

# PHILIPPINE CARABAO CENTER

# Roundup

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## PCC identifies Calayan Island as another native carabaos sanctuary

BY MA. CECILIA C. IRANG and LILIAN P. VILLAMOR



True to its mandate of conserving, promoting, and propagating the carabao as a source of milk, meat, draft power and hide, the Philippine Carabao Center is continuously exploring possible conservation sites for the country's native carabaos.

One of them which was recently identified is the Calayan Island in Cagayan.

### Why Calayan?

Located about 39 km west-southwest of Babuyan Island off the north coast of the Philippines and belonging to the Babuyan Islands group in the China Sea, Calayan

"This is not just conservation. It is actually helping the carabao population in the island become more productive and become really better animals. When we say productive, we improve the herd by selecting good breeder bulls and we improve the population diversity by also managing the inbreeding for them."

- Dr. Ester Flores  
Project Development Officer IV

▶ TO PAGE 2

In  
this  
issue

3

Secretary Piñol bats for establishment of national genetic registry program for dairy animals

4

Research information outputs must be really needed by stakeholders, DOST scientist emphasizes

4

PCC gears up for ISO 9001:2015, ISO 14001:2015

5

PCC's Milka Krem branch, processing plant, outlet opened in Luzon sites

6

'Gender Analysis should be part of gov't programs, projects'-gender advocate

7

More than a meter long 'kesong puti' featured in SM 'Flavors of PH' event

8

PCC is best example of farm tourism, Senator Villar says

### Editorial Board

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## PCC...

▶ FROM PAGE 1

Island has been identified as a place in Northern Luzon with no other breeds of water buffaloes, except the native ones, introduced to the island.

The exploration of the conservation site was initiated by Dir. Franklin Rellin, center director of PCC at Cagayan State University (PCC@CSU). He discussed and presented the PCC's programs and services to Calayan Mayor Alfonso Llopis and municipal agriculturist Lino Llopis. The local government unit (LGU) then committed to donate 50 hectares of land in support of the establishment of the conservation site.

In order to establish the species identification of the native carabaos found in the island, researchers from the PCC national headquarters have assisted the PCC@CSU by undertaking morphological characteristics and molecular identification of the animals.

They were composed of Dr. Ester Flores, Project Development Officer IV; Laila Labonite, Science Research Specialist I; and Sherwin Matias, Science Research Specialist I of the Genomics and Bioinformatics unit and Lilian Villamor, Senior Science Research Specialist; Alexander Paraguas, Science Research Specialist I; and David Antalan III, Science Research Assistant of the Cryobank unit.

The research team collected 79 whole blood samples and documented the morphological features and morphometrics of the species.

The biological samples were processed in the PCC national headquarters facilities. They encompassed the DNA isolation and the downstream molecular analysis for species identification.

Informative genetic markers were also used, such as the Cytochrome c oxidase subunit I (COI) from the mitochondrial DNA and the

recommended Food Agriculture Organization short tandem repeats (FAO-STR) or "microsatellites" from the nuclear DNA, for the analysis.

Both genetic markers revealed that the representative samples collected from the island were native carabaos based on their relatedness to other native carabaos in other provinces in Luzon and in other countries.

Meanwhile, the data which entails the presence of subpopulation or other breeds of native carabaos in Calayan is still underway. A better understanding on the species identification of native buffaloes in Calayan based on their molecular and phenotypic characters will elucidate the evolutionary history and domestication of native buffaloes in the country.

Moreover, the data will be used for the strategic conservation management of the buffalo species in the island.

The undertaking of the activities conducted was made possible through the DA Livestock Program-funded project titled, "Genetic Diversity of the Philippine Carabao using mtDNA (COI) and microsatellite markers (FAO STRs)".

### Conservation management

PCC's conservation efforts are done in two ways: conservation by improving its economic value and conservation by preserving, cryobanking, and maintaining the good genes of native carabaos.

"This is not just conservation. It is actually helping the carabao population in the island become more productive and become really better animals. When we say productive, we improve the herd by selecting good breeder bulls and we improve the population diversity by also managing the inbreeding for them," Dr. Flores said.

