determine how people adapt independently from government or community assistance.

By building the capacities within local government or district units, this peri-urban project will set into motion more holistic ways of addressing issues related to climate change.

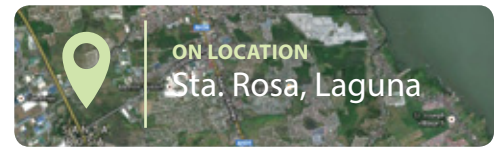


DR. ANTONIO CONTRERAS, Political Science full professor

People in
peri-urban areas
need to be
prepared for
the effects of
climate change.



CIRCLE OF LIFE. Waste materials form a sludge that can be used to fertilize soil or create objects like pots or tiles.
A tree guards the eco-farm at the back of the TAP facility in Laguna.



SOLID WASTE MANAGEMENT

What will it take to have zero waste?

RESEARCH PROPONENT DLSU BEHAVIORAL SCIENCES DEPARTMENT

Visitors of car manufacturing giant Toyota to its auto parts facility in Laguna, Philippines cannot help but be awed by the company's zero waste initiative.

From discarded paper files to the minutest staple wires that bound them; from food leftovers to their packaging; from the chemical and water wastes to metal scraps--everything in the place finds a way to be recovered and reused. If there is any trash that goes outside the facility, it is barely noticed at all.

For this corporate social responsibility that has found a way to raise consciousness on solid waste management (SWM), particularly among the children in the City of Sta. Rosa's public

and private schools, the company has received recognition from independent award-giving bodies as well as industry and government partners.

De La Salle University's faculty member Marlon Era of the Behavioral Sciences Department, who has contributed to the company's development of SWM program for schools, points out that an important component of sustaining the initiative is the active partnership of various stakeholders.

With technical and funding support from Toyota Autoparts Philippines, Era continues to seek ways on how to further promote SWM and ensure that it would be sustained by the concerned communities and schools. Later on, of course, the ideal target is to spread this kind of initiative throughout the country.

Era, who is currently working on his dissertation, says that his research looks into social-private partnerships to work on sustaining waste management, with minimal role by the government. One type of partnership he is exploring is the network among industry players. Another is between the industry and the 64 schools in Sta. Rosa City. The third type is between non-government organizations and the local churches.

“My research aims to strengthen these social-private partnerships, with the government’s role limited to overseeing the actors. This study raises the issue on accountability. Who is accountable to whom? What are the parameters of accountability? What are the factors that facilitate or hinder accountability roles among non-state actors? The study hopes to lead to answers to these questions,” he points out.

Since TAP’s introduction of environmental programs to Sta. Rosa City schools in Academic Year 2007-2008, the involved schools as well as the churches have given positive reports, noting that aside from keeping their community clean, they have also earned significant income through recovery and recycling.

The University has assisted TAP in conceptualizing the components and directions of the program, improving the planning process, designing data gathering instruments and program monitoring tools, and enhancing the training program dubbed Envi-Challenge.

DLSU was also instrumental in assessing the program experiences of the first batch of high schools and supported the revision of the monitoring and evaluation tool used to evaluate the second batch of schools.

“The project is not a bed of roses, though,” Era admits, adding “There are still areas where you see piles of garbage everyday. There is still resistance or lack of concern on solid waste management.”

Era is also looking into the challenge of making individuals, their families, and the whole community work actively on this endeavor. He is studying whether it is giving penalties or providing incentives that will work best to make the people participate. One thing is certain though: Through sustained, collective efforts, the people of Sta. Rosa, as well as the rest of the Philippines, can look forward to a truly clean and green future.

A multi-sectoral, collaborative commitment is key to an effective and sustained waste management for the community.



SWM ADVOCATE. Behavioral Sciences faculty member Marlon Era gets industry support for his continuing work on solid waste management.



ACADEME-INDUSTRY PARTNERSHIP.
Clockwise, from top: Students develop environmental awareness through the linkages; a pot made from recycled plastics; TAP personnel checking on proper waste management.



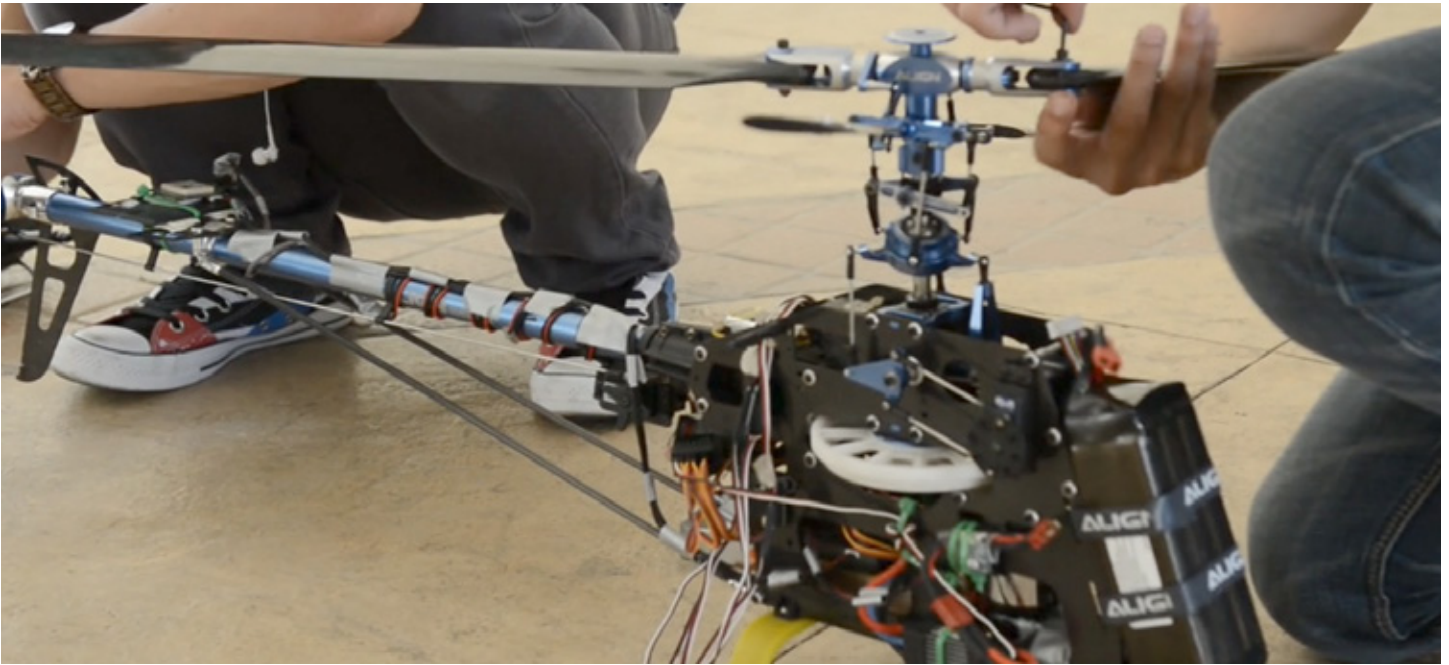
DLSU international network in A.Y. 2012-2013



TYPHOON YOLANDA AFTERMATH.

