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DENR

IN THE NEWS

MANILA ABACADIT I ETIN RIVER MANAGEMENT PROGRAM AKA THE NATION'S LEADING NEWSPAPER

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STRATEGIC COMMUNICATION AND INITIATIVES SERVICES

DENR to protect river in Isabela

By ELLALYN B. DE VERA

The Department of Environment and Natural Resources (DENR) has named an important water body in Isabela as the country's 21st water quality management area (WQMA) for protection and improvement of the river system.

Under a department administrative order issued by DENR Secretary Ramon Paje, the Calao-Delinquente-Diadi River System (CDDRS) in Santiago City will be restored to its long-term health and protected from further damage due to development activities.

"The river system will now be placed

under close monitoring by authorities to ensure that its water quality complies with the standards set forth under Republic Act No. 9275 or the Philippine Clean Water Act of 2004," Paje said.

CDDRS is the 21st WQMA declared since the enactment of RA 9275 and the 18th under the Aquino administration. Nine of those areas are located in Luzon, five in Visayas, and seven in Mindanao.

The law seeks to provide a decentralized management system for water quality protection and improvement of river systems.

Among the 21 WQMAs, nine are located in Luzon, five in Visayas, and seven in Mindanao.

The Manila Times

STRATEGIC COMMUNICATION AND INITIATIVES SERVICE

Mangrove destruction alarms Bataan fishermen

BY ERNIE ESCONDE
CORRESPONDENT

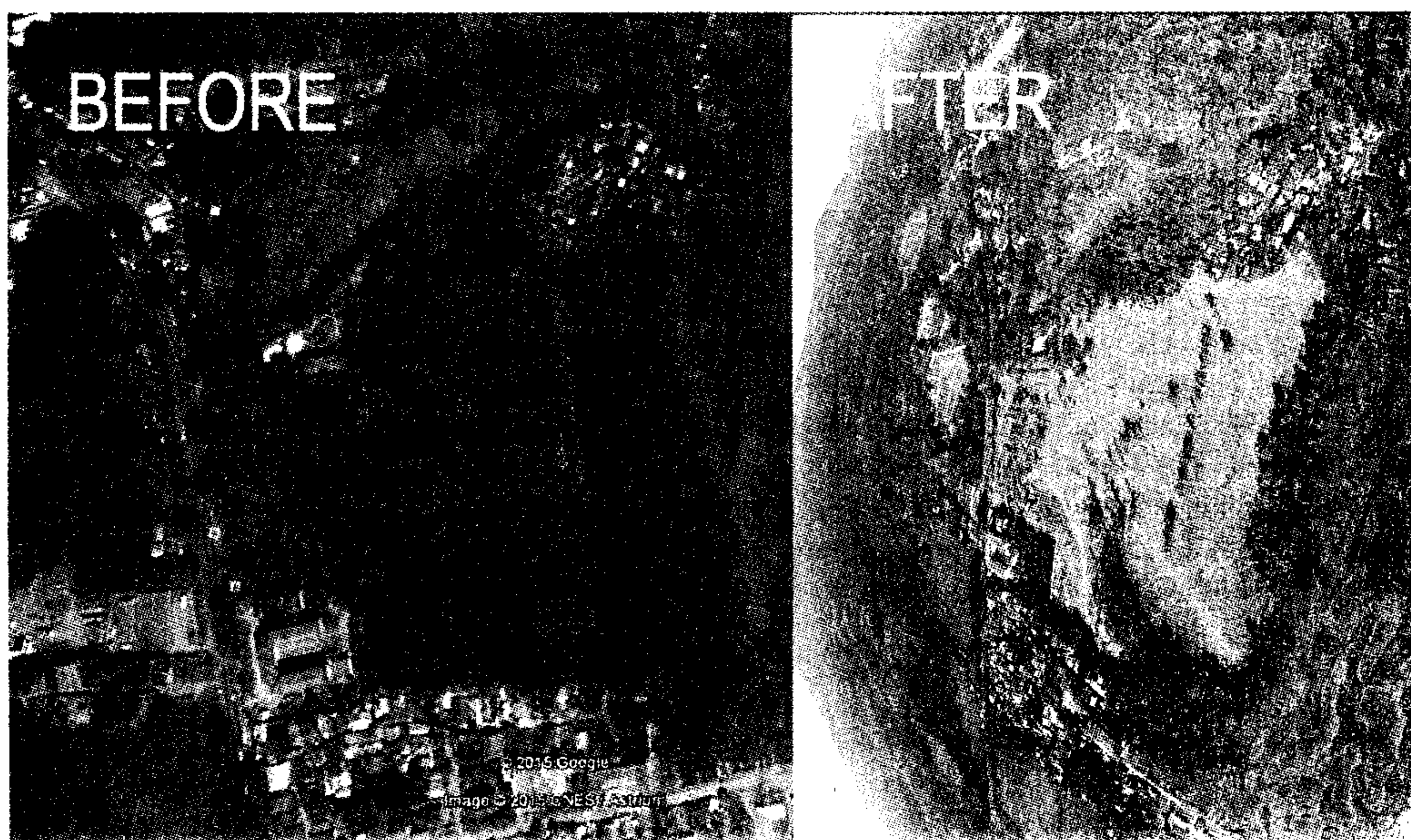
ORION, Bataan: About 3,000 fishermen from 11 coastal villages of this town are alarmed by the destruction of full-grown mangroves, seedlings and other species in a foreshore area adjacent to the planned dockyard here where backfill works are ongoing.