The team has started acquiring the total herd inventory of the carabaos in the island and is applying ear tagging to identify and classify them according to age groups.

"The population of native carabaos in Calayan is unique and already homogenous so the more that we should be very careful in managing the inbreeding of the population and that is where we will help," Dr. Flores said.

She added that it is very critical to identify the bulls which are suitable for breeding. Thus, she said, they will be needing the information about the established pedigree and the inventory of all the animals for the whole island to make it easier for the team to help manage the inbreeding concerns.

So far, the other conservation sites for native carabaos which were identified for exploration were Carlos P. Garcia Island in Bohol and Biri Island in Samar for the Visayas. The team is still assisting in identifying possible sanctuaries for native carabaos in Mindanao. **R**



**The PCC team together with Calayan farmers and LGU officials after they collected blood samples from native carabaos.**



# Secretary Piñol bats for establishment of national genetic registry program for dairy animals

BY MA. CECILIA C. IRANG



Secretary Emmanuel Piñol while delivering his keynote address during the 20th Dairy Congress and Expo (DairyConEx) at the Camiguin Convention Center in Mambajao, Camiguin.

## Raising genetically good dairy animals is significant for the triumph of the dairy industry.

This was emphasized by Department of Agriculture Secretary Emmanuel Piñol in his keynote address at the recent 20th Dairy Congress and Expo (DairyConEx) at the Camiguin Convention Center in Mambajao, Camiguin.

The DA secretary stressed that in order to achieve this, one basic strategy is for the dairy farmers to organize and consolidate their efforts so that government can easily provide the support that they need. He said the DA is ready to extend assistance and support for the establishment of a national registry program to establish the genetic lineage of all dairy animals, including carabaos, cattle, and goats.

"Every breeding animal must be registered if the raisers want to sell it to the government. A genetic registry of the animals is needed to identify which line produces the best milk or the most milk," Secretary Piñol said.

Other than the genetic registry program, he added that the DA is also ready to support the establishment of municipal multiplier farms of the best breeding materials and the establishment of learning centers in the different parts of the country.

He also assured that the DA is ready to provide financial assistance for the setting-up of feed mills where dairy farmers can formulate their own feeds for their animals.

PCC, on the other hand, renewed its commitment to improve the genetic potentials of the Philippine carabao for milk and meat for the improvement of the economic and social well-being of smallholder farm families.

Dr. Arnel Del Barrio, PCC executive director, presented during the event the agency's program on "Enhancing Milk Production of Dairy Buffaloes through S&T Interventions". The program, he said, is funded by the Philippine Council for Agriculture, Aquatic and Natural Resources Research


and Development (PCAARRD).

Other topics presented by PCC officials during the gathering were the "Role of Assisted Reproductive Technologies in the Development of the Dairy Industry: Current Programs and Initiatives" by Dr. Eufrocina Atabay, PCC Scientist I and Reproductive Biotechnology and Physiology Unit Head; "Application of Embryo Transfer Technology in Dairy Herd Build-Up" by Dr. Edwin Atabay, PCC Scientist I; "Profitability of Buffalo Dairy Farming and Its Correlates" by Zadieshar Sanchez, PCC Administrative Officer V; and "Product Development Related to Buffalo Milk Product" by Mina Abella, Carabao Enterprise Development Section Head.

The DairyConEx, with the theme "Gatas Pinoy: Paunlarin, Tangkilikin, Palaganapin!," was attended by dairy farmers, cooperative members, private sector and industry entrepreneurs, and government employees in the livestock sector.

Some 30 exhibitors participated in the three-day conference to showcase their respective technologies and products.

Organized and held annually by the Dairy Confederation of the Philippines (DairyCon), the congress is aimed at encouraging people to go into dairying to create wealth, livelihood and share the benefits of economic development nationwide. The ultimate goal is to create a permanent sector for dairy with globally competitive professional dairymen and farm workers.

Co-organizer of the event is the Department of Agriculture through the National Dairy Authority (NDA) with the PCC as a major sponsor. 