A man cleans up the rubbish across the lakeshore in Laguna.

PHOTO: ALECS ONGCAL

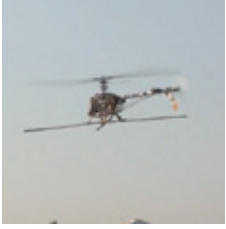


AERIAL PROJECT FOR DISASTER RESPONSE

How can we improve the country's disaster response?

*A DLSU TEAM IS PERFECTING AN UNMANNED AERIAL VEHICLE
FOR ASSESSING DISASTER CONDITIONS.*

RESEARCH PROPONENT DLSU COMPUTER TECHNOLOGY DEPARTMENT



Since the massive destruction of typhoon Ondoy in 2009 and all the severe tropical storms that followed, the most recent of which is super typhoon Yolanda that ravaged the Visayas region, Filipinos have clamored for better and more efficient ways to execute disaster response.

Many of our countrymen were left without homes, clothing, and even food. Help wasn't reaching those affected by the typhoon on time; the pace of response initiatives was glacial. De La Salle University's Aerial Dynamic Assessment Robot for National Advancement (ADARNA) project offers some help to this problem.

Helmed by DLSU Computer Technology Department Laboratory Coordinator Clement Ong, ADARNA was conceptualized in January 2010 and had an initial budget of about US \$2,660. (Based on the National Statistical Coordination Board, the average peso to US dollar exchange rate in 2010 is 45.11:1) IBM saw great potential in the project. From a pool of 80 international entries, the company decided to award Ong a \$10,000 grant for the completion of ADARNA.

The ADARNA project features radio-controlled helicopters created for the improvement of the country's disaster response capabilities. With the aid of ADARNA, rescuers would no longer be unnecessarily placed in harm's way.

ADARNA utilizes a built-in high-resolution camera, enhanced GPS, image tagging, and terrain navigation. It is designed to take aerial images for natural disaster surveys, which will prove to be valuable to rescue and relief operations.

By providing accurate real-time visual accounts of the conditions in disaster-stricken locations, more effective decision-making and planning could be made.

Ong states that Unmanned Aerial Vehicles (UAVs) or Remotely Piloted Vehicles (RPVs) are top choices for assessing disaster conditions from an aerial viewpoint. UAVs are easy to deploy and more cost-effective as compared to generating satellite imagery. Low-resolution video streams will be sent to the ground through radio link. High-resolution images can be retrieved at post flight.