The fisherfolk decried the blatant disregard for their source of livelihood and the protection of the environment as workers refill the mangrove area. The backfilling started in June last year.

The proposed Orion Dockyard is located in a five-hectare titled property in Brgy. Santa Elena. It was reportedly owned by Vic Ignacio but was not immediately known if he has other business partners.

Orion Mayor Antonio Raymundo said he has issued a cease-and-desist order to temporarily stop the backfilling in the four-hectare public land – a foreshore area – adjacent to the five-hectare titled property of the dockyard. About 1.2 hectares has already been backfilled.

The local government is set to file a P300-million suit against its owners for the 3,000 full-grown mangroves destroyed.



■ An aerial shot of the property where backfilling is ongoing for the proposed Orion Dockyard.
PHOTO COURTESY OF ORION MUNICIPAL INFORMATION OFFICE

Raymundo pointed out he was not against the backfilling in the private property but on the encroachment upon the foreshore area.

"I welcome investors but I am concerned of the environment that should be protected and not harmed," he said.

Renel Capacite, chairman of the municipal fisheries and aquatic resources management council (Mfarmc), said mangroves and the shoreline must be protected since it is the breeding ground for seafood and other marine products.

Aside from being hatching habitat for fishes, shells and crabs, mangroves serve as protection against strong waves.

Alfredo Hernandez, fishery extension worker, said that based on their assessment the damaged area consisted of 3,000 full-grown mangroves and more than 16,000 saplings.

Six units aqua-silvi project worth

P360,000 each were also destroyed. The project, spearheaded by the Bureau of Fisheries and Aquatic Resources, is being managed by the Mfarmc since 2010.

The project is practically a crab farm where the crustacean is grown in fishnets in the mangrove area.

Even Bataan Bishop Ruperto Santos expressed the concern of the Balanga Diocese over the supposed effects of the project.

"The diocese is very much alarmed and worried with what has been done in Santa Elena with the construction of the Orion dockyard. It poses danger to the children, disturbs their studies and impacts on their health because of the sand and copper blasting while the destruction of the mangroves is an exploitation of the environment," the prelate said.

Santos said the Diocese stands firm in protecting the land and the sea.

Similarly, officials of St. Francis School of Bataan, adjacent to the planned Orion dockyard complained of thick dust and constant ground shaking from the ongoing works.

Sister Paola, sister superior of the school, said some 172 students staff are exposed to possible respiratory diseases from the dust emanating from backfill works.

She said even parents are concerned over the health of their children, some have medical certificates showing breathing problems of the children.

The Manila Times tried to get the side of Orion dockyard but no one on the site was authorized to speak to the press.

A sign on the fence says the work in the area has an Environment Compliance Certificate (ECC) from the Environment Management Bureau of the Department of Environment and Natural Resources (EMB-DENR).

STRATEGIC COMMUNICATION AND INITIATIVES SERVICES

Bulacan water project presented to PNoy

By **FREDDIE C. VELEZ**

MALOLOS CITY, Bulacan — President Aquino witnessed yesterday a historic event in this province — the presentation of the concession agreement for the Bulacan Bulk Water Supply Project, which Bulakeños have been dreaming about over the last five decades.

Held at the Barcic International Center in this city, the agreement paves the way for fresh surface water from the mountains of Bulacan to reach households in the province for the very first time.

Major players in the historic project led by Manila Waterworks and Sewerage System Administrator Gerry Esquivel, Bulacan Gov. Wilhelmino M. Sy-Alvarado, San Miguel Corporation big boss Ramon Ang (representing the winning concessionaire for the bulk water project) and managers of the different water districts of Bulacan had earlier signed a memorandum of agreement (MOA), the contract to sell and the tripartite MOA between the MWSS, SMC and the Provincial Government of Bulacan.

They presented the signed documents to the President, committing to



BULACAN BULK WATER PROJECT — Bulacan Governor Wilhelmino M. Sy-Alvarado (middle) and Vice Governor Daniel R. Fernando (right) present the Bulacan Bulk Water Supply Project, Memorandum of Agreement (MOA) between the Metropolitan Waterworks and Sewerage System (MWSS) and San Miguel Corporation-Korea Water Resources Corp. to President Aquino at Barcic International Center in Malolos City, yesterday. (Freddie C. Velez)

the project's promise to bring groundwater to 3 million residents of this province, who have ironically been deprived of fresh supply surface water coming from their own mountains.

Aquino said that his administration has been focusing on the vital needs of the Filipino people and one of this is the

abundant flow of fresh potable water and other measures to address the ill effects of the freak weather phenomenon known as "El Niño," climate change, and global warming.

He thanked Gov. Alvarado, Esquivel and Ang for working together in the realization of this major project that will

change the lives of the people not only in Bulacan but will also serve as model in other parts of the country.