## Research information outputs must be really needed by stakeholders, LRD-PCAARRD head emphasizes

BY MERVALYN O. TOMAS

**More deliberate steps in collecting and processing information for research projects are needed in order to come up with usable outputs for the dairy industry.**

This was stressed by Dr. Synan Baguio, Supervising Science Research Specialist of the Department of Science and Technology-Philippine Council for Agriculture, Aquatic, and Natural Resources Research and Development-Livestock Research Division (DOST-PCAARRD-LRD), during the recent evaluation of a continuing PCAARRD-funded program.

The program is titled "Enhancing Milk Production of Water Buffaloes through S & T interventions" with Dr. Arnel N. del Barrio, Philippine Carabao Center (PCC) Executive Director, as program leader.

"If we translate the information we generate from our researches into farm practices, it will be easier to teach, lead, and convince the farmers to use our technologies," Dr. Baguio emphasized.

He added that research outputs should not only be understandable but the information therein must be really needed by the stakeholders.

Baguio further urged the PCC scientists and researchers to present their studies in a more "laymanized" manner during [dairy] industry meetings to encourage stakeholders, such as the private entities, to give their guidance on how these information should be packaged to make it usable to them and to the industry.

Five projects under the program were evaluated. They were the "Development of Feeding


Protocols and Practices to support the Nutritional Requirements of Dairy Buffaloes", "Development of Reproductive Management Program for Increased Efficiency of AI in Dairy Buffaloes", "Development of Health Care Technologies and Practical Farm Practices in Support of Increasing Buffalo Milk Production", "Milk Quality and Safety Assurance from Farm to Milk Processing Plant", and "Strengthening the San Agustin Crossbred Carabao-based Enterprise Development Model".

A professor of the University of the Philippines at Los Baños, Dr. Jose Arceo Bautista, added during the evaluation of the program that researchers and scientists should not forget to come up with practical packages of animal health technologies that will enhance the optimal production of milk.

Dr. Baguio and Dr. Bautista served as evaluators during the activity. In addition to their suggestions, they also recommended ways for each project to come up with better results.

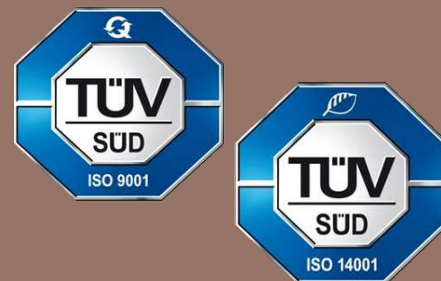
Aside from Dr. del Barrio, the project leaders of the program were present during the evaluation activity. They included Dr. Daniel Aquino, center director of PCC at Central State University; Dr. Edwin Atabay, PCC Scientist I, Dr. Claro Mingala, PCC Scientist II; Ms. Mina Abella, PCC Supervising Science Research Specialist; and Dr. Anabelle Sarabia, PCC Research for Development Division Chief.

The researchers involved in the program also attended the activity.

Started on February 1, 2016, all the projects under the program are expected to be completed on January 31, 2019. 

## PCC gears up for ISO 9001:2015, ISO 14001:2015

BY MINDA R. DILOY




**Officers and employees of the Philippine Carabao Center National Headquarters and Gene Pool engaged last April in a guided workshop on Risks and Opportunities Assessment (ROA) as the main requirement of ISO 9001:2015 (Quality Management System) and ISO 14001:2015 (Environmental Management System) accreditation.**

PCC is currently migrating its Integrated Management Systems (IMS) certification to the 2015 version of management system standards (MSS) from the older version.

The workshop was part of the week-long In-house Training on IMS based on ISO 9001:2015, ISO 14001:2015, and OHSAS 18001:2007. It was held from April 24 to 28, 2017.

Resource person of the activity was Ms. Susan M. Soliven of Synergized Macro Solutions, Inc.

The PCC National Headquarters and Gene Pool has been certified to Quality Management System (QMS) since 2003. Certification to two more MSS, Environmental Management and Occupational Health and Safety Management Systems was achieved in 2012 thereby making PCC as an IMS-Certified agency. 