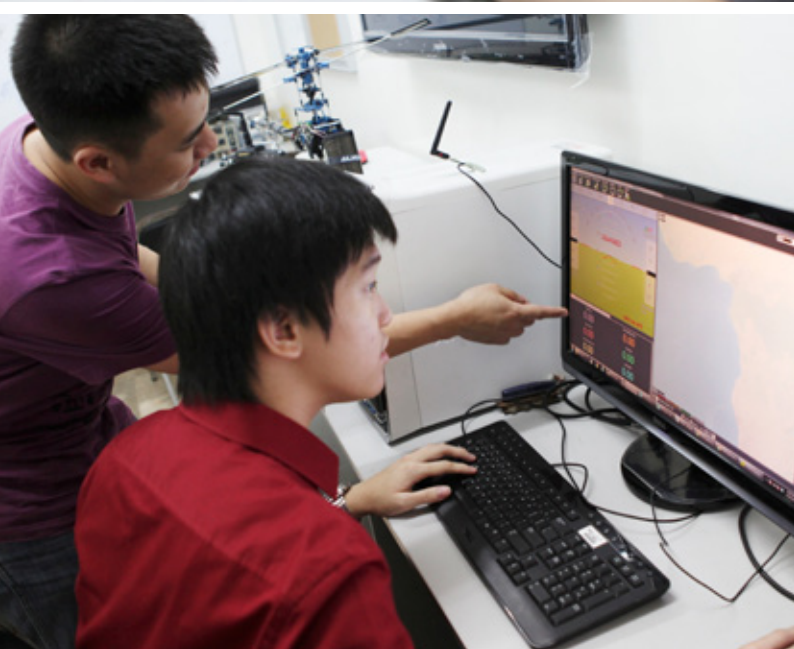
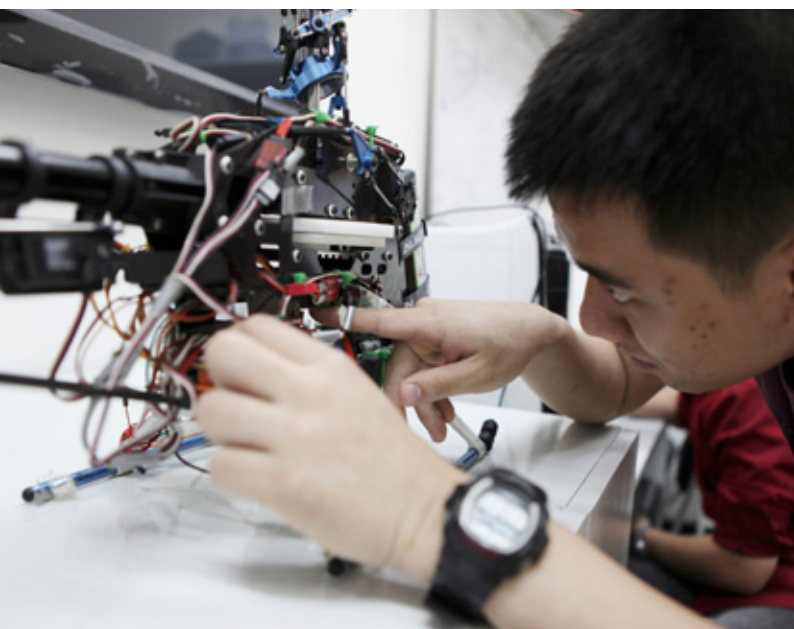
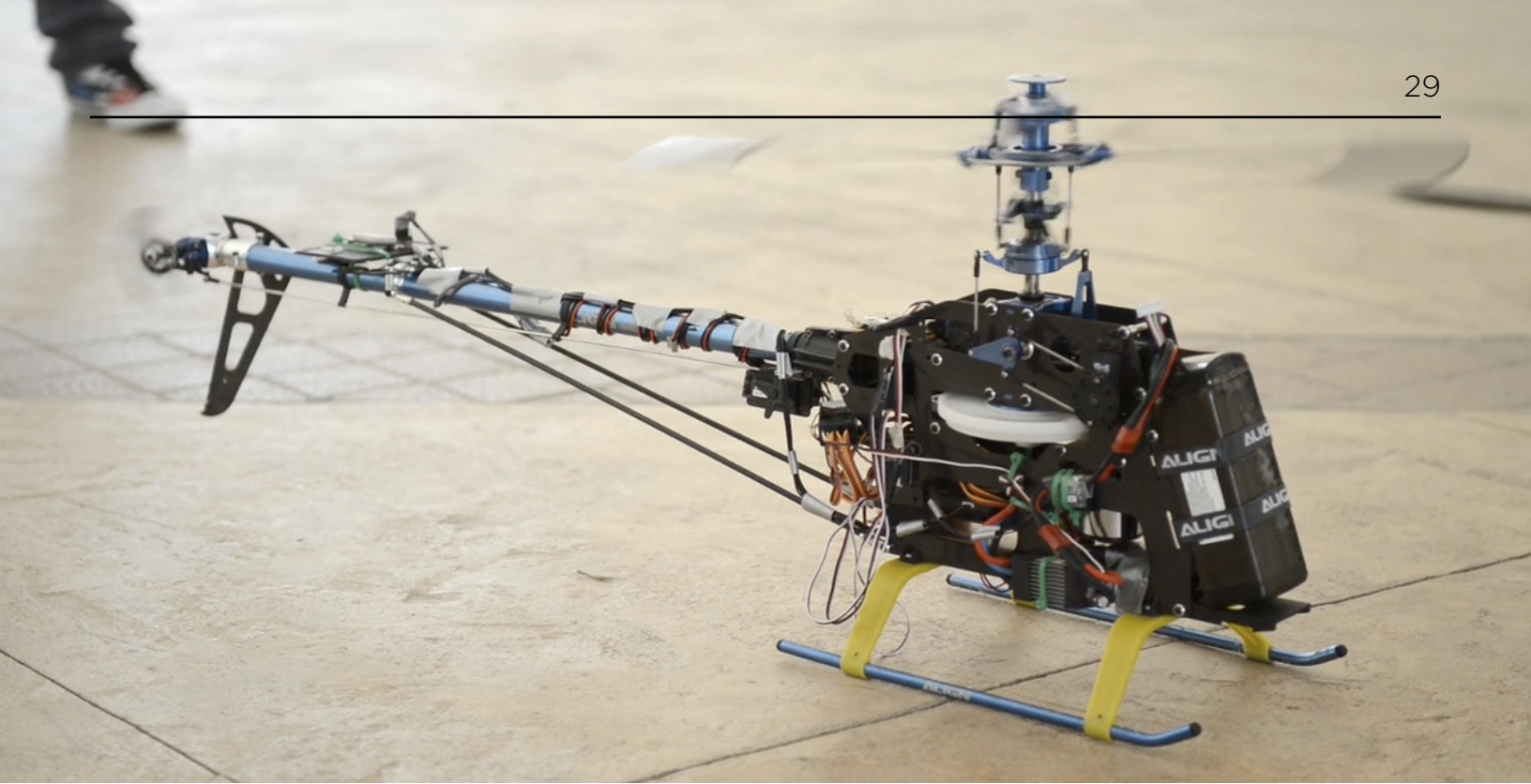
Since its inception in 2010, the DLSU Computer Technology Department has made improvements on the ADARNA project. A semi-autonomous way of controlling the miniature helicopter is currently being developed. In addition to this, Ong's team is working on ADARNA's landing phase.

The team is considering new factors that will make ADARNA more efficient once it is deployed for field surveillance. This phase of the research project focuses on modifications that will help ensure that the RPV lands safely after it has taken the needed aerial shots. Once perfected, the ADARNA no doubt will serve as a useful tool for disaster response.



THE ADARNA TEAM.
IBM grantee and Computer Technology faculty member Clement Ong (right), with his team members.

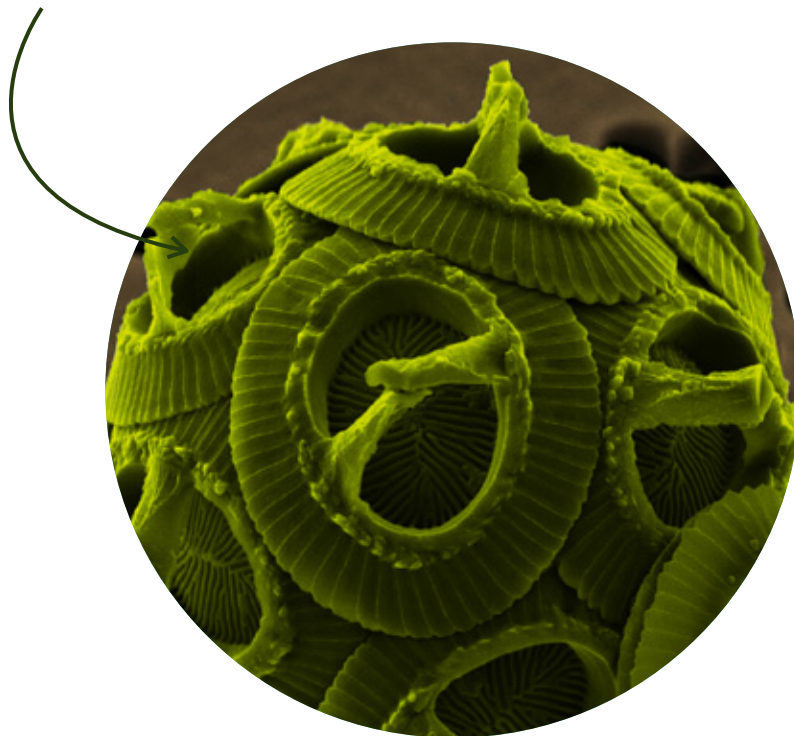




AERIAL RESCUE.
The researchers are currently working on the improvements of the ADARNA project.