He also mentioned the great contribution of SMC's Mr. Ang in generating projects that is steering the engines of growth and propelling development and progress of the country.

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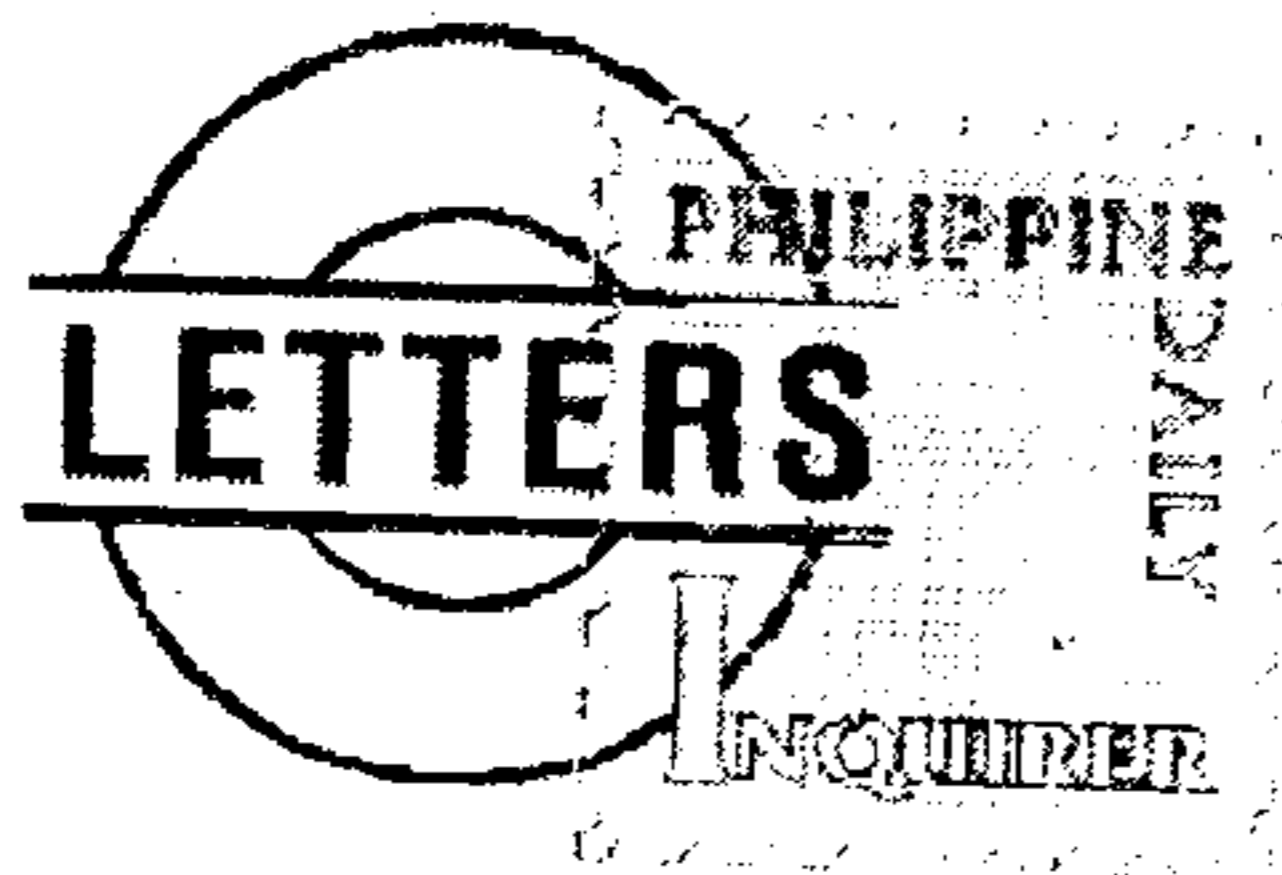
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STRATEGIC COMMUNICATION AND INITIATIVES SERVICE



Environmental criminals and coal

THIS IS in reaction to President Aquino's attendance, yet again, in an inauguration of a coal-fired power plant, this time an Aboitiz project, in Davao City ("Green groups see red over Davao coal plant," Front Page, 1/9/16).

P-Noy has been consistently gracing coal power plant inaugurations since the launching of the La Paz, Iloilo, coal power plant in April 2011. It is a reflection of how the Aquino administration puts a premium on the expansion of coal power use in the country, ignoring its clear environmental, health and climate costs.

There are currently 32 operating coal-fired power plants, comprising 32 percent of the country's total installed generating capacity, and a staggering 62 percent of the total output of committed and indicative power projects.

This alarming trend is rooted in the energy privatization policies embodied by the Electric Power Industry Reform Act (Epira) that the Aquino administration has refused to repeal. The Epira has prevented the Philippine government from putting up its own power projects and effectively regulating private power producers.

Coal is currently the biggest contributor to global greenhouse gas emissions that aggravate global warming. P-Noy's more than five years of fossil fuel addiction betrays his glowing rhetoric and pledge to cut carbon emissions, which he made during the recently held 21st Conference of Parties of the United Nations Framework Convention on Climate Change.