# PCC's Milka Krem branch, processing plant, outlet opened in Luzon sites

BY CHRISSALYN L. MARCELO

A branch of 'Milka Krem' and a dairy and pastries processing plant and outlet were opened in two strategic sites in Luzon as showcases of the Philippine Carabao Center's (PCC) continuing efforts in strengthening its Carabao-based Enterprise Development program (CBED).

The Milka Krem branch is on the campus of the University of the Philippines Los Baños (UPLB) beside the Baker Memorial Hall while the Rosario Dairy & Pastries (Processing Plant/Outlet) is located at Poblacion East, Rosario, La Union.

The grand opening of Milka Krem at UPLB was last April 7 while the launching of the Rosario Dairy & Pastries (Processing Plant/Outlet) took place last March 17.

Both stores were established to serve as technology-business demonstration and learning hubs for the farmers.

## Milka Krem at UPLB

The Milka Krem at UPLB is established on a 300 sq m facility with PCC funding worth Php10M. Its establishment was made possible through a collaboration between PCC@UPLB and UPLB.

Products that are being sold in this branch include fresh milk, choco milk, coffee milk, fruit-flavored juices, white cheese, mozzarella, pastillas de leche, assorted flavors of yoghurt and yoghurt drink, flavored yema and ice cream. They carried the brand name "Carabest" with the products coming from dairy cooperatives and/or associations and an entrepreneur being assisted by the PCC@UPLB.



Two newly established dairy outlets in Los Baños, Laguna and Rosario La Union to showcase the PCC's efforts in Carabao-based Enterprise Development Program.

The cooperatives and associations are the General Trias Dairy Raisers Multi-Purpose Cooperative, Rosario Dairy Raisers Association, Magdalena Dairy Raisers Association, and the Llano Farmers Multi-Purpose Cooperative while the private entrepreneur is from Balayan, Batangas.

The branch is managed by the PCC@UPLB under the supervision

of its OIC center chief Dr. Thelma Saludes.

## Rosario Dairy & Pastries

The Rosario Dairy & Pastries (processing plant and outlet) was established with a funding of Php2.9 million on a 120 sq m area. It is managed by the Rosario La Union Dairy Producers Association, Inc. (RLUDPAI), one of the dairy cooperatives being

# 'Gender Analysis should be part of gov't programs, projects' - gender advocate

BY MERVALYN O. TOMAS

**The need for government institutions to incorporate Gender Analysis (GA) in all stages of their program or project cycles was stressed during a technical caucus at the Philippine Carabao Center (PCC) National Headquarters and Gene Pool.**

The activity was organized by the PCC Research and Development Division and was attended by PCC scientists and researchers.

"GA is a systematic methodology for examining the differences in roles and norms for women and men, girls and boys; the different levels of power they hold; their differing needs, constraints, and opportunities; and the impact of these differences in their lives," Ma. Fe B. Singson of the National Gender and Development (GAD) Resource Program, Philippine Commission on Women said.

Singson explained that the GA's goal is for the implementers of projects or programs to get a better understanding of the different genders and their roles in the community, and for them to get better results from development programs they want to implement.

She added that GA will provide analysis of the division of labor and access and control of resources and an understanding of gender relations and their implications for development policy and implementation.

It also disaggregates specific genders to get a better view of their important roles, a review of women's priorities, women's

practical needs and strategic interest and ways to address them; and a review of social, economic, and political power dynamics, she added.

Singson also said that government institutions, among others, should have an understanding of what gender is and they should apply gender analysis in all situations.

"This is what we call gender perspective. It is an outlook, a way of seeing or a set of insight which informs our understanding of people, the society and how they interact in terms of what men and women do when and why," she explained.

She emphasized that GA should be conducted in all aspects of a program or project - from its identification, planning and design of activities to its implementation and evaluation.

"We should use our 'gender lens' so we can see the participation, interests and realities of both men and women," Singson concluded.

The Philippines, according to a report of the Asian Development Bank (ADB) which covered the years 2011-2016, ranked 9th among 134 countries based on an index gaps in providing equal opportunities and resources for women gender analysis implementation.