MICROALGAE AS POWER SOURCE

Can microalgae...



WHAT'S THE STUFF?

Microalgae are microscopic algae, typically found in freshwater and marine systems. They are unicellular species which exist individually, or in chains or groups. Depending on the species, their sizes can range from a few micrometers (μm) to a few hundreds of micrometers.

SOURCE: [HTTP://EN.WIKIPEDIA.ORG/WIKI/MICROPHYTE](http://en.wikipedia.org/wiki/Microphyte)



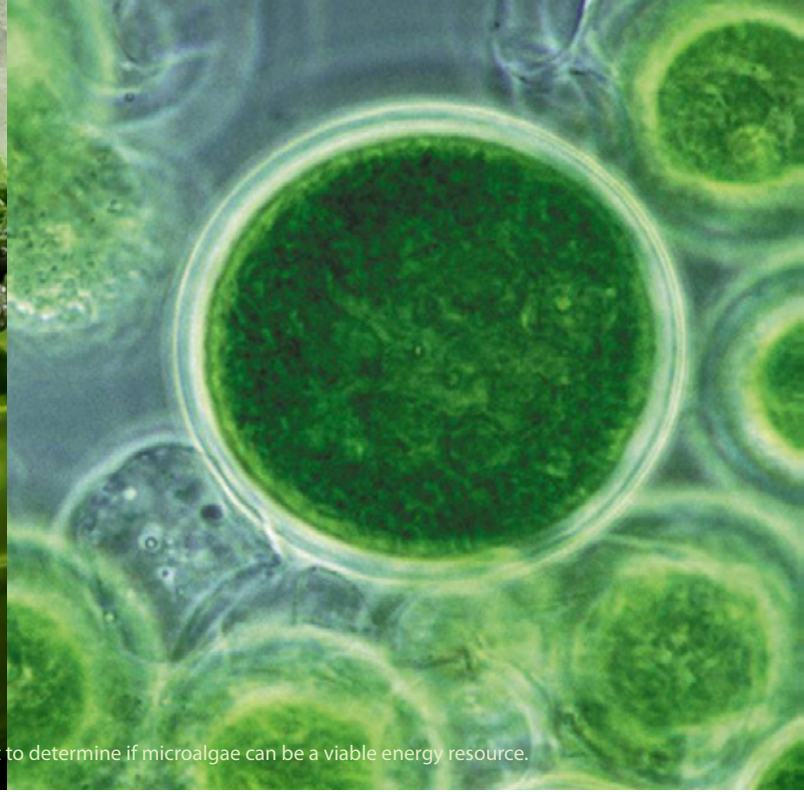
...power
us up?

DLSU RESEARCH PROPONENT GOKONGWEI COLLEGE OF ENGINEERING

On a barren land with a pond filled with microalgae, a potential solution to the country's search for alternative source of energy is emerging.

Biofuel, a sustainable, environment-friendly alternative to fossil fuels, may actually be produced from these microalgae.

Today, local and international scientists are working together and scouring all possible leads to discover if it would figure in the country's future through the project, Bio-energy Systems Research. Conducted by a team of 23 researchers and experts, the study involves the processing of microalgae for the purpose of using it as a feedstock for biodiesel and bioethanol, among many other forms of alternative sources of energy.



COLLABORATIVE RESEARCH.

Local and international scientists are looking into the various aspects of the project to determine if microalgae can be a viable energy resource.

PHOTO, RIGHT: WWW.FEBICO.COM

Turning microalgae to biodiesel feedstock involves drying technologies, optimization, molecular dynamics, and bio-energy product research processes, all of which require experts in engineering and the sciences.

Dr. Alvin Culaba, National Academy of Science and Technology (NAST) Academician and University Fellow at De La Salle University, shares that DLSU has partnered with local and international institutions to address the different processes involved in the project.

For the drying technology research, DLSU is in collaboration with the University of Arizona and the University of the Philippines, the latter joined by researchers from its campuses in Diliman, Visayas, and Los Baños. For the optimization process, DLSU is partnered with the Texas A&M University and the University of Nottingham in Malaysia. The molecular dynamics of the process, meanwhile, involves the assistance of Osaka University. Lastly, for the bio-energy product research, DLSU is partnered with the University of Arizona and the US Department of Agriculture.

Culaba points out that while there are already commercially available algae in other countries, the Philippines has yet to explore the uses and benefits of this material. He says that once the use of microalgae as a viable resource for alternative

energy in the local context has been established, the next phase of the project will involve research on its environmental, economic, and social implications.

“We need to conduct optimal analysis that will include the economic and environmental impacts of the multi-functionality of the material. We found out that aside from biodiesel production, microalgae can also be used in nutraceutical products, so we’re also looking into that,” Culaba says.

The project needs five years to complete, and now on its third year of study, the researchers are expected to establish the technical viability of the material for certain applications, as well as identify certain species of microalgae that are most viable for use. Once the project is completed, they hope to eventually commercialize the products that will, in effect, contribute to the production of alternative sources of energy and open new areas for energy development.

“The issue of energy security in the Philippines is about bringing down energy cost and at the same time, providing energy options. It is important that we diversify our sources of energy. By developing algae as an alternative feedstock to produce energy, we can contribute in addressing both challenges,” Culaba ends.



Scientists are exploring the potentials of microalgae as an alternative source of energy.