The latest in Mr. Aquino's consistent "tour of duty" around coal power plants, and the public uproar that ensued, made sure that history will forever remember the Aquino administration's so-called "*daang matuwid*" as one paved with coal pollution and climate disruption.

The upcoming elections are an opportune time for the people to decisively bare and reject this brand

of dirty politics. Politicians from the local to the national level, who have supported coal expansionism, should be denied our votes and exposed to the public as environment and climate criminals.

Take the current crop of presidential aspirants. Davao City Mayor Rodrigo Duterte unequivocally supported the Davao coal power project despite the protest of local residents. While completely silent on the issue, former interior secretary Mar Roxas' pledge of continuing the *daang matuwid* is indirectly a promise of more coal power projects. Vice President Jejomar Binay is also reported to have supported certain coal power projects such as the one in Cadiz City.

Miriam Defensor Santiago, though not known to have a categorical opposition to coal, has filed a Senate version of the One Million Solar Roofs Bill championed by Bayan Muna Representatives Neri Colmenares and Carlos Zarate. On the other hand, Grace Poe stands for a shift from fossil fuels to renewable energy.

None of the "presidentiables" has acknowledged the inextricable link of the Epira to our country's coal addiction. Not one of them has called for the repeal of the Epira. Roxas, like P-Noy, recently floated some rhetoric on reviewing the energy policy but has actually perpetuated it. Santiago strongly criticized privatization under the Epira, but did not categorically call for its repeal. Binay, on the other hand, has instead called for the full implementation of the Epira.

There is an urgency to depart from the coal-ridden trajectory of P-Noy's power policies toward an energy regime that prioritizes people's interest and ecological health. Let the upcoming electoral exercise be the beginning of this crooked energy pathway's end.

—LEON DULCE,
campaign coordinator,
Kalikasan People's Network for
the Environment,
secretariat@kalikasan.net

The Standard

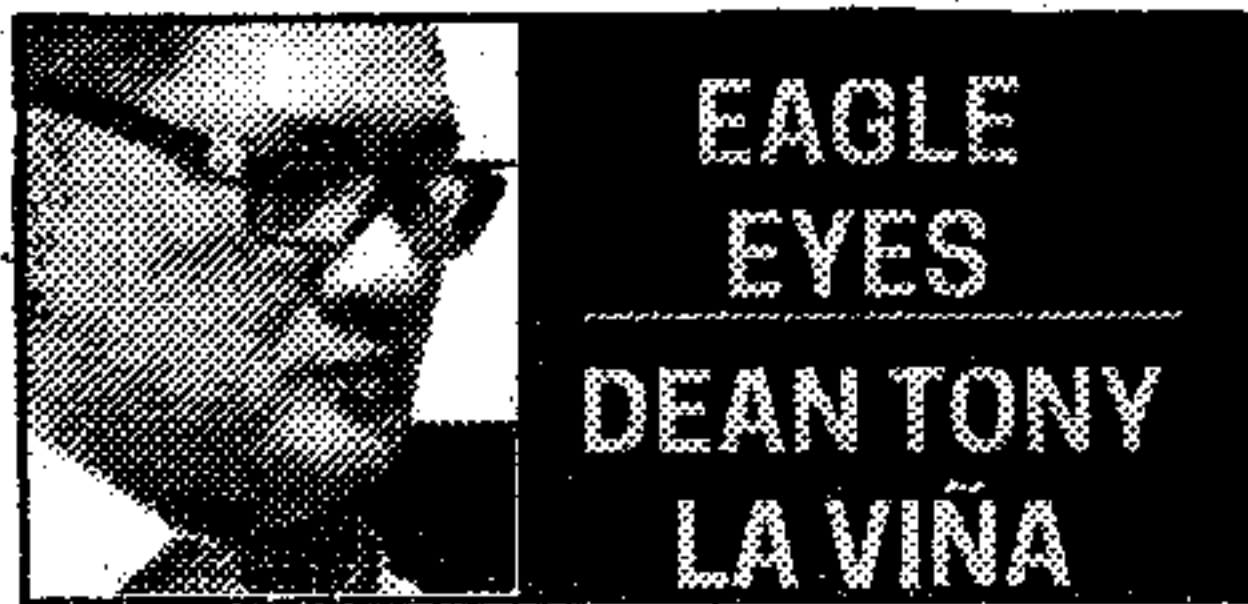
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EAGLE EYES
DEAN TONY
LA VIÑA

COAL AND THE PHILIPPINES' FUTURE

CE

PRESIDENT Benigno Aquino III recently attended the inauguration of the 300-megawatt coal power plant of Therma South Inc. in Davao City, Mindanao. He said that the coal power plant, once it becomes operational, "can be tapped into anytime, rain or shine, with very minor fluctuations." Aquino said that the plant, which was developed by a subsidiary of Aboitiz Power Corp., will fill in the energy gap created by the reported failure of hydro-electric plants to produce electricity especially during the dry season.