The index gaps were identified in the 2010 World Economic Forum.

The ADB report meant that the country has made significant progress in promoting gender equality. 

**PCC's...**  FROM PAGE 5


assisted by PCC@DMMMSU.

The establishment of this facility was made possible through the collaboration of PCC@DMMMSU with the local government unit of Rosario, La Union and the Department of Trade and Industry. The Rosario LGU provided the land where the facility was established while the DTI gave dairy processing equipment that included freezer, refrigerator, chiller double burner, and a working table.

The facility was established for the processing and selling of the milk produced by crossbred and purebred carabaos of the farmers in Rosario, La Union and its other neighboring towns, according to PCC@DMMMSU Center Director Gloria Dela Cruz.

Presently, five farmers' cooperatives or associations are selling their milk harvest in this facility. They are the RLUDPAI; Aringay Dairy Carabao Raisers Association, Bantog Samahang Nayon Multi-Purpose Cooperative, Samahan ng Maralitang Magsasaka ng Patalan in Lingayen, Pangasinan; and Naguilian, La Union farmers who were entrusted with carabaos by the PCC.

Among the products currently available for sale to the public are pasteurized milk, chocomilk, fruit-flavored milk (pineapple, four seasons, strawberry, blueberry, mango and pineapple-orange), pastillas-de-leche, yogurt, espasol, ube halaya, puto, chicharabao, macaroons, dulce de leche candy and brownies. A number of private entrepreneurs in Luzon also sell their products on consignment basis.

These two facilities are expected to boost the farmers' income from the sales of their carabao's milk and processed dairy products. 



# More than a meter long 'kesong puti' featured in SM 'Flavors of PH' event

BY MA. CECILIA IRANG

A giant "kesong puti" (white cottage cheese) was among various dairy products displayed during an exhibition of products that features the best of the Filipino cuisine at SM Cabanatuan recently.

The cheese, measuring 118cm by 98cm, with a thickness of four inches, was made by the experts of the Philippine Carabao Center (PCC). It used 300 liters of carabao's milk provided by four dairy cooperatives in the province as the main ingredient.

The donor-cooperatives were the Eastern Primary Multi-Purpose Cooperative, Catalanacan Multi-Purpose Cooperative, Bagong Pagasa sa Bagong Talavera Cooperative, and Pulong-Buli Multi-Purpose Cooperative.

The showcasing of the giant "kesong puti" was made possible thru the initiative of the Department of Trade and Industry (DTI)-Nueva Ecija in partnership with PCC, SM City Cabanatuan, and the Provincial Government.

"This activity was also in support of our common vision of making Nueva Ecija the 'Carabao Dairy Capital' of the Philippines. It also helped promote the dairy products of the various dairy cooperatives in our province as well as the expertise of our local chefs," DTI Provincial Director Brigida Pili said.

She said Nueva Ecija is being pushed with the annexation of the title with the ultimate aim of inviting the attention of investors as well as the buying public in this other unique attribute of the province.

Nueva Ecija remains the premier rice producing province in the country. Since the 1920's, it has earned the moniker "Rice Granary



**(l-r) Mark Herrera, SM City Cabanatuan Mall Manager; Brigida Pili, Department of Trade and Industry Provincial Director; Carolyn del Rosario, Assistant Mall Manager; Joel Ilagan, Assistant Branch Manager; Ricky Velasco, Chief of Staff of Governor; Elvie Ronquillo, Provincial Small and Medium Enterprise Development Council -NEGP Department Head, and Dr. Peregrino Duran, PCC Scientist I; during the ceremonial slicing of the big kesong puti.**

of the Philippines".

The display, and later public tasting of the PCC-made "kesong puti", was the product featured in the first-ever "Madrid Fusion Event" held at SM City in Cabanatuan City.

The event was also mounted in 17 other SM Supermalls nationwide to promote the country's culinary traditions and globally recognized innovations.