DLSU research targets for A.Y. 2013-2014

Source: Office of the President and Chancellor

NEW TECHNOLOGIES AND E-PARTICIPATION

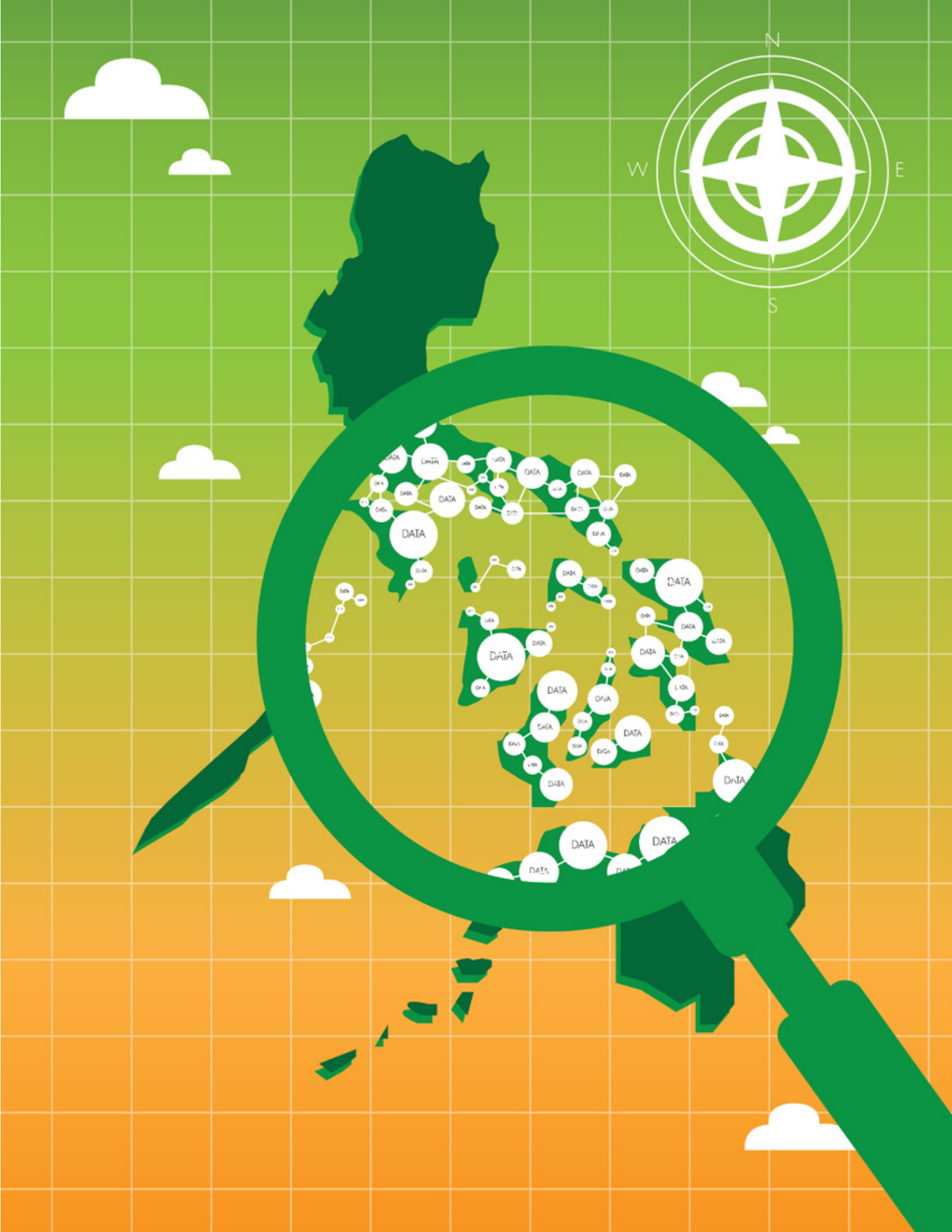
Who's

afraid of

open data?

RESEARCH PROPONENTS

CENTER FOR ICT FOR DEVELOPMENT · CENTER FOR LANGUAGE TECHNOLOGIES





Jesse Robredo, the Lasallian alumnus and public servant who lived out the true meaning of good governance, believed that everyone has a stake in shaping the future of the country.

In his work as Interior and Local Government Secretary, and even before as Mayor of Naga City, he saw that a key to making people trust in public leadership and participate in nation-building was to remain transparent, fair, firm, and excellent.

His efforts towards greater transparency did not get lost when he died from a plane crash in 2012. For one, his wife now Camarines Sur Representative Leni Robredo did not waste time in her first day in Congress, filing a bill that requires full disclosure in government transactions.

The same movement for open governance is at the core of a research program by De La Salle University's College of Computer Studies. Conducted by the College's Center for ICT for Development (CITe4D) and Center for Language Technologies (CeLT), the Research Program on Open Governance and New Technologies envisions the creation of a governance environment that is transparent, efficient, and accountable. The program aims to encourage collaboration and participation for inclusive growth and sustainable development.

"Ano ba ang matuwid na daan?" Dr. Sherwin Ona, associate professor of the Information Technology Department, asks in reference to government's anti-corruption agenda. To help create that path to a brighter future for the country, the two

research centers embarked on the program in collaboration with the University's Center for Social Concern and Action and Jesse M. Robredo Institute of Governance.

A member of the team focusing on e-participation, Ona explains that the program looks into the state of governance at the community level. The researchers are exploring the potentials of informatics and technology, particularly in the areas of maternal health and childcare, small and medium-scale enterprises, disaster risk reduction, and local legislation.

Dr. Rachel Editha Roxas, the head of the team tackling e-participation research, points out, "This program extends to many sectors that are often in the periphery. We hope to help these sectors in line with the vision-mission of the University to be a resource for God and Country."

With the data they have gathered, the researchers will identify possible intervention points for new technologies and develop IT applications and education programs that will enhance governance and participation practices.

Ona says: "Technology makes the government more accessible and open to the people. At the same time, it allows people to share information about what is happening to them, what are their needs and sentiments. Through technological innovation, the government and the people can work together for the community."



TECHNOLOGY TOWARDS PEOPLE EMPOWERMENT.

College of Computer Studies faculty members, from left, Charibeth Ko Cheng, Dr. Sherwin Ona, and Dr. Editha Roxas are part of the University's research program on open governance and new technologies.



CHEMICAL INDUSTRY ROADMAP

Can local chemicals boost the economy?

RESEARCH PROPONENT

RAMON V. DEL ROSARIO CENTER FOR BUSINESS RESEARCH AND DEVELOPMENT



ENVISIONING THE FUTURE.

Members of the country's chemical industry attend a workshop to help define their long-term master plan.

PHOTO: C/O DR. AIDA VELASCO

For the country's chemical industry, the question on how to make itself grow underscores a basic principle: everyone, especially the poor, must benefit.