For those statements and for attending the Davao event, the President has been strongly criticized by environmental activists. Some have called him a "climate hypocrite" for being a champion of climate justice in Paris, France last December while not walking the talk in his own backyard.

The Therma South Plant, as well as a few other coal power plants, was approved long before the Paris meeting and certainly before we committed to reduce our business as usual emissions by 70 percent in 2030. Personally though, I wish the President tempered his remarks in Davao with a commitment that, moving forward, we will now have to take into account our Paris commitments in making energy decisions. The phrase "rain or shine" is also unfortunate and condescending; someone should advise the President that renewables like geothermal, solar, and wind are just as reliable as coal in supplying electricity.

While it makes sense for the government to provide an immediate solution to the problem of availability of electricity, the

energy supply in Mindanao and the country, it has to also go the extra mile and create solutions that will benefit the country in the long term. The decision-making process for providing energy must not be done in a vacuum and all aspects must be carefully considered and weighed so as to truly have a vision for energy security that complements the country's aspirations of sustainable development.

The Ateneo School of Government has come up with a policy brief that looks at different and interrelated perspectives exploring the role of coal-fired power plants in the Philippines' energy roadmap. In "Striking a balance: Coal-fired power plants in the Philippines' Energy Future," we look at the viability of CFPPs from economic, environmental, social and policy perspectives. It is our hope that our findings, using this approach, can expand and invigorate an already dynamic discourse on the use of coal in meeting the country's energy demand.

The Department of Energy has said that we would need 13,167 megawatts of new power capacity by 2030. Of this, 11,400 will be open for private-sector investments. Out of this 11,400 MW, 8,400 MW will be open for private-sector investments particularly for baseload power plants. Here in the Philippines, our baseload power plants utilize natural gas, geothermal, coal and baseload hydro technologies. In Mindanao, baseload hydro constitutes 33 percent of the installed capacities, while CFPPs have a 31 percent share of the region's baseload capacity. For the whole country, however, coal and

geothermal are the major sources of baseload capacity. But between the two, coal comprises the chunk or the bulk of investment flows—as of July 2015, 23 new coal plants are set to be established by 2020.

This is one of the serious consequences of a pro-coal policy. We have sidelined indigenous renewable sources like geothermal energy. We have compromised our energy security. Coal is poised to capture the baseload needs and pouring more money to it could lock in the economy to a specific energy source.

Now, do we really want that? Superficially, coal appears to be the least costly technology but if we measure the costs of coal through the common global reference Levelised Cost of Electricity, this would be arguable. Moreover, according to the 2011 study "The Social Cost of Coal: Implications for the World Bank" by Samuel Grausz, if the external costs of coal or if its impact on health and the environment are to be measured, CFPPs will be "one of the most expensive forms of electricity generation." I will write about these external costs in another column.

As a matter of urgency, the government should now to cap the role of CFPPs in our energy mix in consideration of the baseload requirement by 2030 and aggressively seek, develop and invest on alternative sources of energy. "Close alternatives to coal as a baseload solution should be actively explored and supported. This is particularly the case for natural gas, which to date, is the closest alternative the country has towards supplying the baseload. Ultimately, a serious dialogue

now needs to take place to understand, anticipate, and leverage the implications of capping coal-fired power plants to the baseload and positioning other energy sources for mid-merit and peaking demand." We point this out especially as coal is not viable beyond baseload power generation and will actually entail more costs and losses when it is used to meet mid-merit and peaking requirements.

Even as the government argues for the necessity of CFPPs to address immediate power capacity needs, it must also recognize the impact of CFPPs to the country's environment and also carefully study their consequences on the health of Filipino citizens. At the same time, while the incumbent leadership also calls for investments on coal, it must also provide the private sector and the public a credible analysis of the economic, social, health and environmental benefits of corresponding alternatives such as renewable energy.

We cannot afford to have a one-track assessment of our options for achieving energy security. It will be dangerous; it will send a wrong signal to investors. It is only proper that the government conveys to us what its plans are for the long term and how and when it intends to transition to an energy track that will lead us to sustainable development.

Policy changes are necessary and the government must have the political will to do them. If the current policy is the problem, then the sensible thing to do is to reform it and not just impose piecemeal solutions.

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The Standard

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STRATEGIC COMMUNICATION AND INITIATIVES SERVICE

IN BRIEF

Climate change plan

THE government should intensify climate-change mitigation programs to save the agriculture sector from the adverse effect of El Niño, the Finance department said Friday.

"The government should intensify its programs to strengthen the resiliency of the country against climate change as this severely affects the agriculture sector which employs some 30 percent of the workforce," Finance Undersecretary Gil Beltran said.

Beltran made the comment in an internal economic bulletin after manufacturing output in November grew at a slower pace at 7.5 percent.

The Philippine Statistics Authority said in its Monthly Integrated Survey of Selected Industries that the growth in the volume of production index, which represented the output of 20 biggest manufacturing sectors, decelerated from 9.1 percent year-on-year.