Also part of the activity at SM City in Cabanatuan was the ceremonial slicing of the giant "kesong puti" and the culinary demonstration by known local chefs who used carabao's milk as the main ingredient for their products, that include leche flan, among others. Products developed by the different dairy cooperatives in the province were also shown in the three-day trade fair.

"We are delighted to be part of this momentous event in our province. Of all the dairy cooperatives in Nueva Ecija, we

are honored to be one of the cooperatives that donated liters of carabao's milk to make this event a success. We don't regret donating 50 liters of our coop's harvested milk for the making of the giant kesong puti," Michael Pascual, chairman of Bagong Pag-asa sa Bagong Talavera Cooperative, proudly said in Filipino.

Special guests during the event were Pili, PCC Scientist I Dr. Peregrino Duran, Provincial Cooperative Entrepreneurship Development Office head Elvie Ronquillo, as the Governor's representative; Governor's chief of staff Ricky Velasco, SM City Cabanatuan Manager Mark Carlo Herrera, and SM store assistant branch managers Joel Ilagan and Carolyn del Rosario.

Select staff members of PCC and DTI, dairy farmers, businessmen, and members from the Provincial Small and Medium Enterprise Development Council also attended the event. **R**

## PCC is best example of farm tourism, Senator Villar says

BY MERVALYN O. TOMAS  
Photo by KHRIZIE EVERT M. PADRE

**The Philippine Carabao Center (PCC) is the best example of farm tourism in the Philippines, according to Senator Cynthia Villar, chair of the Senate committee on agriculture and food, in her keynote address during the 24th anniversary celebration of the agency on March 28.**

"When our then Senate President Franklin Drilon asked me to cite a best example of farm tourism in our country, I answered it's PCC. It's because it has its own processing plant where milk from the farmers' carabaos is processed and an outlet where the processed products and those from the farmer-cooperatives' products are sold," she explained.

In her speech, the senator acknowledged the role of the farmers in the success of PCC.

"If not for the farmers, the PCC cannot become what it is today," she said.

The keynote speaker took the occasion to commend PCC for its accomplishments, and reiterated her support to the agency for its "steadfast commitment to enhance the technology and practices to conserve, propagate and promote the carabao as a source of meat and milk, which benefits small-holder farmers."

Senator Villar stressed that the PCC and its main clients, who are the dairy farmers, contribute significantly to the agriculture department's goal which is food security for the country.

"The United Nations Food and Agriculture Organization itself cited that 50 percent of the food supply globally is provided by the



**Sen. Cynthia Villar explaining the importance of farm tourism during her farm tour at the PCC's gene pool for dairy buffaloes.**

smallholder-farmers and family farms," she said. "By 2050, when the population shall have reached nine billion, the smallholder-farmers will feed them. Tayo ang nagpapakain sa kanila," she said.

She averred that PCC focuses attention on helping address food sufficiency in the country by increasing the production of quality milk and meat from the carabao.

She noted that the country is importing a lot of milk to supply its citizens' demand, but quickly added "PCC is my only hope to solve this."

She also urged PCC (in partnership with the Department of Social Welfare and Development) to replicate its milk supplementation program in more provinces in the country.

The program, which provides carabao's milk to day care children for 120 days, was launched in Nueva Ecija and Bukidnon. The milk comes from the dairy farmers being assisted by PCC.

"This program solves two of our country's major problems, i.e., poverty (among dairy farmers) and

malnutrition (among children)," she said.

She added that she believes on the potential of the dairy industry in the country to contribute to the country's economic growth.

"With our concerted efforts, we will achieve the collective goals in alleviating poverty and in providing food security in our country," the senator said.

During the day's program, partner-farmer-cooperatives and institutions were awarded with purebred buffaloes, equipment, and supplies by PCC, PCAARRD, and SEARCA.

The Gintong Kalabaw Cup, a competition for the selection of the best carabao, and the new PCC MTV were also launched.

The event was attended by at least 500 farmers, PCC employees, and representatives of different public agencies and entities.

Dr. Enrico Garzon, Jr., DA Assistant Secretary for Livestock, also graced the event and delivered an inspirational message for all stakeholders of carabao development program. 