Referred to as inclusive growth, this premise lies at the core of the commissioned master plan for the Samahan sa Pilipinas ng mga Industriyang Kimika (SPIK), which was crafted by the Ramon V. del Rosario Center for Business Research and Development (RVR CBRD).

SPIK's roadmap, which covers the period 2012-2030, was developed with the ultimate goal of building global competitiveness, in response to government's direction to local industries to map out long-term plans.

Led by former RVR CBRD Director Dr. Aida Velasco, the De La Salle University team of researchers included faculty members from the Decision Sciences and Innovation Department. The roadmap they developed is a product of several workshops and focus group discussions with the 13 subsectors of the chemical industry, including plastics, coatings and adhesives, agrochemicals, inorganic chemicals, chemical traders and distributors, petrochemicals, specialty chemicals, industrial gases, soaps and detergents, pharmaceuticals and cosmetics, and petroleum.

According to Velasco, the DLSU research project emphasizes the pursuit of major goals such as the creation of a wide range of products for the domestic market and meeting the local demand. It also seeks to promote a high level of workforce productivity. She points out, "The industry seeks the development of human capital in terms of people's technological advancement. Part of SPIK's vision is to make people more productive, more efficient."

Velasco notes that in the country, the chemical industry is heavily dependent on importation, which is one of the reasons why the manufacturing industry finds it difficult to grow. "We want the (chemical) industry to be domestically sufficient, and that is why we underscore the need to develop innovative products that use indigenous materials." With a country that is very rich in flora and fauna, the sector can be innovative in

both products and processes while ensuring the protection of these natural assets, she adds.

Pursuing the Philippine chemical industry roadmap involves the participation of the academe, industry, and government. For the academe, the challenge is to advance science and engineering, from basic to graduate education. For the government, it is creating policies and legislations based on sound technical and scientific studies. For the chemical industry, the call is to establish a cluster that will enable cost efficiency in the production of chemical products.

With a clear roadmap to the future, the country's chemical industry looks forward to a more active role in the global market as it sets up the mechanisms that will enable it to build itself and, in the process, promote the quality of life of Filipinos.

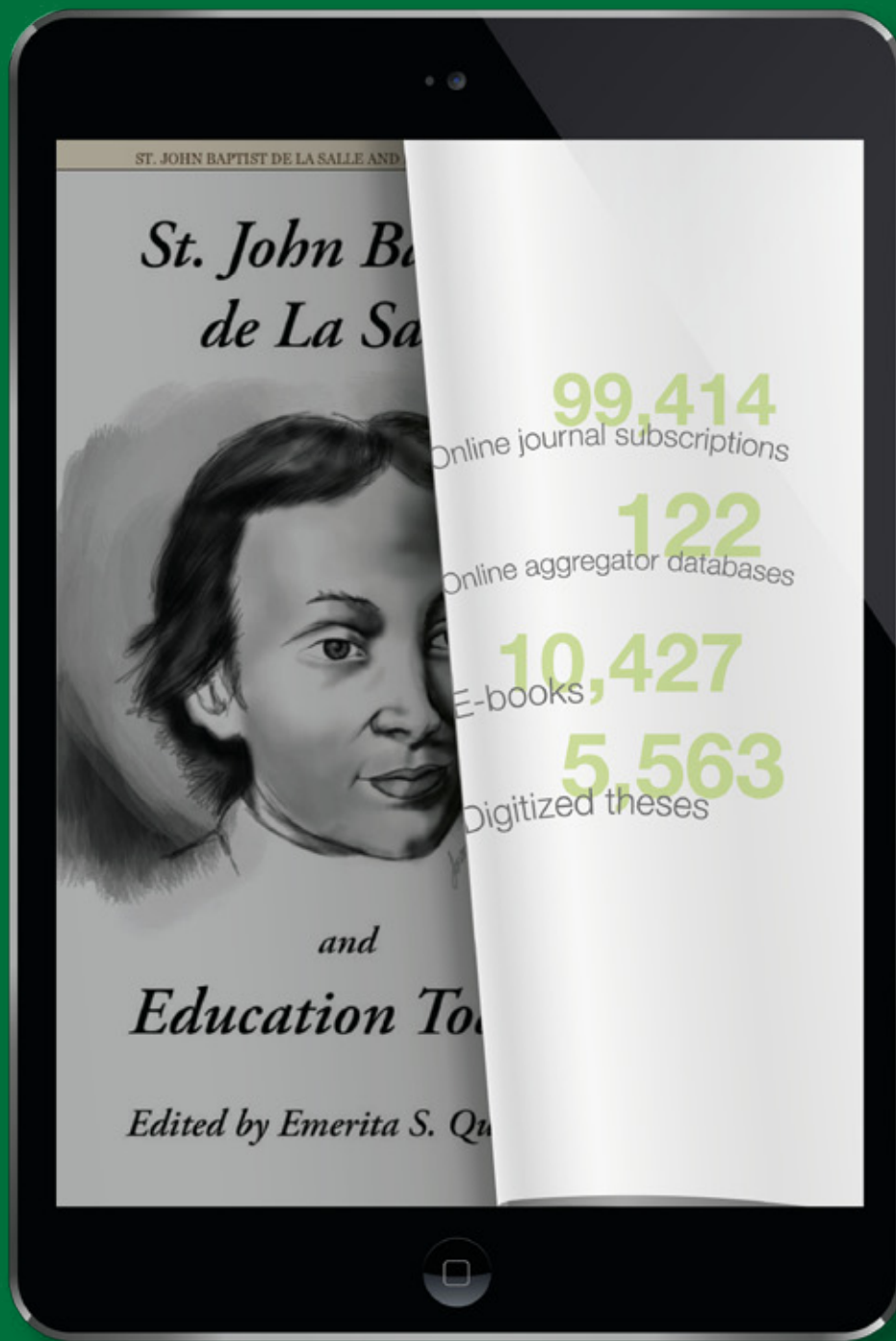


Dr. Aida Velasco, associate professor of the Decision Sciences and Innovation Department



The roadmap aims to build the global competitiveness of the country's chemical industry.





Library Digital Collection



WOMEN IN WATERSHEDS

Can women do better in selling farm produce?

A RESEARCH EXPLORES HOW GENDER AND MARKETING INFLUENCE SUSTAINABLE VEGETABLE PRODUCTION IN SOUTHEAST ASIAN WATERSHEDS.