Beltran said public-private-partnership projects would also be key to sustain the growth trajectory of the economy. **Gabrielle H. Binaday**

BusinessMirror

A broader look at today's business

PUBLIC AFFAIRS OFFICE NEWS CLIPPINGS

Lawmaker says P19.2-billion budget for El Niño impact mitigation 'insufficient'

PASIG City Rep. Roman T. Romulo on Thursday expressed concern that the P19.2-billion budget that the government has allocated might not be sufficient to help farmers and consumers weather the negative impact of El Niño.

"Zamboanga has now declared a state of calamity because of the Godzilla El Niño has begun to dry up its water sources," he said. "Until now, the government has not informed us on how it plans to spend the funds."

"We expect the number of

provinces and cities to do so up to May, when the "meteorological drought" is forecast to peak by Philippine Atmospheric, Geophysical and Astronomical Services Administration (Pagasa). The government should be prepared to increase the El Niño funds when necessary," he added.

According to reports, nine out of the 25 irrigation dams in Zamboanga City have dried up, six are in critical state, while 10 have below normal water levels. Damage to crops and fisheries have reached P132.54 million.

Pagasa has warned that as much as 85 percent of the country, comprising of 68 provinces, will suffer a meteorological drought caused by El Niño in April. Twelve other provinces in Luzon and Mindanao are also expected to experience a dry spell.

El Niño has been predicted to peak between March and May this year, the state weather agency said. El Niño is a weather phenomenon that develops in the Pacific Ocean that is a result of the warming of sea temperatures.

"A consensus of climate models shows that it will likely strengthen

further...and may last until the first half of 2016. This 2015 and 2016 El Niño event will potentially be four strongest events since 1950 [1972-1973, 1982-1983, 1997-1998]," Pagasa said.

Last year, at least eight provinces, including Cebu and Pangasinan, declared a state of calamity because of the damage wrought by El Niño.

"We have learned our lessons from [Super typhoon] Yolanda and the Bohol quake. Let us act now to help the communities in the El Niño-affected areas identified by Pagasa to combat the Godzilla-like threat

this El Niño is forecast to bring," Romulo pointed out.

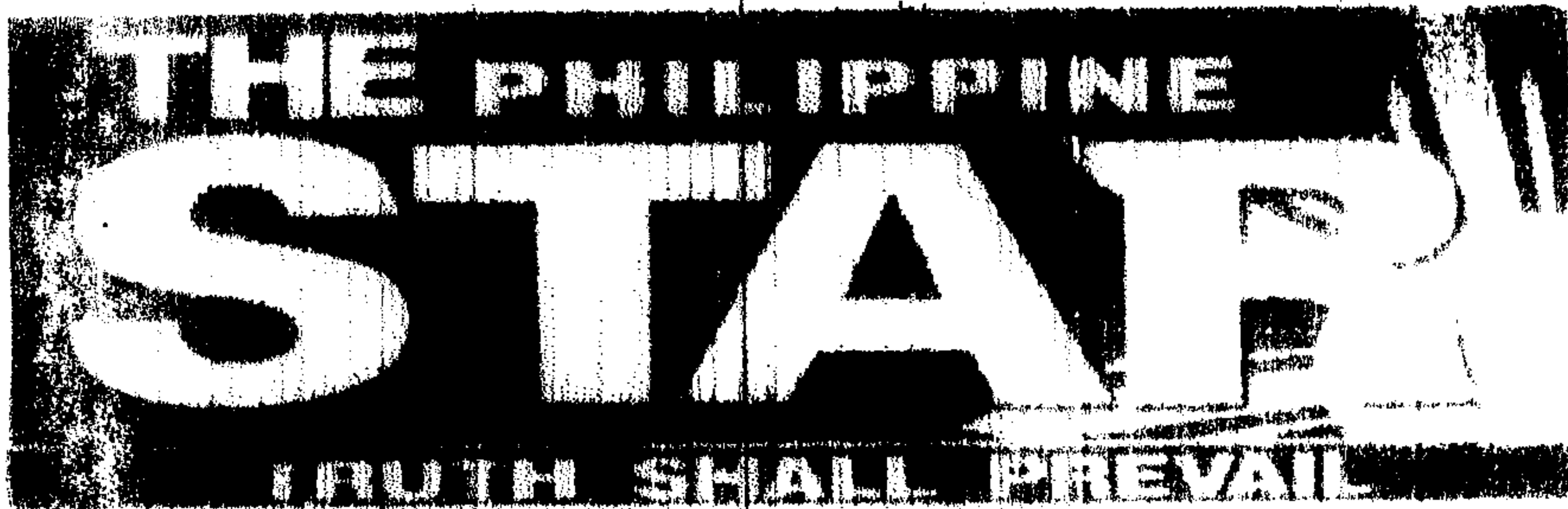
In Luzon provinces likely to experience drought are Abra, Kalinga, Ilocos Norte, Ilocos Sur, La Union, Pangasinan, Cagayan, Isabela, Bataan, Bulacan, Nueva Ecija, Pampanga, Tarlac, Zambales, Metro Manila, Batangas, Cavite, Laguna, Marinduque, Occidental Mindoro, Oriental Mindoro, Romblon, Palawan, Albay, Camarines Norte, Camarines Sur, Catanduanes, Masbate and Sorsogon.