RESEARCH PROPONENT
SOCIAL DEVELOPMENT RESEARCH CENTER



ON LOCATION
Lantapan, Bukidnon



Known as “the vegetable basket of Mindanao,” Lantapan in Bukidnon is home to a diverse variety of flora and fauna.

A landlocked plateau that still boasts of ancestral domains, sacred places, and virgin forests, Lantapan is gradually opening up to big companies for fruit and vegetable production. While the place has seen the growth of exportation by major industry players in recent years, it is also experiencing the struggles of small-scale farmers, many of them women, who continue to seek ways to sustain their farming.

It is a particular group of women farmers in Lantapan that has become one of the subjects of a recent multi-country, collaborative research on Agroforestry and Sustainable Vegetable Production in Southeast Asian Watersheds.

Dr. Ma. Elena Chiong-Javier, faculty member of the Behavioral Sciences Department of De La Salle University, shares that the research generally seeks to reduce poverty, food scarcity, and environmental degradation in the region. Managed by Virginia Technical State University, the sustainable agriculture and natural resource management research brought together international organizations and academic institutions from Vietnam, Indonesia, and the Philippines.

For DLSU’s Social Development Research Center, the team led by Chiong-Javier carried out various activities that addressed two important components of the study: marketing and gender.

In her paper, Chiong-Javier notes that women in agricultural communities, particularly in Lantapan, are not only extensively engaged in farm work but are also actively involved in the marketing, trading, or buy and sell of agricultural crops particularly vegetables, fish catch, home industry crafts, and a variety of foodstuffs and household commodities.

It is noted in the research that the rising commercialization of agriculture in the country propels rural women to play increasingly dominant roles as market entrepreneurs while actively assisting their spouses in farming.

In Lantapan, the research team has noted that the most marketable crops include cabbages, umbok, potatoes, carrots, and tomatoes. The team studied the marketability of commodities and noted observations on the law of supply and demand operating in the market. Information came from buyers, middlemen, traders, financiers, suppliers, and the farmers themselves.

For the farm people with limited education and resources, vegetable marketing presents an income generation option. Chiong-Javier mentions that the study helped raise issues and concerns on marketing vegetables, and on how women play an important role in marketing.

She notes that women in the community have shown a comparative advantage in terms of marketing, with them generally being regarded as having business acumen and trading skills. She also points out that the study offers an example of a women-friendly production technology that was deliberately researched and developed for women.

With the study, she advocates that women must be provided by government and society with avenues like post-harvest infrastructure and training, organized market information, and better transport facilities, aside from effective market policies redesigned for them. “For women to be empowered, they must be the intentional, deliberate, and almost the exclusive target of innovation,” Chiong-Javier stresses.



SUSTAINABLE FARMING AND WOMEN EMPOWERMENT.
Dr. Elena Chiong-Javier, associate professor of the Behavioral Sciences Department (top left), seeks to contribute to the improvement of livelihood of communities in watersheds.
ON LOCATION PHOTOS: C/O DR. CHIONG-JAVIER

First private PHL university to reach 1000th mark in Scopus

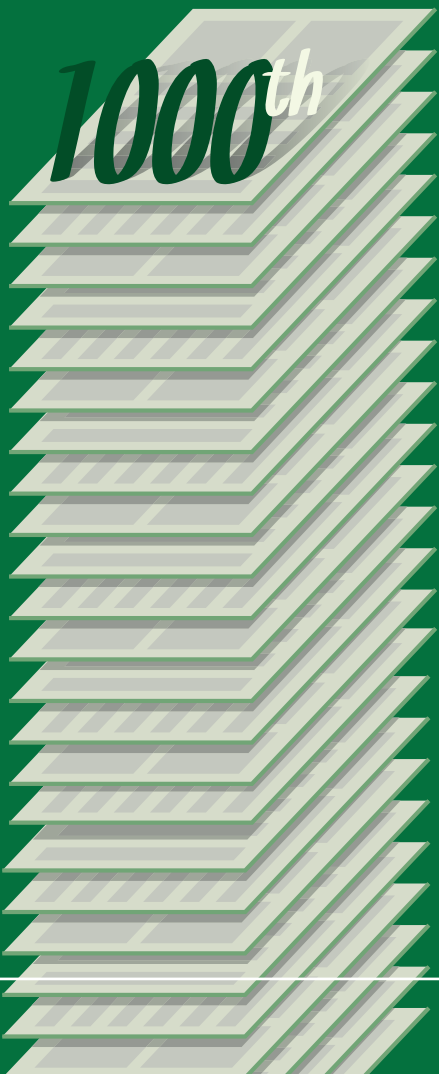
With a record of 1,090 Scopus-listed publications as of September 2013, DLSU is the first private university to reach the 1000th mark in the world's largest abstract and citation database of peer-reviewed literature.

Vice Chancellor for Research and Innovation Dr. Raymond Tan and University Research Coordination Office (URCO) Director Dr. Madelene Sta. Maria attributed the achievement to the sterling performance of DLSU's seasoned faculty researchers over the past two decades.

Tan said the figure symbolizes DLSU's efforts in producing research and peer-reviewed output for the country and the global community.

He admits that there remains much to be done to catch up with the top ASEAN universities, each typically having in excess of 10,000 Scopus-listed publications.

The challenge, he said, is for Philippine universities, especially DLSU, to pursue more vibrant and dynamic research efforts.



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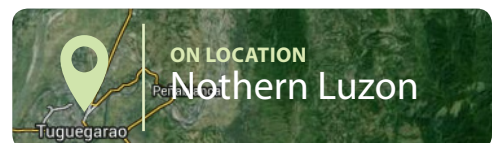
TAKEN FROM
2401 Number 10, Volume 45
October 29 2013

KUNNASI
PANGISALBAM
KANG LENGGWAHE
NGA ARANNI
NGA MAWAWANGIN?

ITAWIT DICTIONARY

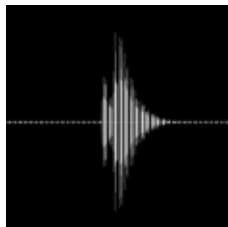
How do you rescue an endangered language?

RESEARCH PROPONENT DEPARTMENT OF ENGLISH AND APPLIED LINGUISTICS





Dr. Shirley Dita, associate professor of English and Applied Linguistics



To preserve a language, it may need to be documented and transmitted through formal education.