In the Visayas provinces identified by Pagasa are Aklan, Antiques, Guimaras, Iloilo, Negros Occidental,

Bohol, Cebu, Negros Oriental, Siquijor, Biliran, Eastern Samar, Leyte, Northern Samar, Samar (Western Samar) and Southern Leyte.

In Mindanao those likely to experience drought are Zamboanga del Norte, Zamboanga del Sur, Zamboanga Sibugay, Bukidnon, Camiguin, Lanao Norte, Misamis Occidental, Misamis Oriental, Compostela Valley, Davao del Sur, Davao Oriental, South Cotabato, North Cotabato, Sarangani, Sultan Kudarat, Surigao del Norte, Surigao del Sur, Basilan, Maguindanao, Lanao del Sur, Sulu and Tawi-tawi. **PNA**

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The only paper you read from cover to cover!

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STRATEGIC COMMUNICATION AND INITIATIVES SERVICE

Phl satellite seen to boost food security, disaster response

By RAINIER ALLAN RONDA

TOKYO – A team of young Filipino scientists and engineers has designed and built a microsatellite, which can help the Philippines in food security, disaster response and preparedness, and guarding its territory.

Experts from Japan's Hokkaido University and Tohoku University helped the team of Filipino scientists and engineers in designing and building the 50-kilogram microsatellite Diwata-1.

The Philippines sent a delegation to Japan for the handover of Diwata-1 to Japan Aerospace Exploration Agency. JAXA will ship and endorse Diwata-1 to the US, from where it will be launched into space and deployed into orbit in April.

The satellite images from Diwata-1 can be used to provide data on marine and agricultural resources of the country, according to Rogel Mari Sese, head of the Department of Science and Technology's National Space Program and a member of the Philippine delegation.

For instance, big fishing companies have been using satellite images to determine areas where they should deploy their vessels to catch fish.

"That application can translate to increased productivity for our fishermen and farmers. Having an extensive kind of image, like for example sea surface temperature, you can disseminate that information to local government units. Our fishermen can be told to go to certain areas to catch more fish," Sese told

The STAR.

"They don't have to waste fuel for their motor banca, as well as valuable man-hours, roaming around areas looking for fish where there is none.

"Using satellites is a more efficient way of capturing images. Because with one shot, you cover a much larger area. Using an airplane, you have to do countless flights using up so much gasoline," he added.

The use of satellite images can also help increase the efficiencies in many areas.

Sese said in farming, satellite images can be used to estimate how many cavans of palay can be harvested from a parcel of land and determine the best time to harvest the crop.

"That can translate to food security because we can also assess if we need to import rice or if we already have sufficient rice production," he said.

In times of disaster, satellite images can help in estimating the extent of damage to agriculture.

"We can assess the extent of damage, like how many hectares of farmlands were really affected, which was actually a problem for the Department of Agriculture. Because right now, their estimation is done arbitrarily, it's not supported by data. They are really guessing," Sese said.

"Sometimes, there is really a tendency to overestimate because they know they can get more in terms of rehabilitation funds," he added.

STRATEGIC COMMUNICATION AND INITIATIVES SERVICE

Group wants to ban 'banderitas'

A group promoting zero waste and chemical safety urged church and community leaders to forbid the hanging of fiesta buntings or "banderitas."

The EcoWaste Coalition said the buntings have no aesthetic, functional or spiritual value and could pollute the oceans and harm marine animals.

Aileen Lucero, a coordinator of the coalition, said they are deeply concerned by the "unrestrained practice of filling the streets with banderitas that are hardly reused or recycled after the revelry," referring to the decorations

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Group wants From Page 14

set up in Pandacan and Tondo for the Feast of the Sto. Niño tomorrow.

She said many of the buntings used "new ultra-thin plastic bags," which are easily blown away into storm drains and end up in oceans, killing aquatic animals that mistake them for food.

Even the United Nations has spoken loud and clear in favor of phasing out or banning thin film single-use plas-

tic bags to arrest the growing problem with marine litter, Lucero said.

The EcoWaste Coalition also scored the use of colorful polyvinyl chloride (PVC) plastic sheets in buntings because they are laced with toxic metals such as lead.

If hanging buntings cannot be altogether avoided, the group said the materials used should be recyclable or reusable. — Rhodina Villanueva

PUBLIC AFFAIRS OFFICE NEWS CLIPPINGS

The Barefoot College of India and solar 'lolas' among the Aytas

BY MARY GRACE PADIN

RURAL women and so-called indigenous peoples (IP) groups in the Philippines are targeted for training as women of power and position under a project by different non-governmental organizations (NGOs) seeking even grandmothers that they can turn into solar engineers.

The program is called the Tanging Tanglaw project, which is a joint effort between the Land Rover Club of the Philippines (LRCP), the Philippine Mine Safety and Environment Association (PMSEA) and Diwata-Women in Resource Development, which aims to empower rural women and communities through skills training and the electrification of their households.

The project is supported by the Embassy of India in Manila.

Barangay Cabatuan

AFTER hours of traveling through rivers of lahar and volcanic rock left behind by the 1991 Mount Pinatubo eruption, a team composed of representatives from the three organizations visited an Aeta community in Barangay Cabatuan, Botolan, Zambales, to brief the women on the significance of the project and find at least two grandmothers who would be willing to be sent to India for training in solar engineering.

LRCP member Leo Dominguez explained that the Tanging Tanglaw-Solar Lola Project provides for a six-month training on developing, installing, repairing and maintaining solar-lighting equipment in the Barefoot College in India for women coming from rural communities.

The Barefoot College, founded by Sanjit Bunker Roy in Rajasthan, India, teaches illiterate men and women to become skilled workers in their own villages. Roy was one of *Time* magazine's 100 most-influential personalities in 2010.

The women who will train need not worry about their transportation, accommodation and living expenses while in India.

Upon return to their own villages, the grandmothers/solar engineers will have the capacity

to introduce electricity to their community. The skills picked up by these women will be utilized for the installation and maintenance of solar electricity in their area.

Eramen Minerals Inc. will provide the funds needed for the equipment and materials going required by Barangay Cabatuan.

"I'm just repaying the kindness and the hospitality these people gave me when I once spent the night here. We will provide about P3 million for the solar panels and other lighting equipment needed to give electricity to 100 households in this barangay," Eramen

Minerals President Enrique Fernandez said.

Each household in the community will be encouraged to make a P200 contribution per month, which will be used for the maintenance of the solar equipment and the implementation of livelihood projects in the area.

"The money collected will be managed and used by the community itself for the repair of the lighting equipment. Any money collected beyond the funds needed for the repairs, they can use for livelihood projects. What Tanging Tanglaw wants is to give this community some dignity," Annie Dee, PMSEA director and Diwata member, told residents.

Workshops will also be conducted by the solar *lolas* to impart their skills and knowledge to fellow Aytas.

Residents of the area were initially doubtful of the project, but soon became eager once they realized the benefits the project brings to the community.

An Ayta community with approximately 100 households and 206 family heads (there are about three to four families in every household), Barangay Cabatuan still lacks one basic necessity—electricity. Residents said they spend at least P300 per month for kerosene, which only lasts them three hours a night.

Having electricity available could also help the Aytas become more productive. Annabelle Blanco, a resident of Barangay Cabatuan, said the people in their community depend on farming for their income. They also weave baskets using rattan from time to time, which Blanco said is hard to do at night, with only a kerosene lamp as a source of light.

The organizers of the project left the village with a simple task—to nominate six to 10 grandmothers who would be willing to study in India. These nominees will be interviewed by representatives from LRCP, the PMSEA, Diwata and two of the grandmothers who were part of the first batch to be trained in India.

Dee said the Tanging Tanglaw group is looking for grandmothers with personalities that can influence their community.

The two grandmothers chosen will be sent to India in March, and will come back in the country by September.

The beginning

TANGING Tanglaw was born after Japhet Kaiuki, Dominguez's consultant at OLLI Consulting Group, met Roy in South Korea.

Roy informed Kariuki he was looking for people in the Philippines to work for his Solar Grandmother project.

Why grandmothers? According to Roy, as quoted by Dominguez, if you send men to become solar engineers, they'll come back with their

certificates and find jobs in the cities.

In addition, *lolas* in indigenous communities are still young. The Aytas, in particular, marry at 12 years old and have children by 14. By 30 years old, they already become grandmothers.

"The reason we chose *lolas* is because even though they're young, they are no longer the primary caregivers. They are the nurturing type, but the ideal ones to take on this role," Dominguez said.

Dominguez, being connected to LRCP, the PMSEA and Diwata, decided to put the three organizations together to undertake the Solar Lola project under the rubric of Tanging Tanglaw.

"Composed of women professionals with a special interest in the development of IP women, Diwata was a logical choice to lead the partnership," Dominguez said.

"Around March or April 2014, we organized a cocktail held to introduce Bunker Roy and the Barefoot College to the network of the three partner organizations," he added.

The Tanging Tanglaw project was then conceived to give indigenous grandmothers a chance for personal transformation and to share this with their community by helping them light up their village and teach the younger generation their skills.

It was in September that same year that the project organizers were able to send their first batch of solar *lolas* for training in India.

Evelyn Clemente, Sharon Flores, Cita Diaz and Marga Salvador all finished their training and came back to the Philippines and to their respective villages in March 2015.

"There were different participants from about 11 countries. At first, we didn't know how to communicate. But through our passion in helping our respective communities through solar energy, we have united. We have formed friendships even though we only used hand gestures and signals to communicate," Flores recalled.

Flores and Diaz, 45 and 51, who both came from Sitio Gala in Subic, Zambales, are just waiting for the shipment of solar panels and lighting equipment from India this month and start the

installation of the equipment.

Dominguez said the group expects the solar panels to be installed by March or April this year. He added that each community sponsored by Tanging Tanglaw will be provided with a 40-KW solar panel for each household plus two 40-KW solar panels in their repair shops and community centers.

The original solar *lolas* were there to visit Barangay Cabatuan and encouraged the IP women in the community to enrich themselves by becoming solar engineers and helping their community by contributing in the electrification of the community.