This was the idea when Dr. Shirley Dita of DLSU's Department of English and Applied Linguistics embarked on her project. Her purpose had been to document a Northern Philippine language called "Itawit" so that it can be integrated into school curricula and effectively passed on to future generations.

Approximately 120,000 Filipinos from parts of Northern Luzon, including Southeast Cagayan and Tuguegarao, speak Itawit. The language has never been documented nor taught formally, even though it is widely spoken in the region. In fact, it is the most used next to Ibanag, the lingua franca.

Dita's study describes Itawit as endangered from intrusion of other languages, such as Ilocano, Tagalog, and even English. Itawit has become quite mixed that code-mixing it with either Ibanag or English in a sentence sounds very natural.

The researcher encountered other difficulties during her three years of study. She was not fluent in Ibanag, the primary language of her sources. She had to work with a translator who spoke one of her languages, Ilocano. Every interview transcript, accomplished hundreds of kilometers from her base

in Manila, had to be converted to at least two other languages before finding meaning in Filipino.

Dita's study of the language culminated in an Itawit-Filipino dictionary. The dictionary was intended as a reference material for the next generation of Itawit speakers as well as others not from the region who may want to learn the language. With the Philippine educational system shifting to the Mother Tongue-Based Multilingual Education (MTB-MLE) approach, which utilizes first languages as medium of instruction, Itawit suddenly has an important role to play.

Apart from revitalizing Itawit and ensuring its survival for future generations, a dictionary of this endangered language may be the foremost material to be required in a new educational approach. Dita hopes to be able to expand her study by coming up with a grammatical sketch of the language.

Common Itawit Phrases

Hello, what is your name?	Helo, Anna yo ngahan mu?
Thank you	Mabbalat
Excuse me	Excuse me ko (persons name)
Good day	Napia nga algaw
May I ask you a favor?	Puede pe nga makifavor?

With over 1,000 Itawit words listed in the dictionary, the northern language will find a way to reach future generations.





ROLE OF STORYTELLING

Why do we have to keep on telling stories?

CREATIVE WORK CLODUALDO DEL MUNDO JR. · COMMUNICATION DEPARTMENT

Award-winning screenwriter and DLSU University Fellow Clodualdo del Mundo Jr. has streamlined his creative process.

Successfully melding his life as an educator and screenwriter, he continues to tell stories through popular media, making this De La Salle University professor one of the cornerstones of the Philippine film industry.

Receiving much acclaim for his screenwriting work in the 1970s and 1980s, he has also dabbled into directing in the advent of

digital media. Pepot Artista, a full-length feature he wrote and directed, nabbed the prestigious Best Film Award (Full Length Film Category) at the First Cinemalaya Philippine Independent Film Festival in 2005. These days, the professor busies himself with Lester, a new screenplay. He is currently working with DLSU's University Research Coordination Office (URCO) for this project.

Sequence 1

Tight shot - pinto - stained glass . 57

Maaaring ang animo sa labas, papalapit sa
Bubukas ang pinto; papasok si Carlos, ma
sos . May itsura pa rin ang matanda (in fair

Sasalubugin siya ng waiter .

Good morning, sir .

Good morning .

Tulug-tulug si Carlos sa kanyang pakoritoryo

Coffee, sir .

Sempre... as usual .

Close-ups . Brewed coffee maker . Quick shot

Si Carlos, sa kanyang sulok, at ang kanyang
tasang kape . Tatanawin niya ang pinto .

Papasok ang isang dalaga, si Cecilia .

Lalapit ang dalaga sa mesa ni Carlos, uupo
ni Carlos . Ugingiti ang matanda; ugingiti ang d



PHOTO CREDIT: c/o DR. DOY DEL MUNDO

Storytelling comes naturally to Professor del Mundo. Being raised in a creative environment, he made sure to maximize his exposure to the arts. He credits his father as one of his main influences, having introduced him to the world of popular media at a very young age. From the Harvard classics to Filipino komiks, the young Doy del Mundo was immersed in diverse literary forms. He was both educated and entertained by what he encountered, resulting to a lifelong interest in storytelling. In terms of his preferred subject matter, del Mundo veers towards topics that have a connection to him and draws heavily from personal experiences.

Lester, his latest work, is from something he experienced in his childhood. “I had a classmate named Lester. His image is still clear in my mind.” “I lent Lester one of the textbooks we were using in class. After a few days, our teacher just came to class and told us that Lester was killed. “Wala na si Lester.”

The story of Lester and his reaction to the boy’s death stuck in his mind. Del Mundo’s initial brush with death and tragedy as a young boy did not bear the same weight as it would later on as an adult.

“In the late 90s, I had a screenwriting class and that prompted me to write a screenplay. I made some changes, but the idea is about learning what death means to an eight or nine year old boy. To a child, it may not mean anything much. Yun yung ideya nung Lester,” he says.

Teaching is also something innate to del Mundo, who says that there is no demarcation between his creative and professorial duties. He also states that there is no clear cut way of teaching creativity and the best thing he could impart with his students is himself. This gives us a glimpse of how

teaching and telling stories have something in common: it starts with the impulse to connect with others.

Being a screenwriter and filmmaker enables del Mundo to reach a broader audience, although he admits that since writing is a very personal work, he questions the purpose of what he does. “It’s easier for doctors, engineers, and farmers to say that they’re doing something important for nation-building, but for a screenwriter like me, I find it hard to rationalize the importance of what I am doing.”

Professor del Mundo’s answer came about when he remembered what a pioneering American filmmaker said about the craft. “My role as a director is to make you see. Filmmakers try to make viewers see what they don’t usually see around them, things they don’t see normally or ordinarily. Through film, I make people see what I think is important,” says del Mundo. To make people see the world through a fresh pair of eyes can only be done with the aid of a good storyteller. Through a writer’s point of view, human connection is made possible, and, for a time, the chasm between two human skulls is bridged through the act of storytelling.



PHOTO CREDIT: C/O DR. DOY DEL MUNDO



An artist makes people see things in a different light through film and storytelling.



A STORIED CAREER.

Professor Dr. Clodualdo del Mundo Jr. has written some of the most notable films in Philippine cinema. At left, from top: *Maynila sa Kuko ng Liwanag* (1975), *Batch '81* (1982), and *Bayaning 3rd World* (2000). *Paglipad ng Anghel* (2011), on Page 58, is his most recent full-length feature.



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